

Sustainability | Individual communication

IC - (21382) - RESTORATIVE BENEFITS OF MULTISENSORY EXPERIENCE OF NATURE: THE ROLE OF THERMAL SENSE

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Background and objectives

The design and operation of contemporary workplace is dominated by the goal of achieving thermal sensory neutrality (neither cool nor warm). Huge effort and energy consumption has been invested into the building façade system and air-conditioning system to maintain the indoor environment homogeneous and static. However, this severs building occupants' multisensory connection to the outdoor environment, which potentially will determine the psychological benefits of experience of nature for the building occupants. This research aims to investigate the role of thermal senses and thermal environment in the psychological restorative process in semi-outdoor environment at workplace.

Process and methods (for empirical research)

A multisensory Virtual Reality experimentation system has been created and implemented for the study of psychological benefits of multisensory natural experience. A pretest-posttest experiment was conducted during which subjects' cognitive performance (backward digit span, sustained attention to response task), psychophysiological stress (as indicated by skin conductance level) and perceived mood were measured before and after the environmental exposure. Subjects' sensory pleasantness votes (thermal, visual, auditory) were collected through questionnaire after the environment exposure, along with the perceived restorativeness scale survey. 42 subjects participated the experiment.

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

The results suggested thermal pleasantness is positively associated with the psychological restorative benefits in terms of attention restoration, stress recovery and mood improvement. Thermal pleasure was positively associated with the restorative component of Being-away.

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

The findings of the research suggests thermal pleasure plays a significant role in the overall restorative process in determining the restorative benefits, including cognitive performance, stress level and mood. Current environmental design practice in workplace needs a rethink to incorporate the thermal experience into the design process.

Palavras-chave : Thermal Pleasure, Attention Restoration, Stress Recovery, Biophilic Design, Workplace, Virtual Reality