

House Facades and Emotions: Exploring the Psychological Impact of Architectural Features

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Abstract : The link between “quality” residential environments and human health and well-being has long been proposed. While the physical properties of a sound environment have been fairly defined, little focus has been given to the psychological impact of architectural elements. Recently, studies have investigated the response to architectural parameters, using measures of physiology, brain activity, and emotion. Results showed different aspects of interest: detailed and open versus blank and closed facades, patterns in perceiving different elements, and a visual bias for capturing faces in buildings. However, in the absence of a consensus on methodologies, the available studies remain unsystematic and face many limitations regarding the underpinning psychological mechanisms. To bridge some of these gaps, an online study was launched to investigate design features that influence the aesthetic judgement and emotional evaluation of house facades, using a well-controlled stimulus set of Canadian houses. A methodical modelling of design features will be performed to extract both high and low level image properties, in addition to segmentation of layout-related features. 300 participants from Canada, Denmark, and Germany will rate the images on twelve psychological dimensions representing appealing aspects of a house. Subjective ratings are expected to correlate with specific architectural elements while controlling for typicality and familiarity, and other individual differences. With the lack of relevant studies, this research aims to identify architectural elements of beneficial qualities that can inform design strategies for optimized residential spaces.

Keywords : architectural elements, emotions, psychological response, residential facades.

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