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Spatial stimuli in films: Uncovering the relationship between cognitive emotion and perceived environmental quality



Hamidreza Sakhaei (<https://loop.frontiersin.org/people/1657922/overview>)^{1*},



Nimish Biloría (<https://loop.frontiersin.org/people/1323487/overview>)² and



Mehdi Azizmohammad Looha (<https://loop.frontiersin.org/people/1844097/overview>)³

¹ Architectural Design, Modeling, and Fabrication lab, Department of Architecture, Tarbiat Modares University, Iran

² Faculty of Design Architecture Building, University of Technology Sydney, Australia

³ Department of Biostatistics, Faculty of Paramedical Sciences, Shahid Beheshti University of Medical Sciences, Iran

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Objectives: Spatial stimuli affect human cognition and emotion. It is essential to capture environmental events as cues to how people perceive spatial qualities. We used film as a medium and implemented visually disruptive events to find the relationship between the subjective evaluation of space and emotional responses.

Method: We asked ninety participants to watch three films with unexpected spatial stimuli that affect their psychological states. Standard questionnaires involving aesthetic chills and The SAM model were used to capture emotional responses, and the Normalized Accumulated Quality model was used to receive space quality assessments. The Pearson correlation coefficient was subsequently used to find the association of chills and The SAM with NAQ. Univariate and multivariate regression models were also conducted to find the impact of emotional responses on NAQ.

Results: A significant association of NAQ with chills (P-value: 0.001), pleasure (P-value <0.001), arousal (P-value: 0.016), and dominance (P-value: 0.015) was witnessed in film 1. In film 2, NAQ was significantly associated with pleasure (P-value <0.001), while in film 3, NAQ was highly associated with arousal (P-value: 0.043). According to the adjusted impact of variables on NAQ in film 1, significant impacts of chills (P-value: 0.028), arousal (P-value: 0.117), pleasure (P-value <0.001), and dominance (P-value: 0.113) on NAQ were observed. In film 2, pleasure (P-value <0.001) and dominance (P-value: 0.113) impacted NAQ in the univariate model, while only pleasure had an impact on NAQ in the multivariate model. In film 3, arousal was the only variable to impact NAQ (P-value: 0.043) in a univariate model. In regression analyses, higher slopes were witnessed for models in film 1.

Conclusion: The experiment highlighted that using affect-based video clips can help us capture the relationship

level of understanding can help design a more sustainable place.

Keywords: Cognition and emotion, spatial stimuli, normalized place quality, psychological responses, Sustainable criteria

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* **Correspondence:** Mr. Hamidreza Sakhaei, Architectural Design, Modeling, and Fabrication lab, Department of Architecture, Tarbiat Modares University, Tehran, Iran

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