

# Most Americans Suffer From Nature Deficiency Syndrome

Analysis by [Dr. Joseph Mercola](#)

February 20, 2024

## STORY AT-A-GLANCE

- › Spending time outdoors can significantly lift your mood, and outdoors activities such as gardening and nature hikes have been found to be good therapy
- › Americans spend 80% to 99% of their lives indoors — a trend that has led to “nature deficit disorder,” a term used to describe a lifestyle deficit that contributes to poor psychological and physical health
- › Ecotherapy employs methods that cultivate the health benefits of being in nature. Research shows nature therapy lowers anxiety and depression, improves self-esteem, reduces blood pressure and more

***Editor's Note: This article is a reprint. It was originally published July 13, 2017.***

Spending time outdoors can significantly lift your mood, so it's no surprise that outdoors activities such as gardening and nature hikes<sup>1</sup> have been found to be good therapy. In one survey,<sup>2</sup> 80% of gardeners reported being "happy" and satisfied with their lives, compared to 67% of non-gardeners, and the more time spent in the garden, the greater their life satisfaction.

Among volunteers at an outdoor conservation project, a whopping 100% said participation improved their mental health and boosted their confidence and self-esteem.<sup>3</sup> This general well-being among gardeners is typically attributed to the "recharging" you get from sticking your hands into soil and spending time in nature.

According to Craig Chalquist,<sup>4</sup> a depth psychologist and chair of the East-West Psychology Department at California Institute of Integral Studies, who also happens to be certified in permaculture design: "If you hold moist soil for 20 minutes, the soil bacteria begin elevating your mood. You have all the antidepressant you need in the ground."<sup>5</sup>

In Japan, the practice known as "forest bathing" (Shinrin-yoku) has been part of the national health program since 1982, and its benefits are now starting to become more widely recognized in the U.S. As explained by The Atlantic:<sup>6</sup>

*"The aim was to briefly reconnect people with nature in the simplest way possible. Go to the woods, breathe deeply, be at peace. Forest bathing was Japan's medically sanctioned method of unplugging before there were smartphones to unplug from.*

*Since Shinrin-yoku's inception, researchers have spent millions of dollars testing its efficacy; the documented benefits to one's health thus far include lowered blood pressure, blood glucose levels and stress hormones."*

## **The Importance of Slowing Down**

Being in nature has the effect of winding you down because nature's pace is so much slower than our man-made environment. There's a pulse and rhythm in nature, and when you start to observe it and take it in, you find that everything takes time. Change is not immediate. It's a process.

With "lightning speed" internet and 24/7 connectivity, we tend to forget this. We get so used to instant results and immediate gratification. You could say observing nature leads to greater tolerance for slowness, otherwise known as patience.

This feeling of well-being can have more far-reaching implications for your physical health too. According to research from Johns Hopkins,<sup>7</sup> having a cheerful temperament can significantly reduce your odds of suffering a heart attack or sudden cardiac death. As noted by lead author Lisa R. Yanek:<sup>8</sup>

*"If you are by nature a cheerful person and look on the bright side of things, you are more likely to be protected from cardiac events. A happier temperament has an actual effect on disease and you may be healthier as a result."*

## **Nature Deficit Disorder – A Rampant Malady**

An article in The Atlantic<sup>9</sup> highlights the growing field of ecotherapy, referring to "methods of cultivating the health benefits of being in nature."<sup>10</sup> As noted by Florence Williams, author of "The Nature Fix: Why Nature Makes Us Happier, Healthier, and More Creative," "Intuitively, many of us believe ... we feel better in nature. But it's only recently that we've been able to see biomarkers of this change."<sup>11</sup>

In the video above, The Atlantic senior editor Dr. James Hamblin investigates these benefits and interviews mental health therapists using ecotherapy in their practice. Other terms<sup>12,13</sup> used for this kind of therapy include green therapy, nature therapy and earth-centered therapy.

Ecotherapy as an umbrella term also covers horticultural therapy, animal-assisted therapy, wilderness therapy, farm therapy, time stress management and "ecoanxiety"<sup>14</sup> management – stress, depression, anxiety, grief and despair attributed specifically to trauma related to climate disruptions. An example would be depression or grief following the loss of a loved one in a hurricane or flash flood.

Estimates suggest the average American spends anywhere between 80% and 99% of their life indoors – a lifestyle trend that has led to what some now refer to as "nature deficit disorder."<sup>15</sup> This is not an actual psychological diagnosis, but rather a term used to describe a lifestyle deficit that contributes to poor psychological and physical health. Ecotherapy, which basically involves a prescription to go out and spend time in a natural setting, has been shown to:<sup>16</sup>

- Decrease anxiety and depression
- Improve self-esteem
- Improve social connections

- Decrease fatigue in cancer patients
- Improve blood pressure

Spending time outdoors also boosts your vitamin D level (provided you're showing enough bare skin) and, if you walk barefoot, helps you ground (also known as Earthing).

## **Ecotherapy for Depression**

Seven years ago, I interviewed medical journalist and Pulitzer Prize nominee Robert Whitaker about his extensive research and knowledge of psychiatric drugs and alternative treatments for depression. He mentioned an interesting study conducted at Duke University in the late 1990s, which divided depressed patients into three treatment groups: exercise only, exercise plus antidepressant, and antidepressant drug only.

After six weeks, the drug-only group was doing slightly better than the other two groups. However, after 10 months of follow-up, it was the exercise-only group that had the highest remission and stay-well rate. According to Whitaker, some countries are taking these types of research findings very seriously, and are starting to base their treatments on the evidence at hand.

In the U.K., for example, doctors can write out a prescription to see an exercise counselor instead under the "exercise on prescription program."<sup>17</sup> Part of the exercise can be tending to an outdoor garden, taking nature walks, or repairing trails or clearing park areas, as discussed in the BBC video above.

Within the first few years of the introduction of this ecotherapy<sup>18</sup> program in 2007, the rate of British doctors prescribing exercise for depression increased from about 4% to about 25%. According to a 2009 report on ecotherapy by U.K.-based Depression Alliance:<sup>19</sup>

*"... [Ninety-four] percent of people taking part in a MIND survey commented that green exercise activities had benefited their mental health ... Furthermore, the National Institute for Clinical Excellence asserts that for 'patients with*

*depression ... structured and supervised exercise can be an effective intervention that has a clinically significant impact on depressive symptoms."*

## **Nature as a Healing Agent**

People are increasingly starting to recognize that nature deficits play a significant role in health and well-being, and this recognition can even be seen in literature. As noted by The Telegraph,<sup>20</sup> "nature writing" is a relatively novel literary genre, in which memoir is comingled with "the author's experience of nature." In other words, books describing the healing influence of nature.

*"In 'H is for Hawk,' Helen Macdonald tells of the unexpected loss of her father in her late [30]s. To distract herself from her grief, she attempts to tame a hawk ...*

*Similarly, Amy Liptrot, in her book 'The Outrun: [A Memoir],' describes her return to the isle of Orkney, where she took long walks and rebuilt a stone wall as a way of recovering from alcohol addiction and the breakup of a relationship. These are but two of many recent examples,"* The Telegraph writes.

## **The Three-Day Effect**

While many artists will tell you that nature can have a tremendous influence on the creative process, it can also have a profound effect on an intellectual's capacity to reason and think clearly and deeply. In "This Is Your Brain on Nature,"<sup>21</sup> National Geographic delves into the healing powers of nature from a psychologist's point of view:

*"... David Strayer ... [a] cognitive psychologist at the University of Utah who specializes in attention ... knows our brains are prone to mistakes, especially when we're multitasking and dodging distractions ... Strayer is in a unique position to understand what modern life does to us. An avid backpacker, he thinks he knows the antidote: Nature.*

*On the third day of a camping trip in the wild canyons near Bluff, Utah, Strayer is ... explaining what he calls the 'three-day effect' to 22 psychology students. Our brains, he says, aren't tireless [3]-pound machines; they're easily fatigued. When we slow down, stop the busywork, and take in beautiful natural surroundings, not only do we feel restored, but our mental performance improves too ...*

*Strayer has demonstrated as much with a group of Outward Bound participants, who performed 50 percent better on creative problem-solving tasks after three days of wilderness backpacking.*

*The three-day effect, he says, is a kind of cleaning of the mental windshield that occurs when we've been immersed in nature long enough ... 'If you can have the experience of being in the moment for two or three days, it seems to produce a difference in qualitative thinking.'"*

## **Nature Walks Decrease Negative Thoughts**

Indeed, research<sup>22</sup> shows spending time in nature helps reduce depression and anxiety specifically by reducing rumination, i.e., obsessive negative thoughts that just go round and round without ever getting to any kind of resolution. Ruminating thoughts light up a region in your brain called the subgenual prefrontal cortex, an area that regulates negative emotions.

When rumination continues for extended periods of time, depression can result. To assess the effect of nature walks on rumination, 38 psychologically healthy city dwellers were divided into two groups. One group took a 90-minute walk through a scenic area while the other strolled along El Camino Real, a busy four-lane road in Palo Alto.

As expected, those walking along the traffic-logged street had no decrease in rumination, while the nature walkers experienced a significant decrease in subgenual prefrontal cortex activity.

## **City Living Linked to Anxiety and Mood Disorders**

Researchers looking at stress have found city dwellers are more likely to suffer from mood and anxiety disorders in general, compared to those living in more rural environments – an effect thought to be due to chronically increased stress levels.<sup>23</sup>

Using functional magnetic resonance imaging (fMRI), researchers at the Douglas Mental Health University Institute at McGill University in Canada showed that the environment in which you live can alter your neural processes, thereby raising or lowering your risk of psychological problems.

Thirty-two healthy adults were asked to complete a difficult, timed math problem while simultaneously hearing negative verbal responses. Those who lived in urban environments had increased activity in the amygdala area of the brain, which is involved in emotions such as fear and responses to threats. Those who lived in cities during the first 15 years of their life also had increased activity in the pregenual anterior cingulate cortex, which helps to regulate the amygdala.

In short, those who grew up in an urban environment had a greater sensitivity to stress. In an accompanying editorial,<sup>24</sup> Daniel Kennedy, Ph.D., and Ralph Adolphs, Ph.D., both of the California Institute of Technology, explained that your level of autonomy may play a role in how stressful city living is for you:

*"There are wide variations in individuals' preferences for, and ability to cope with, city life: Some thrive in New York City; others would happily swap it for a desert island.*

*Psychologists have found that a substantial factor accounting for this variability is the perceived degree of control that people have over their daily lives. Social threat, lack of control and subordination are all likely candidates for mediating the stressful effects of city life, and probably account for much of the individual differences seen."*

## **Nature Sounds Help You Relax**

Other research shows that the mere sounds of nature have a distinct effect on your brain, lowering fight-or-flight instincts and activating your rest-and-digest autonomic nervous system.<sup>25,26,27</sup> Here, participants listened to two different types of sound – nature sounds and sounds from a man-made artificial environment – while lying in an fMRI scanner. During each five-minute soundscape, they also performed tasks designed to measure attention and reaction time.

Nature sounds produced brain activity associated with outward-directed focus, whereas artificial sounds created brain activity associated with inward-directed focus. The latter, which can express itself as worry and rumination about things related to your own self, is a trait associated with anxiety, depression and post-traumatic stress disorder.

Nature sounds also produced higher rest-digest nervous system activity, which occurs when your body is in a relaxed state. External attentional monitoring tasks and mental concentration also improved. Overall, nature sounds had the greatest effect on those who were the most stressed. Previous research has also demonstrated that listening to nature sounds help you recover faster after a stressful event. Lead author Cassandra Gould van Praag, Ph.D., said:

*"We are all familiar with the feeling of relaxation and 'switching-off' which comes from a walk in the countryside, and now we have evidence from the brain and the body which helps us understand this effect.*

*This has been an exciting collaboration between artists and scientists, and it has produced results which may have a real-world impact, particularly for people who are experiencing high levels of stress ...<sup>28</sup> I would definitely recommend a walk in natural surroundings to anyone, whether they're currently feeling frazzled or not. Even a few minutes of escape could be beneficial."<sup>29</sup>*

## **Taking Advantage of Nature's Remedy**

The take-home message here is that spending time in nature can have profound benefits for your physical and psychological health. In fact, nature deficits may even be



at the heart of many people's anxiety and general malcontent — they just don't know it. Indoor living has become such a norm, many give no thought to the fact they haven't been more than a few feet away from concrete in weeks, months or even years.

The key is to be proactive. You have to actually plan your escapes — schedule nature time into your calendar as you would any other important activity. If your free time is limited, you may need to get creative.

My situation requires me to read many books and studies to stay on top of the latest health advancements. In years past, I would spend hours reading indoors every day. I solved my need for reading and walking outdoors by reading on my Kindle during my beach walks, nailing two birds with one stone, so to speak.

Keeping a garden is another simple way of getting closer to nature without having to go far. In addition to increasing your sense of well-being, keeping a garden can also reduce your grocery bill and improve your health by providing you with fresh, uncontaminated food (provided you grow them organically).

On days when you cannot get out, consider using an environmental sound machine or a CD with nature sounds. Another alternative that doesn't cost anything is to bookmark a few YouTube videos of nature sounds. Many are several hours long.

Should you happen to need professional help, consider seeking out an ecotherapist. Most practicing ecotherapists are trained and licensed in some form of conventional counseling or psychotherapy, and use nature therapy as an adjunct in their practice.

If you're in the U.K., check out Mind's ecotherapy page ([mind.org.uk](http://mind.org.uk)) for various program resources. In the U.S., finding a nature-based therapist is a bit trickier, as the field is still fairly new. One way to locate an ecotherapist might be to contact schools that teach ecotherapy, and ask them for recommendations of people who have passed the course.

## Sources and References

---

- <sup>1</sup> [New York Times June 28, 2017](#)
- <sup>2</sup> [Natural Ange May 28, 2021](#)

- <sup>3, 19</sup> [Depressionalliance.org, Ecotherapy Executive Summary 2009 \(PDF\) \(Archived\)](#)
- <sup>4</sup> [Ecotherapyheals.com](#)
- <sup>5, 15, 22</sup> [The Atlantic June 30, 2015](#)
- <sup>6</sup> [The Atlantic June 30, 2017](#)
- <sup>7</sup> [Johns Hopkins July 9, 2013](#)
- <sup>8</sup> [Medical News Today July 12, 2013](#)
- <sup>9, 11</sup> [The Atlantic June 23, 2017](#)
- <sup>10</sup> [Youtube, The Atlantic, Health Benefits of Going Outside](#)
- <sup>12</sup> [GoodTherapy.org, Ecotherapy](#)
- <sup>13</sup> [Mind. What Is Ecotherapy?](#)
- <sup>14</sup> [Quartz Media April 3, 2017](#)
- <sup>16</sup> [NAMI California](#)
- <sup>17</sup> [NHS.uk Exercise for Depression](#)
- <sup>18</sup> [Mind.org.UK, Evidence for Ecotherapy, Past and Current Reports \(Archived\)](#)
- <sup>20</sup> [Telegraph September 26, 2016](#)
- <sup>21</sup> [National Geographic, This Is Your Brain on Nature 2016](#)
- <sup>23</sup> [Nature. 2011 Jun 22;474\(7352\):498-501](#)
- <sup>24</sup> [Nature June 23, 2011](#)
- <sup>25, 28</sup> [Science Daily March 30, 2017](#)
- <sup>26, 29</sup> [Health.com April 5, 2017](#)
- <sup>27</sup> [Time April 5, 2017](#)