

What's the Link Between ADHD and Breastfeeding?

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Introduction

- Prior research found that children with ADHD vs. without ADHD had shorter duration of breastfeeding.¹
- Some have extrapolated that breastfeeding may be neuroprotective; however, previous research has been primarily retrospective and did not consider other factors.
- ADHD is highly heritable² and children with ADHD tend to have more difficult temperaments in infancy.³
- Both parent ADHD and infant temperament may contribute to length of breastfeeding.
- This is the first prospective study of breastfeeding duration among infants at familial risk for ADHD.

Objectives

- (1) Examine the relation between parental ADHD and breastfeeding duration
- (2) Assess neonatal predictors of breastfeeding duration
- (3) Evaluate the association between breastfeeding duration and toddler ADHD-related behaviors

Methods

Participants

151 mother-infant dyads in the Pittsburgh ADHD Risk in Infancy Study (PARIS)

- 71 (47%) offspring of parents with ADHD
- Assessed as neonates ($M_{age} = 45.4$ GA) and toddlers ($M_{age} = 19.3$ months)

Measures

- Breastfeeding Questions
 - How old was your baby when you stopped giving your baby any breast milk?
 - Did you breastfeed as long as you wanted to?
- Central Nervous System (CNS) stress (NeoNatal Neurobehavioral Scale: NNNS II)
 - Tremor, startles, abnormal sucking, back arching
- Toddler Behaviors (Child Behavior Checklist- ADHD subscale)

Data Analysis

- T-test, linear regressions of breastfeeding duration and ADHD-related behaviors controlling for parent and infant demographics and infant CNS stress

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References:

1. Soled et al (2021) J Dev Behav Pediatr
2. Larsson H, (2014) Psychol Med
3. Joseph HM et al (2023) J Child Psychol Psychiatry
4. Joseph HM et al (2025) Infant Behav Dev

We found no significant difference in mean breastfeeding duration of infants with and without parental ADHD, and no association between breastfeeding duration and ADHD-related behaviors.

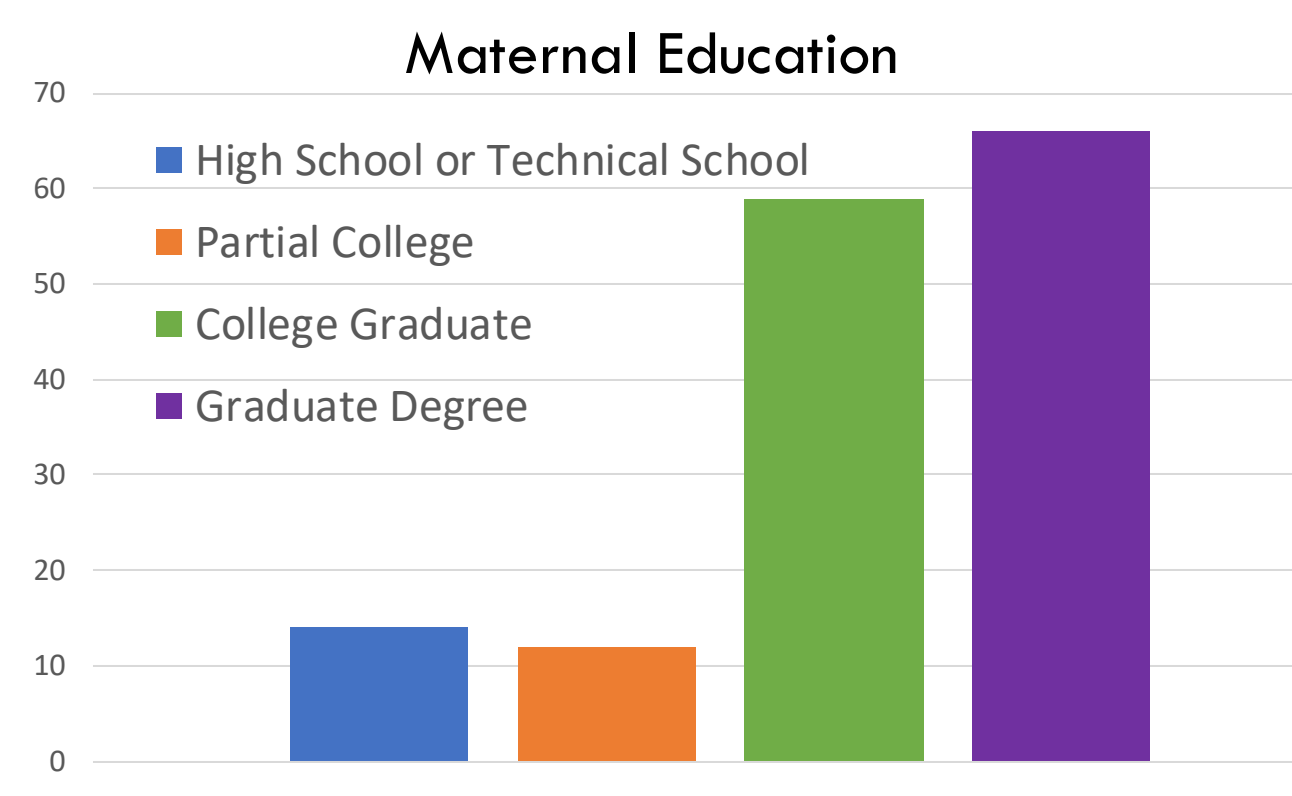
Greater neonatal CNS stress signs were significantly associated with briefer breastfeeding, even after accounting for parent ADHD and other demographic factors.



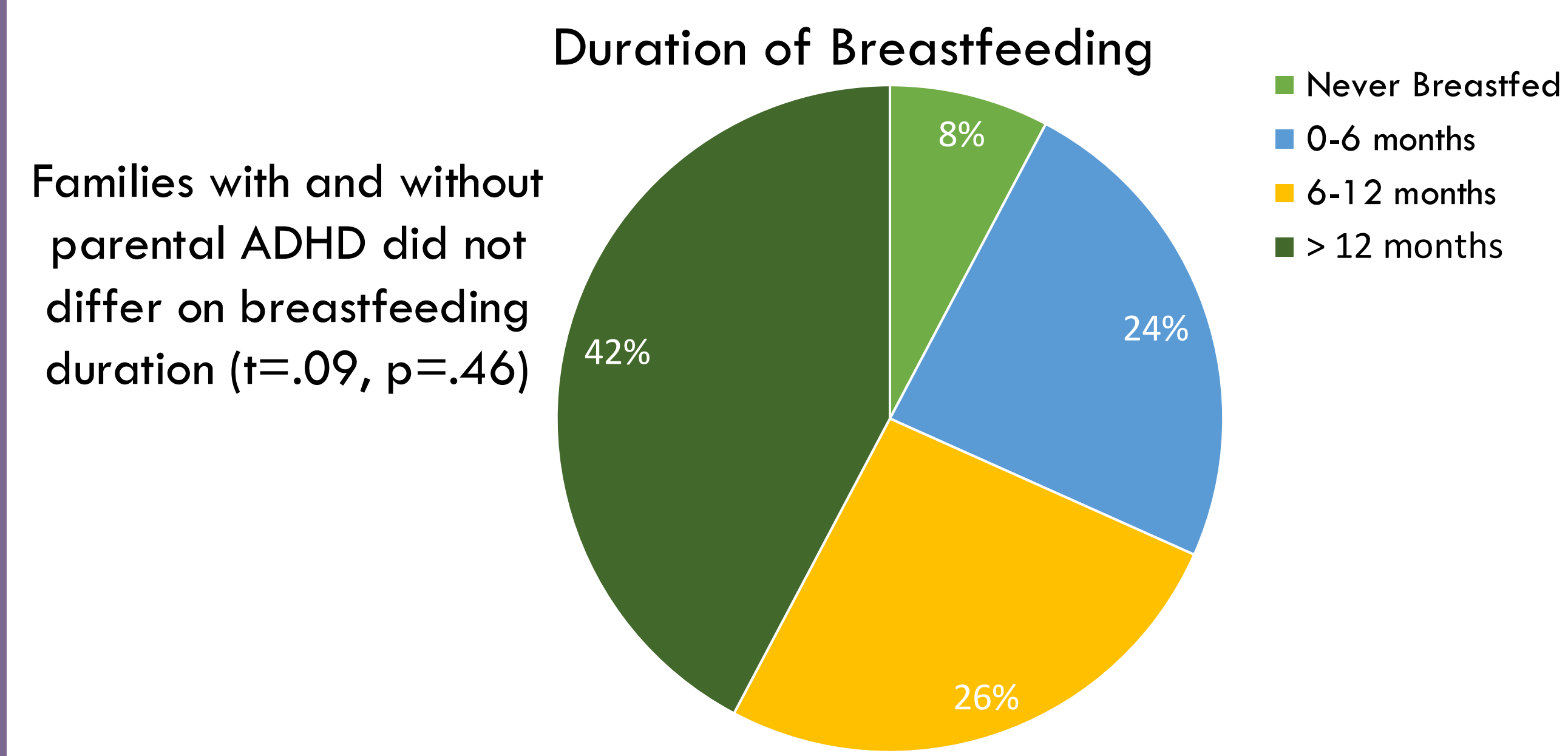
NNNS II Summary Score	Description
Stress/Abstinence	Infant stress signs observed across five organ systems (autonomic, physiologic, gastrointestinal, skin, and central-nervous system [tremor])
Non-optimal Reflexes	Proportion of elicited reflexes categorized as "non-optimal," [underactive, overactive]
Neonatal Self-Regulation	Infant's level of responsiveness to the examiners attempt to console when crying and infant's ability to soothe themselves

Maternal Demographics

- 51% were first-time mothers
- Mean age 32 years
- Largely White (84%) and highly educated



Results



Families with and without parental ADHD did not differ on breastfeeding duration ($t=.09, p=.46$)

- Neonatal central nervous stress signs were significantly associated with reduced breastfeeding duration, ($\beta=-1.56, p=.03$), controlling for mother education and first pregnancy.
- Reduced breastfeeding duration did not predict ADHD symptoms in toddlerhood ($\beta=-.08, p=.56$), controlling for parent ADHD, mother education, infant sex, and neonatal CNS stress signs.

Discussion

- Our findings suggest that children with less well developed central nervous systems (CNS) from birth may be more difficult to breastfeed.
- Our team has also found that these same CNS signs are associated with lower infant effortful control⁴.
- We suggest a possible alternative to the theory that reduced breastfeeding duration amongst children with ADHD is due to neuroprotective effects of breastfeeding, instead **neonates and infants prone to ADHD may be more difficult to breastfeed, reducing breastfeeding durations amongst these children.**
- Longitudinal follow-up is needed to determine which children will develop ADHD.