

# Can Wild Dogs Bond With Humans, Too?

It's long been thought that the ability of dogs to form attachments to humans is solely a function of more than 15,000 years of domestication. But now this new study with wolf pups may turn that theory on its head.

**Analysis by Dr. Karen Shaw Becker**

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## STORY AT-A-GLANCE

- A new study shows that hand-raised wolves form attachments to their caregivers at the same level domestic dogs do
- The wolves in the study were just as likely as the dogs to recognize and gravitate toward "their" human vs. a stranger
- During testing, the wolves were more anxious than the dogs, but remarkably, the researchers observed that the wolves' caregivers acted as a "social stress buffer," in that their presence had a calming effect
- Despite these similarities, wolves and dogs remain more different than alike; for example, adult hand-raised wolves are more independent than dogs, who are more dependent on their humans

The ability of some animals to show affection toward humans is remarkable, according to scientists. While domesticated dogs are naturals in this department, it now appears that attachment behavior toward human caregivers also exists in wolves, based on the results of a new study published in the journal *Ecology and Evolution*.<sup>1</sup>

## Do Wolf Pups Get Attached to 'Their' Humans?

For the study, researchers at Stockholm University in Sweden used a behavioral test designed to quantify attachment behaviors in 23-week-old wolf and dog puppies (10 wolves and 12 dogs) they had raised from the age of 10 days.

Lead study author Dr. Christina Hansen Wheat, PhD in Ethology from Stockholm University, and her team put the pups through various behavioral tests. In one test, called the Strange Situation Test, a familiar person and a stranger took turns coming in and out of a test room to create a somewhat strange and stressful situation for the animals.

The test, originally designed to measure attachment in human babies, is used to create an unstable environment to stimulate attachment behaviors such as proximity seeking in the pups.

The researchers evaluated the animals to determine if they could discriminate between the familiar person and the stranger, demonstrated by spending more time greeting, making physical contact with, and showing affection toward the person they knew vs. the person they didn't. If the wolves' behavior was equal to the dogs, it would suggest that the ability is not unique to dogs and hasn't evolved specifically in dogs.

*"We felt that there was a need to thoroughly test this," Hansen Wheat said in a news release. "Together with earlier studies making important contributions to this question, I think it is now appropriate to entertain the idea that if variation in human-directed attachment behaviour exists in wolves, this behaviour could have been a potential target for early selective pressures exerted during dog domestication."*<sup>2</sup>

## **Study Says: Yes! Wolves DO Form Attachments to Humans**

The study authors observed that the wolves "spontaneously discriminated between a familiar person and a stranger just as well as dogs did, and showed more proximity seeking and affiliative behaviours towards the familiar person."<sup>3</sup> (More simply put, the wolves were just as likely as the dogs to recognize and gravitate toward "their" human vs. a stranger.)

Perhaps even more remarkable was that the familiar person acted as a "social stress buffer" for the wolves, calming them in a stressful situation. These new discoveries add to a growing body of evidence that contradicts the theory that the ability of dogs to form attachments to humans is solely a function of 15,000+ years of domestication.

The study authors write that their results "demonstrate that the ability to form attachment with humans exists in relatives of the wild ancestor of dogs, thereby refuting claims that this phenotype evolved after dog domestication was initiated."<sup>4</sup>

*"It was very clear that the wolves, as the dogs, preferred the familiar person over the stranger," Hansen Wheat noted. "But what was perhaps even more interesting was that while the dogs were not particularly affected by the test situation, the wolves were.*

*They were pacing the test room. However, the remarkable thing was that when the familiar person, a hand-raiser that had been with the wolves all their lives, re-entered the test room the pacing behaviour stopped, indicating that the familiar person acted as a social stress buffer for the wolves.*

*I do not believe that this has ever been shown to be the case for wolves before and this also complements the existence of a strong bond between the animals and the familiar person."*<sup>5</sup>

Hansen Wheat believes that similarities between wolves and dogs help us understand more about the behavior of domestic dogs. She also thinks it makes sense that wolves can form connections to people, since "Wolves showing human-directed attachment could have had a selective advantage in early stages of dog domestication."<sup>6</sup>

Hansen Wheat plans to continue her work with information she and her team have gathered over three years hand-raising wolves and dogs in identical circumstances to learn more about both the differences and similarities in their behavior.

## **Dogs and Wolves Are Still More Different Than Alike**

While dogs and wolves do share physical and behavioral traits, they've developed into two very different species. While wolf pups raised by humans retain affection toward their caregivers similar to dogs, they are much more independent than dogs, which are dependent on their caregivers.<sup>7</sup>

For example, when faced with a challenging puzzle, studies show that dogs spend more time gazing at humans in the room than wolves do. Wolves act persistently and independently, working hard to solve the problem on their own, whereas dogs attempt to get help from their owner.<sup>8</sup>

Domestic dogs are also more likely to make direct eye contact with humans than wolves raised in the same environment,<sup>9</sup> and this may explain why dogs and humans have formed such complex communication.

These are also reasons why the crossbreeding of wolves and dogs to create wolfdogs is not recommended. According to Mission: Wolf, a nonprofit educational wolf sanctuary in Colorado:

*“Wolves reach maturity anywhere from one to three years of age. Up until this point, their minds and habits are somewhat similar to that of a dog. But when wolves do finally reach maturity, they become very independent, and possessive of anything that happens to find its way into their mouth. It is usually at this point that people who own a wolf or a wolf-dog find that they have an animal they can no longer control ...*

*For those who want the wolfy look without the wild instincts and uncontrollable behavior, we recommend getting a husky, malamute, or German shepherd. If you're in need of a canine friend, let the wolves remain wild, and go to your local shelter instead; there are plenty of dogs who need homes!”<sup>10</sup>*

## Sources and References

[ScienceDaily, September 20, 2022](#)

<sup>1, 4</sup> [Hansen Wheat, C. et al. Ecology and Evolution, September 20, 2022](#)

<sup>2, 3, 5, 6</sup> [Stockholm University News, September 20, 2022](#)

<sup>7</sup> [Royal Society Open Science, June 28, 2017](#)

<sup>8</sup> [Biology Letters, September 2015](#)

<sup>9</sup> [Current Biology, 2003 Apr 29;13\(9\):763-6](#)

<sup>10</sup> [Mission: Wolf, Wolves and Dogs](#)

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