

# Handwriting difficulties in children with attention deficit hyperactivity disorder (ADHD).

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## Abstract

Handwriting is fundamental in school and everyday life situations. Legibility guarantees that writing productions communicate information, and speed is often crucial, especially in children with attention deficit and hyperactivity disorder (ADHD), in order to increase the likelihood of their being able to work efficiently and stay on-task during school activities. Preliminary reports have shown an impairment in handwriting of children with ADHD, but evidence is still unclear, especially in the case of speed where research has offered contradictory results. Children's performance, furthermore, has yet to be investigated under the cognitive loading conditions typical of academic tasks in classroom. To shed light on this matter, we examined the handwriting performance in a simple condition but also under (verbal or spatial) working memory (WM) load in 16 fourth- and fifth-grade children with symptoms of ADHD and 16 matched control children. Our results showed that the groups speed differed significantly only in the verbal WM loading condition, where children with symptoms of ADHD wrote more slowly and showed a greater intra-individual variability than controls. Handwriting legibility was affected by verbal WM loading too. These findings are discussed in relation to their educational and clinical implications.