

Is Your Dog Sensing Your Stress and Shifting Their Mood?

Dogs have an amazing sense of smell, and one study found that they can even 'sniff out' your bad mood, and act accordingly.

STORY AT-A-GLANCE

- Dogs have an exceptional sense of smell, 1 million times more efficient than humans. This ability makes them useful for tasks like detecting diseases, alerting others to medical emergencies, and assisting in search and rescue operations
- A 2024 study involving 18 dogs from various breeds found that dogs can smell stress in humans and react to it emotionally, demonstrating their empathetic nature
- When dogs smelled samples from stressed individuals, they became more hesitant about approaching ambiguous food bowls, suggesting a pessimistic outlook in uncertain situations when exposed to stress odors
- The study highlights the social nature of dogs and humans, suggesting that detecting stress in pack members was likely beneficial for alerting to potential threats
- These findings imply that human stress odors may affect dogs' emotional states and perception of risks and rewards, emphasizing the importance of considering olfactory factors in dog training and working environments

Whenever you're feeling agitated or are in a bad mood, do you notice how your pup suddenly hides away or becomes hesitant to approach you? That's no coincidence, as dogs can smell stress in humans, and it affects their ability to empathize with you. There's still a lot we don't know about dog's noses, but every day, new discoveries are being made as to how amazing their sense of smell is.

The Amazing Canine Nose

Dogs' extraordinary sense of smell comes from the unique anatomical features of their nose. In fact, they can detect even minute amounts of a certain odorant – which means their sense of smell is 1 million times more efficient than those of humans!

It is this exceptional sense of smell that makes dogs highly useful for a variety of different tasks, from detecting different diseases, like cancer, malaria or even allergies, to alerting people with life-threatening medical conditions if they're about to go into a medical emergency (and therefore prevent it). For example, some dogs are trained to sniff out whenever their human companion is about to have a seizure or, in diabetics, has low blood sugar.

During calamities, trained dogs are used to detect survivors in search and rescue missions, even people who have been buried under tons of rubble. They are also used to locate lost persons or catch criminals that have escaped. They are even used to sniff out illicit drugs and explosives in areas like airports and malls.

But even if not professionally trained for these jobs, dogs still demonstrate how fantastic their sense of smell is — and a recent study confirms that it affects how they respond and act toward you.

Dogs Can Smell Your Stress, According to Research

In a 2024 study¹ conducted by researchers from the University of Bristol, Cardiff University and British charity Medical Detection Dogs, researchers determined that not only can dogs sniff out stress in humans, but also react to it emotionally.

Published in the journal *Scientific Reports*, the study involved 18 dogs from different breeds, along with their owners. The scientists then recruited human volunteers and had them undergo stress tests, which involved doing mental math problems and delivering speeches on the spot. They then acquired sweat and breath samples from these participants, after the stress exams and during periods when they were calm.

The participating dogs were then allowed to sniff these samples, but before doing so, they were presented with food bowls at opposite locations. One contained a treat while another did not; they also switched up these bowls and the samples. During the procedure, food bowls without treats were placed in the middle, in an “ambiguous” location.

When dogs smelled a sample from a stressed individual, they became more hesitant about approaching the “ambiguous” food bowls. Dogs that smelled samples from a calm individual didn’t show this effect. According to an article in *Scientific American*:²

“The results imply that when dogs are around stressed individuals, they’re more pessimistic about uncertain situations, whereas proximity to people with a relaxed odor does not have this effect, says Zoe Parr-Cortes, lead study author and a Ph.D. student at Bristol Veterinary School at the University of Bristol.”

Dogs Display Empathy When They Sniff Your Negative Emotions

So how does this translate to you and your furry companion? Basically, if you’re stressed out or in a bad mood, your dog will think that they are less likely to receive a treat or reward.

This study demonstrates the empathetic nature of dogs, and how they display it based on what they smell, along with verbal and visual cues. Parr-Cortes also highlighted the social nature of pets and how it influenced their actions during this study, saying:

“Both humans and dogs are social animals, and there’s an emotional contagion between us. Being able to sense stress from another member of the pack was likely beneficial because it alerted them of a threat that another member of the group had already detected.”³

This may prove to be useful if you’re trying to train a dog — if you do it while feeling stressed, it could affect how it learns and feels. Maintaining a calm and serene environment when training your dog may be more conducive to their learning.

“These findings may indicate an effect of human odor on the emotional state of dogs and/or how dogs perceive risks and rewards. If the odor from stressed humans affects a dog’s emotional state, perception of rewards, or ability to learn, it suggests that stress may not just travel down the lead (as is often stated) but also through the air.”

These findings highlight the need to consider dogs' training and working environments from an olfactory perspective" the study authors conclude.⁴

Sources and References

^{1,4} [Scientific Reports, 2024, volume 14, Article number: 15843](#)

^{2,3} [Scientific American, July 25, 2024](#)
