

# Resilience Room Use and Its Effect on Distress Among Nurses and Allied Staff

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## ABSTRACT

**BACKGROUND:** Nationwide nursing shortages have spurred nursing research on burnout and resiliency to better understand the emotional health of nurses and allied staff to retain talent. Our institution implemented resilience rooms in the neuroscience units of our hospital. The goal of this study was to evaluate the effects of resilience room use on emotional distress among staff. **METHODS:** Resilience rooms opened to staff in the neuroscience tower in January 2021. Entrances were electronically captured via badge readers. Upon exit, staff completed a survey containing items on demographics, burnout, and emotional distress. **RESULTS:** Resilience rooms were used 1988 times, and 396 surveys were completed. Rooms were most used by intensive care unit nurses (40.1% of entrances), followed by nurse leaders (28.8%). Staff with >10 years of experience accounted for 50.8% of uses. One-third reported moderate burnout, and 15.9% reported heavy or extreme burnout. Overall, emotional distress decreased by 49.4% from entrance to exit. The greatest decreases in distress were recorded by those with the lowest levels of burnout (72.5% decrease).

**CONCLUSION:** Resilience room use was associated with significant decreases in emotional distress. The greatest decreases occurred with the lowest levels of burnout, suggesting that early engagement with resilience rooms is most beneficial.

**Keywords:** burnout, emotional distress, innovation, nursing, research, resilience room, retention, staffing, stress reduction

In spring 2020, as a result of the COVID-19 pandemic, while most of the country was urged to remain at home and socially distanced,<sup>1</sup> frontline nurses were asked to do the opposite. They were asked to come into work early, stay late, and work under conditions they had never experienced before.<sup>2</sup>

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They did just that, with resolve and compassion. At our 500-plus-bed hospital, some nurses bunked together to eliminate the possibility of infecting loved ones at home. Others stripped down in garages or backyards and showered before entering their homes after a shift. As the virus surge increased and resources decreased, the feeling of burnout became ubiquitous among the nursing staff.<sup>3</sup> More than 90% of all COVID-positive patients were admitted to our facility's neuroscience intensive care units (ICUs) and neuroscience telemetry beds, which remained staffed by the core neuroscience nurses. Our institution leveraged current research linking the use of high-quality nursing break rooms to employee satisfaction and retention<sup>4,5</sup> to build 2 resilience rooms within the neuroscience tower of our hospital, with a goal of expanding these resources to additional hospital areas in the near future.

## Background

The United States has been struggling with a nursing shortage, and the pandemic exacerbated this shortage. In 2021, the national hospital turnover rate for nurses was 27.1%.<sup>6</sup> By specialty, the highest turnover rates were in step-down (30.2%), telemetry (30.2%), emergency (29.7%), and critical care (27.5%) areas.<sup>6</sup> The US Bureau of Labor Statistics has projected nursing to be one of the top careers for job growth for the next decade.<sup>6-8</sup> Reasons for the shortage are well

documented and include the aging of the baby boomer population, an aging workforce that is eligible for retirement, disproportionate sex composition of the workforce, and workforce violence.<sup>9</sup> The cost of this nursing shortage at our institution is estimated at greater than \$60 000 per vacancy, including human resource time, training, and overtime to account for the vacant position.

As a result, an emphasis has been placed on the emotional and mental health of nurses and the prevention of burnout and job turnover.<sup>4</sup> This emphasis is reflected in current nursing research. In one study designed to investigate the importance of nursing break rooms before the pandemic, nurse self-reported stress levels were well above average, with 68% reporting stress levels of 7 or greater on a scale of 0 (low) to 10 (high).<sup>10</sup> In this same study, most nurses reported high-quality break areas as important for alleviating work-related health concerns (72.8%), contributing to job satisfaction (77.7%), and workforce retention (50.1%). A Cochrane review of articles on preventing occupational stress in healthcare workers found that organizational change positively affected healthcare workers' self-reported stress levels.<sup>11</sup> In a more recent study, healthcare workers were surveyed about using a relaxing break room for approximately 15 minutes that contained a massage chair, music, and an essential oil diffuser. Self-reported feelings of happiness, relaxation, and positivity increased upon room use, whereas frustration, anger, and anxiety decreased after room use.<sup>5</sup>

As nursing leadership at our institution began worrying about the long-term effects of burnout, one of our nurse leaders began seeking evidence on the importance of nurse mental health and remedies for immediate stress relief.<sup>12</sup> She embarked on a plan to establish our institution's first 2 nursing resilience rooms and obtained donor funding. The plan was to open the first 2 rooms in the neuroscience tower, evaluate what worked well and areas for improvement, and then open additional rooms in other areas of the hospital. The goal of this article is to document resilience room use and self-reported feelings of stress immediately after use.

## Methods

Two rooms on separate floors in the neuroscience tower were planned; one was identified as the "Quiet Resilience" room to denote a peaceful relaxing environment. The other room, designated as the "Active Resilient" room, had windows overlooking a garden and was meant to promote an active way to build resilience. The Active Resilient room included a treadmill, an elliptical machine, an exercise bike, a stretch machine, a massage gun and a foam roller, barbells, and

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## Early use of the resilience room is associated with the greatest positive impact.

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an exercise mat (Fig 1A). The equipment in the Quiet Resilience room included 2 massage chairs, a mural, ambient lighting, and music (Fig 1B).

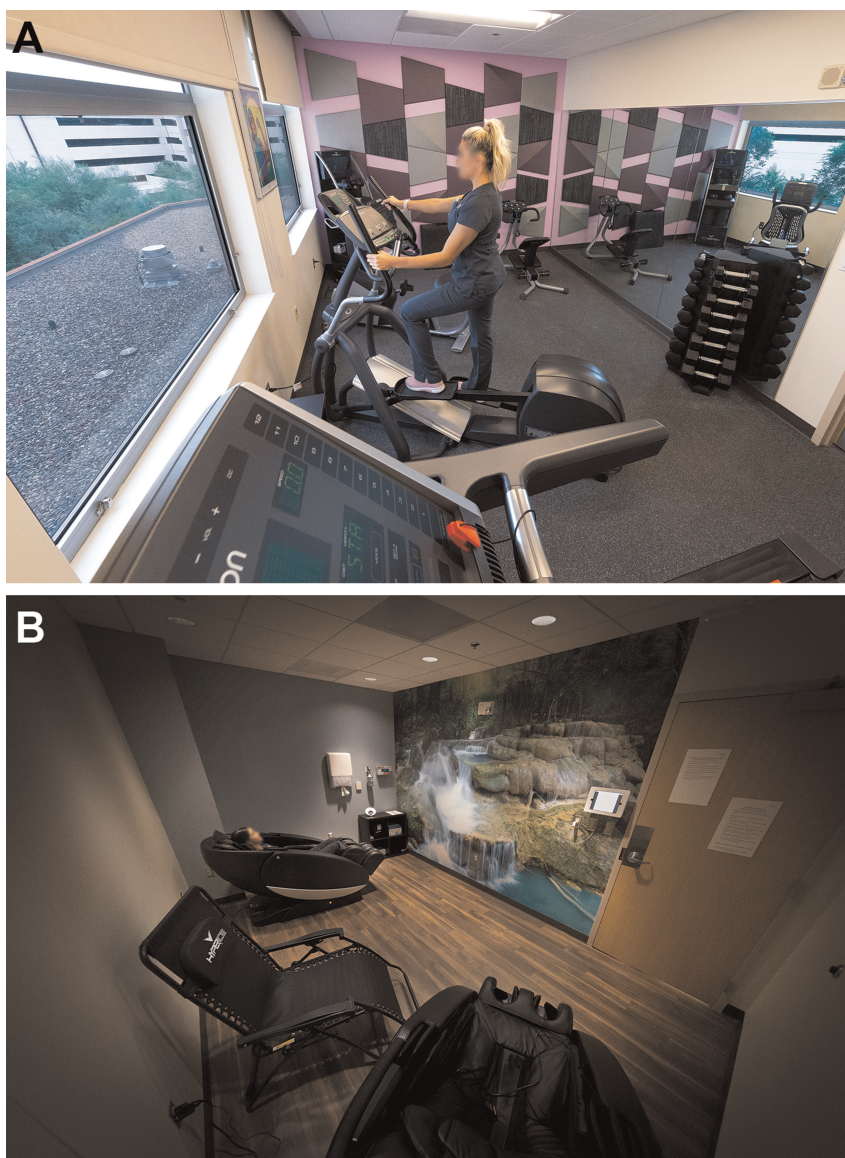
In January 2021, the badge-accessed rooms were opened to the core staff of the neuroscience ICU units within the neuroscience tower and, then, 1 month later, to core staff of the remaining units of the neuroscience tower. The rooms were placed in the neuroscience tower because that is where COVID patients were being cared for by neuroscience nurses. The staff able to access the rooms included neuroscience nurses, patient care technicians, unit coordinators, and other related staff members. A tablet was installed in each room with an optional and brief survey designed to measure staff distress and burnout (Supplemental Fig 1, <http://links.lww.com/JNN/A447>). Staff members could take the survey each time they used the room. The survey consisted of a single-item validated burnout measure intended to be an overall measure of burnout rather than of how a person was feeling at a precise point in time.<sup>13</sup> In addition to the burnout item, a self-reported rating of anxiety/stress/agitation (referred to as emotional distress) upon entering the resilience room and after use of the room was performed. (As shown in Supplemental Fig 1, <http://links.lww.com/JNN/A447>, questions 6 and 7, this scale was similar to the commonly used visual analog scale for patient-reported pain.) These data were collected as an indicator of how the nurse was feeling at that time. In addition, demographic data were collected.

Study participants for this prospective study included neuroscience nurses, patient care technicians, health unit coordinators, nurse practitioners, nurse managers, directors, supervisors, and educators of the inpatient neuroscience intensive care and floor units who used a resilience room between January 27, 2021, and May 18, 2021. Data sources included the optional staff survey and a report detailing each badge entrance to either resilience room.

## Statistical Analysis

Data from the participants were summarized using counts with percentages and means with standard deviations. Paired-samples *t* tests were used to compare mean levels of emotional distress before and after the participants experienced the room. Percentage

**FIGURE 1** Photographs of resilience rooms. A, Exercise room. B, Relaxation room. Used with permission from Barrow Neurological Institute, Phoenix, Arizona. full color online



change was calculated using the following formula:  $(\text{post score} - \text{pre score}) / \text{pre score}$ . Because of the high volume of patients and patient acuity during portions of this study, analyses were performed as overall totals and by month. SPSS version 27 (IBM Corp) was used for the statistical analysis. This project was reviewed and approved by the institution's internal review board. Equipment for the resilience rooms was purchased through a grant awarded by The Women's Board of the Barrow Neurological Foundation.

## Results

There were 2022 resilience room badge-activated entrances during the study timeframe, of which 34 were excluded on the basis of employee role, leaving 1988

entrances for analysis. Data obtained from badge reports are detailed in Supplemental Table 1, <http://links.lww.com/JNN/A448>. The most frequent users of the resilience rooms were neuroscience ICU nurses, accounting for 40.1% of entrances, followed by nurse leaders (28.8%) and then neuroscience floor nurses (13.1%). Resilience room use was highest on Mondays (17.2%), Tuesdays (17.2%), and Wednesdays (17.3%) and lowest on Saturdays (10.9%) and Sundays (10.3%). There were slightly more entrances into the resilience rooms during the evening hours of 6 PM to 6 AM (53.3%) than at other times (Supplemental Fig 2, <http://links.lww.com/JNN/A449>). The relaxation room was used more frequently than the exercise room (79.4% and 20.6%, respectively).

Surveys were voluntarily completed by 396 staff members. Eight surveys were excluded on the basis of employee role (eg, therapist, administrator, travel nurse), leaving 388 surveys eligible for analysis. On the basis of respondent entrances, the response rate was 19.5% (388/1988). Approximately half of the survey respondents reported greater than 10 years of experience (50.8%).

Nurse self-reported burnout was as follows: no burnout (13.7%); occasional burnout (37.1%); and moderate (33.2%), heavy (9.5%), or extreme burnout (6.4%) (Supplemental Table 2, <http://links.lww.com/>

JNN/A450). The mean (SD) emotional distress score for the entire cohort was 58.9 (20.4) upon entrance into the resilience room. The score decreased to 29.8 (19.0) ( $P < .001$ ) after resilience room use, a decrease of 49.4%. Emotional distress decreased significantly for all comparisons (Table 1). Emotional distress was also reported by years of work experience. The smallest percentage decrease in stress was reported by staff with less than 2 years of experience (39.3%,  $P < .001$ ) (Table 1).

Self-reported burnout was negatively correlated with stress reduction ( $r_{329} = -0.163$ ,  $P = .003$ ), meaning that

**TABLE 1. Changes in Self-reported Emotional Distress**

Variable	No. Participants	Incoming Stress (%), Mean (SD)	Outgoing Stress (%), Mean (SD)	P	Percentage Decrease in Mean Stress
All respondents	325	58.9 (20.4)	29.8 (19.0)	<.001	49.4
Room					
Exercise	41	53.6 (19.5)	33.4 (17.7)	<.001	37.7
Relaxation	281	59.7 (20.5)	29.3 (19.2)	<.001	50.9
Staff experience, y					
<2	53	59.1 (19.9)	35.9 (18.4)	<.001	39.3
2–5	43	61.2 (22.5)	32.3 (22.0)	<.001	47.2
6–9	55	56.8 (20.1)	25.9 (21.1)	<.001	54.4
≥10	172	59.4 (19.8)	28.5 (17.4)	<.001	52.0
Burnout (all months combined)					
None	50	63.3 (28.5)	17.4 (13.9)	<.001	72.5
Occasional	116	50.4 (15.5)	27.4 (13.7)	<.001	45.6
Moderate	104	59.1 (17.2)	30.4 (19.4)	<.001	48.6
Heavy	32	67.1 (15.9)	37.3 (17.2)	<.001	44.4
Extreme	23	80.3 (18.7)	56.2 (23.9)	<.001	30.0
January/February burnout					
None	14	49.4 (25.7)	12.2 (11.9)	<.001	75.3
Occasional	44	46.9 (15.5)	23.4 (12.3)	<.001	50.1
Moderate	60	56.5 (17.0)	28.7 (19.4)	<.001	49.2
Heavy	13	62.9 (15.0)	37.6 (17.3)	.007	40.2
Extreme	8	76.9 (17.2)	53.3 (18.6)	.005	31.1
March burnout					
None	21	62.7 (31.7)	17.2 (11.3)	<.001	72.6
Occasional	32	52.2 (19.4)	28.3 (16.6)	<.001	45.8
Moderate	30	61.0 (18.0)	29.7 (17.0)	<.001	51.3
Heavy	9	72.3 (14.2)	44.4 (17.7)	.005	38.6
Extreme	11	80.9 (19.1)	51.5 (26.7)	.003	36.3
April/May burnout					
None	14	49.4 (25.7)	12.2 (11.9)	<.001	75.3
Occasional	44	46.9 (15.5)	23.4 (12.3)	<.001	50.1
Moderate	60	56.5 (17.0)	28.7 (19.4)	<.001	49.2
Heavy	13	62.9 (15.0)	37.6 (17.3)	.007	40.2
Extreme	8	76.9 (17.2)	53.3 (18.6)	.005	30.7

as burnout increased, the reduction in emotional distress decreased. When analyzed by burnout level, the largest percentage decrease in self-reported emotional distress upon using a resilience room was for participants reporting no burnout (72.5% decrease). Percentage decrease for staff reporting occasional, moderate, or heavy burnout was 45.6%, 48.6%, and 44.4%, respectively; the decrease was 30.0% for staff reporting extreme burnout.

We also analyzed the data separately by month because our patient volume and acuity varied because of the pandemic. With the exception of our peak month of March 2021, the percentage reduction in self-reported emotional distress decreased in a stepwise fashion as burnout increased (January/February, 75.3% for no burnout to 31.1% for extreme burnout; April/May, 75.3% for no burnout to 30.7% for extreme burnout) (Supplemental Fig 3, <http://links.lww.com/JNN/A451>). Interestingly, the mean emotional distress values before resilience room use were highest in March, when our hospital census related to the pandemic was the highest.

At the end of the survey, there was an open text box field for comments. Participants left 121 comments, 16 (13.2%) of which were constructive on room needs or ideas, and 105 (86.8%) of which were comments of gratitude. Representative comments included the following: (1) "Been on the verge of tears all morning. This helped so much!" (2) "I did it after a particularly heavy shift, and it was just what I needed. I loved the leg and feet massage best." (3) "Thank you for making this room possible. Nice touch." (4) "I feel that this room has substantially lessened my frequent headaches. I really enjoy and need this room. Thank you." A word cloud was made from the open-text comments (Supplemental Fig 4, <http://links.lww.com/JNN/A452>).

## Discussion

Nursing has been termed the backbone of hospitals. Nurses and their patient care colleagues bridge the gap between the patient and the practitioner and spend the most time interfacing with patients. We are experiencing a nursing shortage in our state and have a high proportion of nurses who are eligible to retire. We are faced with the high costs of refilling these nursing and allied care positions. In the past decade, hospitals have begun to emphasize the nursing staff's well-being. Research documenting staff feedback on how to improve job satisfaction and decrease turnover has highlighted the need for pleasant and appealing places for nurses' break during their shift.<sup>10</sup> At our hospital, we implemented 2 nursing staff resilience rooms and measured the self-reported emotional distress immediately before and after use of a resilience room.

Space at our hospital is at a premium and highly valuable. Thus, it was difficult to locate an optimal space to implement the rooms. One of the rooms was previously the senior author's office. She elected to move to a smaller and less desirable office in support of this initiative. The senior author also worked to secure a grant to fund the purchase of equipment to outfit the rooms. Contributing donors to the resilience rooms were encouraged by the results and in seeing the real effects of their donor money. As a result, additional money has been donated, and an additional 5 resilience rooms are being constructed throughout the hospital.

On average, the use of a resilience room was associated with an approximate 50% decrease in self-reported emotional distress. Nurses with less than 2 years of experience reported smaller decreases in distress. Nurses with higher levels of burnout also reported smaller decreases in distress.

Our results suggest that engagement with resilience rooms before burnout could be important in reducing or delaying burnout and, possibly, emotional distress. Nurses who reported burnout when the resilience rooms became available reported the smallest decrease in emotional distress. Future work will be conducted to evaluate the role of the resilience rooms in the prevention of burnout.

## Limitations

Our study was limited by several factors. We decided to administer the survey in a single session as the participants exited the rooms because they had little time to use the resilience rooms, and we did not want to take away from their experience by administering the survey twice. The participants reported burnout and emotional distress upon entering and exiting the room in a single survey session. We also used emotional distress as a single construct, although the terms stress, anxiety, and agitation could be operationalized independently. In addition, our rooms were funded by and implemented in the neuroscience care units at our hospital, and as a result, our participant experience is limited to neuroscience care. Multiple participants could have entered the rooms together using the badge of 1 person, resulting in an underestimation of room use. Finally, although the COVID-19 pandemic was not of core interest in our study, it affected nursing care, and the extent of this effect on emotional distress is unknown.

## Conclusion

Nursing and patient care staff shortages and burnout are well-documented topics. In the past decade, strategies including improved break areas have been implemented in hospitals to improve the well-being of

nurses and associated staff to ultimately retain them and reduce turnover. Our study found significant reductions (49.4%) in self-reported emotional distress. Participants with less than 2 years of work experience and those reporting extreme burnout reported the smallest decreases in self-reported emotional distress.

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