Science for Environment Policy

Trees in urban areas may improve mental health

Doctors prescribe fewer antidepressants in urban areas with more trees on the street, according to recent UK research. The study examined the link between mental health and wellbeing and the presence of trees in London neighbourhoods. Its findings support the idea that maintaining a link to nature, even in an urban area, may help provide a healthy living environment.

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[Natural features and green spaces](#) in [urban environments](#) provide a variety of ecosystem services, such as reducing air pollution and supporting urban biodiversity. Previous studies have also shown that people with access to urban green spaces benefit from positive impacts on mental health and wellbeing. Much of this previous work has used self-reported surveys of mental health, and tends to look at the overall amount of greenery in an area, instead of examining specific aspects of the natural environment in cities.

To approach the topic from a different angle, the researchers identified a quantitative indicator for mental [health service provision](#): the number of prescriptions issued for antidepressants. Using freely available government data, they could establish the number of antidepressant prescriptions per 1000 people living in 33 boroughs of London, during 2009–10.

They also looked at the number of trees growing along streets in the boroughs, again using comprehensive publicly available government data. This excluded trees planted in parks, gardens and other urban green spaces. Their analysis took account of various confounding factors that may also influence mental health, such as socio-economic status, employment levels, number of smokers and average age in each borough.

The average street tree density in London boroughs was 40.2 trees per kilometre, with figures ranging from 15.7 to 81.3. Antidepressant prescription rates per 1000 people varied between 357.9 and 577.8. Statistical analysis of the results found that a higher street tree density of one tree per kilometre was associated with 1.18 fewer antidepressant prescriptions per 1000 people.

However, the study did not attempt to identify a mechanism for this association. The researchers suggest that this should be the goal of further research, which could also examine seasonal variations in prescription rates, gender differences, or make analyses at a more detailed geographical scale.

The researchers noted several limitations of their study. For instance, although the statistical methods used can help control for confounding factors, there may be some effects that were not identified or adequately controlled for. Also, their antidepressant prescription data exclude the 11% of people who seek private prescriptions (rather than seeing doctors through the public health service), as well as people who do not seek medical help for their condition. The number of private prescriptions may also be higher among groups with higher socio-economic status.

Finally, urban street trees could merely represent broader differences between boroughs that would influence mental health, such as population density or other street features that improve the perceived quality of a borough, such as vandalism prevention or traffic calming measures.

Nonetheless, the study's authors suggest that their findings provide evidence that maintaining or planting urban trees could form a part of public projects that include stress reduction and improved mental health for urban populations in their aims. Examples of such projects include the UK's ['Big Tree Plant'](#), which planted one million trees in cities, towns and neighbourhoods during 2010–2015.

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