

'Fingertip touch' clue to human ancestors exploiting treetop environments

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Research by scientists at the University of Birmingham suggests that ancestral humans may have been more adept at negotiating unstable arboreal environment than previously thought.

A study published in *Nature Scientific Reports* shows that by using light fingertip touch, participants were able to improve their balance in a simulated forest [canopy](#) environment by up to 30%.

The findings lend new weight to the theory that our early ancestors continued to exploit the [forest canopy](#) for resources even as they evolved to walk on two legs.

During the study, participants were shown video footage of swaying branches whilst attempting to balance on a branch-like bouncy springboard. Without support, viewing the footage destabilised the participants as much wearing a blindfold. However, when participants were allowed to use light fingertip touch on an adjacent support, their [balance](#) significantly improved and the effort required by their thigh muscles was reduced by nearly a third.

Lead researcher on the study, Dr Susannah Thorpe from the University of Birmingham, says:

"Most modern apes are able to move around the [tree canopy](#) by hanging with their arms or gripping with long, prehensile toes. It has long been thought that the relatively short fingers and toes of our human ancestors,

which evolved to allow them to use tools and to walk upright, would have prevented them from foraging in the trees.

"Our research shows that our early ancestors may have been able to overcome the arboreal limitations of their evolving bodies by using a 'light touch strategy' to avoid falls and reduce energy expenditure when negotiating the unstable treetop environment."

More information: L. Johannsen et al, Human bipedal instability in tree canopy environments is reduced by "light touch" fingertip support, *Scientific Reports* (2017). [DOI: 10.1038/s41598-017-01265-7](https://doi.org/10.1038/s41598-017-01265-7)

Provided by University of Birmingham

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