

Using an electronic device counteracts benefits of taking a break in nature, researchers find

July 19 2018, by Jodi Heckel



Resting in a green space without using an electronic device substantially improved a person’s attention following the break. For those resting in a green space while using an electronic device or in a barren space with or without an electronic device, the break “was the equivalent of no break at all,” the researchers found. Credit: William Sullivan

Being in nature helps restore your brain's ability to focus attention on a

task. But if you are checking social media on your phone or answering emails on your laptop – even if you are doing so while surrounded by trees – your brain is not getting the benefits that nature offers.

"The space conveys no benefits if your head is in your device," said William Sullivan, a professor and the head of the University of Illinois landscape architecture department.

Sullivan and two colleagues – Bin Jiang, a landscape architecture professor at The University of Hong Kong, and Rose Schmillen, a former Illinois graduate student who now practices in Nashville – studied how the use of [portable electronic devices](#) affects the restoration of your brain's [attention](#) capacity while in green spaces. They found that using a device substantially counteracts the restoration effect of nature. Their findings were published in the journal *Environment and Behavior*.

"Paying attention is necessary for every single thing we care about accomplishing: planning, carrying out plans, evaluating, learning, problem-solving and social relationships," Sullivan said.

When you pay attention to a task, your brain filters out competing stimuli from the world around you and the thoughts inside your head and allows you to focus on the task. But that capacity to pay attention fatigues, particularly when we are constantly connected to the world through digital technology that demands our attention.

"After a while, it's really hard to focus and pay attention," Sullivan said.

Studies by Sullivan and other researchers have demonstrated a concept called Attention Restoration Theory, which predicts that being in a natural setting helps you recover from [mental fatigue](#). According to the theory, natural settings or scenes such as waterfalls, campfires or puppies hold a person's attention effortlessly and help restore the brain's capacity

to pay attention.

Sullivan and his colleagues wondered if such settings were still restorative if a person was using a [laptop](#) while in nature.

Their study randomly assigned 81 participants to four groups – those resting in a green setting with or without a laptop and those resting in a barren setting (with views of parking lots, walls or buildings) with or without a laptop. All of the settings had [wireless internet access](#).

The participants took baseline attention tests, then performed 10 minutes of cognitive activities involving proofreading and subtraction. They took a second attention test, followed by a 15-minute break. During the break, those with laptops were told they could use them for leisure activities such as looking at [social media](#), news sites, YouTube, blogs, online games, online shopping or email unrelated to work. They could not use the laptops for anything related to work.

After the break, the participants took another attention test. Only those who had rested in a green space without access to a laptop showed significant improvement in their scores on this final test. For those in the other groups, "a 15-minute break was the equivalent of no break at all," the researchers wrote.

"It is not enough to go to a green space. You have to put aside your electronic devices in that space," they wrote.

Sullivan said the findings could help designers and planners create settings that pull a person's attention away from [electronic devices](#) with elements such as moving water or areas that attract animals or butterflies.

"They can help people deal with the stress of the day and mental fatigue

by creating landscapes that are hard not to look at," he said. "Designers need to think about what makes people put their phones down."

In their next study, Sullivan and his colleagues will look at how much time in nature is needed to restore the brain's capacity to pay attention.

More information: Bin Jiang et al. How to Waste a Break: Using Portable Electronic Devices Substantially Counteracts Attention Enhancement Effects of Green Spaces, *Environment and Behavior* (2018). [DOI: 10.1177/0013916518788603](https://doi.org/10.1177/0013916518788603)

Provided by University of Illinois at Urbana-Champaign

Citation: Using an electronic device counteracts benefits of taking a break in nature, researchers find (2018, July 19) retrieved 27 April 2024 from <https://medicalxpress.com/news/2018-07-electronic-device-counteracts-benefits-nature.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.