Title of the Thesis: Investigation of Biophilic-Design Influence on Occupants' Experiential Well-Being: A Psychophysiological Study of Academic Built Environments

Abstract

A built environment is a human-made surrounding for any human activity, which may have considerable influence over sensory, perceptual, emotional, psychological, and physiological experiences of the occupants. Architects and psychologists have started exploring these impacts generated by distinct built environments on the occupants over the last decade, depending upon their expertise. This research has investigated the impact of integrating biophilic designs in academic built environments on students' experiential well-being by involving psychophysiological measures. The global surge in reports of deteriorating mental health among young students in recent years has emphasized the need to consider their academic environments seriously. The increasing global concern surrounding deteriorating mental health among young students highlights the importance of considering the role of academic environments in supporting their well-being. However, existing research has predominantly focused on physical comfort and environmental performance, including thermal comfort, indoor air quality, and sustainability, with comparatively less emphasis on occupants' psychological comfort and experiential responses. Additionally, there is a reported need to explore human-nature interactions in order to enhance students' mental well-being.

This thesis presents nine interrelated studies that have examined the effects of integrating biophilic designs in academic built environments on students' experiential well-being. These studies were systematically carried out in order to fulfill the objectives of this thesis. The studies have utilized virtual reality (VR) simulations along with psychophysiological measures, such as electroencephalography (EEG) and galvanic skin response (GSR), as well as participants' subjective responses. This work is an attempt to bridge the gap between the use of tech-friendly classroom environments and students' exposure to more relaxed, calming, and nature-integrated settings. It investigates the impact of integrating biophilic designs within classroom environments on students' experiential/momentary well-being in the context of built spaces, as well as which biophilic elements could provide an enhanced level of comfort and relaxation based on psychophysiological studies.