

Executive Functions at the start of kindergarten: are they good predictors of academic performance at the end of year one? A longitudinal study

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Abstract

We assessed Executive Functions (Working Memory, Inhibitory Control and Cognitive Flexibility) in 109 children at the start and end of kindergarten, and evaluated the predictive value of these measures on performance in mathematics and language skills in those children at the end of year one (12 and 18 months after the initial Executive Functions evaluation). Our results show that an overall composite score for Executive Functions is able to predict the overall academic performance of students at the end of year one by between 15 and 23% using the evaluations at the various times the Executive Functions were measured. By establishing relationships between the different Executive Functions components and performance, only some of their components remained predictive: Working Memory, Inhibitory Control and the global measure of Executive Functions. When analysing the predictive power of Executive Functions of the various areas of learning, we saw that the overall composite score of Executive Functions explained between 14 and 10% of the domain of reading, and 19 and 9% in the domain of mathematics.

Keywords

Executive functions, Academic performance, Preschool, Year one.