

Green exercise may be good for your head

Have you had a bad day at work? If so, going for a long walk in the park will almost certainly help you de-stress. But it turns out that even small doses of outdoor exercise can have remarkable effects on mental health, report Jules Pretty and Jo Barton of the University of Essex (U.K.) in this issue of *ES&T* (*Environ. Sci. Technol.* DOI 10.1021/es903183r). In a meta-analysis of 10 studies, they found that getting outside—and moving—for as little as five minutes at a time improved both mood and self-esteem. Exercise near a body of water had the biggest effect.

“It shows that green exercise benefits pretty much everybody and that the effect sizes are pretty substantial,” says William C. Sullivan, the president of the Environmental Council at the University of Illinois at Urbana-Champaign, who was not involved in the study.

It’s well established that both exercise and exposure to nature can improve and protect mental health. Several years ago, Pretty and his colleagues at the University of Essex wanted to find out whether there was any synergy between the two treatments, so they had volunteers exercise on a treadmill while watching scenes projected on a wall. They found that those who watched “pleasant scenes” of rural and urban environments showed a stronger improvement in blood pressure and mood than those who just exercised (and watching “unpleasant scenes” correlated with reduced health benefits). Therefore, a positive nature experience seemed to increase the positive effects of exercise.

Since then, the group has studied the effects of different types of

green exercise on a variety of populations, from gardening by visitors to university farms to walking and sailing activities for young offender groups, as well as walking by members of urban flower shows. This new analysis reviewed 10 of these studies, which involved



The great outdoors: good for body and mind.

a total of 1252 participants. In each study, mood and self-esteem were measured using two widely accepted scales. All types of green exercise led to improvements in the mental health indicators. Most surprising to the researchers was that the strongest response was seen almost immediately.

“You get a very substantial benefit from the first five minutes. We should be encouraging people in busy and stressed environments to get outside regularly, even for short bits of time,” says Pretty. After that, increased green exercise continues to add benefit, but with decreasing returns. However, a full day of activity causes another spike in the level of benefit. Both healthy people and those with mental health disorders benefited, with the mentally ill showing the strongest improvement in self-esteem.

According to Pretty and other researchers not affiliated with the work, this is the first analysis to determine the dose of green exercise that is needed to improve mental health.

“If you wanted to develop a drug for malaria or HIV/AIDS, you’d have a dose/response curve,” says Pretty. Likewise, “we’re interested in creating evidence.”

Pretty says that his goal with this study is not to provide just another recommendation for individuals but to provide data that can be used in policy discussions. Those data “could translate into what the landscape guidelines are for schools or for public housing,” says Nancy Wells, associate professor of community ecology at Cornell University.

As with any initial study, in addition to answering questions, the analysis raises some, such as how frequently people need to engage in green exercise to have a long-term effect and what factors affect whether people get enough outdoor activity.

Frances Kuo, the director of the Landscape and Human Health Laboratory at the University of Illinois at Urbana-Champaign, notes that the new analysis looked at 10 studies with over 1000 participants, which raises the confidence that they’re seeing a valid pattern. Yet the studies were not randomized trials. “None of the studies involved taking people and assigning them to different ‘doses’ of nature; rather, they looked at how people who sought out nature on their own responded to nature.”

Still, the analysis may help those arguing that the built world should be designed to facilitate things such as walking near trees, not driving from garage to parking lot. “Planners and consultants can put this in front of policy makers and say this is serious research that’s been published in the scientific literature,” says Sullivan.

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