

Perception of Comfort in Earthen Architecture



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ABSTRACT

Raw earth construction, one of the oldest and most widespread building techniques in the history of human habitation, is often marginalized in contemporary discourse, particularly in Western contexts where industrial materials such as concrete prevail. This marginalization can be partly attributed to cultural and perceptual biases that associate earthen construction with precariousness, backwardness or low living standards, despite its well-documented performance in terms of environmental sustainability, thermal inertia, indoor air quality and the sensory richness of interior spaces.

This paper aims to investigate the perception of comfort in interior environments built with earthen materials, comparing it with that of spaces constructed in concrete. In particular, the study seeks to determine whether significant differences exist in perceived comfort and to identify potential biases related to materiality, architectural language and the observers' background.

With this aim, an empirical study will be conducted through the administration of a structured questionnaire to a heterogeneous sample of participants, divided into two main groups: experts (such as architecture students, architects and engineers) and non-experts. Participants will be asked to evaluate perceived comfort by observing a curated selection of images depicting architectural interiors. The visual dataset will include examples of earthen buildings, both traditional and contemporary, as well as concrete interiors representative of modern and brutalist architecture.

Evaluations will be collected using operational scales, allowing for the quantification of perceptual dimensions such as spatial comfort, well-being, sense of intimacy, atmospheric quality, lighting perception and overall pleasantness of the space. The data will then be analysed using statistical methods to estimate average levels of perceived comfort and to identify significant differences across participant groups and image categories, enabling an understanding of how materiality influences perception.

Particular attention will be given to the role of participants' educational and cultural background, with the aim of understanding the extent to which disciplinary knowledge shapes spatial perception. The expected results will contribute to clarifying the relationship between materiality, collective imagery and perceived comfort, while also highlighting the perceptual barriers that may hinder the broader adoption of earthen architecture in contemporary contexts.

KEY WORDS :

Earthen architecture, Perceptual bias, Comfort perception, Material perception, Indoor comfort