

# Dogs found to engage in mimicry and emotional contagion with one another

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Tame Grønlandshund in Upernavik, Greenland. Credit: Wikipedia

A trio of researchers with the University of Pisa has found during a

study they conducted, that dogs engage in emotional contagion and rapid mimicry with one another. In their paper published in *Royal Society Open Science*, the team describes their field study and why their results indicate that dogs may be capable of empathy.

Humans and other primates have been found to mimic the expressions of others around them, if one person smiles, for example, the person with them will almost always do so as well. Such copycatting is a part of what scientists call emotional contagion, where the emotions of one, cause a change in the emotions of another, which can be carried to a third individual, and so on. It is not just a matter of copying expressions, it is a behavior that causes an actual change in the [mood state](#) of another—playing peek-a-boo with a baby, for example, generally results in the baby smiling, which causes the adult to smile and also to feel a sense of happiness. The behavior is believed to be a form of expression that enables [group members](#) to get along or to bond. In this new effort, the researchers sought to discover whether dogs engage in mimicry and/or [emotional contagion](#) too.

To find out, the team went to a local dog park and filmed interactions between 23 male and 26 female dogs that ranged in age for just three months old to six years. Afterwards, they took the tape back to their lab for study. In analyzing the video they found that they dogs engaged in two main types of mimicry, bowing using just their front legs, and opening their mouths in a non-threatening way. They discovered that dogs that knew each other well tended to mimic one another most often, while those that did not know each other mimicked the least. Mimicking was defined as copying the action or expression of another within one second. The researchers noted that 76 percent of the dogs videotaped engaged in some degree of mimicking and that the dogs that mimicked one another also tended to play together longer. The researchers suggest their results indicate that [dogs](#) feel some degree of empathy for one another.

**More information:** Elisabetta Palagi et al. Rapid mimicry and emotional contagion in domestic dogs, *Royal Society Open Science* (2015). [DOI: 10.1098/rsos.150505](https://doi.org/10.1098/rsos.150505)

## Abstract

Emotional contagion is a basic form of empathy that makes individuals able to experience others' emotions. In human and non-human primates, emotional contagion can be linked to facial mimicry, an automatic and fast response (less than 1 s) in which individuals involuntary mimic others' expressions. Here, we tested whether body (play bow, PBOW) and facial (relaxed open-mouth, ROM) rapid mimicry is present in domestic dogs (*Canis lupus familiaris*) during dyadic intraspecific play. During their free playful interactions, dogs showed a stronger and rapid mimicry response (less than 1 s) after perceiving PBOW and ROM (two signals typical of play in dogs) than after perceiving JUMP and BITE (two play patterns resembling PBOW and ROM in motor performance). Playful sessions punctuated by rapid mimicry lasted longer than those sessions punctuated only by signals. Moreover, the distribution of rapid mimicry was strongly affected by the familiarity linking the subjects involved: the stronger the social bonding, the higher the level of rapid mimicry. In conclusion, our results demonstrate the presence of rapid mimicry in dogs, the involvement of mimicry in sharing playful motivation and the social modulation of the phenomenon. All these findings concur in supporting the idea that a possible linkage between rapid mimicry and emotional contagion (a building-block of empathy) exists in dogs.

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