

Attention and Emotional transitions in ADHD

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Introduction

ADHD is characterized by attention deficits, hyperactivity, and emotion dysregulation, linked to both bottom-up processes (e.g., amygdala hyperactivation) and top-down processes (e.g., prefrontal dysfunction; Shaw et al., 2014). These processes are rarely examined together, as most studies focus on only one (Christiansen, 2019). Prior research has typically used static emotional stimuli rather than dynamic emotional transitions. previous findings in our lab revealed greater interference during emotional transitions in ADHD, but the paradigm did not include simultaneous attention-emotion processing.

Objective

- Replicate our previous findings of increased difficulty in emotional transitions in ADHD.
- Examine the relationship between emotional transitions and attentional performance using separate emotion and attention tasks.

Method

103 students (51 ADHD, 52 controls) completed three tasks (order counterbalanced).

Emotional transition

CAARS questionnaire

Attentional task: ANTI-VEA

Results

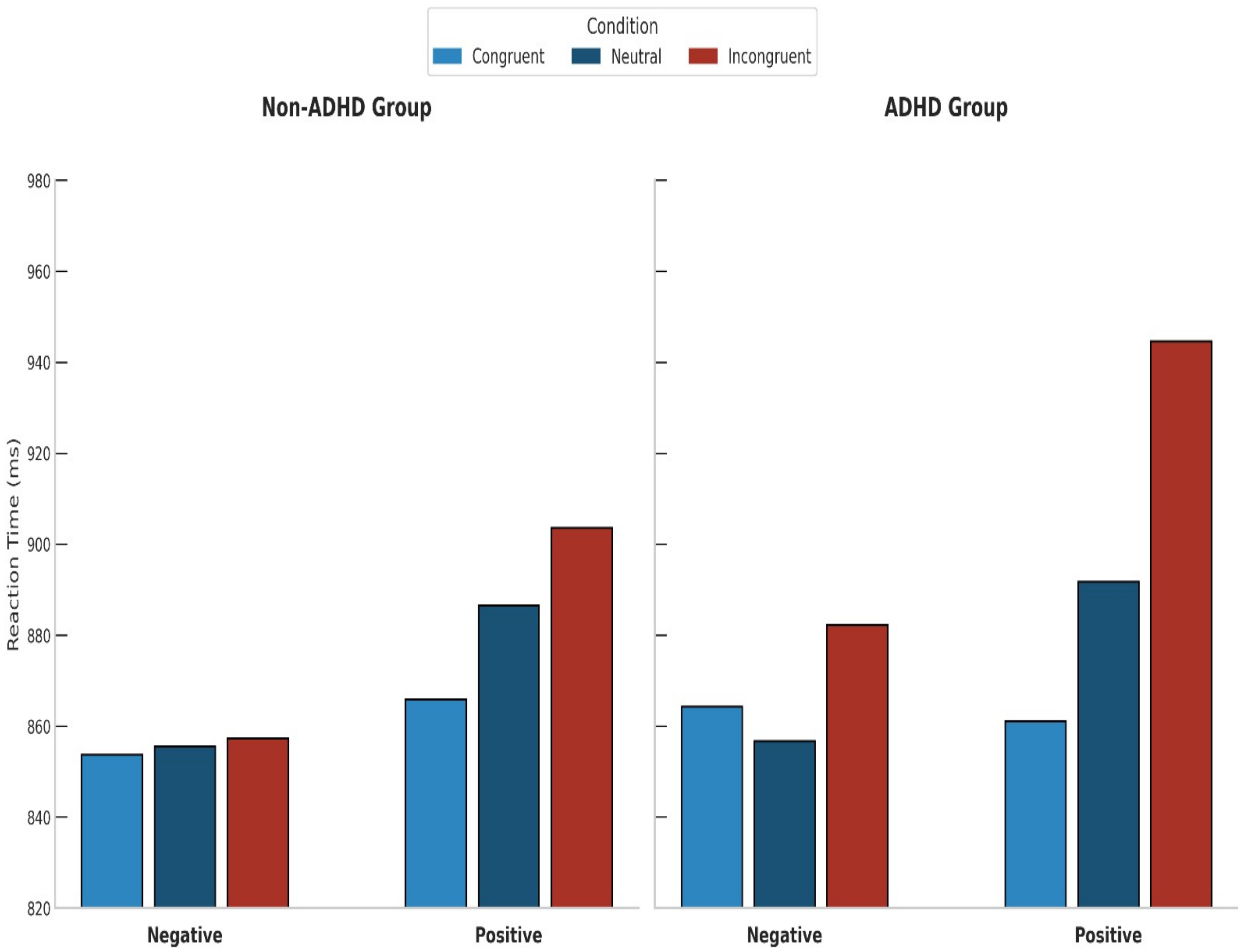
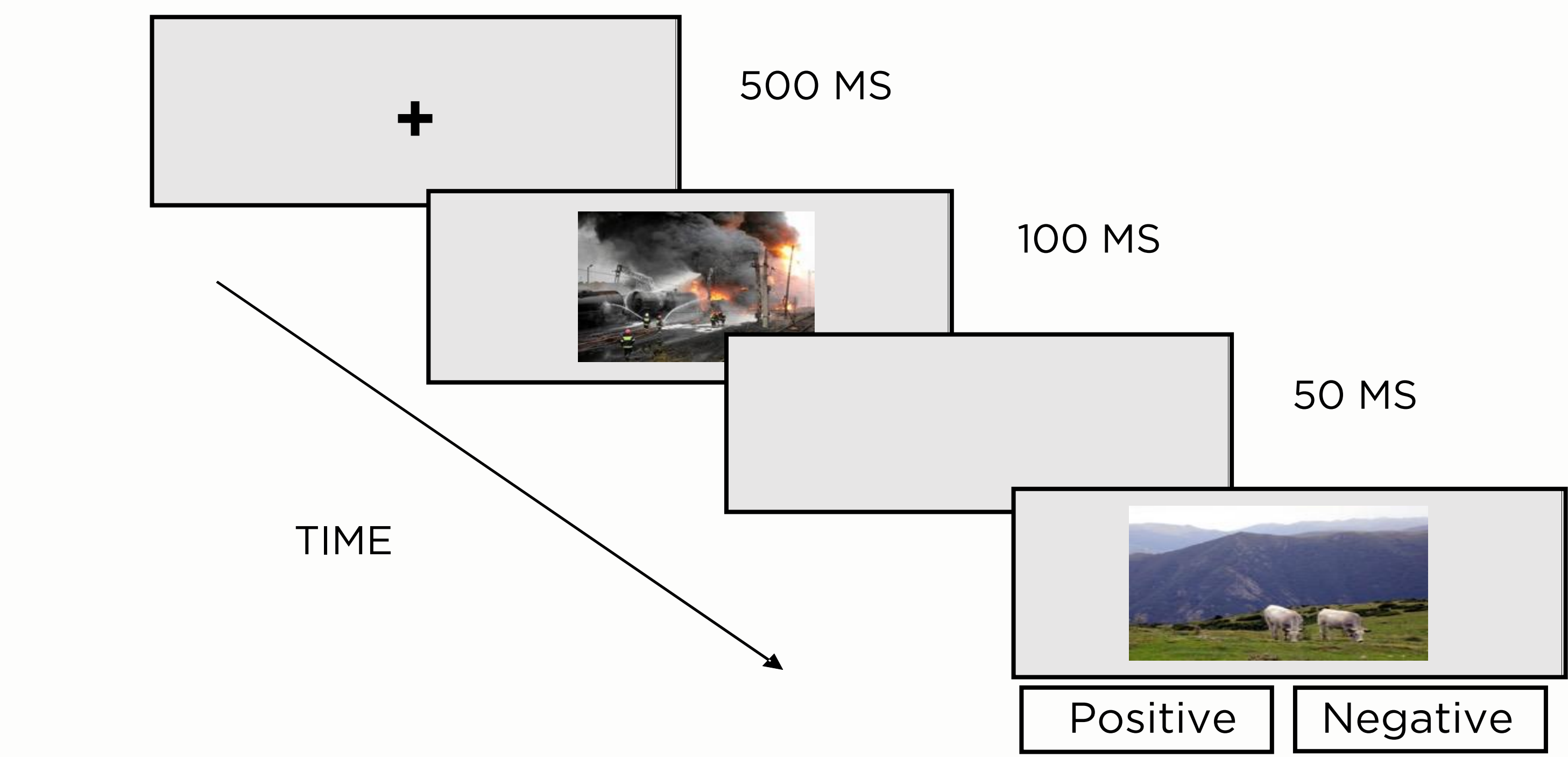
Effect of congruency ($\eta^2_p = .138$):
Incongruent > Congruent

Effect of valence ($\eta^2_p = .076$):
Positive trials > Negative trials

Interaction between valence and congruency ($\eta^2_p = .065$):
Facilitation and interference effects for positive targets.
No effects for negative targets.

Interaction between ADHD and congruency ($\eta^2_p = .045$):
Interference effect in the ADHD group > control group.

Correlation between tasks: No significant correlation between emotional and attentional measurement (all $p > .05$).



Correlation Between Attentional Measures and Emotional Congruency Effects

Congruency positive	0.083	0.160	-0.049	-0.187	0.134	0.173
	0.091	0.045	-0.182	0.124	-0.076	0.111
Congruency negative	0.091	0.045	-0.182	0.124	-0.076	0.111
	0.083	0.160	-0.049	-0.187	0.134	0.173
	RT	Errors	RT	Errors	RT	Errors
	Alerting		Orienting		Congruency	

(all $p > .05$)

Conclusions

- Emotional transition cost: Slower responses when shifting from negative to positive targets.
- ADHD group: Increased sensitivity to emotional transitions → impaired disengagement.
- No emotion-attention link: No correlation between tasks suggests functional dissociation.
- Emotional interference reflects difficulties in regulating affective shifts, beyond attentional control.

References

Christiansen, H., Hirsch, O., Albrecht, B., & Chavanon, M. L. (2019). Attention-deficit/hyperactivity disorder (ADHD) and emotion regulation over the life span. *Current Psychiatry Reports*, 21(3), 17.

Shaw, P., Stringaris, A., Nigg, J., & Leibenluft, E. (2014). Emotion dysregulation in attention deficit hyperactivity disorder. *American Journal of Psychiatry*, 171(3), 276-293.