

The 4th International Conference on Forests

MDPI

23-25 September 2024 | Online

Forest Bathing: A study in Três Picos State Park, Rio de janeiro Brazil



João Ricardo Assis da Silva¹; Alda Lúcia Heizer¹; André de Almeida Cunha²

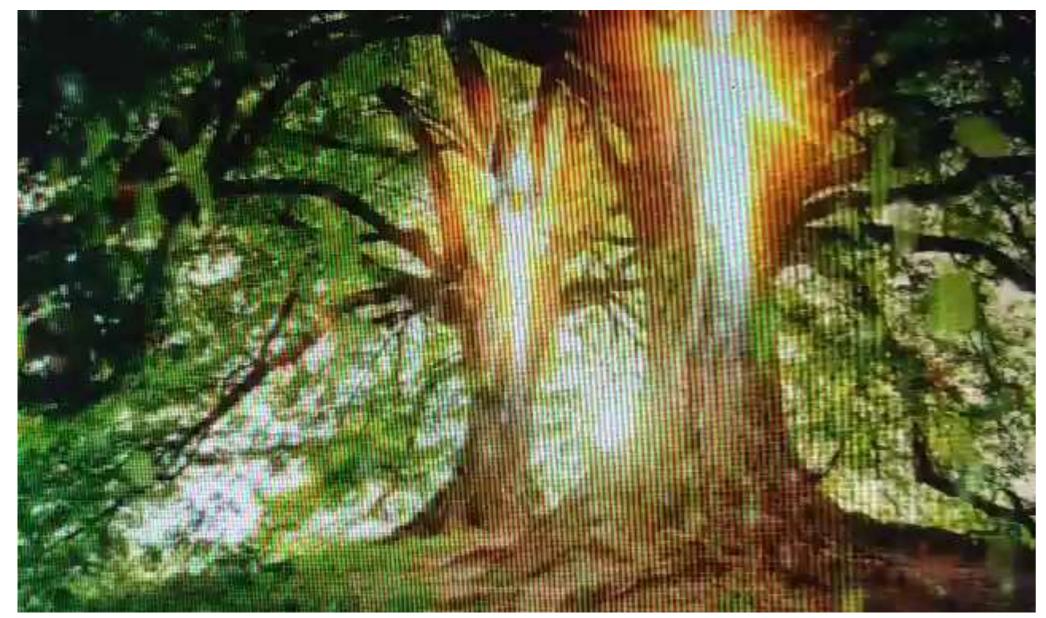
¹ Rio de Janeiro Botanical Garden Research Institute

² Center of Excellence in Tourism – University of Brasília



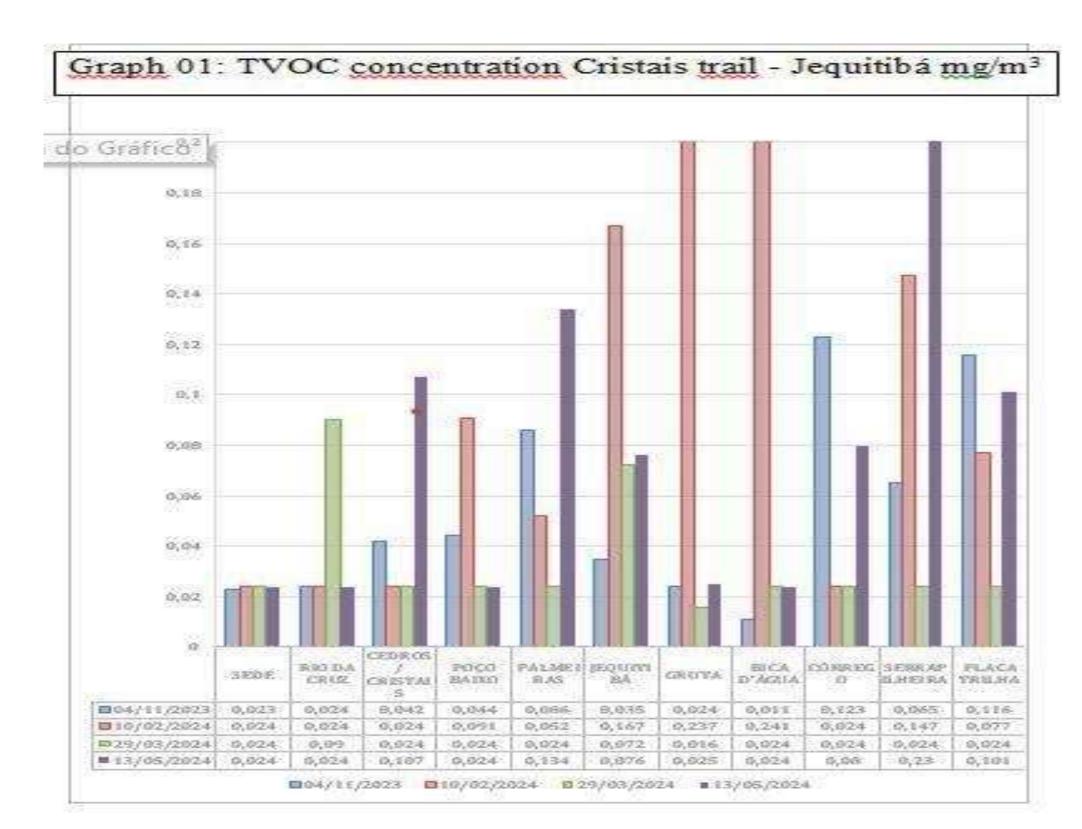
INTRODUCTION & AIM

The influence of the forest environment on human populations is reflected in a series of aspects of its use as raw material to promote well-being, added to the traditional knowledge accumulated over generations. Among the new practices and approaches to the use of plants, which add to the growing practice of Forest Therapy, is Forest Bathing, or Shirin Yoku. This study seeks to identify new forms of interaction with the natural environment, discussing the dynamics of the means and purposes of using the forest to promote health (LI, 2019). The aim is to evaluate the aforementioned therapeutic approach applied to the Atlantic Forest.



METHOD

Forest bathing refers to immersing yourself in nature and experiencing the forest atmosphere to improve mental and physical health (PARK B, 2007-2012). A five-sense experience of walking or staying in a forest has been reported as a method of relieving stress and thus producing health benefits (TSUNETSUGU, 2010). Phytoncides represent a group of so-called Volatile Organic Compounds (VOCs), which are produced both by plant biomass and by organisms in the soil and rhizosphere. In a preliminary sampling, samples of Total Volatile Organic Compounds (TVOCs) were obtained along the Jequitibá Trail, using Digital Sensor CO2 Meter Formaldehyde Detector Air Analyzer for CO2/HCHO/TVOC Accurate Tester.



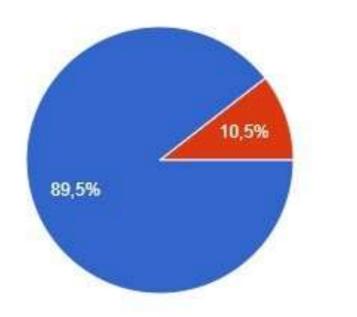
Forms with the reduced version of the Profile of Mood States (SEARIGHT, 2020) were used. Interviews were carried out throughout the first half of 2024 with users who took the trails. And in a second stage, the cognitive effects of the practice were monitored with high school students from a Local State College.

RESULTS & DISCUSSION



The group of trail users reported in 95% of the interviews, a perception of general improvement in the state of well-being, the quantification of the POMS survey revealed an improvement in most of the observed parameters. In the group of students who participated in forestry immersion activities, a cognitive improvement and a reduction in symptoms of anxiety and concentration difficulties were noticed, the result was a significant improvement in learning reflected by the comparison of academic results obtained in the period compared to classes that did not perform the immersive activities.

25. HAS YOUR GENERAL FEELING OF WELL-BEING IMPROVED OR WORSE AFTER GOING ON THE TRACK?



IMPROVEDIT GOT WORSE

EXPECTED RESULTS:

- Thesis with chapter highlighting the conceptual evolution through a bibliographical survey on forest bathing, in the form of articles and documentary analyses, establishing a time frame from 2017, (first technical meeting on the topic promoted by ICMBio). Product: Scientific dissemination article about the evolution of Forest Therapy research in tropical forests.
- Product: Scientific dissemination article on the profile of visitors to Três Picos State Park, highlighting users' interest in forest therapies, especially Forest Bathing.
- Subsidies for the preparation of a 'Forest Bathing' guide for the Jequitibá trails, indicating the points to 'stop and breathe' on the trails and the most appropriate periods for using the therapy.
- Subsidies for the preparation of a methodological guide establishing guidelines for the process of certification and/or recognition of natural areas capable of receiving Forest Bathing experiences.
- Subsidies to propose the inclusion of Forest Bathing Therapy, as a category of Integrative and Complementary Practice in the Unified Health System

CONCLUSION

Based on the results obtained both by trail users and by monitoring students' academic performance, the beneficial effects of practicing Forest Bathing can be confirmed quantitatively, both for obtaining general well-being and for recovering attention. and cognitive improvement ratifying the attention restoration theory (ART). Forest therapy is effective in reducing mental stress, attention deficit disorders and other conditions resulting from hyper-stimulation from screens.

FUTURE WORK / REFERENCES

Li, Q (2019). *Effect of forest bathing (shinrin-yoku) on human health*: A review of the literature. Santé Publique, , 135-143. https://www.cairn-int.info/journal--2019-HS1-page-135.htm.

Park B.-J., Tsunetsugu Y., Kasetani T., Hirano H., Kagawa T., Sato M., Miyazaki Y. (2007). Physiological effects of shinrin-yoku (taking in the atmosphere of the forest)—Using salivary cortisol and cerebral activity as indicators. J. Physiol. Anthropol.

Searight, HR, Montone, K. (2020). Perfil dos estados de humor. Em: Zeigler-Hill, V., Shackelford, TK (eds) Enciclopédia de personalidade e diferenças individuais. Springer, Cham. https://doi.org/10.1007/978-3-319-24612-3_63

Tsunetsugu Y., Park B.-J., Miyazaki Y. (2010). Trends in research related to "shinrin-yoku" (taking in the forest atmosphere or forest bathing) in Japan. Environ. Health Prev. Med.