

Sustainability | Individual communication

IC - (21023) - PRESENTING A DYNAMIC USER EXPERIENCE ASSESSMENT (D-UXA) FOR ENHANCING URBAN RESEARCH AND DESIGN PRACTICE

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Background and objectives

Before the Covid-19 pandemic, important social studies already indicated the severe negative feedback associated with high-rise developments. During the Covid-19 pandemic, citizens were confronted with their neighbourhoods' insufficient restorative capacity to maintain their health and well-being. New methods are urgently required to analyse and learn from existing high-density developments to prevent a repetition of past mistakes and to catalyse the salutary effects of architecture in new developments.

Process and methods (for empirical research)

The Sensing Streetscapes research investigated the potential of emerging biometric technologies to examine the effects of commonly applied urban design principles in six western cities. In one outdoor and four laboratory tests, eye-tracking technology with sound-recording and Galvanic Skin Response captured subjects' (un)conscious attention patterns and arousal levels when viewing streets on eye level. Triangulation with other techniques, such as mouse tracking to record participants' appreciation value and expert panels from spatial design practice, showed the positive and negative impact of stimuli.

Main results (or main arguments in the case of critical reviews)

The preliminary results provide a dynamic understanding of urban experience and how it is affected by the presence or absence of design principles. The results suggest that streets with high levels of detail and variety may contribute to a high level of engagement with the built environment. It also shows that traffic is likely an important factor in causing stress and diminishing the restorative capacity society seeks.

Implications for research and practice/policy | Importance and originality of the contribution

The research study led to the development of a Dynamic User Experience Assessment (D-UXA) tool that supports researchers and designers in understanding the impact of design decisions on users' experience, spatial perception and (walking) behaviour. D-UXA enables a human-centred analysis and is designed to fill the gap between traditional empirical methods and aspirations for an evidence-based promotion of human health and wellbeing in (high-density) urban developments.

Palavras-chave : Well-Being, Biometric Monitoring, Streetscapes, Eye-Tracking, High-Density Environments, Evidence-Based Design