

Gardening can cultivate better mental health

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Scientists found that gardening activities lowered stress, anxiety and depression in healthy women who attended twice-weekly gardening classes. Credit: Tyler Jones

Many longtime gardeners will tell you that the garden is their happy place. New research suggests that many people may indeed reap mental health benefits from working with plants—even if they've never

gardened before.

In a study published in the journal *PLOS ONE*, University of Florida scientists found that [gardening](#) activities lowered stress, anxiety and depression in healthy women who attended twice-weekly gardening classes. None of study participants had gardened before.

"Past studies have shown that gardening can help improve the mental [health](#) of people who have existing [medical conditions](#) or challenges. Our study shows that healthy people can also experience a boost in mental well-being through gardening," said Charles Guy, principal investigator on the study and a professor emeritus in the UF/IFAS environmental horticulture department.

The study was co-authored by an interdisciplinary team of researchers with the environmental horticulture department, the UF College of Medicine, the UF Center for Arts in Medicine and the UF Wilmot Botanical Gardens, which also hosted all the study treatment sessions.

Thirty-two women between the ages of 26 and 49 completed the study. All were in good health, which for this experiment meant screening for factors such as chronic health conditions, tobacco use and drug abuse, and having been prescribed medications for anxiety or depression. Half of the participants were assigned to gardening sessions, while the other half were assigned to art-making sessions. Both groups met twice a week for a total eight times. The art group served as a point of comparison with the gardening group.

"Both gardening and art activities involve learning, planning, creativity and physical movement, and they are both used therapeutically in medical settings. This makes them more comparable, scientifically speaking, than, for example, gardening and bowling or gardening and reading," Guy explained.

In the gardening sessions, participants learned how to compare and sow seeds, transplant different kinds of plants, and harvest and taste edible plants. Those in the art-making sessions learned techniques such as papermaking, printmaking, drawing and collage.

Participants completed a series of assessments measuring anxiety, depression, stress and mood. The researchers found that the gardening and art-making groups experienced similar improvements in mental health over time, with gardeners reporting slightly less anxiety than art makers.

Given the relatively small number of participants and the length of the study, the researchers were still able to demonstrate evidence of what medical clinicians would call the dosage effects of gardening—that is, how much gardening someone has to do to see improvements in mental health.

"Larger-scale studies may reveal more about how gardening is correlated with changes in mental health," Guy explained. "We believe this research shows promise for mental well-being, plants in healthcare and in public health. It would be great to see other researchers use our work as a basis for those kinds of studies."

The idea of using gardening to promote better health and well-being—called therapeutic horticulture—has been around since the 19th century.

But why does being around plants make us feel good? The answer might be found in the important role of plants in human evolution and the rise of civilization, the study's authors explain. As a species, we may be innately attracted to plants because we depend on them for food, shelter and other means of our survival.

Whatever the deeper reasons might be, many of the study participants left the experiment with a newly discovered passion, the researchers noted.

"At the end of the experiment, many of the participants were saying not just how much they enjoyed the sessions but also how they planned to keep gardening," Guy said.

More information: Raymond Odeh et al, A pilot randomized controlled trial of group-based indoor gardening and art activities demonstrates therapeutic benefits to healthy women, *PLOS ONE* (2022). [DOI: 10.1371/journal.pone.0269248](https://doi.org/10.1371/journal.pone.0269248)

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