



March 21, 2018

I'm not saying dogs are smarter than cats. I'm not saying it because I'd rather not be eviscerated by a legion of cat lovers. Some of my best friends are cats. Honest. My hounds and I *live* with a cat. She stays one step ahead of us all.

But...

...a group of scientists from around the world recently concluded that dogs have more going on upstairs than our feline friends. How did they decide this? By counting neurons in the

brains of dogs, cats, raccoons and bears. I know, most of us have better things to do on the weekend.

But...dogs have about 530 million neurons in their brain's cerebral cortex and cats have about 250 million. So what? Well, neurons are those "little gray cells" that we associate with complete behavior, active thinking, planning and all the other signs of intelligence.

"I believe the absolute number of neurons an animal has, especially in the cerebral cortex, determines the richness of their internal mental state and their ability to predict what is about to happen in their environment based on past experience," said Suzana Herculano-Houzel in a recent interview.

She and a team of other psychologists and biologists used a lab device called an isotropic fractionator in their study of carnivores, working on the theory that carnivores needed more intelligence than the animals they stalk since hunting is a tricky business and requires more resourcefulness.

The study proved their theory wrong. The herbivores had about the same neuron-to-brain-size ratio as the hunters. Apparently it takes a lot of smarts to avoid being *eaten*, too.

But... according to their findings, dogs have more mental horsepower than cats. How can this be? Cats exude a sense of cunning. They're lightning fast, premiere predators. Our dogs smile at us a lot and sometimes they'll bring back the ball it we toss it.

Dogs are also much more adaptable than cats. They have to be living with us. *We* are the focus of our dogs. They shrewdly

anticipate what we're about to do next. They learn our language. Dogs study us. They try to please us and they're trainable. We challenge our dogs by walking them in new environments, teaching them new games and... sometimes baffle them by asking them to spit out the cat.

Cats are marginally trainable if you use a heap of treats. If they understand our words, they usually don't give us the satisfaction of acknowledging them. They stick to their agenda and theirs alone. The only cats I've seen being walked on a leash were clinging to trees in open rebellion against the idea.

They're not actually considered to be domestic animals at all. They tolerate us. You can pet one if you do just the right number of strokes in just the way they want. Otherwise, they nip you and shoot away. Cats do their own thing and their own thing apparently doesn't take extra mental effort.

Even though their brains are comparatively smaller, the study found that dogs have more neurons than hyenas, lions or bears. Brain size in itself isn't an indicator of intelligence. It's the number of neurons that's the telling factor.

Cats have about as many neurons as a brown bear. Raccoons, on the other hand, have about as many neurons as a primate. Man has about 16 billion cortical neurons in the brain.

The paper "Dogs have the most neurons, though not the largest brains" was recently published in the journal *Frontiers in Neuroanatomy* and is the work of researchers in the U.S., Saudi Arabia, Brazil and South Africa.