



August 2, 2021

Measuring Happiness for Reconnecting Residents with Forests

Japanese researchers show active engagement with forests enhances happiness, but simply owning them does not

In recent years, a large number of urban residents in Japan get interested in outdoor activities like camping, hiking and even therapy a regular past time. The national and some regional governments, such as Shiga Prefecture, have recognized both the economic and health opportunities and have implemented policies for promoting such activities. Therefore, understanding forest-related subjective well-being (SWB), or “forest happiness,” is becoming more important than ever.

A new study by a interdisciplinary team comprising of an ecologist, psychologist, sociologist and economist at the Research Institute for Humanity and Nature (RIHN), Japan, sought factors that affect forest happiness as a part of the RIHN project “Biodiversity-driven Nutrient Cycling and Human Well-being in Social-Ecological Systems.” (https://www.chikyu.ac.jp/rihn_e/project/D-06.html)

“Global interest in SWB is on the rise, as shown by the fact that 26 countries in the OECD collect SWB data. It has been proposed that there is a relationship between the connectedness with nature and happiness and that ecosystem services can promote SWB,” explains Professor Takuya Takahashi at the University of Shiga Prefecture, who led the study.

The research team conducted a large-scale questionnaire survey targeting residents of the upper watershed of Yasu River, the largest river flowing into Lake Biwa in Shiga Prefecture, Japan (Figure 1), to measure four types of forest happiness. The following questions were asked.

Forest satisfaction: How satisfied are you with your current relationship with forests?

Forest fulfillment: How much worth, fulfilment, or sense of accomplishment do you feel regarding your relationship with forests?

Positive and negative affect (feelings): Which of the following feelings have you experienced with forests? (For this item, respondents were provided the following list of



feelings: forward-looking, backward-looking, pleasant, not pleasant, happy, sad, fearful, joyful, angry, satisfied, proud, shameful, awe, and respect.)

The team collected 1,457 responses. The average points for forest satisfaction and forest fulfillment were 5.03 and 4.58, respectively (Figure 3). The team also investigated relationships between these four types of forest happiness with personal attributes, forest ratios (% of areal land in the respondent's residential area), forest-related activities (Figure 2) and forest ownership.

Each forest-related activity was correlated differently with the four types of forest happiness (Figure 4). Observing animals and plants, for example, raised positive affect and lowered negative affect. Management activities of privately-owned forests raised forest satisfaction as well as forest fulfillment, and management as a forest volunteer raised forest fulfillment. However, management activities in community forests lowered positive affect. "This may be due to the obligatory nature of management activities for community-owned forests," Takahashi says.

Surprisingly, forest ownership was negatively correlated with all four types of forest happiness. That is, forest owners, on average, feel less forest happiness compared with non-owners. "The reason for this could be forest owners were feeling forest ownership and management burdensome, because the asset value of forests has been low in recent decades," said Takahashi.

"These results suggest better policies for enhancing forest happiness and relationships between residents and forests. Measuring and analyzing forest happiness based on the suggested four types would be a powerful tool for re-establishing the relationship between residents and forests and helping them enjoy forest ecosystem services.



Figure 1 Cover letter of the questionnaire

【Question】 Circle all your forest-related experiences that apply in the past year.

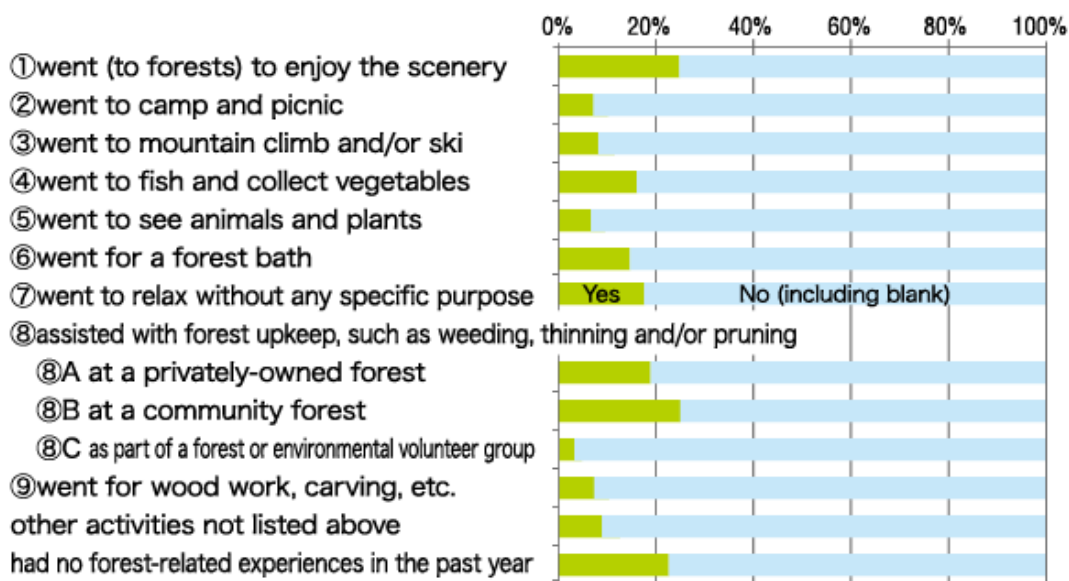


Figure 2 Forest-related activities in the past year

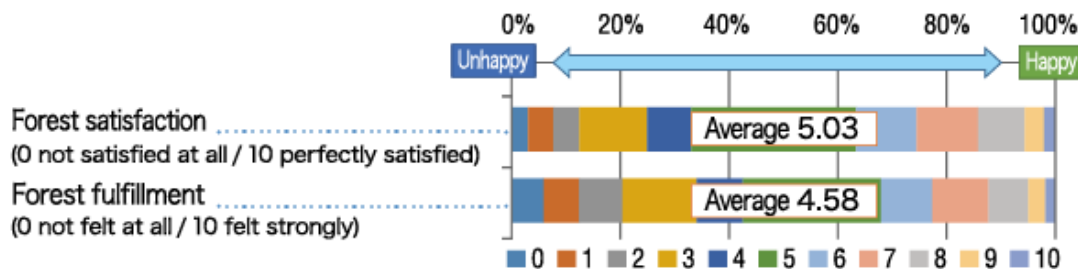


Figure 3 Forest satisfaction and fulfillment



Figure 4 Influences of forest-related activities on forest happiness

+, increases forest happiness; -, decreases forest happiness. The numbers for forest-related activities correspond to those in Figure 2.

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