

Chimpanzees: Alarm calls with intent?

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Major research led by University of York scientists has discovered remarkable similarities between the production of vocalisations of wild chimpanzees and human language.

Dr Katie Slocombe and Dr Anne Schel, of the Department of Psychology at York, led the project in Uganda which examined the degree of intentionality wild [chimpanzees](#) have over their [alarm calls](#).

The results of their research, which demonstrated that chimpanzee alarm

calls show numerous hallmarks of intentional communication, is published in *PLOS ONE*. The research was funded by the Biotechnology and Biological Sciences Research Council (BBSRC).

Many scientists consider non-human primate vocalisations to be a simple read-out of emotion (e.g. alarm calls are just an expression of fear) and argue they are not produced intentionally, in sharp contrast to both human language and great ape gestural signals. This has led some scientists to suggest that human language evolved from a primitive gestural communication system, rather than a vocal communication system.

The study challenges this view and shows that chimpanzees do not just alarm call because they are frightened of a predator; instead, they appear to produce certain alarm calls intentionally in a tactical and goal directed way.

In Uganda, the researchers presented wild chimpanzees with a moving snake model and monitored their vocal and behavioural responses. They found that the chimpanzees were more likely to produce alarm calls when close friends arrived in the vicinity. They looked at and monitored group members both before and during the production of calls and critically, they continued to call until all group members were safe from the predator. Together these behaviours indicate the calls are produced intentionally to warn others of the danger.

Dr Slocombe said: "These behaviours indicate that these alarm calls were produced intentionally to warn others of danger and thus the study shows a key similarity in the mechanisms involved in the production of chimpanzee vocalisations and [human language](#)."

"Our results demonstrate that certain vocalisations of our closest living relatives qualify as intentional signals, in a directly comparable way to

many [great ape](#) gestures, indicating that language may have originated from a multimodal vocal-gestural communication system."

Dr Schel said "Observing the chimpanzees reacting to the snake model was intriguing. It was particularly striking when new individuals, who had not seen the snake yet, arrived in the area: if a chimpanzee who had actually seen the snake enjoyed a close friendship with this arriving individual, they would give alarm calls, warning their friend of the danger. It really seemed the chimpanzees directed their alarm calls at specific individuals."

More information: The paper 'Chimpanzee alarm call production meets key criteria for intentionality' is published in *PLOS ONE* : [dx.plos.org/10.1371/journal.pone.0076674](https://doi.org/10.1371/journal.pone.0076674)

Provided by University of York

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