Infant Negative Affects Moderate Impact of Home Chaos on Toddler Effortful Control
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Introduction

- Early difficulties in Effortful Control (EC) have been linked to problems across the lifespan, including externalizing behavior problems, impulsivity, poor social development, and criminality.
- Infant Negative Affect (NA) and home chaos have both been shown to be risk factors for slower early EC development.
- Higher levels of home chaos are linked to lower child coping competence and increased NA.
- High infant NA may overwhelm infants’ regulatory attempts, undermining the emergence and development of EC.
- Very few published studies have tested the interaction of infant NA and environmental factors on EC development. Of those that have, there has been conflicting evidence supporting both the diathesis stress and differential susceptibility models.
- The diathesis-stress model predicts that children with a vulnerability (e.g., high NA) are more likely to be impacted by unsupportive environmental factors (e.g., high chaos).
- The differential susceptibility hypothesis posits that children with a vulnerability are more reactive to both negative and positive rearing environments (e.g., high and low chaos).
- The purpose of the current study is to examine the effects of NA on home chaos on EC early, both additively and through their interaction.

Hypotheses

- It was hypothesized that: Home chaos and infant NA would negatively associate with toddler EC
- Infant NA would moderate the relationship between home chaos and subsequent toddler EC.
- Infants who displayed low levels of NA would not be impacted by home chaos in regards to EC.
- In relation to EC, infants displaying high levels of NA would be negatively impacted by chaos, and may be positively impacted by low levels of chaos. This was an exploratory analysis given the mixed findings in previous studies.

Participants

- 179 mother-infant dyads (47% boys)
- Mothers were on average 27.5 years old (SD = 6.1)
- Mothers were demographically diverse (71% White, 16% African American, 9% Hispanic, 1% Native American, and 3% other)
- 23% of the sample fell below the poverty line
- Mean family income-to-needs ratio was 2.15 (SD = 1.67; Range = 0.24 to 9.03)
- 12.3% of mothers were single

Measures and Procedures

- Demographics and cumulative risk – measured at 4 months postpartum
- Parenting – measured at 12 months postpartum
- Infant Behavior Questionnaire
- Confusion, Hubbub, and Order Scale
- Infant NA – measured at 6, 8, 10, and 12 months postpartum
- Mothers reported chaos using the Confusion, Hubbub, and Order Scale
- Infant Behavior Questionnaire – Revised (a = .66)
- Toddler EC – measured at 24 months postpartum
- Mothers completed the Early Childhood Behavior Questionnaire (a = .67)

Data Analysis

- Multiple imputation was used to estimate missing data
- A hierarchical regression analysis was conducted with 24-month EC as the dependent variable
- Infant sex and cumulative risk were entered as covariates in step 1
- Parenting behaviors (composite of positive and negative) were entered as covariates in step 2
- Infant NA and home chaos were entered in step 3
- Infant NA by home chaos interaction was entered in step 4

Results

- Infant sex was the only covariate found to be a significant predictor of toddler EC
- Household chaos was not a significant predictor of toddler EC; Infant NA was a trend at p = .051
- The interaction between infant NA and chaos was significant (p = .04), though the shape of the interaction was unexpected
- For infants high in NA, home chaos did not significantly predict toddler EC
- For infants low in NA, home chaos was a significant predictor of toddler EC. Given that the statistical significance of this slope violates assumptions of both the diathesis stress and differential susceptibility models, no further analyses were conducted.

Conclusions

- The current study examined the unique and interactive effects of infant NA and home chaos on early EC
- Results were not consistent with either the diathesis stress model nor the differential susceptibility hypothesis
- Specifically, household chaos appears to undermine early development of EC for infants with lower NA, but, unexpectedly, does not have a significant impact on infants with higher NA
- These results suggest that infants who have low NA and are reared in low-chaos environments may get ahead of their peers in early EC development. Given the unexpected nature of the interaction, replication of these findings will be important
- Parents of infants should aim to decrease home chaos, as it can have measurable impacts on self-regulatory development for infants low in NA
- Strengths of this study include behavioral coding of maternal behavior during free play task and a longitudinal design
- Limitations include that the majority of the variables were self-reported by the mother
- Future research could include at-home observation and inclusion of paternal reports.

References

- Bridges, M. W., & Fuligni, A. S. (1998). Maternal and contextual influences and the development of EC for infants with lower NA, but, unexpectedly, does not have a significant impact on infants with higher NA.
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