

## How Much Do Dogs Remember?

Dogs possess episodic memory, just like us humans. While we know dogs are clever, how much can they recall about specific events happening around them after they occur? This study deepens our understanding of how dogs remember not only their own experiences, but what you do, too.

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### STORY AT-A-GLANCE

- Research shows that dogs, like humans, have episodic memory and can recall a person's complex actions even when they have no compelling reason to do so
- A 2016 study conducted by the MTA-ELTE Comparative Ethology Research Group in Budapest, trained a group of dogs to "Do as I do," and then were able to demonstrate the dogs' ability to copy human behavior on command, proving they possess episodic-like memory
- The study authors believe their work shows that dogs (and probably many other animals) remember specific events happening around them

*"The results of our study can be considered as a further step to break down artificially erected barriers between non-human animals and humans," lead author Claudia Fugazza of MTA-ELTE Comparative Ethology Research Group in Budapest, Hungary said in a press release.*

*"Dogs are among the few species that people consider 'clever,' and yet we are still surprised whenever a study reveals that dogs and their owners may share some mental abilities despite our distant evolutionary relationship."<sup>2</sup>*

### Study Says: Your Dog Is Watching and Remembering

For the study, the researchers used a technique in which dogs trained to "Do as I do" watch a person perform a behavior and then mimic the behavior. For example, an owner jumps into the air and then tells his dog to "Do it," and the dog follows suit.

The fact that dogs can be trained to "Do as I do" doesn't in and of itself demonstrate episodic memory, because it doesn't prove they remember what they just saw their owner do even when they weren't expecting to be asked or rewarded.

So, first the researchers trained 17 dogs to mimic human behavior with the "Do as I do" technique. In the next phase, they trained them to simply lie down after watching the human perform a behavior, no matter what the behavior was.

Once the dogs were lying down reliably, the researchers pulled a fast one on them by performing a behavior and saying, "Do it" — and the dogs did, demonstrating that they recalled what they'd seen the person do, even though they had no compelling reason to remember. In other words, they showed episodic-like memory.

The researchers tested the dogs in that way after one minute and after one hour. The results show they were able to recall the demonstrated actions after both short and longer time intervals. However, their memory faded somewhat over time.

The researchers believe the same approach can probably be used and adapted in a wide range of animal species, to better understand how animals' minds process their own actions and the actions of others around them.

*"From a broad evolutionary perspective, this implies that episodic-like memory is not unique and did not evolve only in primates but is a more widespread skill in the animal kingdom," Fugazza says.*

*"We suggest that dogs may provide a good model to study the complexity of episodic-like memory in a natural setting, especially because this species has the evolutionary and developmental advantage to live in human social groups."*

## **Dogs Remember Specific Events Happening Around Them**

Many people initially questioned the point of this study, believing we already knew dogs have good memories (and there's ample "citizen science" research to back up the theory).

To get a clearer picture of why the study was done, animal behaviorist and professor emeritus of ecology and evolutionary biology at the University of Colorado, Boulder, Marc Bekoff, Ph.D., reached out to study co-author Adam Miklósi, founder of the **Family Dog Project** to ask:

*"How does [your study] extend what we know from (i) other formal studies and (ii) what people know from watching their dog at home or at a dog park?"<sup>3</sup>*

Miklósi's response:

*"As usual this is something that dog people may have assumed the dog is capable of doing. But most of them did not think about the possibility that dogs remember specific events happening around them.*

*This study shows now that dogs (and probably many other animals) are able to do this. So they not only remember (spontaneously) what they have done (there are studies on chimps, rats, dolphins along this lines), but also what their owner did.*

*For example, they may watch the owner cut the roses in the garden one day, and then when they see those flowers again, this memory could pop up in their mind. This could happen without showing any change in behavior, because this is just a spontaneous 'thought,' although in some other cases such thoughts may actually become causes of (spontaneous) behavior."<sup>4</sup>*

Bekoff makes the point that dogs have excellent memories for many events, and this study is another example of just how good their memory really is.

*“Dogs need to be able to learn and remember what their human wants them to do, and there won’t always be an immediate association of the events in time,” he writes. “So, it is not surprising to me that dogs can remember the ‘Do it’ request after a period of time even if they weren’t expecting to be asked to do something.”<sup>5</sup>*

## Sources and References

<sup>1</sup> [Fugazza, C. et al. Current Biology, Volume 26, Issue 23, P3209-3213, December 05, 2016](#)

<sup>2</sup> [ScienceDaily, November 23, 2016](#)

<sup>3, 4, 5</sup> [Psychology Today, November 24, 2016](#)

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