Attachment Security in Infancy Predicts Parasympathetic Reactivity to Frustration in Middle Childhood

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INTRODUCTION

- Secure attachment is thought to promote the development of emotion and physiological regulation
- Low respiratory sinus arrhythmia (RSA) at baseline and excessive RSA reactivity are linked to psychopathology
- Excessive RSA reactivity may be particularly problematic for children exposed to adversity

METHOD

- Participants were 97 children; families were recruited in infancy from Child Protective Services
  - Most were African American (66.9%) or multiracial (11.7%)
- Randomized clinical trial of Attachment and Biobehavioral Catch-up (ABC) intervention
  - ABC n = 43; Control n = 54
  - Enhances parent sensitivity
- Attachment security measured by Strange Situation at ~18 months old ($M = 20.16$, $SD = 6.24$)
- RSA measured at rest and during frustration task at ~9 years old ($M = 9.45$, $SD = 0.35$
  - Task was adapted from Impossibly Perfect Circles
  - RSA calculated using peak to trough method

PURPOSE

To investigate how the early caregiving environment impacts physiological regulation among children exposed to adversity

RESULTS

- ABC predicted marginally higher resting RSA than control intervention
- Secure attachment predicted less RSA reactivity to the frustration task than insecure attachment

DISCUSSION

- Main finding:
  - Secure attachment in infancy linked to less RSA reactivity to frustration in middle childhood than insecure attachment
- Implications:
  - Mitigating parasympathetic reactivity to challenge may be one avenue by which infant attachment security promotes later emotion regulation
  - Because children exposed to early adversity are at risk for excessive sympathetic activation, reduced parasympathetic reactivity may support autonomic balance
  - ABC may promote high resting RSA, which has been correlated with environmental sensitivity, capacity for emotion regulation
- Remaining Questions:
  - Why is infant attachment security related to RSA reactivity but not significantly related to baseline RSA levels?
  - At what age do reactivity effects emerge?