

Chimp raised like a human child shows phalangeal curve is genetic

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A trio of researchers from the University of New Mexico, Harvard University and the University of Southern California has found evidence that suggests the curved phalange in apes is an inherited trait, not one that comes about from climbing. In their paper published in *Proceedings of the National Academy of Sciences*, Ian Wallace, Loring Burgess and

Biren Patel describe their study of the skeletal remains of Suzy, a chimpanzee that was raised to behave like a human being back in the 1930s, and what they learned about phalangeal curvature in chimpanzees.

The hand and foot phalanges are the set of bones in humans and some other animals that make up the distal, middle and proximal parts of the fingers and toes (the bones past our knuckles). In most primates, the phalanges are curved, making it relatively easy to climb trees. In humans, the phalanges are straight—we long ago abandoned tree climbing. The difference between ape and human phalanges has led researchers to believe that the curvature comes about as a reaction to constant climbing. Prior research has shown that monkeys younger than five years old spend as much as 70 percent of their time in trees. In this new effort, the researchers tested this theory by studying the skeletal remains of Lucy, a highly domesticated chimpanzee.

Lucy was purchased as a baby chimp by Gertrude Lintz, an eccentric woman who raised a multitude of animals as if they were human back in the 1930s. Lucy wore clothes, walked upright, sat in chairs and slept in a bed. Climbing was strictly forbidden. In examining her hand and foot phalanges, the researchers found them to be just as curved as with [chimpanzees](#) in the wild—despite the fact that she never climbed trees. The researchers suggest this is strong evidence of heredity as a major factor in the phalangeal curve despite their sample size of a single individual chimp.

The researchers suggest their findings may force scientists to rethink theories of [human](#) descent from the [trees](#)—it would have taken a lot longer than previously believed to adjust to living on the ground if the phalangeal curve took multiple generations to straighten.

More information: Ian J. Wallace et al. Phalangeal curvature in a

chimpanzee raised like a human: Implications for inferring arboreality in fossil hominins, *Proceedings of the National Academy of Sciences* (2020).
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