The purpose of this study was to investigate relationships between environmental factors of odor, noise, light, and color and perceived stress, job satisfaction, and turnover intention.

There is a need to continue to study the connection between environmental variables and staff outcomes to determine actionable recommendations for healthcare facility design that will decrease stress, increase job satisfaction, increase nursing staff retention, and encourage more people to enter the career track. The current study indicates that healthcare facilities might benefit by finding ways to seamlessly connect nurses with noise that is relevant to the successful completion of their duties.

In the midst of a growing nursing shortage in the United States, there is a pressing need to better understand potential factors that are increasing nurses’ stress levels, lowering job satisfaction, and increasing nurses’ desire to leave their jobs. The physical healthcare environment presents one layer of factors that may impact stress levels and job satisfaction, ultimately influencing turnover intention. In this study, researchers hone in on the way in which specific environmental variables like odor, noise level, lighting, and color may factor into a nurse’s intent to leave his or her job.

A descriptive, correlational design was employed to answer the four research questions posed. Relationships between study variables were described as positive or negative correlations. The sample \( n = 116 \) consisted of full-time, medical-surgical nurses (registered nurses) employed at a 500-bed level I trauma center in northeastern New Jersey; nurses worked in one of six major inpatient medical/surgical areas: orthopedics, cardiac, oncology, thoracic, geriatric, and neuroscience. A 36-item questionnaire, which included three standardized survey instruments, addressed odor, noise, light, color, perceived stress, job satisfaction, and turnover intention. Data from the questionnaires were analyzed using SPSS software. The authors used descriptive statistics such as means, standard deviations, and ranges to describe the data, and then tested the four research questions using the Pearson product moment correlation coefficient to measure relationships between the research variables.
SYNOPSIS

Significant relationships were found between noise and perceived stress, perceived stress and job satisfaction, job satisfaction and turnover intention, and perceived stress and turnover intention. Specifically, an inverse relationship was found between the level of noise and perceived stress, perhaps indicating that certain noises that are familiar may reassure nurses (e.g., cardiac monitors). The relationships between three environmental variables—level of odor, level of light, and color—and perceived stress were found to not be significant. A significant direct relationship was found between perceived stress and job satisfaction; nurses' stress levels coincide with their level of job satisfaction, meaning higher (or lower) stress levels coincided with higher (or lower) levels of job satisfaction. A direct and significant relationship was found between stress and turnover intentions, meaning that higher stress is connected with higher intentions to leave the job. Finally, a direct, significant relationship between job satisfaction and turnover intention was found, meaning that higher job satisfaction nonetheless indicated higher intent to change jobs.

Limitations

The current study was conducted in one healthcare setting; a variety of nursing environments could not be sampled. Additionally, relevant sociodemographic variables could not be considered because of their removal from the study at the request of the institutional review board. Another limitation was that it was not possible to control the conditions under which the surveys were completed. The principal investigator did not personally validate the observations of color, the level of odor, noise, or light on each nursing unit, but depended on each nurse’s subjectivity associated with his or her senses. The authors also indicated that unequal response rates between units limited posthoc analysis to determine differences between units.