



KEY POINT SUMMARY

OBJECTIVES

To investigate hospital staff preferences regarding the use of natural construction materials, such as wood, in patient rooms.

Benefits from wood interior in a hospital room: a preference study

Nyrud, A. Q., Bringslimark, T., & Bysheim, K. 2014 | *Architectural Science Review* Volume 57, Issue 2, Pages 125-131

Key Concepts/Context

Previous studies have shown that people inhabiting buildings are affected in different ways by the physical designs surrounding them; for instance, certain aspects of physical design have been shown to affect people's mental health (e.g., moods). Some studies have also suggested that experiences with nature and natural environments can benefit a human's overall health and well-being. Through the use of natural materials in building designs, people may receive some of the physical and psychological benefits associated with exposure to nature while working or receiving treatment in a healthcare facility. Such features could be especially important in environments designed for healing, like hospitals.

Methods

An anonymous questionnaire was distributed via email to all employees within one department at a Norwegian hospital. Responses from certain types of staff members (nurses, physicians, or technical personnel) who visited patient rooms in varying degrees were analyzed as separate groups.

The questionnaire showed 10 images of patient rooms featuring unique interior designs. All participants viewed the same images, but in randomized orders. Differences between designs were gauged by the use of no wood in the room to all wood over every surface in the room. The architect who designed the hospital generated the images using computer software.

Surfaces manipulated within the images were the floor, the wall behind the patient, the wall with a window, the wall opposite the patient, and the ceiling. An identical window view was used in all images. Oak and pine were the types of wood used in the images, as these are typical materials used for indoor design in Norway and other Nordic countries. Although oak is commonly used for flooring in Norwegian public buildings, an image with an oak wall was also implemented within the survey



to explore the potential for using hardwood for a purpose other than flooring. The images also included steel or wooden furniture.

Participants rated the images on a scale of 1 to 7, with 1 indicating the lowest preference and 7 the highest. This 7-point scale was used by participants to indicate whether they personally liked the room, whether they thought the interior was suitable for patient rooms, and whether or not they would like to work in the room.

Findings

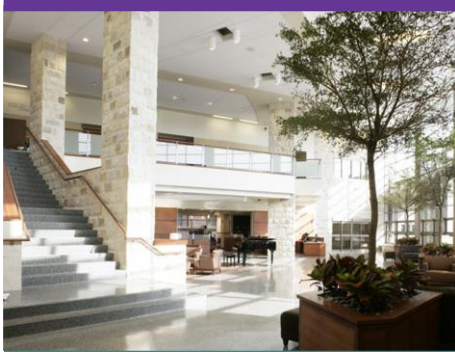
Of the 437 questionnaires received by employees, 102 were returned. Nine of these were less than 90% complete, and were therefore excluded from the study. 65.7% of responses were from nurses and auxiliary nurses, 13.7% from physicians, and 20.6% from other staff (administrative workers and technicians). These response rates correspond accurately to the proportion of staff employed in each type of position within the hospital.

Results showed that the image showing a room with oak floors, a painted white wall behind the patient, a pine wall opposite the patient, a painted white wall with a window, a painted white ceiling and wooden furniture was overall the most highly preferred. Relative to the other images, this room had an “intermediate” amount of wood. Images showing rooms at both ends of the continuum in terms of wood presence were the least preferred rooms, with the room featuring all wood surfaces ranking the very lowest.

Statistical analysis among the three types of participants (physicians, nurses, and technical/administrative staff) showed that the overall impression of the rooms remained the same despite differences in profession. Overall, the results indicate that user preference is influenced by the use of natural materials such as wood, and not by profession.

Design Implications

Institutions with limitations on the use of indoor plants, or with limited window access in certain areas, could use natural building materials, such as wood, to potentially promote physical and mental health in both patients and staff. The fact that the room covered entirely in wood was the least preferred room of all shows that the benefits of nature-oriented design are limited and should be carefully considered and not overdone. The authors note that the use of certain kinds of wood might also promote sustainable building practices.



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Limitations

These researchers are operating under the assumption that the preferences for design indicated in this study specify possibilities for psychologically beneficial outcomes, making these preferences overarching indicators of what may or may not be psychologically beneficial for all patients and staff. The authors note that the response rate to the survey may have been a limitation, as only 24% of surveys were returned for analysis. The authors also note that Norwegian hygiene regulations require wood surfaces to be treated with varnish, which may affect the natural appearance of the wood.

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