

## Not Just Aloof: Cats Know More Than You Think

Unraveling the mystery behind cat cognition, new studies suggest these independent creatures possess cognitive skills on par with young children, including understanding human emotions, making nutritional choices and demonstrating complex problem-solving abilities.

Analysis by Dr. Karen Shaw Becker

### STORY AT-A-GLANCE

- While cats are often portrayed as aloof, research shows they form attachment bonds with their caregivers, such that “we may be underestimating cats’ socio-cognitive abilities”
- Cats use visual and auditory signals to recognize emotions in humans and other cats
- Cats have a sense of object permanence, meaning that when an object disappears from their sight, they know that it still exists
- Cats also have working memory and “highly developed” long-term memory, along with numerical competence
- Cats can discriminate their own names from other words when said by their owner or a stranger

Compared to dogs, very little research has been done on the cognitive abilities of domestic cats. And it’s interesting to note that some experts believe cats are only semi-domesticated, which may speak to their often-independent nature. Sometimes, this independence is taken as a sign that cats are untrainable or less intelligent than their canine counterparts.

In reality, as interest has increased in learning more about feline cognition, some intriguing findings have emerged, showing that kitties are not only masters at being cats, but they’re also learning how to thrive in a human world as well.

### Cats May Understand Human Emotions

While cats are often portrayed as aloof, research shows they form attachment bonds with their caregivers, such that “we may be underestimating cats’ socio-cognitive abilities.”<sup>1</sup> In addition to displaying distinct attachment styles toward their human guardians, research shows “cats share social traits once attributed to dogs and humans alone.”<sup>2</sup>

Cats also use visual and auditory signals to recognize emotions in humans and other cats, and may even change their behavior according to the emotion they perceive, such as happiness and anger.

“These findings demonstrate that cats have developed social skills that allow them to understand human emotional signals, which is a key factor for the maintenance of interspecies relationships and for strengthening the human-cat bond,” according to research in *Animals (Basel)*.<sup>3</sup> Other evidence reveals cats have socio-cognitive abilities that have allowed them to successfully live with humans for thousands of years. Among them, cats can:<sup>4</sup>

- Predict their owners face when they **hear their voice**
- Locate hidden food from a human's pointing gesture
- Read human gazes for referential information
- Look toward their owner to receive information about new or frightening objects
- Tell the difference between familiar and unfamiliar people
- Distinguish their owner's voice from that of a stranger
- Discriminate their own names from other words when said by their owner or a stranger

## Cats May Have Cognitive Abilities Similar to a Toddler

Cat cognition research suggests cat's cognitive abilities may be similar to a human toddler's.<sup>5</sup> A review on cat cognition pointed out that cats have a sense of object permanence, meaning that when an object disappears from their sight, they know that it still exists. Cats also have working memory and "highly developed" long-term memory.<sup>6</sup> Cats may also have numerical competence, meaning they recognize different quantities, and may also have a concept of time.

One 1976 study found that cats could not only tell the difference between a confinement period of 5 seconds or 20 seconds, but even between smaller intervals of 5 seconds or 8 seconds. "The ability to discriminate time intervals may imply that cats have an internal clock that is responsible for assessing the duration of events," researchers wrote in *Animal Cognition*.<sup>7</sup>

## Cats Can Select a Balanced Diet

Another sign of kitty cognition is their ability to select and combine different cat foods to meet their **nutritional requirements**.<sup>8</sup> Cats were given foods in different combinations of wet and dry food and allowed to self-select what to eat.

The cats consistently selected combinations of food that provided about 52% protein, 36% fat, and 12% carbohydrates — proportions that are in line with the results of an earlier study that represents the most extensive analysis of macronutrient regulation ever conducted on a carnivore.

"Even though the dietary options were very different in each of these experiments the macronutrient composition of the diets achieved across all experiments were remarkably similar," the researchers wrote in the *Journal of Comparative Physiology B*. "These results indicate that a mammalian obligate carnivore, the domestic cat, is able to regulate food selection and intake to balance macronutrient intake despite differences in moisture content and textural properties of the foods provided."<sup>9</sup>

The study suggests that pet cats have retained the ability to regulate their nutritional intake to closely match the natural diet of felines in the wild. That is, when given the opportunity. It increases support for the importance of offering your cat a fresh, species-appropriate diet, along with a varied selection of healthy, whole-food treats.

## Nurturing Your Cat's Cognitive Side

Without proper environmental stimulation to keep their brains and bodies engaged, many indoor cats end up bored and inactive. To engage your cat, be sure to regard them as individuals and as cats — not as “little dogs” as they’re sometimes thought of. This requires paying close attention to your cat’s preferences. Some cats enjoy open spaces, walks outdoors on a harness or spending time outside in an enclosed “**catio**.”

Many cats also enjoy the thrill of watching birds on a feeder or fish swim around an aquarium. If you don’t have a spot for your cat to view the real thing, consider kitty videos that entice your cat with fast-moving mice or fish on the screen.

For some cats, just watching the prey will be engaging enough, but others may grow frustrated without something physical to pounce on. You can solve this problem by tossing your cat a stuffed mouse or ping pong ball while he’s watching his prey.

If you’re wondering just how smart your kitty is, certain breeds, including Siamese, Abyssinian, Persians and Cornish Rex, are considered among the most intelligent, but every cat is different. A simple way to gauge your kitty’s smarts is by letting him watch you place a treat under an upside-down cup. If he goes right to it and retrieves the treat, you may have a kitty genius under your roof!<sup>10</sup>

### Sources and References

<sup>1,2</sup> [Current Biology September 23, 2019](#)

<sup>3,4</sup> [Animals \(Basel\), 2020 Jul; 10\(7\): 1107](#)

<sup>5,10</sup> [PetMD September 15, 2023](#)

<sup>6,7</sup> [Animal Cognition, 18\(6\), 1195–1206. doi: 10.1007/s10071-015-0897-6](#)

<sup>8,9</sup> [Journal of Comparative Physiology B 2013, Volume 183, Pages 525-536](#)

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