

Chimpanzees show similar personality traits to humans, researchers say

May 6 2014



Image: Wikipedia.

Chimpanzees have almost the same personality traits as humans, and they are structured almost identically, according to new work led by researchers at Georgia State University.

The research also shows some of those traits have a neurobiological basis, and that those traits vary according to the [biological sex](#) of the individual chimpanzee.

"Our work also demonstrates the promise of using chimpanzee models to investigate the neurobiology of [personality](#) processes," said Assistant Professor Robert Latzman of Psychology, who led the research team. "We know that these processes are associated with a variety of emotional health outcomes. We're excited to continue investigating these links."

The team, which also included Professor William Hopkins of Neuroscience, started with a common tool for analyzing chimp personalities called the Chimpanzee Personality Questionnaire.

The questionnaire is filled out by the [chimpanzees](#)' caregivers, who rate individual chimps in 43 categories based on their observation of the animals' daily behavior. Is the chimp excitable? Impulsive? Playful? Timid? Dominant? The questionnaire records it all.

The researchers analyzed complete questionnaires for 174 chimpanzees housed at the Yerkes National Primate Center at Emory University. They ran extensive individual analyses to find out which traits tend to go together, and which combine to make more basic, fundamental "meta-traits."

The analysis showed that the most fundamental [personality trait](#) for chimpanzees is dominance – that is, whether an animal is a generally dominant and undercontrolled "Alpha," or a more playful and sociable "Beta."

But those two big categories can be broken down statistically into smaller personality traits in ways that echo the personality structures researchers have repeatedly found in child and adult human subjects.

Alpha personalities, for example, statistically break down into tendencies toward dominance and disinhibition. Beta personalities, on the other hand, show low dominance and positive emotionality.

Further analysis shows these lower order traits also can be statistically broken down into their constituent parts. The research team identified five personality factors that combine differently in each individual chimpanzee: conscientiousness, dominance, extraversion, agreeableness and intellect. This echoes a well-known five-factor model of the human personality, although the specific factors are slightly different.

Now, for the neurobiology: many of those chimpanzee traits statistically correlate with the function of a neuropeptide called vasopressin. Chimps who were born with a common variant in the genes that control vasopressin behaved differently than their peers, the males showing more dominance and more disinhibition, but the females less of both.

This research shows not only a neurobiological basis for personality, but an evolutionary basis as well. The neurobiological bases of personality can vary according to the biological sex of the subject, at least in chimpanzees. Chimpanzee personality appears to have almost the same ingredients as human personalities, and that similarity seems to arise from the species' similar neurobiology.

"These results are particularly significant in light of the striking parallels between the major dimensions of personality found between chimpanzees and humans," said Sam Gosling, professor of psychology at the University of Texas at Austin and an internationally known researcher in cross-species personality research.

More information: "Personality in Chimpanzees (*Pan Troglodytes*): Exploring the Hierarchical Structure and Associations with the Vasopressin V1A Receptor Gene," appeared in the April 21 issue of the journal *PLOS ONE*.

Provided by Georgia State University

Citation: Chimpanzees show similar personality traits to humans, researchers say (2014, May 6)
retrieved 24 April 2024 from

<https://phys.org/news/2014-05-chimpanzees-similar-personality-traits-humans.html>

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