Communication Intelligence Of Chimpanzees

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My assignment is based on the work of Hostetter,Cantero and Hopkins, on the behavioural communicatitive characteristics of Chimpanzees.
'Differential use of vocal and gestural communication by Chimpanzees in response to the attention of humans'
J Comp Psycol.2001Dec 115(4):337-343

This study examined the communicative behaviour of fourty nine captive chimpanzees.Their vocalization,manual gestures and auditory behaviour was observed as a means of gaining human attention.

Method

Fourty nine Chimpanzees were used as subjects in this experiment. Twenty three were female and twenty six of them were male.Thirty of them were nursery reared and nineteen of them were mother reared.The mean age of the Chimpanzees was 21 years and 5 months.

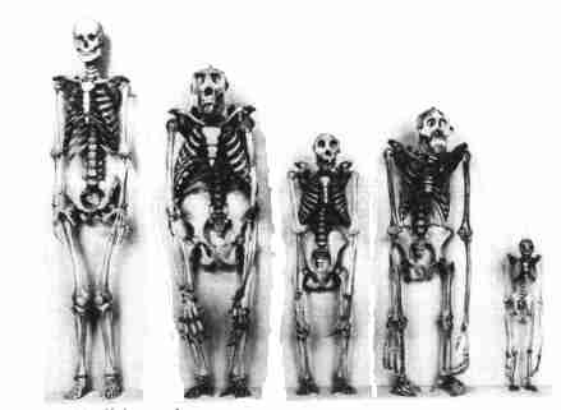
In investigating the communication and behaviour aspects of the Chimpanzees, three conditions were used. The three conditions included were positioned away, positioned toward, and baseline. In the positioned away condition, a human , the experimenter, knelt down approximately 1 m in front of the chimpanzee's cage with his or her back facing the chimpanzee while holding half of a banana behind his or her back; thus, the chimpanzee could see the banana but not the human's face.
In the positioned toward condition, the human knelt down approximately 1 m in front of the chimpanzee's cage while holding half of a banana in

front of him or her and looking directly at the chimpanzee; thus, the chimpanzee could see both the banana and the human's face.
In the third condition, the baseline condition, the human placed half of a banana on the ground about 1 m in front of the chimpanzee's cage, where the banana could easily be seen but not reached by the chimpanzee. In this condition, the human left the testing area once the banana had been placed on the ground.

This experiment was recorded and in each case the experimenter would call the Chimpanzees name in order to get the Chimpanzee on camera.Then at once its communicative behaviour was recorded for sixty seconds.

Results

From this experiment eleven behavioural categories were observed from the Chimpanzees, these include; vocalization, manual gesture, vocalization and gesture, cage bang, spit, throw, clap, display, lip pout, depart, and other.
Chimpanzees emitted vocalizations faster and were more likely to produce vocalizations as their first communicative behavior when a human was positioned away from them.
Chimpanzees used manual gestures more frequently and faster when the human was positioned toward them. Very little communicative behavior was seen in the baseline condition, and the most frequently observed behavior was departing.



(Man, Gorilla, Chimpanzee, Orangutam, Gibbon)

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Frequency distribution of the results obtained.

	Testing condition	
Behavioral category	**Away**	**Toward**
Vocalization		
No. of occurrences	67	31
No. of chimpanzees	19	14
Gestures		
No. of occurrences	46	128
No. of chimpanzees	21	38
Gesture and Vocalization		
No. of occurrences	21	34
No. of chimpanzees	11	15
Cage Bang		
No. of occurrences	100	79
No. of chimpanzees	16	19
Throw		
No. of occurrences	4	0
No. of chimpanzees	1	0
Spit		
No. of occurrences	27	8
No. of chimpanzees	8	3
Display		
No. of occurences	1	2
No. of chimpanzees	1	2
Clap		

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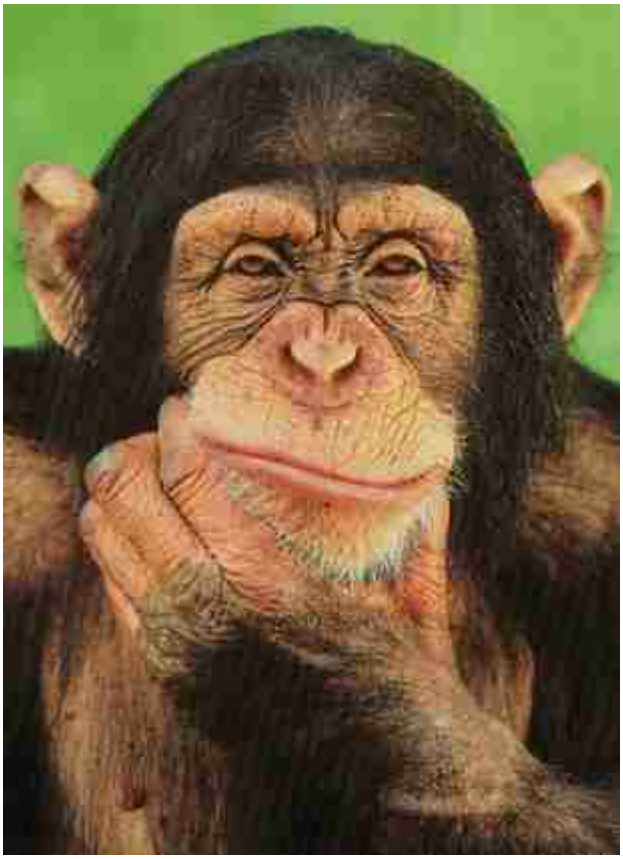
No. of occurrences	18	39
No. of chimpanzees	4	5
Lip Pout		
No. of occurrences	1	19
No. of chimpanzees	1	10
Depart		
No. of occurrences	16	10
No. of chimpanzees	13	8
Other		
No. of occurrences	16	37
No. of chimpanzees		



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Conclusion

It is concluded in this study that Chimpanzees modify their communicative behavior in order to get the attention of humans. Similarly to this research experiment,Povinelli and Eddy(1996) found that young chimpanzees seem to recognize eye contact and head orientation as attentional cues; chimpanzees were more likely to gesture to an experimenter who was making direct eye contact than to an experimenter who was averting his or her eye gaze. This evidence suggests that chimpanzees (a) understand the function of their gestures as communicative; (b) distinguish, at least to some extent, attentional states in others; and (c) recognize this attention as an important sign for successful gestural communication.

I find that their human like behaviour coincides with the close genetic relationship Chimpanzees have with humans.It is a fact that chimpanzees and humans differ by just 1% DNA. Biologically Chimpanzees are more closely related to humans than Gorillas.

Jane Goodall, a dedicated primatologist provides research papers which supports this hypothesis in the way that Chimpanzees show changing behaviour and communication intelligence. Jane Goodalls study, backed by many others both in the field and in captive situations, provides evidence that Chimpanzees show personality differences, rational thought and problem solving abilities, mental powers of abstraction and generalization, concept of self, ability to understand the moods and needs of others, and empathy. “We are convinced, also, that chimpanzees know emotions similar to joy and sorrow, fear and despair, and that they can experience mental as well as physical suffering. We think of them with a new respect. And this leads to a new respect for other amazing animal beings with whom we share the planet”.

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ReferencesAmong the Wild Chimpanzees. Jane Goodall. Videocassette. National Geographic Society, 1984.

Goodall, Jane. The Chimpanzees of Gombe: Patterns of Behavior. Boston: Bellknap Press of the Harvard University Press, 1990.

Goodall, Jane. *Through a Window*. Boston: Houghton Mifflin Company, 1990.

I found this research topic interesting as I found we gain an insight into Chimpanzees communicative behaviour which could have an important role in tracing the evolution of human language and speech.

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References

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