

Heredity and environment account for people's love of nature, research suggests

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A combination of genetic heredity and environment determine how a person perceives nature. This is the finding of a new study by researchers from the University of Gothenburg and SLU. Credit: Valmir Abreu Braz Junior

Humans have a positive view of nature. But is this due to an approach we

have learned while growing up, or is it something we are born with? The answer is "both," according to researchers at the University of Gothenburg and the Swedish University of Agricultural Sciences. Our love of nature is highly individual and should influence how we plan our cities, say the researchers.

It is well known that nature has a positive effect on people. In cities in particular, studies have shown that trees and other greenery contribute to people's well-being. However, experts do not agree on the reasons behind this phenomenon, known as biophilia.

Some believe that it is natural for humans to feel an automatic positive attachment because human development has occurred in nature. Others argue that there is no evidence for this, and that influences during our childhood determine how we view nature.

A wide range of factors involved

Researchers from the University of Gothenburg and the Swedish University of Agricultural Sciences (SLU) have reviewed several studies within this field that examine both innate factors and what individuals experience during their lives, primarily as children.

In a new article, the researchers conclude that both heredity and environment influence an individual's attitude to nature, but that a wide range of factors also influence how love of nature is expressed. The paper, "Biophilia revisited: Nature vs. Nurture," was published in the journal *Trends in Ecology & Evolution*.

"We have been able to establish that many people have an unconscious positive experience of nature," says Bengt Gunnarsson, Professor Emeritus of Environmental Science at the University of Gothenburg.

"But the biophilia hypothesis should be modified to link the variation in

individuals' relationships with nature to an interaction between heredity and environmental influence."

Nature means different things

This is because people react differently to nature. In a Japanese study, subjects were asked to walk in a forest and in a city while their heartbeat was measured. This showed that [positive emotions](#) while walking in a forest increased in 65% of people. Thus, far from everyone had a positive perception of nature. Another environmental psychology study found that [research subjects](#) are unconsciously drawn to nature instead of cities, and that this attraction was reinforced in those whose childhood was rich in nature.

"An additional study on identical and non-identical twins showed that a genetic component influences an individual's positive or negative relationship with nature," continues Gunnarsson. "But the study also highlighted the importance of environment in terms of attitudes towards nature."

Moreover, nature can mean completely different things to different people. Some enjoy parks with lawns and planted trees, while others prefer being in the wilderness. The researchers believe that this variation is also determined by both heredity and environment.

"So it's important that we don't standardize nature when planning greenery in our towns and cities," adds Marcus Hedblom, a researcher at SLU and co-author of the article. "We shouldn't replace wild greenery with a park and assume that it will be good for everyone."

Urban nature brings many benefits

In today's urban planning, densification has been a common way to achieve a more sustainable city. This can sometimes come into conflict with efforts to offer nature in cities. A large number of studies suggest that [urban parks](#) and green spaces contribute to increased physical activity and recovery from stress. The greenery in our cities is also important in other respects. Trees can clean the air and provide shade to create a tolerable urban climate on hot days.

"There are probably quite a large number of people who do not have such positive feelings towards nature, partly due to hereditary factors," concludes Gunnarsson. "Future studies that dig deeper into the interactions between hereditary and [environmental factors](#) are essential if we are to understand what shapes individuals' relationships with nature. But we have to remember that we are all different, and take that into account when planning for different [natural](#) areas in towns and cities. Let people find their own favorite green spaces."

More information: Bengt Gunnarsson et al, Biophilia revisited: nature versus nurture, *Trends in Ecology & Evolution* (2023). [DOI: 10.1016/j.tree.2023.06.002](#)

Provided by University of Gothenburg

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