Introduction

- Life stress during infancy leads to physical and mental health problems in adulthood (Anda et al., 2010).
- While general biological stress in infants is sensitive to early experiences (Gunnar & Talge, 2008), less is known about how two aspects of biological stress, physiological cumulative stress and stress regulation, relates to specific environmental factors.

Aim

- To investigate how household environment and maternal parenting relate to infant physiological cumulative stress and stress regulation.

Participants

- 84 dyads of mothers (Mage = 33.19 years, SD = 4.622) and their healthy, singleton 12-month-old infants (45 females, Mage = 12.26 months, SD = 0.813) from the greater Boston area.

Measures

**Infant Cumulative Physiological Stress** was measured through hair cortisol (15-20 mg). Samples 3 cm closest to scalp retained and assayed (represents cumulative cortisol over last 3 months).

**Infant Diurnal Stress Regulation** was measured through diurnal saliva cortisol slope (waking - bedtime). Samples collected over 3 days at waking, early afternoon, and bedtime.

**Household Chaos** was measured with the Confusion, Hubbub, and Order Scale (CHAOS) questionnaire (Matheny et al, 1995) and with Number of Children in a Household.

**Parenting Behaviors** assessed by micro-coding 12-minute free-play videos of parent-child dyads (adapted Moore et al., 2009).
- Every 10 seconds, coders assessed maternal affect, vocalization, purposeful touch, and mother-infant body contact (i.e. the proportion of time that mothers touch the baby due to infant’s and mother’s body positioning).

Results

**Higher Hair Cortisol Levels Associate With Higher Household CHAOS Score and More Children in Household**

- Infant hair cortisol positively correlated with higher CHAOS score and more children in household.

**Steeper Salivary Cortisol Slope Relates With More Mother-Infant Body Contact**

- Infant saliva cortisol slope positively correlated with mother-infant body contact.
- Maternal affect, vocalization, and purposeful touch were not significantly linked to stress regulation.

Discussion

**Infant Physiological Cumulative Stress Is Sensitive To Chaotic Home Environments**

- Infants living in more chaotic households with more children may obtain less care from their mothers, contributing to increased cumulative cortisol.

**Diurnal Stress Regulation Is Sensitive To Certain Parenting Techniques**

- More mother-infant body contact may give infants increased sense of security, allowing them to develop better regulated stress systems.

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