

Sex of speaker affects listener language processing

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Human ear. by David Benbennick, via Wikipedia

(Medical Xpress)—Whether we process language we hear without regard to anything about the speaker is a longstanding scientific debate. But it wasn't until University of Kansas scientists set up an experiment showing that the sex of a speaker affected how quickly listeners identified words grammatically that there was evidence that even higher-level processes are affected by the speaker.

Based on the fact that Spanish [words](#) have a grammatical gender—words

ending in "o" are typically masculine and in "a" are typically feminine—the researchers showed that the sex of a [speaker](#) affected how fast and accurately listeners could identify a list of Spanish words as masculine or feminine. When there was a mismatch between the sex of the speaker and the gender of the word, listeners slowed down in identifying the word grammatically and were less accurate. Both the speakers and [listeners](#) were native Spanish speakers.

Grammar and syntax have been thought for decades to be automatic and untouchable by other brain processes, said Michael Vitevitch, KU professor of psychology. Everything else—the [sex](#) of the speaker, their dialect, etc.—is stripped away as our brains process the sound signal of a word and store it as an abstract form. This is the abstractionist model of how we store words in memory championed by well-known cognitive scientist, linguist and philosopher Noam Chomsky and his followers.

An alternate school of thought conceives of our brains processing words using exemplars containing and indexing information about both the word and the speaker.

"Our study shows that all that other information does influence not just word recognition processing, but higher-level processes associated with grammar," said Vitevitch.

Vitevitch said that while linguists and psychologists have debated whether memory is abstract or exemplar, he believes that there is evidence for both. "We didn't evolve to be efficient. We evolved to get the job done," he said. "We need both systems."

The study was published in in the journal *PLOS ONE* on Nov. 13.

More information: dx.plos.org/10.1371/journal.pone.0079701

Provided by University of Kansas

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