

Attentional processing of neutral and emotional stimuli in children with attention deficit hyperactivity disorder (ADHD) and anxiety disorder (AD): Evidences from the EPANE task

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1. Introduction

High frequency of attention complaints in neuropsychology (Weissman et al., 2012; Rossignol, & Filbrich, 2015)

Structural or fonctionnal deficits?

Disorder dependent deficits?

Stimuli dependent deficits?

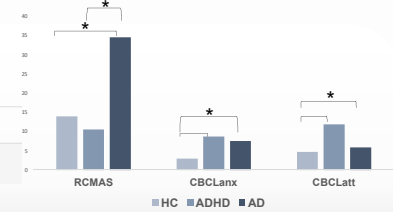
Specific assessment of attentional impairments

Development of appropriate clinical interventions

2. Population

60 children from 6 to 12 years-old

	N	Age	Sex
ADHD	15	118,3	13♂
AD	15	96,7	10♂
Healthy controls	30	107,1	21♂



Questionnaires

Main group effects:

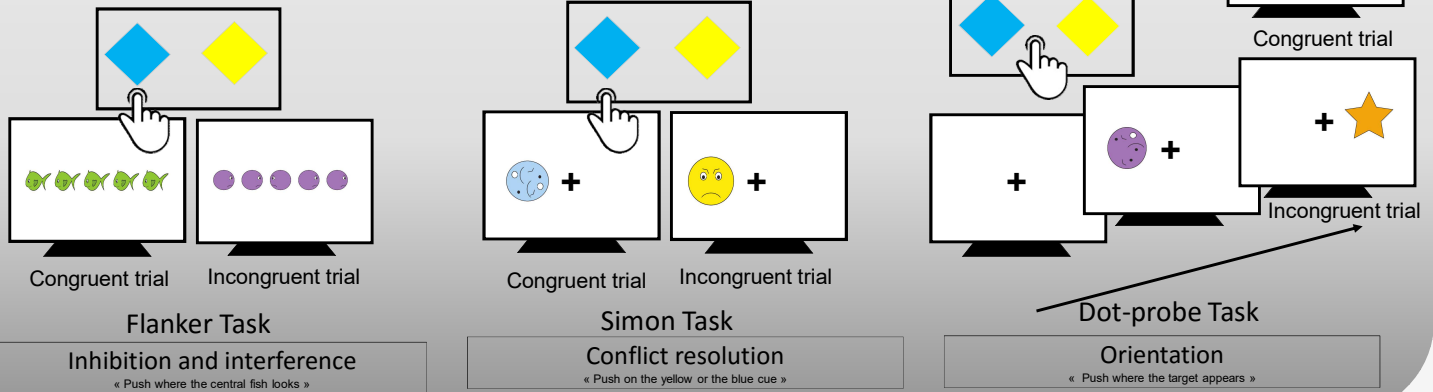
△ RCMAS: AD > ADHD = HC (p=.000)

△ CBCL_anxiété: AD > ADHD > HC (p=.000)

△ CBCL_attention: ADHD > AD > HC (p=.000)

3. Method

EPANE : Evaluation of attentional processes for Neutral (Fishes) and Emotional (Faces) stimuli (Rossignol et al., 2014)



4. Results

▲ Flanker Task

- ▲ No significant difference

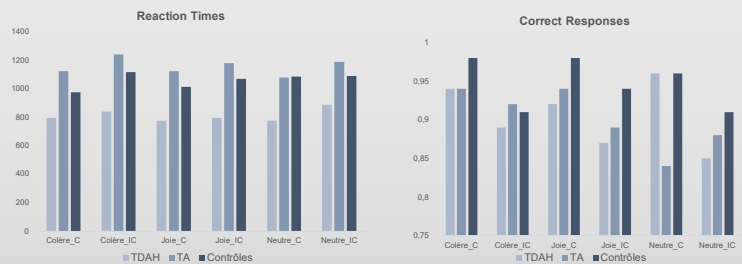
▲ Simon Task

- ▲ Group effect on TR: ADHD < AD < HC
- ▲ Type of stimuli effect on TR and CR
 - △ Angry faces < Neutral faces
 - △ TR congruent trials (p=.046)
 - △ TR incongruent trials (p=.017)
 - △ Happy faces < Neutral faces
 - △ RT congruent trials (p=.006)
 - △ CR congruent trials (p=.034)
 - △ RT incongruent trials (p=.010)

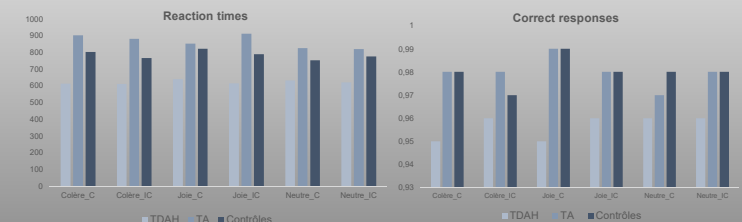
▲ Dot-probe Task

- ▲ Group effect on TR: AD < ADHD < HC
- ▲ Type of stimuli effect on TR
 - △ Angry faces < Neutral faces
 - △ RT congruent trials (p=.006)
 - △ RT incongruent trials (p=.010)
 - △ Happy faces < Neutral faces
 - △ RT incongruent trials (p=.007)

Simon Task



Dot-probe Task



5. Discussion

- ▲ Distinct attentional deficits in both disorders
 - ▲ In ADHD: Conflict resolution impairments
 - Shorter reaction times for emotional stimuli to the detriment of performances
 - ▲ In AD : Enhanced attentional engagement towards emotional stimuli

→ Clinical utility of the EPANE in neuropsychology for the differential diagnosis between AD and ADHD!

Bibliographie

Filbrich, L., & Rossignol, M. (2015). Revue conceptuelle et empirique du traitement des expressions faciales émotionnelles chez l'enfant anxieux. *Canadian Psychology/Psychologie canadienne*, 56(1), 54.
 Rossignol, M., Ganty, S., & Noël, M.-P. (2014). Evaluation des Processus Attentionnels en contexte Neutre et Emotionnel (EPANE): Une aide au diagnostic différentiel entre les troubles de l'attention et les troubles anxieux. In P. U. d. Louvain-La-Neuve (Ed.), *Articulation clinique-recherche: Des outils nouveaux à la disposition du clinicien* (Vol. 2, pp. 119-133). Louvain-La-Neuve: Nader-Grosbois, Nathalie Luminet, Olivier Van Den Broucke, Stephan.
 Weissman, A. S., Chu, B. C., Reddy, L. A., & Mohlman, J. (2012). Attention mechanisms in children with anxiety disorders and in children with attention deficit hyperactivity disorder: implications for research and practice. *Journal of Clinical Child & Adolescent Psychology*, 41(2), 117-126.

