Study finds teens benefit from 'forest bathing'—even in cities

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Youth mental health in urban environments is significantly better when more nature is incorporated into city design. A new study from University of Waterloo researchers suggests that forest bathing, the

simple method of being calm and quiet among the trees, observing nature around you while breathing deeply, can help youth de-stress and boost health and well-being.

The study, "Associations between real-time, self-reported adolescent mental health and urban and architectural design concepts," was published in *Cities & Health*.

The study was the first ever to collect on-site, real-time survey data from adolescents about their emotional responses to various urban environments like a transit hub, residential streets, trails, parks, and waterways. Natural urban spaces were consistently related to significantly higher scores in positive outcomes.

"While the findings may not be surprising to most people, what's significant is that for the first time, we're able to specifically say this is how much anxiety is reduced when kids are by a park as opposed to by a city center," said Leia Minaker, associate professor in the School of Planning and director of the Future Cities Initiative.

The Future Cities Initiative is the latest in the University of Waterloo's efforts to address the need to create healthy and prosperous urban futures for all.

After standing and looking at an urban lake for just two or three minutes, youth scores on a validated anxiousness scale decreased by nine percent. On the other hand, their anxiousness scores were 13% higher when standing in a busy downtown location for the same length of time. This is after adjusting for several other factors, including age, gender, ethnicity, mental health diagnosis, and social status.

With urbanization accelerating rapidly, it's vital to understand urban environments' impact on youth better. Especially given that depression

and anxiety are among the leading causes of illness among adolescents.

The study found that nature motifs or patterns on buildings, natural sights in urban environments, such as lakes and public activity parks, and landscape elements, like gardens and trees, enhance positive emotional experiences for youth.

While these urban characteristics are unique to adolescents, they might be interpreted differently from adults who pursue other activities. For example, adults might be more likely to walk or run in green spaces, whereas youth are more likely to skateboard or hang out.

In designing cities with health and sustainability for all age groups in mind, these findings provide clear evidence that planners, city builders, and health care providers can use to advocate for specific natural urban design features.

"Teens are frequently excluded from any kind of decision about the cities they live in," Minaker said. "It's important to get their opinions and quantify their experiences because childhood experiences influence many long-term health and disease outcomes."

The researchers' next step will be to find a link in the mental health data to the long-term economic and social impacts. Future research will assess the mental and physical health of kids living in high-rise apartment buildings, another area of research that is poorly understood in North America.