

Appraising the sonic environment of urban parks using the soundscape dimension of visually impaired people

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ABSTRACT

The study aimed to investigate the specific soundscape dimension of visually impaired people and to learn about the possibly unique soundscape dimension elicited by the hearing sense alone. The soundscape dimension of the visually impaired will be used as a reference for improving urban parks to accommodate users inclusively. A semantic scale questionnaire survey of sighted and visually impaired people in both in-situ and off-site modes was performed. Data were extracted using principal component analysis with polychoric correlations, which produced three soundscape dimensions elicited from the sighted and six from the visually impaired. In sum, evaluation of the park's sonic environment identified the eventfulness soundscape dimension and the pleasantness soundscape dimension as being the most prominent for visually impaired and sighted people, respectively.

Highlights

- An entirely aural soundscape method by visually impaired people is used to appraise urban parks.
- Soundscape dimension of eventfulness is the most prominent for visually impaired people.
- Visually impaired people extract more information from the acoustic environment.
- Visually impaired people sense the danger and direction of a space from sound.

1. Introduction

The terminology of parks is easily associated with the natural environment. Unthreatening natural environments can have significant stress-reducing effects for many people (Gramann, 1999), and relaxation has been greater when natural sounds have been perceived dominantly (Zhang, Ba, Kang, & Meng, 2018). Yang and Kang (2005) showed that people like to hear a natural soundscape, as it comforts and calms the heart and mind. Also, there is a greater preference for natural sounds over those that are anthropogenic and mechanical, and together with an evaluation of visual comfort, acoustic comfort evaluation plays a vital role in park visitor acceptability of the urban

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