



## Reducing Anxiety Among Nurse Leaders Through Virtual Animal-Related Engagement

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This project explored the relationship between virtual animal-related engagement (ARE) and anxiety in nurse leaders. A quality improvement project used a valid and reliable visual analog scale from 0 to 100 for self-reporting of anxiety in nurse leaders. Baseline and intervention group data were collected for 2 weeks at 15 and 5 minutes before the daily leadership huddle. Differences in anxiety levels 5 minutes before the huddle for baseline with the use of the intervention were significant. Within the intervention group, anxiety levels at 15 and 5 minutes were significant. Project outcomes suggest a difference in self-reported anxiety of nurse leaders based on ARE.

Nurse leaders must be resilient and quick to adapt to the high demands of the profession and the work environment. As role models, nurse leaders are expected to demonstrate and promote physical and emotional well-being and work-life balance to both clinical nurses and patients. Although nursing leadership can play a substantial role in reducing nurse burnout, nurse leaders are not immune to the emotional and physical burdens of nursing.<sup>1</sup> Therefore, burnout in nurse leaders can affect all levels of clinical nursing and, ultimately, patient outcomes.<sup>2</sup> Studies of animal-assisted interventions (AAIs) involving healthcare workers have demonstrated a statistically significant reduction in work-related anxiety and burnout.<sup>3,4</sup>

engagement presents the opportunity for humans to realize psychological benefits from the human-animal bond when face-to-face visits must be avoided because of health concerns or other restrictions.<sup>5</sup> Positive psychological effects among healthcare workers have been demonstrated through the use of ARE, with individuals watching videos of canines also reporting a decrease in anxiety.<sup>6,7</sup> The ARE used for this project was a live video feed of puppies during their daily routines. The free live Internet video feed, Puppy Cam, is publicly available on the Internet and originates from Warrior Canine Connection.<sup>8</sup>

### Daily Leadership Huddle

In the study organization, daily leadership huddles were a virtual forum to discuss the medical center's current issues including infection prevention, injury prevention, staff mobility and efficiencies for patient throughput, and other patient and clinician safety issues. For purposes of this project, it was estimated that 34 to 54 nurse leaders would be in attendance daily, representing 34 inpatient units and

### Animal-Related Engagement

During the height of the pandemic, the service of AAI had to adapt to visitation and safety restrictions in accordance with infection control practices. The visitation and safety restrictions recommended for healthcare organizations spurred the development of an innovative form of AAI, animal-related engagement (ARE). Animal-related

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departments. By linking Puppy Cam to the daily leadership huddle, nurse leaders were provided the opportunity to engage in ARE as the proposed intervention.

## Project Description

The project question was, “In a large suburban 735-bed acute care level-I regional trauma center and teaching hospital, does ARE reduce self-reported anxiety in nurse leaders?” This quality improvement project compared the change in the mean of self-reported anxiety of nurse leaders using a valid and reliable general anxiety visual analog scale (VAS) at 15 and 5 minutes before the daily leadership huddle.<sup>9</sup> The VAS tool measured 0 as representing “no anxiety” and 100 as representing “maximum anxiety imaginable.” Nurse leaders were defined as nurses holding the job title of director, manager, or assistant manager, and each survey included a statement about the voluntary and confidential nature of the project.

## Baseline Group Survey Collection

For 1 week, at 15 minutes before the daily huddle, the 1st VAS survey was provided via a link in the huddle chat box. This VAS was closed to participation at 10 minutes before the huddle. The 2nd VAS was made available in the chat box at

5 minutes before the huddle and closed 1 minute before the huddle.

## Intervention Group Survey Collection

The intervention week occurred 1 week after the baseline data collection period. At 15 minutes before the huddle, the 1st VAS survey was opened for completion in the huddle chat and then closed at 10 minutes before the huddle. As soon as the 1st VAS closed, Puppy Cam was displayed on the huddle screen for 5 minutes. After 5 minutes, Puppy Cam was removed from the huddle screen, and the 2nd VAS was opened for participation and then closed at 1 minute before the start of the huddle.

## Results

Demographics were not collected to avoid adding to time to survey completion and potentially reducing the number of completed surveys; however, historically, the nurse leader group was predominantly female (90/100, 90%). At 15 minutes before the huddle, baseline and intervention groups were well matched for self-reported anxiety ( $P = .82$ ). At 5 minutes before the huddle, the difference in anxiety between the groups, baseline ( $n = 46$ ) and intervention ( $n = 30$ ), was significant ( $P = .01$ ). In addition, within each group, baseline ( $n = 28$ ) and intervention ( $n = 30$ ),

the difference in anxiety at 5 minutes before the huddle was significant ( $P = .03$ ) (Table 1).

## Conclusion

This project demonstrated a significant reduction, between and within groups, in self-reported anxiety of nurse leaders immediately after ARE. Job-related anxiety has been negatively linked to an individual's adaptive capacity for work-related demands and ability to relate to others in a nurturing manner.<sup>10,11</sup> Literature supports an association between nurse leaders' relationship with staff and nurse satisfaction, patient satisfaction, safe environments, and patient outcomes, suggesting that healthcare institutions may greatly benefit by supporting the well-being of nurse leaders.<sup>1,2,12,13</sup> Anxiety-reducing options, such as ARE available during working hours, can be low to no cost and can mitigate work-related anxiety and expand the adaptive capacity in nurse leaders.

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**Table 1.** Nurse Leader Self-reported Anxiety

Group	15 min Before Huddle	5 min Before Huddle	Within Groups, $P^a$
Control, n, median (IQR)	26, 60 (29-72)	46, 54 (21-75)	0.88
Intervention, n, median (IQR)	28, 57 (25-75)	30, 32 (14-55)	0.03
Between groups, $P^a$	0.82	0.01	

Abbreviation: IQR, interquartile range.

<sup>a</sup>Mann-Whitney  $U$  test.



### REFERENCES

1. Wei H, King A, Jiang Y, Sewell KA, Lake DM. The impact of nurse leadership styles on nurse burnout: a systematic literature review. *Nurse Lead*. 2020; 18(5):439-450. doi:10.1016/j.mnl.2020.04.002.
2. Kelly LA, Lefton C, Fischer SA. Nurse leader burnout, satisfaction, and work-life balance. *J Nurs Adm*. 2019; 49(9):404-410. doi:10.1097/NNA.00000000000000784.
3. Coto JA, Ohlendorf EK, Cinnamon AE, Ellis TL, Ondrey MA, Bartuch P. A correlational study exploring nurse work anxiety and animal-assisted therapy. *J Nurs Adm*. 2022;52(9):498-502. doi:10.1097/NNA.0000000000001188.
4. Etingen B, Martinez RN, Smith BM, et al. Developing an animal-assisted support program for healthcare employees. *BMC Health Serv Res*. 2022;20:714. doi:10.1186/s12913-020-05586-8.
5. Pet Partners. (2020). Animal-related engagement: benefiting from the power of the human-animal bond when personal interaction is not possible [white paper]. <https://petpartners.org/animal-related-engagement/>. Accessed December 16, 2022
6. Acquadro Maran D, Capitanelli I, Cortese CG, Ilesanmi OS, Gianino MM, Chirico F. Animal-assisted intervention and health care workers' psychological health: a systematic review of the literature. *Animals (Basel)*. 2022;12:383. doi:10.3390/ani12030383.
7. Ein N, Reed MJ, Vickers K. The effect of dog videos on subjective and physiological responses to stress. *Anthrozoös*. 2021;35(3):463-482. doi:10.1080/08927936.2021.1999606.
8. Warrior Canine Connection (WCC). Puppy Cam [video]. 2022. YouTube. <https://explore.org/livecams/warrior-canine-connection/service-puppy-cam>
9. Williams VS, Morlock RJ, Feltner D. Psychometric evaluation of a visual analog scale for the assessment of anxiety. *Health Qual Life Outcomes*. 2010; 8:57. <http://www.hqlo.com/content/8/1/57>.
10. Hui RT, Chan CS. Variations in coaching style and their impact on subordinates' work outcomes. *J Organ Behav*. 2018;39(5):663-679. doi:10.1002/job.2263.
11. Browning Callis AM. Application of the Roy adaptation theory to a care program for nurses. *Appl Nurs Res*. 2020;56:151340. doi:10.1016/j.apnr.2020.151340.
12. Adams J, Djukic M, Gregas M, Fryer AK. Influence on nurse leader practice characteristics on patient outcomes; results from a multi-state study. *Nurs Econ*. 2018;36(6):259-267.
13. Logan-Athmer A. The necessary leadership skillsets for the high-reliability organization framework adoption within acute healthcare organizations. *J Healthc Risk Manag*. 2022;42:31-36. doi:10.1002/jhrm.21500.