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Buffering the Cortisol Reactivity of ACEs Exposed Children from Low Income Communities: The Role of Parental Sensitivity

Maitri Jain, Angela Staples, Jamie M. Lawler
Eastern Michigan University



INTRODUCTION

- Adverse Childhood Experiences (ACEs) increase the probability of dysregulated cortisol reactivity to stress in children (Brindle et al., 2022).
- According to Attachment theory, parental sensitivity can buffer children's cortisol reactivity (Gunnar & Hostinar, 2015).
- Positive parenting has been found to buffer children's cortisol reactivity in the context of child ACEs such as poverty (Blair et al., 2008; Brown et al., 2020) interpersonal violence (Hibel et al., 2011), parental divorce (Luecken et al. 2016), and early institutionalization (Hostinar et al., 2015; DePasquale et al., 2018).
- However, there is no research looking at whether the buffering role of parental sensitivity is more or less pronounced at higher levels of cumulative adversity in children from low-income families.

AIM

To investigate the buffering effect of parental sensitivity on children's cortisol reactivity at different level of ACEs in a sample of low-income families.

METHOD

PARTICIPANTS

n ~ 100 (Recruitment ongoing in Ypsilanti, Michigan)

Inclusion criteria:

- Low SES
- Parent: >18 years
- Child: 36-59 months

Exclusion criterion:

- Child/parent does not understand English.
- Child has significant developmental delays or Autism Spectrum Disorder.

MEASURES

- **Expanded - Adverse Childhood Experiences** (The Philadelphia ACE Task Force, 2013): 21 items. Home + Community level adversities.
- **Parent Sensitivity:** Observationally coded from parent-child interaction throughout the two sessions (60+90 minutes) on a 5-point scale.
- **Stress task:** Transparent box frustration task + interpersonal judgement.
- **Salivary Cortisol:** On arrival, after 30 minutes, 55 minutes, 65 minutes, and 90 minutes.

How much does parental sensitivity buffer the cortisol reactivity of ACEs exposed children from low-income communities?



Wow, you still haven't gotten it open? Usually even little kids can do it!

EXPECTED RESULTS

DATA ANALYSIS

- Piece-wise Growth Curve Analysis: Slopes of cortisol and the peak cortisol level.
- Multi-Level Regression Analysis: Interaction between ACEs score and parent sensitivity in their association with peak cortisol and slope of cortisol.

Hypothesis 1: Higher number of ACEs experienced by children will be associated with more abnormal cortisol reactivity.

Hypothesis 2: Lower parental sensitivity will be associated with more abnormal cortisol reactivity in children.

Hypothesis 3: The buffering role of parental sensitivity in children's cortisol reactivity will be particularly pronounced for children with higher ACEs.

Child		Parent	
Age (in months) (mean; SD)	43.40; 4.39	Income (n)	< 10k: 2 10-19k: 1 40-49k: 1 80-89k: 1
Race (n)	Black: 2 White: 2 Black & White: 1	Race (n)	Black: 2 White: 2 Black & White: 1
Ethnicity (n) Hispanic/Latinx)	1	Ethnicity (n) Hispanic/Latinx)	1
ACEs Total Score (Scored 0-21) (mean; SD)	1.60; 1.67	Education (n)	High school: 1 Some college: 4
(Data for n = 5 participants)		Parent Sensitivity (Scored 1-5) (mean; SD)	3.80; 1.30

DISCUSSION

- If hypothesis 1 is supported, it will show that ACEs act in a cumulative manner, with a higher number of ACEs creating greater developmental challenges.
- If hypothesis 2 is supported, it will highlight the important role of parental sensitivity in children's development.
- If hypothesis 3 is supported, it will bolster the importance of sensitive parenting, especially for children at high risk.
- These results, if supported, will give us an effective point of parental interventions for at-risk children.
- However, if our hypotheses are not supported, it will point to the need to look at other biological and environmental factors that impact the development of children's HPA axis.

LIMITATIONS

- Novel lab situation may affect cortisol levels.
- Non-experimental design.

