Exploring the self-reference effect in ADHD

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Exploring the self-reference effect among children with Attention Deficit Hyperactivity Disorder

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Introduction

- Both adults and children show a cognitive advantage for information processed with reference to the self. This bias is termed the **'self-reference effect' (SRE)** and was first proposed by Rogers et al (1977).
- Recently, there has been successful **real-life applications of the SRE**, in which typically developing children benefited from SRE strategies used within an educational setting. The **effect may be driven by increased attention** to self-related stimuli and is **disrupted when attentional resources are lacking.** Consequently, the SRE may be different for children with a diagnosis of Attention Deficit Hyperactivity Disorder (ADHD).
- The present study's **research aim** was to examine whether children with ADHD show a similar SRE to typically-developing children, or if this is reduced as a result of their attentional difficulties.

Methods

Participants: The typically developing group comprised 33 children (16 female, 17 male), ranging from five to twelve years (*M* = 8.60, *SD* = 1.82). In the ADHD group, 16 children (10 female, 6 male) ranging in age from 5 to 10 years (*M* = 8.06, *SD* = 1.61) participated in the study.

Procedure: Participants were tested using an **evaluative self-referencing paradigm** (Cunningham et al., 2014; see fig 1). ***Encoding phase***: Children are presented with an object image beside their own face (self-referent trials) or an unknown face (other-referent). Participants are asked to indicate, by pressing the smiling or neutral face, whether the person would or would not like the object shown.
Source memory phase: For the 48 previously presented items and 24 previously unseen foils, children were asked to indicate whether the picture was new, self-referent or other-referent.

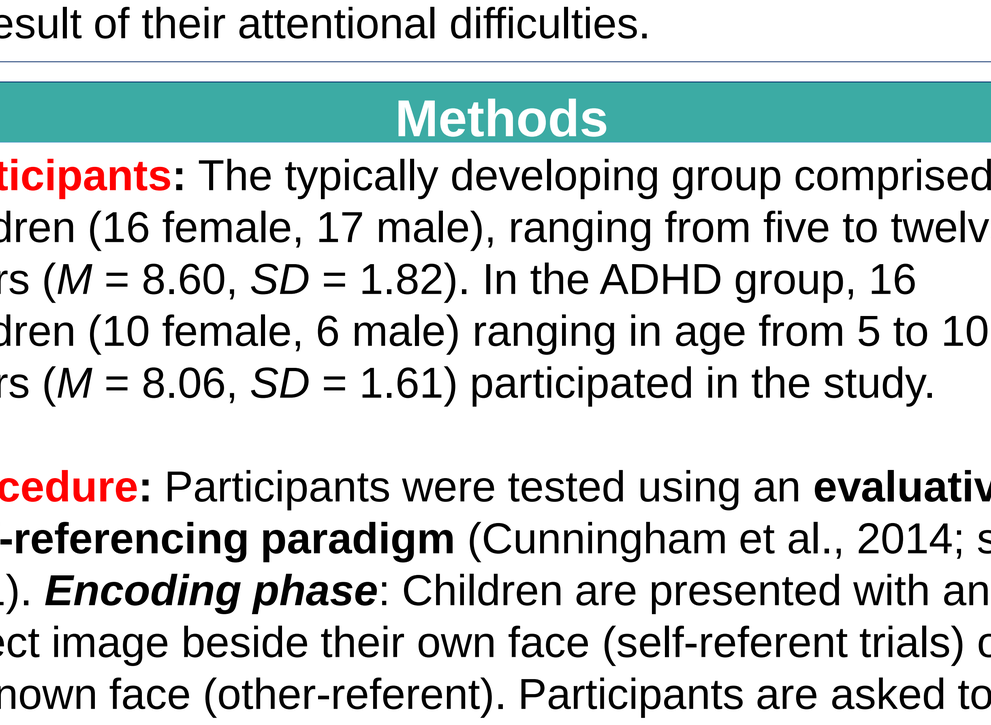

Figure 1. **Example encoding trial from the evaluative self-referencing paradigm.**

Results

There was a significant difference between self and other source memory within the typically developing group, $F(1, 15) = 8.12$, $p = .01$, $\eta p2 = .35$, but no significant difference between self and other source memory, $F(1, 14) = .73$, $p = .41$, $\eta p2 = .05$ within the ADHD group (see figure 2). **Typically developing children displayed a SRE**, replicating results from previous findings. However, **this effect was not found within the ADHD sample**.

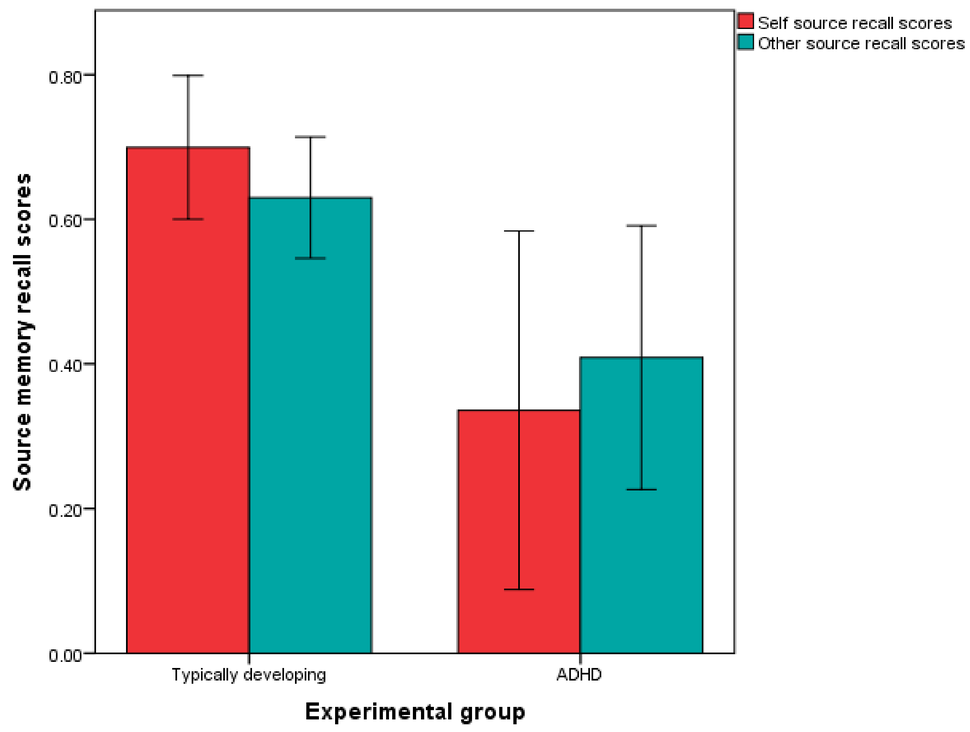

Figure 2. **Corrected proportionate source memory scores with 95% confidence intervals.**

Discussion

- The study provides **novel findings** that children with ADHD do not benefit from the usually robust SRE using existing paradigms. As the task involved allocating attention (e.g. to the referent and object) this possibly placed demand on limited attentional resources, resulting in a similar effect as divided attention tasks among typically developing populations (e.g. Turk et al, 2013).
- The results potentially highlight the importance of attention during self-referential encoding, sufficient **attention may be a prerequisite for the representation of self-referential information**.
- The findings add to our understanding of impaired memory processes in ADHD and have **implications for future research and the use of SRE strategies in the classroom** for children with ADHD.

References

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