

# Love of nature is partially heritable, study of twins shows

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four boy playing ball on green grass. Credit: Robert Collins, Unsplash (CC0, [creativecommons.org/publicdomain/zero/1.0/](https://creativecommons.org/publicdomain/zero/1.0/))

A person's appreciation of nature and their tendency to visit natural spaces are heritable characteristics, according to a large-scale study of

UK twins led by Chia-chen Chang at the National University of Singapore, publishing February 3rd in the open-access journal *PLOS Biology*.

Researchers surveyed 1153 pairs of twins on the TwinsUK registry about how they experience nature, asking them to rate their familiarity with and desire to be in nature, and how frequently they visit [natural spaces](#) such as [public parks](#) and [private gardens](#).

They found that identical (monozygotic) twins, who share almost 100% of their genes, were more similar to each other in their orientation towards nature and how frequently they visited nature compared to fraternal (dizygotic) twins, who share around 50% of their genetic material. Heritability ranged from 46% for nature orientation to 34% for frequency of garden visits, suggesting a moderate influence of genetics over how people experience nature. However, [environmental factors](#) explained more than half of the differences between individuals. People living in [urban environments](#) tended to have less nature experiences, due to for example limited access to gardens, highlighting the importance of availability in shaping nature-seeking behaviors. Heritability also declined with age, suggesting that genetics may become less influential as people age and experience a unique set of environmental conditions.

Spending time in natural spaces has been found to improve mental well-being, but different people experience and benefit from nature differently. This study provides the first evidence for a [genetic component](#) to both our predispositions towards nature and our tendency to visit natural spaces. Nature-oriented people may actively seek out nature even if it means traveling from their home, but diverse urban planning is needed to provide access to natural spaces—and the benefits they offer—for all, the authors say.

"Spending time in nature links to better health and wellbeing," adds

Chang. "A twin study shows that a person's desire to be in nature and how often they experience it are influenced by both genes and personal experiences."

**More information:** Chang C-c, Cox DTC, Fan Q, Nghiem TPL, Tan CLY, Oh RRY, et al. (2022) People's desire to be in nature and how they experience it are partially heritable. *PLoS Biol* 20(2): e3001500.

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