The Medium Is the Message

Research shows that actions, not words, count most when communicating with dogs. By Sophia Yin, DVM

MY SUSPICIONS WERE CONFIRMED on December 26, 2002, while at the Metreon Theater in San Francisco. As the youngest in the family, my job was to wait in line for tickets, and, knowing this, I went prepared with a scientific article titled, “Do dogs respond to play signals given by humans?” The research, lead by Nicola Rooney at the Anthrozoology Institute in Southampton, UK, featured 21 dog/owner pairs playing—or at least, attempting to play. In what could surely have been billed as a comedy, owners patted the floor, barked, bowed, shuffled their feet, slapped their thighs, crawled on all fours—anything to get their dogs to romp with them.

The researchers videotaped the sessions and meticulously catalogued, recorded and identified common actions used by owners to solicit play. They then tested to see which signals actually worked. As expected, bowing in a human version of a dog play-bow, as well as lunging while verbally encouraging the dog, usually elicited play. Other gestures, such as tickling the dog as though she were a human infant, or stamping one’s feet as though dislodging last week’s dried mud from hiking boots, just earned blank looks. And surprisingly, patting the floor and clapping were less than 50 percent successful. What’s more, while barking at, kissing or picking up the little pooches probably brought on laughs from the researchers, most dogs failed to find these actions amusing.

As interesting as these findings were, the real message—one that stayed with me—was what came next. Upon analyzing the data, the researchers found that although some actions tended to instigate play while others resulted in silent stares, the frequency with which the owners used the signals was unrelated to their success. In other words, owners tended to use unsuccessful gestures even after they were demonstrated not to work. And there I had it, scientific proof: Dogs are smarter than humans. Well, at least in some ways. You see, dogs are champions at trial-and-error learning. They have all day to try things out and see what works.

For instance, want to play fetch when your people aren’t interested? Grab a tennis ball and drop it at your human’s feet, and then bark until he finally picks it up and tosses it. Getting the silent treatment? Bark longer and louder—you’ll eventually get a response. Or, choose the right time, like when your human’s on the phone; that’s when they’ll do anything to get you to shut up.

While dogs are masters of this style of learning, we humans are hindered by our much-vaunted cognitive abilities. Armed with the wonderful capacity to observe and imitate, we copy the behaviors we see, whether they work or not. Clouded by
our preconceptions of the techniques we’re supposed to use, we forget to stop and evaluate whether our actions or methods actually work.

This might seem like fun and games when it’s just us dancing around trying to get our dogs to play. At worst, when our pooch refuses to romp, we attribute it to her not being in the mood. But when it comes to something more important, like coming when called or sitting on command, a dog’s failure to perform can result in her being labeled “stubborn” or “stupid.” Because what else could it be?

Well, according to a series of research studies by Daniel Mills (veterinarian and researcher in Behavioural Studies and Animal Welfare at the UK’s University of Lincoln), as with play signals, much poor performance could be attributed to dogs’ inability to decipher our signals. It turns out that even if our dog responds to our commands some of the time, she may not know what they mean as well as we think she does.

According to Mills, a number of factors determine how well our dogs perceive the message we intend to give. One is whether the signal is verbal or visual. While we humans are used to communicating by talking, Mills’ research indicates that this may not be the best mode of communication with dogs. In an experiment to test what signal type takes precedence, Mills and his colleagues trained dogs to respond to a verbal right and left cue as well as a visual pointing cue for the same behaviors. To guard against bias that could be created by the order of teaching, half of the dogs were initially trained using verbal cues and the other half, using visual cues.

Then they tested the dogs by placing a treat-holding container on either side of the subject—one box on the right and one on the left. When they gave the “left” cue, the dog got the food reward if she ran to the box on the left. If she ran to the wrong box, she got no reward. Once dogs consistently responded correctly to verbal and visual cues alone, the cues were given together, with a twist. The researchers gave a verbal signal for one direction and a visual signal for the other to see which one the dogs would follow. For anyone whose dog competes seriously in agility, the results were a no-brainer: The dogs consistently followed the visual pointing cue and ignored the verbal cue. This dynamic plays out on every agility course—a dog will usually go where her handler’s body is pointing rather than where the handler might be verbally trying to send her.

This bias toward the visual as opposed to the verbal can pose problems for dogs even in everyday life, says Mills, “This simple example emphasizes that when training dogs, we have to realize that dogs may be reading signals we’re not aware of.” So when your voice tells the dog to do one thing, but your body tells her to do another, she’s not being stubborn—she may just be reading a different message than the one you think you’re sending.

Even when we’re purposefully sending visual commands to our dogs, such as in the obedience trial ring or field trials or other long-distance work, there’s more to the signal than we might think. Says Mills, “In a similar study, we looked at the dog’s response to different visual right-and-left cues. We compared eye movement and head movement to the right or left with pointing right or left, but keeping the eyes and head looking forward.” Using six dogs, they found that dogs found the hidden food source faster when the two signals were presented together, which, Mills says, suggests that “dogs are taking in the whole picture of what’s going on.” That is, they don’t look at our hands or our head, they look at our entire body. As a result, if all signals are not consistent, the dog can become confused.

Do these studies mean we should scrap verbal commands altogether and focus on the visual signals? Obviously, dogs can learn verbal commands, because we use them all the time and some dogs respond correctly
on a regular basis. But perhaps even those who respond don't know the cues as well as we think. Mills and his colleagues performed a series of studies to test this, too.

First, they tested slight variations in the commands to see if dogs recognized them as the same words. They taught dogs to stand and stay, and then, from five feet away, the trainer gave either a “come” command or a “sit” command.

Once the dogs were reliable about responding correctly, the researchers changed the command words slightly. In place of “sit,” they used “chit,” “sat” and “sik,” and in place of “come,” they used “tum,” “keem” and “kufe.” The results? In general, dogs did not respond as well to the similar-sounding words; or, taken from another viewpoint, they were able to recognize that the similar-sounding words were not the same as the commands they had learned. This sounds like no big deal, but, says Mills, “From a practical point of view, due to slight differences in how handlers pronounce words, obedient response to one handler’s commands won’t necessarily transfer to another unless the phonemic characteristics are mimicked.”

You might think you could get around this by tape-recording the command and just playing it back, but Mills found that dogs don't respond to tape-recordings as though they were a real-time human voice.

In yet another experiment, a “come” or “sit” command was given in one of four conditions: from a person sitting in a chair; from the same person wearing sunglasses to prevent visual cues; and both conditions, but the command issuing from a tape recorder behind the person. Says Mills, “Dogs made many more errors when the tape was used.” Such errors could be attributed to the dogs distinguishing a difference between the tape-recorded and live voice command, but another hypothesis is that dogs also rely on lip movement or some other indication that the human is speaking to them. In fact, in a fifth variation, the handler uttered the “come” or “sit” cue while looking away from the dogs, and they again made many errors, indicating that orientation of the handler is important.

By now, it should be clear: Be aware of visual signals, as they may override the verbal commands. Make sure all of your signals mean the same thing, or your message may look more like a dubbed version of Godzilla than a clear-cut cue. When you do use verbal cues, make sure everyone says them exactly the same way, or train your dog that slight variations mean the same thing. And if you plan on your dog responding correctly to your verbal commands when you're out of sight or facing away, you'll have to specifi-

ically train him to do so.

And that's not the end of it. Turns out that the emotional content of your message is important too. Mills' group trained dogs to reliably come or sit when a handler was standing five feet away behind a screen. Then they tested to see how dogs responded to different emotional contents. The commands were uttered in a neutral tone; a happy tone, with the inflection ascending; an angry version, with the tone descending; and a gloomy version, in which the handler sighed first. Dogs responded more predictably when the tone was positive, but when the command was said in an angry or gloomy manner, there was more variation in their responses.

So what's the take-home message? The one your pooch is dying for you to learn? Here it is: Perhaps when your dog gives you a blank stare after you utter a command you think she knows, she has a good reason. Because when communicating with our pets, it's not just what we say, it's how we say it and whether our visual and verbal cues are sending the same message. Once we become more aware of the signals we send to our dogs and how they perceive them, we can cut down the number of everyday frustrations and open clearer lines of communication with our four-legged friends.

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