



KEY POINT SUMMARY

OBJECTIVES

The objective of this study was to learn about the perceived existence and desired amount of environmental congruence (EC) in acute care medical-surgical units of hospitals, and also to understand the relationship between existing EC and perceptions of work-related stress.

Environmental Congruence and Work-Related Stress in Acute Care Hospital Medical-Surgical Units: A Descriptive, Correlational Study

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Key Concepts/Context

Nursing is known to be a particularly stressful job, and this often has direct ties to nursing shortages in the United States. Research attempting to better understand hospital nursing work environments has typically focused on social and organizational aspects of the work experience. Yet, the physical environment, which is known to impact work and organizational outcomes, has been studied to a much lesser extent. The current study explores the role of the physical environment in work-related stress through the lens of the Person-Environment Fit theory and environmental congruence. Environmental congruence describes the degree to which the physical work environment supports workers in the execution of work tasks (functional congruence or FC) as well as supports their psychosocial needs and well-being (psychosocial congruence, or PC). The author seeks to learn through this descriptive, correlational study the connection between nurse stress and the physical hospital environment.

Methods

471 staff nurses from 39 medical-surgical units in 12 hospitals in the Midwestern United States participated in this study. The researcher visited and rated each medical-surgical unit using the Environmental Congruence Index (ECI), to observe and report the degree to which the physical environment facilitates the nursing work and psychosocial needs of nurses. The ECI consists of 35 items that the researcher scored through direct observation, viewing of floor plans, and in speaking with facility managers/personnel. The items focus on features that aid nurses in surveillance, care execution, patient/family support, and care integration. They also focus on features that accommodate psychosocial needs falling within



three levels: safety/security, belonging/self-esteem, and achievement/fulfillment. In addition to the researcher's responses on the ECI for each unit, nurses filled out a 40-item questionnaire, the Nurses' Assessment of Environmental Attributes (NAEA). They first scored the same 35 items from the ECI from their perspective, then rated the degree to which each of the 35 ECI items would in fact be desired in their environment to aid the work experience. The final five questions in the NAEA asked nurses to rate their work-related stress (WRS), and the impact of the physical environment on WRS. Descriptive statistics were generated, open-ended questions from the NAEA were reviewed, congruence levels from both scales were noted, reliability statistics of nurses' responses were assessed, and correlations between environmental congruence and work-related stress were measured.

Findings

Environmental congruence (EC) within the different units was scored similarly by the investigator (using the ECI instrument) and the nurses (using the NAEA questionnaire). Existing levels of EC were found to be moderately high by both the investigator and the nurses. Units that had been renovated in 2000 or after had significantly higher levels of EC than those renovated prior to 2000 (as well as psychosocial congruence, PC, and functional congruence, FC), according to the investigator's ECI data. The NAEA completed by nurses indicated the same finding for EC and FC, but no significant differences for PC.

In comparing existing EC versus desired levels of EC, nurses clearly desire higher levels of EC than is currently present in their units. Five items that were ranked highest by nurses as features that are important to them were: having enough space for bed-to-gurney and bed-to-wheelchair transfers of patients, having enough lighting to perform tasks, having personal protective equipment readily available in the unit, having patient bathrooms with sufficient space, and finally, having enough space within patient rooms for patient-support supplies. Overall, the investigator believed that these responses indicate that one of the most critical issues that comes up for nurses is the impact of lack of space and crowding.

As compared with the top items just mentioned and other features, nurses reported that decentralized nursing stations, designated seating in patient rooms for nurses, visibility of patients from the nursing station, work-related supplies in patient rooms, and being able to hear patients from the nursing station were less important to them.

Finally, nurses who reported high work-related stress levels were more likely to also report that the physical environment contributes to work-related stress. High work-related stress reported in the units was moderately connected to low levels of functional, psychosocial, and overall environmental congruence.



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Design Implications

Overall, the findings indicate that within medical-surgical units, crowding is a potential major issue for nurses' job satisfaction and work-related stress; this is especially the case in relation to transfer tasks and having enough space for supplies. Additionally, nurses cite the impact of environmental congruence on their stress levels. This provides a basis for studying this topic in more detail to learn exactly what features positively and negatively impact functional and psychosocial congruence. At the very least, it suggests that designers must better understand how nurses in different types of units perceive various features within their environment, so that the design can better support their work and psychosocial needs. More research is needed for further, more precise design implications.

Limitations

The author cited a number of limitations to take into account. One limitation was the fact that the sample consisted mainly of smaller community hospitals in the Midwest and was based on convenience through professional networking and first-come, first-served responses to a recruitment letter. The focus on medical-surgical units was also cited, implying an inability to generalize findings beyond this type of unit. A third limitation mentioned was the span of major renovation dates of different units over a number of decades, which makes it difficult to generalize findings by renovation year. Also, the author would have liked to use more than one measure of environmental congruence beyond the ECI instrument. Finally, the instruments used in the study – the ECI and NAEA – have been tested only to a limited degree and therefore require further testing for validity.