

Urban residents' support for biodiversity conservation starts from childhood!

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Although urbanization has detrimental impacts on biodiversity, it has long passed the point of no return. Conservation, rehabilitation, and enhancement of biodiversity in urban areas have been suggested as [promising approaches](#) for reducing the [adverse effects of urbanization](#) [1,2]. For example, the construction of varied green spaces, the establishment of ecological networks linking urban green spaces, and the promotion of species richness and structural variability in urban parks. However, integrating biodiversity into urban design and planning requires public acceptance and support.

Studies have shown that [people's affective attitudes](#) towards wildlife species would enhance their support for [biodiversity conservation initiatives](#) [3,4]. The affective attitudes result from personal and social experience, including [childhood firsthand and secondhand experiences](#), such as interacting directly with nature via activities like [hiking, camping, catching insects, collecting plants](#), and learning indirectly about nature via TV, books, and websites [5-7]. Therefore, it is worth asking whether there are any links between people's childhood experience of nature and their willingness to co-exist with biodiversity in cities.

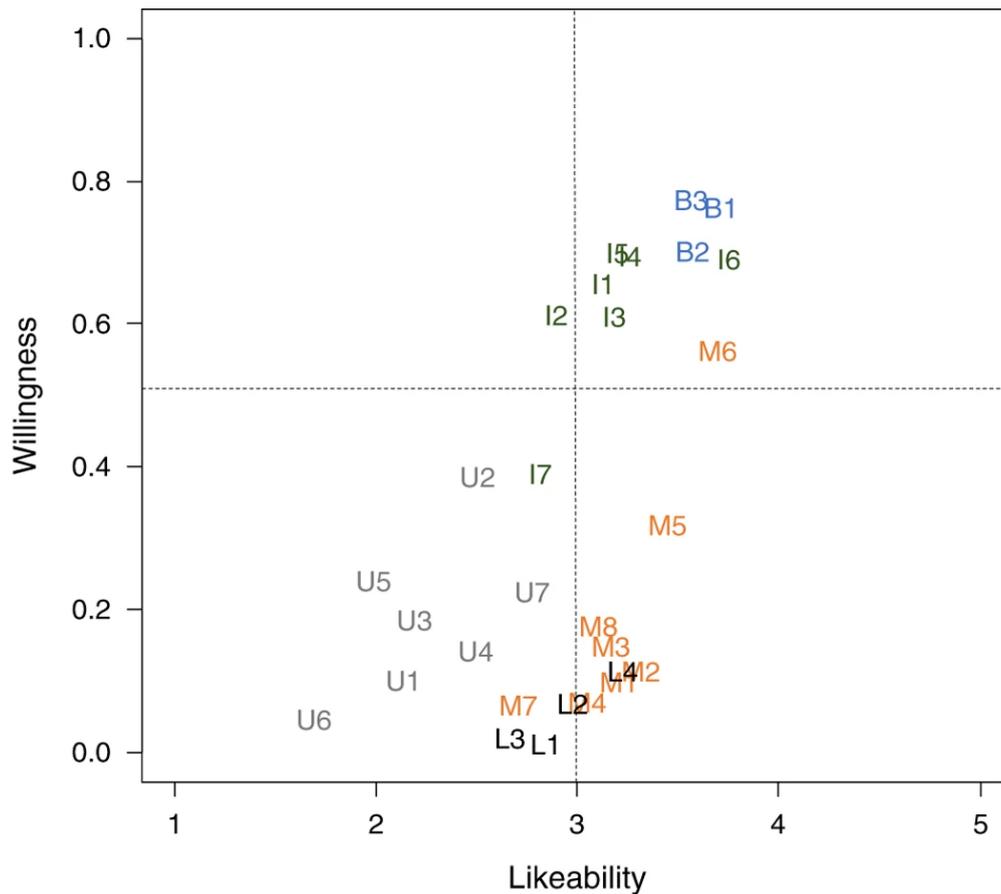


Figure: Urban residents’ likeability and willingness to co-exist with Insects (green letters), Mammals (orange), Unfavourable animals (grey), Birds (blue), and Large mammals (black). Retrieved from the study of Hosaka, Sugimoto, Numata [8].

Professor Tetsuro Hosaka and colleagues from Tokyo Metropolitan University [provided evidence for the influence of childhood nature experience](#) on urban residents’ affective attitudes toward wild animals and their willingness to co-exist with them in the neighborhoods. The finding was published on *Palgrave Communications* (Nature Portfolio, IF=2.7) in 2017 [8].

The research group conducted a web-based survey among residents of the world’s largest metropolitan area (including Tokyo, Chiba, Saitama, and Kanagawa) in January 2016. The survey collection eventually resulted in 1030 responses. A 5-point scale was employed to quantify the respondents’ participation frequency in five nature-related activities during childhood (less than twelve years old): insect catching, fishing, collecting wild flowers and fruits, tree climbing, and swimming in rivers/the ocean. Participants’ affective attitudes toward 29 wild species (including 14

types of mammals, nine insects, four birds, one snake, and one frog) and willingness to co-exist with these animals were also measured through the survey.

The results showed that urban residents' willingness to co-exist with wild species was not high, with older people acquiring higher co-existence willingness with birds and insects. However, greater childhood experience with nature was associated with higher likability and willingness to co-exist with wild species. This finding suggests that urban residents' affective attitude and acceptance towards biodiversity can be improved by increasing their interactions with nature during childhood.

From the perspective of the mindsponge theory [9], the formation of urban residents' attitudes towards wild species is a [process integrating the information with which they interacted in the past](#). Information absorbed from the external environment during childhood is likely to significantly affect the formation of attitudes because the children's minds still have not been filled up with many beliefs, convictions, and prejudices. This might make the urban people more familiar, less scared, and more likely to co-exist with wild species. Thus, protecting rare native species in protected areas is not enough to assist biodiversity conservation; establishing green spaces in urban areas for children to engage with and learn about nature (animal, plant) is also a more [sustainable choice since it helps build up an eco-surplus culture](#) among urban residents [10].

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