

# Pet Intelligence Face-Off Sparks Debate

In the perennial battle of wits between America's favorite pets, new research throws a curveball into the dog vs. cat intelligence saga.

**Analysis by Dr. Karen Shaw Becker**

## STORY AT-A-GLANCE

- A recently published study from Hungary suggests that not only are cats unwilling test participants, but unlike dogs, they also show little interest in following human pointing gestures to score treats
- Just 7% of the cats followed pointing gestures at least half the time and were above chance; the remaining 93% were guessing rather than gathering information about which container held the treat based on where the experimenter was pointing
- An earlier study produced different results — this group of cats understood pointing gestures at least 75% of the time, performing significantly above chance
- Further exploration is necessary to understand the underlying mechanisms of the cats' behavior; is it possible the process of domestication has resulted in cats with social-cognitive abilities that allow them to communicate better with humans?

Dogs and cats are hands down America's favorite pets: 38% of U.S. households include a dog, and 25% a cat.<sup>1</sup> This equates to about 77 million dogs and 58 million cats (cat parents are likely to have more than one).

While it's tempting to view dogs and cats as similar in terms of how they fit into family life, they are distinctly different species, which makes comparisons of their relative intelligence challenging. According to Phys.org:

*"The degree to which our two most popular pets are similar to each other has long been a source of scientific debate. Many comparative studies have already been conducted on these species, with varying degrees of success. For example, it is unclear whether they are able to recognize human communication signals, such as pointing, to the same extent."*<sup>2</sup>

Pointing at or toward something is a uniquely human form of communication. Human babies are able to understand pointing gestures by the time they're 9 to 12 months old. In the non-human animal realm research shows that a range of domestic animals, including horses, goats, pigs, and certainly dogs, can also follow our pointing gestures. As for cats, the jury is still out!

## Study Shows Most Cats Are Unwilling Test Subjects

Researchers from the Department of Ethology at Eötvös Loránd University in Budapest, Hungary recently published a study comparing how well pet dogs and cats make choices based on human pointing gestures.<sup>3</sup> The animals were tested under the same conditions to ensure the comparability of the results, however, over half the feline participants

weren't at all pleased with those conditions.

*"We tested cats and dogs first in the laboratory, which was quite the challenge for cats," said study co-author Attila Salamon. "A total of 62 indoor family cats were brought to the Department by their owners, but we could carry out the pointing test with only 34 of them. The rest were either too shy or unmotivated to participate, even though their favorite treats were offered. On the other hand, no dogs had to be excluded."*<sup>4</sup>

The experiment was very simple. A researcher placed two identical containers on the ground, one to her right and the other to her left. She then pointed at the container holding the reward, and the dog or cat could choose which to approach.

The animals who recognized the communication gesture chose the container with the treat. A successful trial was one in which the dog or cat went to the container that was pointed to. An error was going to the wrong container or failing to make any choice at all.

## **Cats Seem to Rely Less Than Dogs on Human Communication Cues**

The dogs all quickly grew comfortable in the laboratory setting, and all made a choice when the experimenter pointed at a container. All the dogs in the group except one chose the right container often enough to eliminate the possibility they were simply guessing.

*"Overall, dogs proved to be more skilled: they found the reward significantly more frequently than cats," said Melitta Csepregi, co-author. "In addition, cats gradually became less willing to choose, while dogs were eager to work during the whole duration of the test."*<sup>5</sup>

As noted earlier, the cats in the study didn't have an easy time of it. Since they were adversely affected by the unfamiliar environment of the lab, the researchers went on to test a subgroup in their homes.

On their own turf, some of the cats were more comfortable continuing to choose a container, but their success rate was still lower compared to dogs. A significant number (40%) had to be dropped from the study because they couldn't adjust to the presence of the experimenter, even in their own home. Some simply didn't respond, others refused to make any choices, hid behind furniture, or even bit the hand of the experimenter.

In the end, just three cats (7%) made a choice at least half the time and were above chance both at home and in the lab. The remaining 93% of the group were guessing rather than gathering information about which container held the treat based on where the experimenter was pointing. Lead researcher Márta Gácsi summed things up this way:

*"There may be several sources of these differences. Cats may have been less attentive, less motivated by food rewards, or frustrated by the unfamiliar environment or unusual handling during the test."*

*Unlike the cat, the dog is a social species and was selected for interaction and cooperation with humans during domestication. Differences in how we keep them may also have contributed to the test results. All things considered, it's no surprise that it's less relevant for cats to rely on human communication cues."*

According to dog behavior expert and author Dr. Stanley Coren:

*“Although these results do not resolve the issue as to whether dogs or cats are the more intelligent overall, it certainly indicates that when it comes to social cognition and the ability to respond to human communication, the performance of cats lags well behind that of dogs — even when you take into account the fact that many cats simply refuse to engage in the testing process.”<sup>6</sup>*

## Another Study of Cats Produced Different Results

In 2022, a researcher at Anglia Ruskin University in the U.K. named Claudia Wascher decided to find out if cats have the ability to understand pointing gestures.

*“This study came about because a student, Margaret Mäses, approached me and said she would like to test cats,” says Wascher. “I was absolutely up for it because cats are an interesting and understudied species.”<sup>7</sup>*

For their study, Wascher and Mäses decided to duplicate and expand on 20-year-old research that showed kitties may be able to follow human pointing gestures. Mäses carefully screened approximately 200 rescue cats living in a shelter in Lithuania and identified those who seemed comfortable being isolated in a testing room with an unfamiliar human. According to Wascher, Mäses “was absolutely brilliant in being able to identify individuals who were not fearful or anxious and were interested in taking part in the study.”

Cats being cats, of the 200 evaluated, only 9 made the cut. (I’m sensing a theme here!)

*“One of the problems was that so many of the cats were not interested in the test or in being isolated in the room or in whatever this strange human wanted from them,” says Wascher. “In cognitive tests like these, it is important that the subject know what question is being asked of them and they are motivated to take part in the experiment.”*

## Cats Understand Pointing Gestures at Least 75% of the Time

For the test, Mäses presented the cats with two cups, each one holding a small bit of food. Next, she pointed directly at one of the cups, then pointed across her body at one of the cups.

Overall, the experiment showed that the cats were able to follow human pointing gestures. As a group, their success rate was about 75%, and they performed significantly above chance (i.e., coincidence) for both pointing gestures.

The results, published in the *Journal of Comparative Psychology*,<sup>8</sup> add to earlier research, but the study co-authors make clear that further exploration is necessary to understand the underlying mechanisms of the cats’ behavior.

One interesting aspect of studies like this one, from an evolutionary perspective, is that neither domestic cats nor their wild ancestors use pointing gestures to communicate. So, could this mean that the **process of domestication** has resulted in cats with social-cognitive abilities that allow them to communicate better with humans? Inquiring minds want to know!

## Sources and References

<sup>1,6</sup> [Psychology Today, December 14, 2023](#)

<sup>2,4,5</sup> [Phys.org, November 30, 2023](#)

<sup>3</sup> [Salamon, A. et al. Scientific Reports, Volume 13, Article number: 17837 \(2023\).](#)

<sup>7</sup> [Psychology Today, April 24, 2023](#)

<sup>8</sup> [Mases, M. and Wascher, C.A. \(2023\) Journal of Comparative Psychology, 137\(1\), 38-44](#)

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