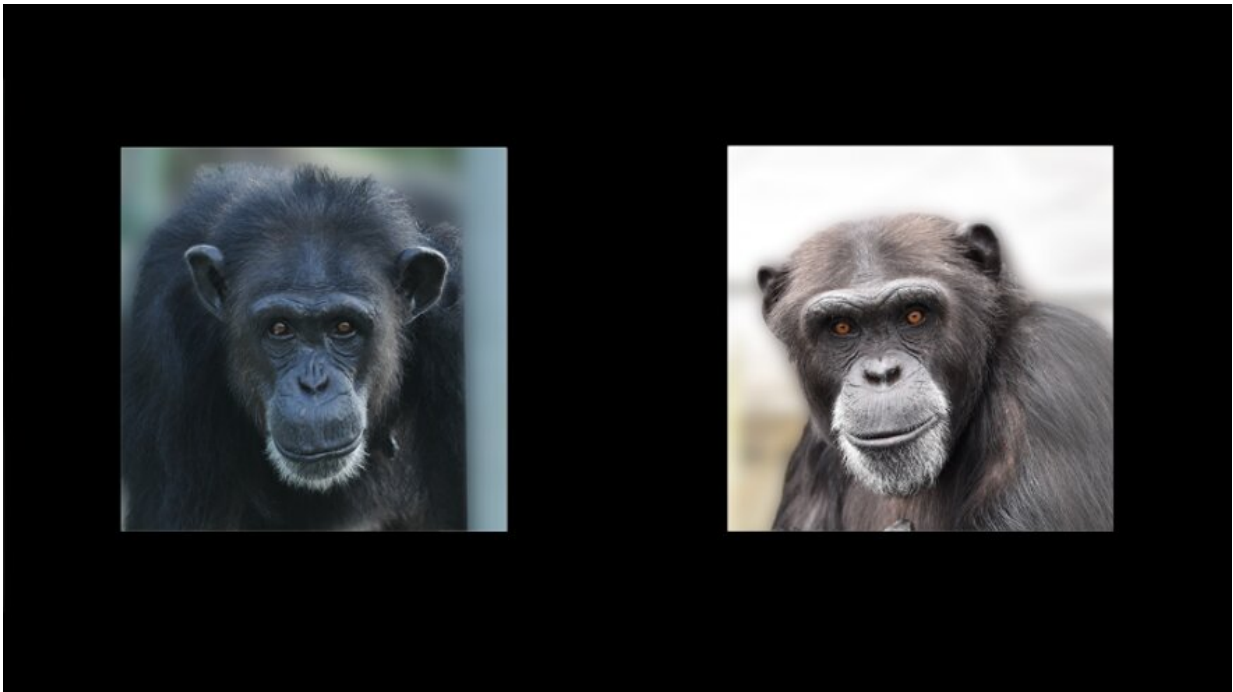


Oxytocin's role in human group relations may be shared with other primates

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Example of image pairing presented to chimpanzee participants, featuring these side-by-side images of a stranger and a groupmate. Participants' gaze was recorded with an eye tracker while they looked at the image pairings. Credit: KyotoU WRC/James Brooks

Oxytocin has sometimes been called "the love hormone." The past decade of research, though, has challenged this idea, meaning that this evolutionarily ancient neuropeptide hormone is involved not only in in-

group love but may also be involved in out-group hate.

Now, a new study from Kyoto University suggests [oxytocin](#)'s role in group relations may be shared with both of our closest relatives.

The research at KyotoU's Wildlife Research Center not only reinforces past research findings of oxytocin's dual effects on in-group love and out-group hostility but also suggests that the role of this hormone in group relations may be shared with our closest relatives, [bonobos](#) and chimpanzees.

"Field work has shown that urinary oxytocin rises before and during intergroup encounters in chimpanzees," says lead author James Brooks, "but little was known about how it may influence intergroup behavior in a species like bonobos that do not demonstrate fierce between-group competition."

Brooks' team, therefore, focused on determining oxytocin's effect on bonobos' and chimpanzees' intergroup dynamics when studied in the same context.

If oxytocin were involved more specifically in the evolution of between-group competition, its effects on chimpanzee group-based behavior would be expected to be more pronounced than for the more tolerant bonobos.

However, the team reasoned that if the hormone affected both species similarly, this would point to a general role in the evolution of group relations.

Brooks' team tested their hypothesis on chimpanzees and bonobos by using eye tracking technology that compared a subject's attention to side-by-side images of out-group and in-group counterparts after breathing a

mist of either oxytocin solution or a saline placebo.

The findings revealed that oxytocin promoted out-group attention across the two species, not only in chimpanzees. Bonobos and chimpanzees spent longer looking at pictures of strangers after receiving oxytocin, compared to a placebo, but only toward images of the sex more strongly involved in between-group relations, specifically male [chimpanzees](#) and female bonobos.

"Despite oxytocin's common role in influencing group relations, the existing social context seems to dictate the degree of its effect," suggests supervising researcher Shinya Yamamoto.

As the first study to show oxytocin's effect on group-based behavior in bonobos, the findings add to a growing body of research about oxytocin's importance in the evolution of group relations.

"While oxytocin seems to be involved in group relations across species, our results suggest that it may not only be limited to situations of fierce group competition but may instead promote behavior relevant to each species' own unique socio-ecology."

The research was published in *Hormones and Behavior*.

More information: James Brooks et al, Oxytocin promotes species-relevant outgroup attention in bonobos and chimpanzees, *Hormones and Behavior* (2022). [DOI: 10.1016/j.yhbeh.2022.105182](https://doi.org/10.1016/j.yhbeh.2022.105182)

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