

Studies suggest human wilderness connection has psychological roots, could reduce disease risk

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Credit: Pexels

The emotional connection or calming feeling that accompanies a walk in a park or forest is the result of psychological needs being met, according to a recent study from researchers at Texas A&M University, the University of Georgia and the Minnesota Department of Natural Resources.

The study found that people's attachment to the wilderness can be explained by their [basic psychological needs](#) for autonomy, relatedness and competence. Additional research links place attachment, specifically to areas where trees are plentiful, to feelings of well-being, suggesting that spending time in [natural areas](#) can provide positive mental and physical health outcomes and improve healing.

With increased stress and isolation due to COVID-19, natural areas and the psychological benefits they provide are needed now more than ever, researchers say.

"In the context of COVID-19, the benefits for human physical and [mental health](#) have become increasingly important with increases in visitation to protected areas and participation in [outdoor activities](#) such as hiking, camping and fishing," said study collaborator Gerard Kyle, Ph.D., professor and associate department head for academic programs in the Department of Rangeland, Wildlife and Fisheries Management.

Spending time in wilderness to fulfill basic psychological needs

Kyle conducted a cross-sectional study along with a select group of his former coworkers and students, surveying 795 Americans to assess their attachment to a wilderness area that is special to them. The study, Psychological Needs Satisfaction and Attachment to Natural Landscapes, was recently published in *Environment and Behavior*.

Respondents were asked to evaluate their attachment based on place identity, emotional attachment and dependence and also on how well it met their needs for autonomy and emotional connection.

Results from the study showed that the wilderness area's ability to fulfill basic psychological needs predicted the level of attachment one felt to the area.

The researchers found strong relationships between respondents' emotional attachment and the autonomy they felt the setting provided them. Their data suggests that place identity is strongly tied to an individual's psychological need for relatedness or emotional connection.

"Humans' need for nature varies considerably for a variety of reasons but has also been linked to

evolution. For some, the need, or trait, is strong," Kyle said. "For many, the settings are also linked to an array of memories of past experiences with significant others. These memories can extend back to early childhood and can be deeply emotional."

Given that individuals often partake in outdoor recreational activities with friends or significant others, the researchers were unsurprised by this finding—which also promotes further investigating the outcome of place attachment on well-being and the social benefits of wilderness areas in communities.

Creating and protecting natural spaces that promote health and well-being

Building off of the research of Kyle and associates, and others that suggest wilderness and treescapes promote physical, psychological and social health, the Texas A&M Forest Service introduced an initiative they call "Healthy Trees, Healthy Lives" in collaboration with the U.S. Forest Service and National Association of State Foresters. The agency is now furthering that initiative with Texas A&M AgriLife and the Texas A&M School of Public Health.

"We're very excited about this collaboration, not only to bring more trees into the urban environment, but also to do the research that shows what a benefit they have both to human physical health and human mental health," said Patrick Stover, Ph.D., vice chancellor for Texas A&M AgriLife, dean of the Texas A&M College of Agriculture and Life Sciences and director of Texas A&M AgriLife Research.

Gretchen Riley, the Texas A&M Forest Service project lead for Healthy Trees, Healthy Lives, said literature shows treescapes impact human health in three main areas—obesity, chronic disease and mental health.

As shown in Kyle's research, being in wilderness areas can influence behaviors and contribute to psychological well-being, and supporting research shows various benefits to heart and lung health, skin care and cognitive functioning, among others,

from exposure to trees.

"We know trees play an important role in human health and promote wellness," Stover said. "We know that they attract people to the outdoors so they can exercise more, which reduces risk of chronic disease."

Stover said research partners at Texas A&M are not only looking to encourage time spent in the wilderness and among treescapes but hope to increase the accessibility of these spaces for those who may not otherwise have regular access to greenspaces.

"It is equally as important to bring those forests into the urban centers so people can have this exposure to them right at their back yards to promote exercise and the feeling of wellness that one gets when in the presence of trees," Stover said in a keynote address he recently delivered at an EarthX conference.

Documenting the value of green space

Kyle said when brought into cities and urban areas, natural spaces have the potential to improve well-being, beyond just physical health.

"Protected areas situated in and around cities—often referred to as green infrastructure—are important for the array of ecosystem services they afford," he said. "We document their contribution to human wellbeing; but they have so many other benefits that will contribute to our cities' adaptive capacity and resilience."

Kyle said these natural areas are known to ameliorate threats of flooding, urban heat, water quality and air pollution—improving overall quality of life.

Ensuring access to natural areas has become increasingly important in the wake of COVID-19, he said, as [health](#) guidelines have restricted social interaction and time spent outside the home.

"Green spaces, particularly those close to home, provide opportunities to escape isolation in safe and healthy ways," Kyle said.

Study collaborators included Kyle Woosnam, Ph.D., former Texas A&M Department of Recreational Parks and Tourism, RPTS, faculty member, and Samuel Keith, a 2014 RPTS graduate and current doctoral student—both in the Warnell School of Forestry and Natural Resources at the University of Georgia. The study's lead author, Adam Landon, Ph.D., was a former RPTS student and in the Applied Biodiversity Science Program. He currently is a scientist for the Minnesota Department of Natural Resources and adjunct assistant professor at the University of Minnesota.

In addition to ensuring that more greenspaces become available, the research team contends their research cements the necessity for adequate management and protection of natural and wilderness spaces that currently exist.

"Wilderness landscapes afford a unique opportunity for self-regulated behaviors and accordingly, warrant special consideration as places of value and protection," their *Environment and Behavior* article states.

More information: Adam C. Landon et al. Psychological Needs Satisfaction and Attachment to Natural Landscapes, *Environment and Behavior* (2020). DOI: [10.1177/0013916520916255](https://doi.org/10.1177/0013916520916255)

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