

WHEN IS OPEN PUBLIC SPACE ADEQUATE? LINKS BETWEEN PERCEPTIONS AND OBJECTIVE MEASURES OF GREEN SPACE

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When is open public space adequate? Links between perceptions and objective measures of green space ^{1,2}

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INTRODUCTION

Having access to green space has been shown to offer a range of positive health benefits. In urban areas with valuable land and many competing uses for space, planners and other policymakers might reasonably ask how much green space is enough to confer a given type and level of benefits, and what other attributes of green spaces might be necessary for health-promoting behaviours. There is an ongoing debate about how best to measure the quality, quantity, and accessibility of green space. Both subjective measures (asking people to assess whether green spaces are adequate), and objective measures (directly measuring types of green space in an individual's local area) are used. The present paper explored the relationships between objective and subjective measures of urban green space, as well as their relationships with other area-level characteristics, using data on a large representative sample of adults in Ireland.

DATA AND METHODS

The 2016 wave of the Healthy Ireland survey included questions on the adequacy of a range of neighbourhood attributes, including green space. This question was used to form the subjective metric in our study. The Healthy Ireland survey also captured a range of individual characteristics of respondents. The survey was linked to information on the measured amount of green space near respondents' homes. This objective green space measure was constructed by spatial analysis using the European Environment Agency's Urban Atlas dataset. Individuals in Ireland's urban areas were ranked into five equally-sized "quintiles" in order of the

¹ This Bulletin summarizes the findings from: Barlow, P., Lyons, S. and Nolan, A. (2021) How Perceived Adequacy of Open Public Space Is Related to Objective Green Space and Individuals' Opinions of Area-Level Quality. *Sustainability* 13(15), 8516, <https://doi.org/10.3390/su13158516>.

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amount of green space within 1.6 Km of their residences. People living outside cities were included in a separate category.

We used statistical methods to explore the factors associated with whether a respondent reported that green space was adequate in their area. The analysis accounted for the many individual characteristics of respondents. It also included the objective measure of green space and some other metrics that captured views about other potential problems in the respondent's neighbourhood. These additional metrics focused on cleanliness (rubbish, graffiti and vandalism), safety (people being drunk, racism and house break-ins), and quality of services (poor public transport and lack of food shops or supermarkets that are easy to get to).

RESULTS

As expected, places with larger amounts of objectively-measured green space were also more likely to be considered to have subjectively adequate green space. Compared to those living in the lowest quintile of urban green space, respondents in areas with more green space were 5–12 percentage points less likely to perceive a lack of green space in their area. However, the objective green space measure only explained part of the variation in subjective views. Respondents were significantly more likely to report that local green space was adequate when they also gave favourable scores to other aspects of their local areas, including cleanliness, safety and quality of services.

CONCLUSIONS

These results suggest basing planning decisions and policy on metrics that use objective measures of accessible green space is unlikely to fully capture public perceptions of the adequacy of these spaces. While availability of green space is important, urban green spaces also need to be of high quality on various dimensions (e.g. cleanliness, safety, and wider service provision) to be perceived as being adequate by local residents.

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