Fearfulness Moderates the Relation between Parenting Behaviors and Subsequent Cortisol Reactivity
Jacob B. Holzman, Kreila Cote, Erin R. McKay, Gabriela Lelakowska, Meghan Kanya, Taylor Tittle, & David J. Bridgett
Northern Illinois University

Introduction

• Developmental scientists have increasingly been interested in examining how contextual factors (e.g., parenting) and temperamental characteristics interact to predict stress-reactivity.1
• Parenting behaviors appear to have an integral role in the development of physiological stress-reactivity.2
• Evidence suggests that negative parenting behaviors (e.g., harshness, controlling behavior, displays of negative affect) are likely influential to the development of temperament characteristics (e.g., behavioral inhibition) related to stress-reactivity3
• In particular, negative parenting behaviors appear to influence fear-based temperament characteristics (e.g., fearfulness, behavioral inhibition)4 which are also related to physiological stress-reactivity.5
• Limited research has examined how parenting + temperament interactions, particularly considering early fearfulness, may predict subsequent cortisol reactivity.

Hypotheses

• Based on previous literature, we expected both negative parenting behaviors and fearfulness to demonstrate significant, positive relations with cortisol reactivity.
• Based on the diathesis-stress model, which suggests that vulnerable children are more likely to be negatively impacted by adverse contextual influences, it was hypothesized that:
  • Infant fearfulness would moderate the relation between negative parenting and subsequent cortisol reactivity, such that this relation would be stronger among more vulnerable children (i.e., infants who display higher fearfulness)

Participants & Measures

• N = 77 mother-infant dyads (36 females, 41 boys)
• Mothers: 70% Caucasian, mean age = 27.2 years, mean education = 15.1 years.
• Cumulative Risk Index – measured at 4 months postpartum
• Negative Parenting – measured at 6, 8, and 10 months postpartum using an unstructured free play task.
  • The Parent Child Early Relational Assessment coding scheme6 was used to code the task.
  • Negative parenting was measured using five discrete codes: angry tone of voice, expressive negative affect, angry mood, displeasure, and responsibility to child’s negative behavior.
  • Negative parenting behaviors were aggregated across 6, 8, and 10 month measurements.
  • Inter-rater reliability based on 20% of the coded videos was adequate (ICCs > .70).
• Fearfulness – measured at 24 months using the fearfulness subscale of the Early Childhood Behavior Questionnaire.
• 30-month Cortisol Reactivity
  • Saliva samples were acquired using oral swabs at baseline and at 2 time points following the Stranger Approach Task (15-20 minutes and 30-40 minutes post-task).
  • Saliva samples were immediately placed into a -80°C freezer, and were later thawed and assayed by Salimetrics.
  • AUCg was used to examine cortisol reactivity as a measure of total cortisol output.

Data Analysis

• A hierarchical regression analysis was conducted with 30-month cortisol reactivity as the dependent variable.
  • Infant sex and cumulative risk were entered as covariates on step 1.
  • 24-month fearfulness (standardized) was entered on step 2.
  • First-year negative parenting behavior (standardized) was entered on step 3.
  • The 24-month fearfulness by first-year negative parenting behavior interaction effect was entered on step 4.

Methods

• Participants were matched across 30-month cortisol reactivity

Discussion

• Main findings:
  • Negative parenting behaviors were significantly, positively linked with 30-month cortisol-reactivity.
  • Fearfulness was not directly linked to 30-month cortisol-reactivity.
  • Fearfulness moderated the relation between negative parenting behaviors and cortisol-reactivity

• The current study investigated how toddler fearfulness and negative parenting interact to predict subsequent cortisol-reactivity.

• Results suggest that negative parenting behaviors may be particularly related to subsequent physiological stress-reactivity for toddlers with lower levels of fearfulness.
  • Although we expected higher levels of fear to act as a vulnerable marker, these results point to the possibility that lower levels of fear may act as such a marker.
  • Strengths of the study include a longitudinal sample and behavioral coding of parenting behaviors. A limitation is the reliance on maternal report for infant fearfulness.
  • Given the modest sample size, future studies employing larger samples are needed to confirm our findings.
  • Future studies may examine other measures of physiological stress-reactivity (e.g., skin conductance) demonstrate a similar pattern.

Contact Information

• Corresponding authors: Jacob Holzman (jacob.b.holzman@gmail.com) or David Bridgett (dbridge1@niu.edu)
• Poster can be downloaded through the Emotion Regulation and Temperament Lab website (www.niu.edu/mentorex)

Table 1

<table>
<thead>
<tr>
<th>Predictor</th>
<th>24-month Fearfulness and First-Year Negative Parenting</th>
<th>Predicting 30-month Cortisol Reactivity</th>
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<tr>
<td></td>
<td>Standardized Beta</td>
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<td>24-month Fearfulness</td>
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<td>1st Year Negative Parenting</td>
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References