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More evidence for the role of the central executive in retrieving arithmetic facts - a case study of severe developmental dyscalculia.

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Source

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Abstract

It has been shown repeatedly that simple mental calculation depends not only on long-term memory (LTM) representations but also on working memory (WM) resources. The study describes the performance of an adolescent, M.O., exhibiting severe developmental dyscalculia, but literacy problems as well. Despite having relatively preserved procedural skills, M.O. exhibited outstanding difficulties in retrieving arithmetic facts which are most pronounced on multiplication and division problems. Interestingly, his performance on non-numerical memory tests was within average (independent of modality), while his attention span was just below average. Testing the different components of WM, the results emphasize the major role of the central executive in solving simple mental calculations.

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