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Doctoral Dissertation

# Study on Restorativeness in Home Environment for Interior Design: Investigation of Materials Choice by Design Background Participants

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# Abstract

In recent years, the development of our economy and society has brought to the forefront a range of mental health issues that individuals are grappling with on a global scale. Stress, depression, and anxiety, among other mental health challenges, have become increasingly prevalent in modern society. Notably, the COVID-19 pandemic served as a significant trigger, people felt more stressed and insomnia because of the outbreak of the pandemic and isolation indoors. Therefore, there is an increasing concern about the emotional reactions of individuals to their environments, particularly in the context of creating restorative environments to relieve the adverse impacts of various mental health issues.

Given that humans live a significant portion of their lives in the home, the home environment presents an ideal quality for the implementation of restorative design, such as applying nature elements, to enhance well-being in everyday life. Moreover, the home environment has shown its impacts on restorativeness, such as releasing stress, attention restoration, and evoking positive emotions. Regarding home restorativeness, several aspects have shown their impacts in terms of restorativeness, such as greenness, window, furniture, and material.

However, as a crucial aspect of influencing perceived restorativeness in the home environment, limited research has explored the connections between specific interior materials and restorativeness in home environments. To bridge this gap, this study investigated the restorative potential of commonly used interior materials in home environments. After examining a comprehensive textbook about interior materials, several interior materials including interior wall paint, textile, wood, plastic, glass, metal, tile, brick, stone, and concrete were identified and selected as the experimental targets. To assess the restorativeness of these materials in interior design, a questionnaire which was adapted from the semantic differential method was employed for evaluation in the experiment. As the advantages of designer's thinking, 85 participants who were professionals with backgrounds of interior design-related majors were recruited to attend the data collection. Thereafter, cross-sectional data of subjective perceptions and reactions to these ten materials were obtained. After the analysis by the Wilcoxon signed-rank test, the comparison results of each two interior

materials were analyzed.

Combining with the material rankings of mean values by all restorative features, they concluded that glass material emerged as a strong candidate for enhancing the restorative qualities of living spaces. Doubts and the necessity of in-depth discussion were raised regarding specific wood's attribute/design and their impacts on restorative environments. Conversely, it also hinted that metal may not be the ideal choice for creating a restorative atmosphere in home environments. There also remained a need for more accurate and robust evidence to comprehensively understand the emotional reactions to brick material in various design contexts. These findings may contribute to the knowledge of creating a restorative home environment for interior design. Moreover, this study indicated some gaps between the emotional reaction to interior materials and restorativeness in the literature. Future research could expand on these findings by exploring other environmental contexts and considering additional variables.