



"Gheorghe Asachi" Technical University of Iasi, Romania



MITIGATING THE NEGATIVE EFFECTS OF VISITOR DENSITY ON PERCEIVED RESTORATIVENESS THROUGH LANDSCAPE DESIGN

Jingwei Zhao^{1*}, Zichen Zhou², Yixin Guo³

*School of Architecture and Design, China University of Mining and Technology,
Xuzhou, China, No. 1, Daxue road, Xuzhou, Jiangsu, China. Post code: 221116.*

Abstract

When visiting an urban park to seek recovery from mental fatigue, encounters with other visitors are inevitable. However, research on how these encounters shape restorative outcomes is limited, especially for the joint influence of visitor density and landscape features on restorative benefits. The present study examined how five levels of visible visitor density influenced the restorative quality of urban green spaces and how landscape features modulated this relationship. Ten photographs of green space scenes without visitors, taken in Xuzhou, eastern China, were selected. For each original photograph, four levels of simulated visitor density (two, four, eight, and sixteen persons within view) were generated using photomontage techniques. The perceived restorative quality of the resulting 50 images was assessed by 947 respondents using a revised SRRS (Short-version Revised Restoration Scale), yielding 786 valid responses after excluding invalid ones. Regression analysis indicated a monotonic decline in restorative quality with increasing visible visitor density. At low to moderate densities (two or four persons within view), each additional visitor had a marginal effect that was strongly moderated by landscape features, whereas at high densities (eight or sixteen persons within view), the moderating role of landscape features was substantially attenuated. Moreover, the predictors of restorative quality differed across visitor density levels, indicating that design and management strategies must be tailored to expected visitor numbers rather than applied uniformly.

Key words: design measure, mental well-being, urban green space, visitor density

Received: September, 2025; Revised final: March, 2026; Accepted: April, 2026

* Author to whom all correspondence should be addressed: e-mail: 852683076@qq.com; Phone: +8613013976075; Fax: +86051683581999