

Sniff, sniff. What did you say? New form of animal communication discovered

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"We know that rats and other animals can communicate through vocalizations, physical contact, odors, and also [visual displays](#)," says

Daniel Wesson of Case Western Reserve University. "To find that there was an undiscovered form of communication these animals had been using right in front of us this whole time was truly a neat experience."

Of course, the animals do use sniffing to smell each other. But Wesson suspected that wasn't the whole story. After all, it takes very little sniffing for a dog to pick up the scent of another dog. Why, then, do they sometimes sniff one another so vigorously? And why might those sniffing exchanges lead to a fight in some cases but not others?

In the new study, Wesson used [radio telemetry](#) recordings of nasal [respiration](#) in [rats](#) to find that when one rat sniffs in the direction of another, the recipient of that attention will respond by slowing their own sniffing rate, as if to say "don't mind me." Further investigation showed that the direction of those interactions depended on the relative size and social status of each of the two animals. In the event that a smaller subordinate failed to lower their sniffing rate appropriately, the more dominant partner would often lash out aggressively.

Those sniffing exchanges continued even in animals unable to smell but could be eliminated by treating animals with [oxytocin](#), a chemical sometimes referred to as the "love hormone."

Wesson says it is likely that the animals are communicating conflict avoidance and appeasement signals in their decisions to sniff or not to sniff. It's not unlike the way a male primate beats his chest to demonstrate superiority while juveniles in his presence bow down in submission.

That sniffing is used not only to collect but also to convey information highlights the complex social lives of animals. "It opens the door to a totally new line of understanding complex, microstructured social behaviors," Wesson says.

More information: *Current Biology*, Wesson: "Sniffing behavior communicates social hierarchy." [dx.doi.org/10.1016/j.cub.2013.02.012](https://doi.org/10.1016/j.cub.2013.02.012)

Provided by Cell Press

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