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## Chimpanzee co-operation linked to 'social bond' hormone

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**Scientists have provided insight into why unrelated chimpanzees co-operate with each other outside a sexual relationship.**

The team of international researchers found that increased levels of the hormone oxytocin played an intrinsic role in non-kin co-operation.

Wild chimps that had taken part in a grooming session with a "bond partner" had higher levels of the hormone in their urine than after grooming with a "non-bond partner", irrespective of whether the individuals were related.

Results of the study are published in the journal *Proceedings of the Royal Society B*.

Scientists tested the urine of wild chimpanzees (*Pan troglodytes*) in Uganda to measure the animals' oxytocin levels after grooming sessions.

Oxytocin is associated with forming mother-baby and pair bonds, "but it's not really been implicated in non-kin relationships before - in non-sexual contexts," said research team member Catherine Crockford from the Max Planck Institute for Evolutionary Anthropology in Leipzig, Germany.

The non-kin relationships that exist in the animal kingdom are "almost like friendships", according to Dr Crockford.

Animals that maintain cooperative relationships have greater longevity and increased rates of offspring survival.

But relatively little is known about the processes behind non-kin chimpanzee relationships.

Comparing such social bonds to those found in humans, Dr Crockford explained: "Even though people are not related to each other and they're not in a sexual relationship where they could produce offspring, they still co-operate.

"And nobody really has a good explanation for how this can happen."

Findings of the study suggest a direct link between social bonds and co-operative behaviour.

Co-operative behaviour observed in chimps includes food sharing, collaborative hunting and grooming.

Grooming events can occur between non-bond partners, but in these cases increased oxytocin levels were not recorded, which surprised Dr Crockford.

"Until now... it's pretty much been thought that tactile stimulation [for example] gentle stroking is enough to stimulate oxytocin.

"But this clearly shows that's not the case, that you need more than just that. There needs to be some sort of psychological component really, this added factor of the relationship itself and the quality of the relationship."

The study also found that social bonds between female-female pairs and male-male pairs are both important in chimpanzee society.

This finding contrasts with perceptions that the animals tend to be "male-bonded".

"Although chimps are perceived as being male-bonded, other bonds are clearly important too," commented Dr Crockford.

The study supports the theory that enduring co-operative relationships are not purely cognitive.

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