

# Study suggests environmental factors had a role in the evolution of human tolerance

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Environmental pressures may have led humans to become more tolerant and friendly towards each other as the need to share food and raw materials became mutually beneficial, a new study suggests.

This behaviour was not an inevitable natural progression, but subject to ecological pressures, the University of York study concludes.

Humans have a remarkable capacity to care about people well outside their own kin or local group. Whilst most other animals tend to be defensive towards those in other groups our natural tolerance allows us to collaborate today on a global scale, as seen with trade or international relief efforts to provide aid for natural disasters.

Using [computer simulations](#) of many thousands of individuals gathering resources for their group and interacting with individuals from other groups, the research team attempted to establish what key evolutionary pressures may have prompted human intergroup tolerance.

The study suggests this may have begun when humans began to leave Africa and during a period of increasingly harsh and variable environments.

The study was concerned with the period 300,000 to 30,000 years ago where [archaeological evidence](#) indicated greater mobility and more frequent interactions between different groups. In particular, this is a time in which there is a movement of [raw materials](#) over much longer distances and between groups.

The researchers found that populations which shared resources were more likely to be more successful and more likely to survive harsh environments, where extinctions occur, than those populations which do not share across borders.

However, in resource rich environments sharing was less advantageous and in extremely [harsh environments](#) populations are too low for sharing to be feasible.

Penny Spikins, Professor in the Archaeology of Human Origins at the University of York, said: "That our study demonstrates the importance of tolerance to human success is perhaps surprising, especially when we often think of prehistory as a time of competition, however we have seen that in situations where people with surplus share across borders with those in need everyone benefits in the long term."

Dr. Jennifer C. French, lecturer in Palaeolithic Archaeology at the University of Liverpool added: "Our study's findings also have important implications for wider debates about the increases in examples of innovation and greater rates of cultural evolution that occurred during this period.

"They help to explain previously enigmatic changes in the archaeological record between 300,000 and 30,000 years ago."

The study is published in the *Journal of Archaeological Method and Theory*.

Provided by University of York

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