

Publication

The role of motor competences in predicting working memory maintenance and preparatory processing

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The purpose of the study was the examination of the longitudinal association between motor competences and changes in preparatory processing during a task requiring working memory maintenance. At baseline, 52 Caucasian children aged 10 to 12 years completed the MOBAK-5 test battery and a Sternberg task, while the cue-P300 and the initial contingent negative variation (iCNV) were recorded via electroencephalography. After 9 months, the Sternberg task was administered again to assess changes in these neurophysiological indices and behavioral performance. Path-analyses revealed that motor competences predicted the change in cue-P300 and iCNV from baseline to follow-up. The present findings indicate that the cognitive control strategy during a task demanding working memory maintenance changes as a function of children's baseline motor competences.

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