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# Bilingual kids have better working memory

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Bilingual kids have better working memory (Thinkstock photos/Getty Images)

Bilingual children develop a better working memory -which holds, processes and updates information over short periods of time- than monolingual children, a new study has revealed.

The working memory plays a major role in the execution of a wide range of activities, such as mental calculation (since we have to remember numbers and operate with them) or reading comprehension (given that it requires associating the successive concepts in a text).

The objective of the study - conducted at the University of Granada and the University of York in Toronto, Canada - was examining how multilingualism influences the development of the "working memory" and investigating the association between the working memory and the cognitive superiority of bilingual people found in previous studies.

The working memory includes the structures and processes associated with the storage and processing of information over short periods of time. It is one of the components of the so-called "executive functions": a set of mechanisms involved in the planning and self-regulation of human behavior.

Although the working memory is developed in the first years of life, it can be trained and improved with experience.

According to the principal investigator of this study, Julia Morales Castillo, of the Department of Experimental Psychology of the University of Granada, this study contributes to better understand cognitive development in bilingual and monolingual children.

"Other studies have demonstrated that bilingual children are better at planning and cognitive control (i.e. tasks involving ignoring irrelevant information or requiring a dominant response). But, to date, there was no evidence on the influence of bilingualism on the working memory," said Morales Castillo.

The study sample included bilingual children between 5 and 7 years of age (a critical period in the development of the working memory). The researchers found that bilingual children performed better than monolingual children in working memory tasks. Indeed, the more complex the tasks the better their performance.

"The results of this study suggest that bilingualism does not only improve the working memory in an isolated way, but they affect the global development of executive functions, especially when they have to interact with each other", Morales Castillo concluded.

The research study has been published in the last issue of the Journal of Experimental Child Psychology.

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