Abstract

In this investigation, the capacity of the working memory (WM) updating executive function to predict individual differences in reading comprehension and problem solving was analyzed in 5th-graders of Primary Education. In addition, we examined whether this relation is direct or mediated by domain-general or domain-specific variables. For this purpose, a series of tasks was administered to assess fluid intelligence, WM information updating, arithmetic abilities, arithmetic problem solving, lexical processing, and reading comprehension in 49 students aged between 10 and 11 years. The results support the idea that updating is an important predictor of reading comprehension, beyond the influence of domain-specific skills and fluid intelligence. In the case of problem solving, our findings confirm that updating plays an important role although, perhaps due to task content, the relation seems to be mediated by fluid intelligence at this developmental stage..

Keywords

Reading comprehension; problem solving; executive functioning; updating; domain-specific skills; fluid intelligence.