

Think twice, speak once: Bilinguals process both languages simultaneously

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A wordle of English and Spanish words is shown. Credit: Penn State

Bilingual speakers can switch languages seamlessly, likely developing a higher level of mental flexibility than monolinguals, according to Penn

State linguistic researchers.

"In the past, [bilinguals](#) were looked down upon," said Judith F. Kroll, Distinguished Professor of Psychology, Linguistics and Women's Studies. "Not only is bilingualism not bad for you, it may be really good. When you're switching languages all the time it strengthens your mental muscle and your executive function becomes enhanced."

Fluent bilinguals seem to have both languages active at all times, whether both languages are consciously being used or not, the researchers report in a recent issue of *Frontiers in Psychology*. Both languages are active whether either was used only seconds earlier or several days earlier.

Bilinguals rarely say a word in the unintended language, which suggests that they have the ability to control the parallel activity of both languages and ultimately select the intended language without needing to consciously think about it.

The researchers conducted two separate but related experiments. In the first, 27 Spanish-English bilinguals read 512 sentences, written in either Spanish or English—alternating language every two sentences. Participants read the [sentences](#) silently until they came across a word displayed in red, at which point they were instructed to read the red word out loud, as quickly and accurately as possible. About half of the red words were cognates—words that look and sound similar and have the same meaning in both languages.

"Cognate words were processed more quickly than control words," said Jason W. Gullifer, a [graduate student](#) in [psychology](#), suggesting that both languages are active at the same time.

Participants in the second experiment performed the same tasks as those in the first experiment, but this time were presented one [language](#) at a

time. The second experiment's results were similar to the first, suggesting that context does not influence word recognition.

"The context of the experiment didn't seem to matter," said Gullifer. "If you look at bilinguals there seems to be some kind of mechanistic control."

Paola E. Dussias, professor of Spanish and head of the Spanish, Italian and Portuguese, department also collaborated on this research.

Provided by Pennsylvania State University

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