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# Maternal Sensitivity, Infant Temperament, and Inhibition, as Interactive and Independent Predictors of Early ADHD Symptoms

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## INTRODUCTION

Three factors that have been theoretically and empirically demonstrated as important in ADHD are the parent-child relationship, child temperament, and inhibition. The aim of the current study was to investigate interactive and independent effects of maternal sensitivity, infant temperament, and inhibition in infancy as predictors of ADHD symptoms at 3 years.

## METHOD

### Participants

Eighty typically developing 10-months-old infants and their mothers.

### Measures

Maternal sensitivity was assessed during a semi-structured play session, using the Ainsworth's Maternal Sensitivity Scales. Inhibition was assessed with the Prohibition Task, in which the infant had to refrain from reaching for an attractive glitter wand. Mothers rated infant temperament at 12 months using the Infant Behavior Questionnaire. At 36 months teachers (N=56) rated ADHD symptoms in the children.

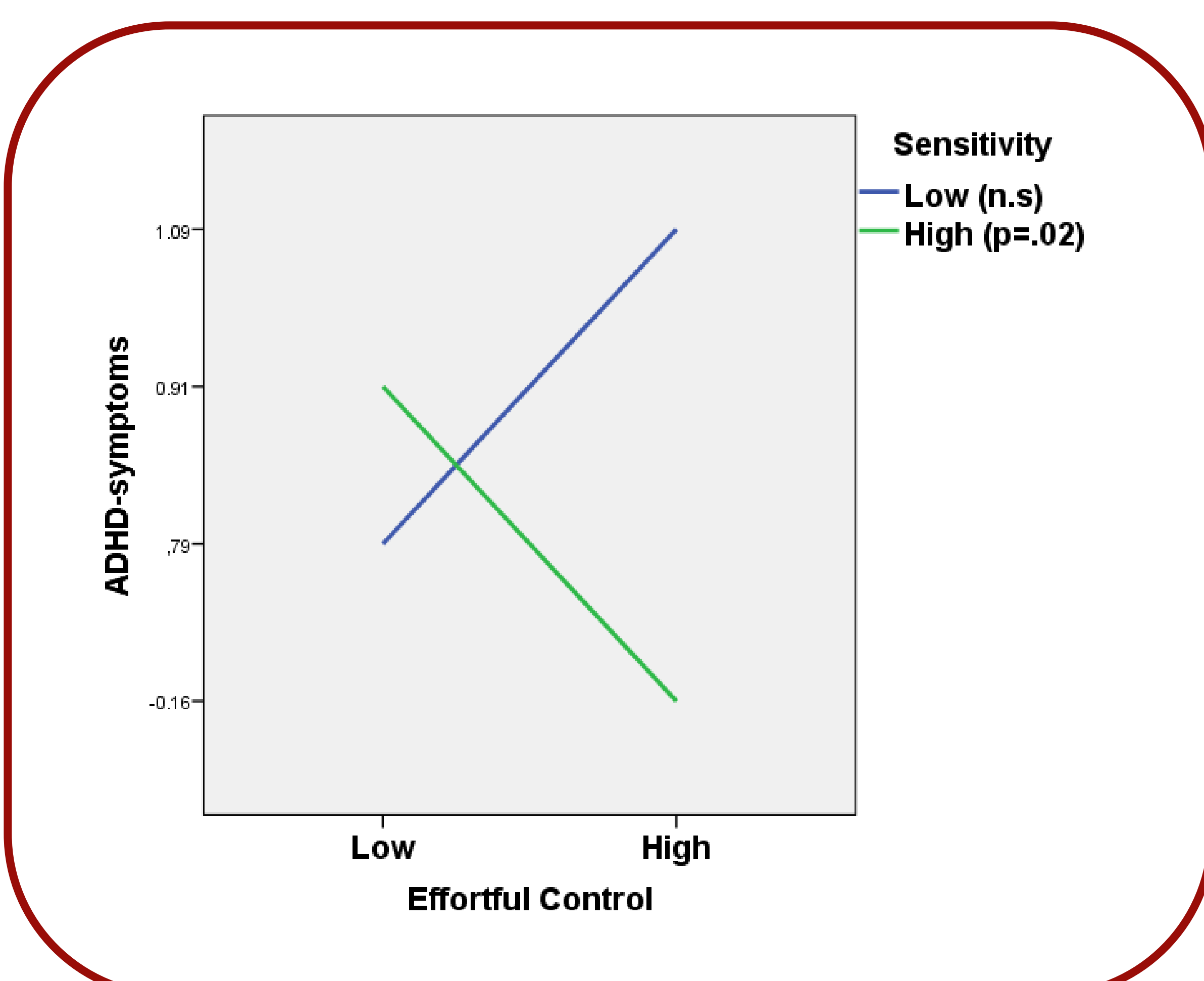


Figure 1. Maternal Sensitivity Moderates the Effect of Effortful Control on Teacher Rated ADHD-Symptoms

## RESULTS

- Maternal sensitivity and inhibition predicted ADHD symptoms at 36 months: Children of less sensitive mothers and children with poorer inhibition showed higher levels of ADHD symptoms.
- Inhibition contributed independently to inattention ( $\beta = -.28, p < .02$ ) and hyperactivity ( $\beta = -.23, p < .03$ ), while sensitivity contributed marginally significantly to hyperactivity ( $\beta = -.25, p < .08$ ). These results remained controlling for maternal effortful control.
- No main effects of temperament were found.
- Maternal sensitivity and effortful control interacted in relation to ADHD-symptoms: Children of highly sensitive mothers had lower symptom levels if they had high effortful control. Thus, high sensitivity seemed to boost the effect of regulatory temperamental aspects.

Table 1. Spearman's Correlations Between Predictors and Teacher Rated Inattention and Hyperactivity

	ADHD symptoms at 36 months	
	TR inattention	TR hyperactivity
Infant predictors		
Maternal sensitivity	-.23 <sup>+</sup>	-.31 <sup>*</sup>
Inhibition	-.31 <sup>*</sup>	-.30 <sup>*</sup>
Surgency	-.04	-.12
Negative affect	.01	.08
Effortful control	-.14	-.06

<sup>+</sup> =  $p < .10$ , <sup>\*</sup>  $p < .05$

## CONCLUSIONS

Maternal sensitivity and inhibition in infancy are suggested to play a role in the expression of ADHD symptoms at age 3. The role of child temperament is more unclear, but effortful control seems to play a role, even at this early age.

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