

Study shows dogs and humans are more alike than was previously thought

By Washington Post, adapted by Newsela staff on 09.09.16

Word Count **506**



Two dogs lie very still and listen to the trainer. Photo: Photo by Borbála Ferenczy.

Your dog gets you. He really knows you and can understand what you are telling him.

No, really - he actually does. So say scientists in Hungary, who have published a groundbreaking study that found dogs understand both the meaning of words and the intonation, or tone, used to speak them. Put simply, even if you use a very excited tone of voice to tell a dog he's going to the vet, he'll probably see through you and be bummed about going.

It had already been established that dogs respond to human voices better than their wolf brethren. They are also able to match hundreds of objects to words, and can be directed by human speech. But the new findings mean dogs are more like humans than was previously known. According to a paper published in *Science* magazine, dogs process language using the same regions of the brain as people.

Dogs' Brain Activity Was Measured

To determine this, Attila Andics and colleagues, or co-workers, at Eötvös Loránd University in Budapest recruited 13 family dogs - mostly golden retrievers and border collies. The researchers trained the dogs to sit totally still for seven minutes in an fMRI scanner, which measured their brain activity. (The pups were not restrained, and they "could leave the scanner at any time," the authors assured.)

A female trainer familiar to the dogs then spoke words of praise that all their owners said they used, such as "that's it," "clever" and "well done." They also used neutral words such as "yet" and "if," which the researchers believed were meaningless to the animals. Each dog heard each word in both a neutral tone and a happy, motivational tone.

Using the brain activity images, the researchers saw that the dogs processed the familiar words regardless of intonation, and they did so using the left hemisphere, just like humans. Meanwhile, tone was analyzed in the auditory, or ear-related, regions of the right hemisphere, just as it is in people, the study said.

Dogs have a "rewards center," which is stimulated by pleasant things such as petting and food. The dogs' reward centers bounced excitedly when positive words were spoken in a positive tone.

Dogs Can Understand What Words Really Mean

"It shows that for dogs, a nice praise can very well work as a reward, but it works best if both words and intonation match," Andics said in a statement. "So dogs not only tell apart what we say and how we say it, but they can also combine the two, for a correct interpretation of what those words really meant."

Humans domesticated dogs — that is, made them homebody pets — at least 15,000 years ago. The researchers said it's unlikely that domestication could have led to this sort of brain function. Instead, they say, it's probably far more ancient.

That means we humans aren't as special as we like to think, at least when it comes to how our brains deal with language. What makes words uniquely human, Andics said, is that we came up with using them.

Quiz

- 1 How does the author develop the central ideas of the article?
- (A) by outlining the tests that were done and their results
 - (B) by listing the new words dogs were able to learn
 - (C) by narrating a story about a dog that understands language
 - (D) by comparing modern dogs to ancient dogs and wolves
- 2 Which of these sentences would be MOST important to include in an objective summary of the article?
- (A) A study done by accomplished scientists in Hungary shows dogs are just like humans.
 - (B) Dogs were able to understand words regardless of what kind of tone was being used.
 - (C) Scientists already knew that dogs responded to human speech better than wolves do.
 - (D) Researchers in Hungary studied kind dogs like golden retrievers and border collies.

- 3 Read the following paragraph from the article.

Dogs have a "rewards center," which is stimulated by pleasant things such as petting and food. The dogs' reward centers bounced excitedly when positive words were spoken in a positive tone.

What does using the word "bounced" suggest about the reaction of the dogs' reward centers?

- (A) It was fast and strong.
- (B) It was wild and frightening.
- (C) It was serious and scientific.
- (D) It was confusing and slow.

4 What is the meaning of the phrase "see through you" as used in the following sentence?

Put simply, even if you use a very excited tone of voice to tell a dog he's going to the vet, he'll probably see through you and be bummed about going.

- (A) look at what is behind someone
- (B) not understand something
- (C) know what someone really means
- (D) run away from someone

Answer Key

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