The acquisition and active use of two languages has been suggested to train executive functions in the brain, such as focusing attention, suppressing interference from the environment, and switching from one task to another. A new study, however, shows that these statements are too optimistic.

Bilingualism is naturally very useful in communication between people, but it does not seem to increase the cognitive skills related to executive functions. This is demonstrated by a new comprehensive research review by Academy Research Fellow Minna Lehtonen and her group at the Department of Psychology at Åbo Akademi University.

"The benefits of bilingualism in executive functions have been in focus of active research in recent years, and the topic has received a great deal of attention, not only in the scientific community, but also in international media," Lehtonen says.

"Active use of two languages and switching between languages were believed to train these functions, but our comprehensive overview of the existing research does not support this statement."

Lehtonen and her research group made a systematic review, a meta-analysis of a total of 152 studies focusing on bilingual and monolingual adults' performance in tasks that measure different areas of executive functions. These studies had been conducted in 27 countries in which bilingualism takes different forms. In the review, no significant benefits
were found for bilinguals in any sub-areas of executive functions.

The study also analyzed a number of background factors that allegedly affect how large the observed benefit should be. Such factors included, for example, age of acquisition of the second language, the age of the participants, and language pair. Neither did these analyses support the view that some type of bilinguals would systematically show an advantage in executive functions.

According to Lehtonen, the results indicate that bilingualism or active use of another language does not improve executive functions in healthy adults. "The benefits of bilingualism are in the language skills and what they offer for communication between people and cultures," says Lehtonen.


Provided by Abo Akademi University


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