

Exercise can prevent and treat mental health problems, and taking it outside may add another boost to those benefits

May 3 2023, by Scott Lear



Levels of the stress hormone cortisol are reduced with as little as 20 minutes in a city park. Credit: Shutterstock

Mental health problems affect [one in five people every year](#). The Canadian Mental Health Association estimates that by the age of 40, about half of people will either have had a mental illness or will currently be dealing with one.

[Behavioral therapy and medications](#) are common first options for treatment. However, research has shown the importance of exercise in not only preventing [mental illness](#), but also treating it. And when exercise is taken outdoors, the benefits can be even greater.

[Mental illnesses](#) include depression, addictions and anxiety, as well as personality disorders. Of these, anxiety and depression are the most common, with [depression being the leading cause of disability worldwide](#). Left untreated, these diseases can result in [physical illness](#) and premature death.

My research focuses on the benefits of physical activity to prevent and manage disease, and ways to make it easier for people to be active. In December 2021, I was diagnosed with major depressive disorder, and exercise and spending time in nature were vital to my recovery.

Exercise can make you happy

Exercise and activity have long been known to improve mood. A study of more than 1.2 million adults in the United States reported those who exercised had [1.5 fewer days in the past month of poor mental health](#). And the greatest benefits occurred in those people who exercised 45 minutes or more for three or more days per week.

But even shorter sessions can make a difference. As little as ten minutes of activity was enough to [improve happiness](#). Over time, [regular exercise](#) can result in [less likelihood for getting depression](#) and [anxiety](#). It also doesn't matter what type of activity you do. Whether it's [team sports](#), cycling, walking, running or aerobics, all provide benefits. Even [active household chores can reduce the chances for depression](#).

Exercise as treatment for mental illness

Numerous studies indicate exercise as an effective treatment for people with existing depression and other mental illnesses. A [meta-analysis](#) revealed as little as four weeks of [exercise reduced symptoms of depression](#) in people with [major depressive disorder](#). This is less time than it takes for most antidepressant medications to work.

While exercise is beneficial at all intensity levels, it appears [higher intensity exercise may be more effective than low intensity](#). [Strength training can also reduce symptoms](#) in people with depression. And a recent review of studies totaling 128,119 participants reported [exercise is as effective as antidepressants](#) for treating non-severe [depression](#). Exercise has also been found to reduce symptoms in people with [clinical anxiety](#) and [schizophrenia](#).

How exercise works to improve mental well-being

Exercise may improve mental well-being due to the release of hormones and [brain function](#). Exercise results in the release of [endorphins](#) and [endocannabinoids](#). Endorphins are the feel-good hormones that reduce pain or discomfort associated with activity. Endocannabinoids work on the same system affected by marijuana, reducing pain and improving mood.

In the brain, [low levels of brain-derived neurotrophic factor \(BDNF\)](#) and a [smaller hippocampus](#) have been associated with a number of mental illnesses. BDNF is important for the growth of nerves in the brain and development of new neural connections, while the hippocampus is associated with learning, memory and mood. Exercise can [increase BDNF levels in people with depression](#), as well as [increase hippocampus volume](#).

Take it outside

Exercising in nature can further improve mental well-being. [Rumination](#) is a negative pattern of repetitive thinking and dwelling on things. It is associated with greater chances for mental illness, but can be reduced with a [walk through a natural environment](#). And people who spent at least two hours in nature over the course of a week reported [higher well-being](#) compared to those who had no contact with nature.

There are a number of reasons why nature is good for us. Trees are known to give off compounds called phytoncides, which have been associated with [multiple health benefits](#). In addition, [levels of cortisol \(the stress hormone\) are reduced](#) with as little as 20 minutes spent in a park.

The value of being outdoors to physical and mental health was recognized by Parks Canada in January 2022, when they [partnered with PaRx](#), an organization led by [health professionals](#) who prescribe time in nature to their patients, to allow [doctors to prescribe Adult Parks Canada Discovery Passes](#).

With these passes, patients can access Canada's national parks, national historic sites and national marine conservation areas. This follows [similar programs in many other countries](#) such as New Zealand, Japan, the United States and the United Kingdom.

With all the benefits of exercise and nature on mental health, it's important to recognize some people with a mental illness can find simple daily tasks challenging. For these people taking an antidepressant and behavioral therapy may be more suitable. But for others, exercising in nature is a simple and cost-saving activity to maintain your mental health and treat mental illnesses.

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