

ORIGINAL RESEARCH

Responding to disruptive behaviors in nursing: One-year follow-up of quasi-experimental research measuring links to turnover, intent to leave, and patient care quality

Ericka Sanner-Stiehr*

College of Nursing and Professional Disciplines, University of North Dakota, Grand Forks, North Dakota, United States of America

Received: October 21, 2019

Accepted: March 18, 2020

Online Published: March 25, 2020

DOI: 10.5430/jnep.v10n7p9

URL: <https://doi.org/10.5430/jnep.v10n7p9>

ABSTRACT

Background and objectives: Disruptive behaviors among nurses are a prevalent problem in health care, contributing to nursing staff turnover and compromising patient care. Newly licensed nurses may be unprepared to respond to disruptive behaviors effectively, negatively impacting them, patients, and organizations. Cognitive rehearsal can increase self-efficacy to respond effectively to disruptive behaviors. The purpose of this study was to determine the longitudinal impact of a cognitive rehearsal intervention delivered to nursing students during the final semester of their pre-licensure program on self-efficacy to respond to disruptive behaviors, turnover and intent to stay in a job, frequency of disruptive behaviors, and perceived impact on patient care.

Methods: Design: This study was the second phase in a quasi-experimental, longitudinal project. Participants and Setting: In Phase 1, 129 participants were recruited from three pre-licensure nursing programs in the Midwestern United States. All participants received the intervention. In Phase 2, one year after graduating, 95 remained enrolled. Methods: An electronic survey was used to collect data. Paired *t*-tests were used to detect changes in self-efficacy; bi-variate correlations were utilized to determine relationships between outcome variables.

Results: Multiple measures of self-efficacy to respond remained statistically significantly increased one year after graduating ($p < .05$). Experiencing ($r = .489$; $p < .000$) and witnessing ($r = .432$; $p < .000$) disruptive behaviors was significantly linked to patient care.

Conclusions: Cognitive rehearsal had a sustained, positive impact on self-efficacy to respond to disruptive behaviors and should be included in pre-licensure curricula.

Key Words: Cognitive rehearsal, Disruptive behaviors, Incivility, Bullying, Nursing students, Pre-licensure, Patient care, Retention

1. INTRODUCTION

Nursing staff turnover exacerbates a nursing shortage that is already reaching crisis levels worldwide.^[1,2] International data suggest that turnover rates can range from 4%-54%

with various workplace dimensions and personal characteristics contributing to these figures.^[3] These rates are consistent in the United States where annual turnover can be as high as 28.3%.^[4] High incidence of turnover is costly for insti-

*Correspondence: Ericka Sanner-Stiehr; Email: ericka.sanner@und.edu; Address: College of Nursing and Professional Disciplines, University of North Dakota, Grand Forks, North Dakota, United States of America.

tutions,^[5] disruptive to work flow and productivity,^[6] and can lead to staffing problems that compromise patient care.^[7] Turnover rates are strongly influenced by interpersonal elements of the work environment among which communication is consistently recognized.^[8,9]

Dysfunctional communication^[10,11] often results in disruptive behaviors, creating negative work environments and are among issues contributing to turnover^[12] and decreased quality of patient care.^[13-15] Perhaps not surprisingly, turnover rates are highest among newly licensed nurses.^[4] Lacking the experience to effectively respond to and manage disruptive behaviors, newly licensed nurses may develop maladaptive coping strategies and manifest symptoms of psychological distress.^[16] Even prior to graduating, nursing students anticipate encountering disruptive behaviors from other nurses and have begun appealing to educators for response education in nursing curricula.^[17-20] Thus, providing this type of education during pre-licensure nursing programs can be a preventative measure against the range of negative consequences.

Cognitive rehearsal training has been implemented successfully to increase the ability to respond to disruptive behaviors among nurses and nursing students.^[21,22] Unfortunately, there is a paucity of longitudinal research examining the impact of this training on self-efficacy to respond and organizational concerns, including intent to leave, turnover rates, and impact on patient care quality. This study addresses address that gap by following a group of newly licensed nurses that received cognitive rehearsal response training during the final semester of their pre-licensure programs through their first year of practice as newly licensed nurses.

1.1 Background

1.1.1 Disruptive behaviors

The widespread consequences of disruptive behaviors among nurses have been extensively studied. An assortment of related and overlapping conceptual terms are used interchangeably in the literature to describe behaviors that encompass disruptive behaviors as operationalized in this study. These terms include bullying, lateral violence, horizontal violence, and incivilities, referring to sets of behaviors that refer to a spectrum of intensity and frequency. Despite variance between definitions, behaviors defined by all terms lead to two common consequences: they violate respect for others in the workplace and they disrupt workflow and productivity.^[23] Thus, for the purposes of this study, the term disruptive behavior is utilized to refer to all behaviors from nurses encompassed in related terms: bullying, incivilities, and lateral and horizontal violence.

In health care, the stakes are high. Disruptions in work can result in decreased patient outcomes through negative state anxiety stress, impaired communication and teamwork, and medical errors.^[13,14,24-27] In turn, medical errors and poor patient outcomes can generate serious financial burdens for organizations, with projected costs across Western Europe and the United States reaching \$383 BN USD by the year 2020.^[28] Likewise, a comparative study of the United States, Australia, New Zealand and Canada found turnover costs ranging between \$20,561 USD - \$48,790 USD.^[29] Nurses affected also bear personal burden in the form of depression, anxiety, and in some cases even symptoms of post-traumatic stress disorder.^[30-32] Unresolved, manifestations of decreased emotional well-being can lead to increased absenteeism and turnover. Increased turnover rates perpetuate the destructive cycle resulting in staffing vacancies that create stressful working conditions and inadequate staff to provide care.

The range of negative consequences of disruptive behaviors has attracted attention on multiple levels. Over a decade ago in the United States, The Joint Commission for Healthcare Accreditation (TJC) issued a formal statement, forcing health care organizations to acknowledge and address disruptive behaviors and the negative impact on patient safety culture. 15 Five years later, the American Nurses Association published position statements and policies, taking a clear stance against disruptive behaviors among health care professionals.^[33] In response to TJC's call for action, organizations developed official reporting systems for disruptive behaviors. Often referred to as zero-tolerance policies, these reporting systems are designed to offer a system of recourse and resolution to those that experience or witness disruptive behaviors in the workplace.

While organizational prevention and redress are positive steps, their effectiveness is limited. Fear of retribution from perpetrators, alliances between the perpetrators and management, and traumatic recall when reporting can reduce enforcement of zero-tolerance policies and deter reporting altogether.^[34-36] When organizational pathways fail to deliver justice or stop the undesirable behaviors and situations, employees may leave organizations in search of healthier work environments.^[37] Thus, in order to avoid these negative outcomes, it is essential for nurses, particularly newly licensed nurses who are at highest risk, to be able to respond effectively and stem these situations when they arise.

1.1.2 Cognitive rehearsal

Cognitive rehearsal has been extensively utilized in various formats among a variety of health populations to teach both psychosocial and psychomotor skills from cardiopulmonary

resuscitation to high-fidelity simulations. Cognitive rehearsal provides a universally accessible platform for educators and has been successfully implemented in training disruptive behavior response skills.^[21,22,38,39] Cognitive rehearsal training typically engages the cognitive learning domain by engaging participants in knowledge acquisition, role-play, and discussion. The five basic sequential steps of cognitive rehearsal include:

- (1) Education: information and instruction are provided;
- (2) Demonstration: facilitators role-model the target behavior, often including demonstrations of undesired behaviors to provide contrast;
- (3) Practice or rehearsal: participants engage in the behaviors, striving to integrate the information from Step 1 and behaviors demonstrated in Step 2;
- (4) Feedback: facilitators provide essential feedback about participants' performance in Step 3 either afterward or concurrently, depending on format; and
- (5) De-briefing: discussion provides a forum for self and group reflection about the skill being learned, challenges encountered, and feelings evoked by the exercise.

1.1.3 Study Phase I and Phase II

Phase I of this research involved delivery of a one-time cognitive rehearsal intervention with nursing students during their final academic semester of undergraduate education in January 2017 and has been previously published.^[22] Phase I data collection ended in late April 2017; Phase II began in May 2017 when participants graduated from their respective programs with data collected in May 2018. The purpose of this article is to report the Phase II study methodology and findings to examine the longitudinal impact at one year post graduation.

This study was framed using a combination of Social Cognitive Theory and the Kirkpatrick's Model and provides a social behavioral lens for impacting organizational outcomes. A form of cognitive behavior therapy, cognitive rehearsal is rooted in Social Cognitive Theory.^[40] At the heart of SCT is the concept of self-efficacy, also often referred to as confidence. Self-efficacy occupies a pivotal role in an individual's ability to exert change over the environment through its four primary dimensions: cognition, previous behavioral engagement, affect, and motivation. While SCT was utilized for design the intervention, the effects of the intervention on outcome variables was couched in the four steps of the Kirkpatrick Model:

Step 1: Reaction to the training. Step 1 was measured in Phase I, during initial debriefing or Step 5 of cognitive rehearsal.^[22]

Step 2: Skill acquisition including confidence to perform the skill. Step 2 of the model was targeted during Phase 1 of this

study. The cognitive rehearsal intervention provided participants with the opportunity to build knowledge and skills to respond to disruptive behaviors. A cognitive rehearsal was implemented to increase self-efficacy to respond to disruptive behaviors. Measures of overall self-efficacy, situational self-efficacy, and knowledge about responses remained significantly increased from baselines scores three months after the intervention.

Step 3: Implementing the skill. This step occurred during their first year of practice while working in the nursing practice environment.

Step 4: Impact of the training on organizational outcomes. In this study, staff retention and impact on patient care quality were the two penultimate problem-based organizational outcomes, precipitating the need for the intervention. Frequency of disruptive behaviors can influence the need to employ response strategies and intent to leave is a strong predictor of actual turnover rates.

The purpose of this second phase was to explore the longitudinal impact of this cognitive rehearsal intervention on newly licensed nurses' self-efficacy to respond to disruptive behaviors, their perceptions of its impact on patient care, intent to stay, and number of jobs held during their first year of practice. Aims and hypotheses included:

A1: To determine the long-term impact of the intervention on dimensions of self-efficacy to respond to disruptive behaviors during the first year of professional nursing practice. H1: It was hypothesized that overall self-efficacy, knowledge, and past behavioral engagement would remain statistically significantly increased as compared to baseline.

A2: To explore connections between self-efficacy to respond to disruptive behaviors and nurses' perceptions of patient care, intent to stay in their current position, and number of jobs during the first year of practice.

H2: It was hypothesized that positive, significant correlations would exist between self-efficacy to respond and perceptions of patient care and intent to stay and that a negative, significant correlation would exist with number of jobs held during the first year.

Results from Phase 1 of this project support the short-term impact of the intervention on self-efficacy. The Phase 2 results presented in this paper discuss the longitudinal impact of this intervention on self-efficacy to respond to the behaviors and links to perceptions of patient care quality and other related dimensions of the workplace.

2. METHODS

2.1 Design

This study utilized a quasi-experimental, longitudinal design. Participants were initially recruited during the final academic

semester of their pre-licensure programs. A cognitive rehearsal intervention was delivered and pre-post test data measuring their self-efficacy to respond to disruptive behaviors were collected prior to graduation.^[22] The data presented in this paper were collected one year after graduating during the first year of practice. Longitudinal measurements of self-efficacy to respond, perceptions of impact of disruptive behaviors on patient care quality, intent to stay, and number of jobs held since graduation.

2.2 Sample

All matriculated students at three pre-licensure nursing programs in the Midwestern United States were eligible to participate. Inclusion criteria included the ability to read and write in English and current enrollment in their final academic year of the program. A total of 129 participants were recruited during stage 1. The Principal Investigator (PI) visited participants during their regularly scheduled class time on campus and utilized convenience sampling techniques to recruit participants. One year after entry to practice, 73.6% (N = 95) remained enrolled, providing the study data for the research presented in this paper. Institutional Review Board approvals were obtained and consent forms for participation in the longitudinal study was gained at the time of recruitment.

2.3 Data collection and analysis

During Phase 1 of the study, a one-time cognitive rehearsal intervention was provided for all participants enrolled in the study during their final academic semester.^[22] Participants were recruited utilizing convenience sampling techniques at three Midwestern United States pre-licensure nursing programs. The interventions lasted approximately 90 minutes and were conducted by the Principal Investigator (PI) and a trained research assistant (RA) during normally scheduled class time in respective campus classrooms. The interventions included all five steps of cognitive rehearsal described above and in the previous publication. Participants were provided case scenarios with pre-briefing about disruptive behaviors, demonstrations of effective and ineffective responses to disruptive behaviors by the PI and RA, the opportunity to practice creating effective responses with feedback, and a large group debriefing about the experience.^[22]

Pre and post-test data were collected on paper surveys at the time of the intervention and three months later via an electronic survey through Qualtrics© sent to participants' mobile phones. Initial data analysis showed statistically significant increases in overall and cognitive measures of self-efficacy to respond.^[22]

In Phase 2, presented in this paper, additional variables were

measured including intent to stay in their current job, number of jobs held since graduation to indicate turnover, frequency of occurrence of disruptive behavior among health professionals, and perceptions of the impact of disruptive behaviors on patient care quality. The Self-efficacy to Respond to Disruptive Behaviors (SERBD)^[20,37] was utilized in both phases of the study to measure participants' self-efficacy to respond. Likert-scaled items with anchors of 0 = Strongly Disagree to 10 = Strongly Agree are utilized on the SERBD to measure self-efficacy and its four constructs. Psychometric properties of the SERBD have been established, with high content validity and internal consistency with Cronbach's $\alpha = .897$.^[41]

Additional items were included to measure the outcome variables of interest including: "How many Registered Nursing jobs have you held since graduating?" measured as a categorical value, "I intend to remain in my current job" measured as a nominal value on the Likert agreement scale of 1 – 10, and two items asking participants to rate the extent to which they felt that disruptive behaviors impacted patient care on a Likert scale of 1 – 10. Additionally, participants were asked to identify the professional group they most often witnessed perpetrating disruptive behaviors and the frequency with which they witnessed and personally experienced disruptive behaviors. Finally, demographic items were included to describe the study population's gender, race, and age.

Data were again collected via electronic survey through Qualtrics© sent to participants' mobile phone numbers on file. Qualtrics© is an online, cloud-based survey system that allows for data collection on any device with a data plan. Data were then downloaded from the survey software into an SPSS 25© data file. All data were stored on the Principal Investigator's (PI) personal, password-protected computer separately from participants' personal data such as mobile phone numbers, with the PI having sole access to all study files. Data were cleaned twice and de-identified prior to analysis. There were no missing data among the completed surveys to address. Participants received an Amazon e-gift card as a token of appreciation for their sustained enrollment and participation in the study.

All study data were analyzed in aggregate form utilizing SPSS 25©. Descriptive statistics were utilized to describe the study population and additional variables including age, frequency of witnessing and experiencing behaviors, quality of patient care delivered, and impact of disruptive behaviors on quality of patient care. Paired t-tests were utilized to detect change in self-efficacy to respond to disruptive behaviors and address Study Aim #1. Bivariate correlations were used to address Study Aim #2, describing relationships between self-efficacy to respond to disruptive behaviors and

organizational variables of turnover rates, intent to stay, and perceptions of patient care.

2.4 Ethical approval

The University of Missouri-St. Louis Institutional Review Board granted ethical approval for this study.

3. RESULTS

3.1 Participants

A total of 95 participants remained enrolled and provided data for this second phase of the study. Of these, 69.5% (n = 66) were between the ages of 20-25 years, 11.6% (n = 11) were between 26-30 years, 9.5% (n = 9) were between 31-35 years, 4.2% (n = 4) were between the ages of 36-40 years, 2.1% (n = 2) were between the ages of 41-45 years, 3.1% (n = 3) were 46 years and older. The majority of participants (n = 80; 82.5%) were female and 17 (17.5%) male and all but one identified as Caucasian (n = 94; 98.9%).

Over half (n = 55; 57%) reported witnessing disruptive behav-

iors from health professionals on their unit at least monthly and 40% (n = 38) reported experiencing them personally. Main examples of disruptive behaviors were other nurses (43.8%), followed by physicians (20.8%), nurse assistants and patient care technicians (22.9%), other members of the interprofessional health care team (6.3%), nurse managers (2.1%), and Others non-specified (4.2%).

3.2 Self-efficacy

Measures of self-efficacy presented mixed results (see Table 1). Knowledge about responding effectively, and overall and situational self-efficacy to respond remained statistically significantly increased compared to baseline scores with medium to large effect sizes. Measures of motivation, previous behavioral engagement had returned to non-significant differences from baseline data. Affect measures which were high at baseline, showed no significant deviation. Participants reported that their self-efficacy to respond was also significantly linked to care they provided but not intent to stay, or number of jobs (see Table 2).

Table 1. Self-efficacy measures mean comparisons (Confidence Interval = 95%)

| | Variable | Mean | N | Pearson r Correlation | t | Sig. (2-tailed) | Effect Size |
|---------|---|--------|----|-----------------------|-------|-----------------|-------------|
| Pair 1 | Overall Self-efficacy (pre-test) | 5.67 | 95 | 0.222 | 4.125 | 0.000 | 0.557 |
| | Overall Self-efficacy (1-year) | 6.9684 | 95 | | | | |
| Pair 2 | Past responses (pre-test) | 6.31 | 95 | -0.025 | 1.467 | 0.146 | 0.198 |
| | Past responses (1-year) | 6.7553 | 95 | | | | |
| Pair 3 | Affect #1 (pre-test) | 9.47 | 95 | 0.126 | 0.899 | 0.371 | 0.121 |
| | Affect #1 (1-year) | 9.3053 | 95 | | | | |
| Pair 4 | Knowledge/cognition (pre-test) | 5.46 | 95 | -0.091 | 5.464 | 0.000 | 0.737 |
| | Knowledge/cognition (1-year) | 7.1474 | 95 | | | | |
| Pair 5 | Motivation #1 (pre-test) | 7.195 | 95 | 0.008 | 2.424 | 0.017 | 0.327 |
| | Motivation #1 (1-year) | 6.3895 | 95 | | | | |
| Pair 6 | Situational Self-efficacy #1 (pre-test) | 5.26 | 95 | 0.007 | 3.704 | 0.000 | 0.500 |
| | Situational Self-efficacy #2 (1-year) | 6.4632 | 95 | | | | |
| Pair 7 | Situational Self-efficacy #2 (pre-test) | 6.79 | 95 | 0.028 | 2.163 | 0.033 | 0.292 |
| | Situational Self-efficacy #2 (1-year) | 7.3789 | 95 | | | | |
| Pair 8 | Overall Self-efficacy #2 (pre-test) | 6.25 | 95 | -0.052 | 2.643 | 0.010 | 0.357 |
| | Overall Self-efficacy #2 (1-year) | 7.0211 | 95 | | | | |
| Pair 9 | Affect #2 (pre-test) | 9.4 | 95 | 0.332 | 1.330 | 0.187 | 0.179 |
| | Affect#2 (1-year) | 9.1684 | 95 | | | | |
| Pair 10 | Motivation #2 (pre-test) | 9.27 | 95 | 0.088 | 1.699 | 0.093 | 0.229 |
| | Motivation #2 (1-year) | 8.9053 | 95 | | | | |

Table 2. Aim #2: Self-efficacy and organizational outcomes (Confidence Interval = 95%)

| | Self-efficacy | Affects care I give | Intend to remain in current position | Number of RN positions |
|---------------|---------------------|---------------------|--------------------------------------|------------------------|
| Self-efficacy | Pearson Correlation | 1 | .324 | -0.11 |
| | Sig. (2-tailed) | | 0.001 | 0.287 |
| | N | 95 | 95 | 95 |

3.3 Retention and patient care

The majority ($n = 85$; 89%) of participants were employed in their first position as a Registered Nurse (RN) and 90.5% ($n = 86$) indicated that they intended to remain in their current position. The number of positions held since passing the licensure exam was not significantly correlated with either intent to stay or overall self-efficacy to respond to disruptive behaviors. The majority of participants ($n = 83$; 87%) felt that disruptive behaviors disrupt patient care in general. Yet, only 39% ($n = 38$) reported that disruptive behaviors had affected the quality of care they had personally provided. Frequency of experiencing disruptive behaviors was significantly correlated to the quality of care participants felt they were able to give ($r = .489$; $p < .000$). Ultimately, participants felt that the quality of care they were able to give was also significantly impacted by witnessing disruptive behaviors happening to others ($r = .432$; $p < .000$).

4. DISCUSSION

Overall, study results support the utility of cognitive rehearsal training for increasing overall self-efficacy to respond to disruptive behaviors from peers in the healthcare setting.^[21, 22, 38, 39] This study adds to the current strong base of knowledge on cognitive rehearsal training as the first longitudinal investigation. Specifically, dimensions of knowledge, situational self-efficacy, and overall self-efficacy showed a sustained significant increase as compared to baseline scores. These findings were expected because the intervention specifically targeted the cognitive domain and situational variation. It is also possible that exposure to the workplace and natural maturation process may have contributed to these results. Over half of participants reported witnessing disruptive behaviors but less than half experienced them personally. When considered in combination with the sustained increase in self-efficacy to respond, this difference provides support for the effectiveness of the intervention as an effective resolution measure and possible buffer against the psychological perceptions of disruptive behaviors.

The strong links between both witnessing and experiencing disruptive behaviors on quality of patient care provided crucial support for addressing disruptive behaviors to improve patient outcomes. While self-efficacy was not significantly linked directly to intent to stay or number of RN positions, the quality of patient care that participants were able to provide was. Furthermore, these results suggest that witnessing and experiencing disruptive behaviors have a similar negative impact on patient care. These findings provide an important consideration for including training to not only respond effectively but also to intervene and diffuse disruptive behaviors when witnessed happening to others.

Other RNs were identified as sources of disruptive behaviors more often than any other group of professionals. This finding is logical, given that RNs comprise the largest group of healthcare professionals and most often work closely with one another on hospital units. With physicians ranked second and other health care staff listed in decreasing frequency, it seems likely that the amount of interpersonal interaction between groups maybe the link to frequency of disruptive behaviors perpetrated. Further research should include intentional query into whether exposure is a factor in incidence of disruptive behaviors or if there are other factors influencing this higher frequency.

It was an unexpected finding that no dimension of self-efficacy to respond to disruptive behaviors was correlated to intent to stay or actual turnover rates. Turnover rates are historically difficult to link directly to specific aspects of the work environment since the decision to leave is typically multi-factorial. Turnover intention is a typical variable measured in tandem with other cross-sectional data on disruptive behaviors and work environment.^[42-44] Turnover intention may be linked to actual rates though causality cannot be established. In this study, intent to stay was very high with 80% planning to remain in their position. Further, actual turnover rates were relatively low at 11% compared to national rates of 28.3% during the first year of practice. Additionally, less than half of participants reported having experienced disruptive behaviors personally, despite more than half reported witnessing these behaviors happening to others. These results suggest that self-efficacy to respond may be indirectly related to intent to stay and reported retention rates or that participants overall were employed in work environments with lower incidence of disruptive behaviors than reported in the general literature.

Results also provide insights into the reciprocal influences of the constructs of self-efficacy through cognitive rehearsal. According to SCT, these constructs exert a reciprocal influence such that manipulation of one construct should theoretically effect a change in the others. In this study, knowledge and situational self-efficacy remained increased nearly 17 months after the intervention but the other constructs of motivation, affect, and previous behavioral engagement had not increased. This departure from the anticipated theoretical relationships may be explained by relatively high pre-intervention scores. Nursing is a profession and discipline that emphasize caring and ethical treatment of others. Students drawn to the profession are likely to possess these values, thus influencing their responses on the affect and motivation instrument items.

Strengths and limitations

A strength of this study was the 73% retention rate over the longitudinal data collection period. Mode of survey delivery via cell phone, short length of survey preventing survey fatigue, and personal contact with the PI likely contributed to this high participant retention rate. These strategies were integrated into the study planning phase in an effort to maintain communication with participants.

A limitation of this study was the lack of experimental control or comparison group. However, cognitive rehearsal is widely acknowledged to be an effective intervention for responding to disruptive behaviors making it an ethical imperative to provide the training to all participants. It was also impractical to consider a cross-over or wait-list design, due to the timeline and nature of the project. Finally, after graduating, participants worked at multiple hospitals across the United States. Thus, national turnover rates were the only practical benchmark for comparison on this measure.

Self-report measures present an inherent source of internal bias. Variables such as self-efficacy or perceptions of patient care are particularly subject to this form of bias and may distort data. Yet, measurements of self-efficacy reflect self-perceptions, making it impossible for an external, completely objective measurement. With measures such as day to day patient care quality, nurses have the most contact with patients and provide the most hands-on care, placing them in arguably the best position to make these judgments.

Results of this research may not be generalizable to different populations. The homogenous composition of this participant group preclude application to other geographic areas

or cultural contexts. Cultural norms can influence communication patterns, including perception and interpretation of disruptive behaviors. Future research should include diverse populations in various geographic areas to identify both specific and generalizable responses to this training and can provide insights about culturally diverging perceptions of disruptive behaviors.

5. CONCLUSION

Disruptive behaviors in the healthcare workplace continue to be a source of concern as multiple outcome-based problems for healthcare institutions. Interventions based in cognitive rehearsal have been successfully utilized as a way to increase the ability to respond to disruptive behaviors but the longitudinal impact of these interventions has remained underexplored. This study contributes to the current understanding of disruptive behavior management with support for the longitudinal impact of cognitive rehearsal training on self-efficacy to respond. Furthermore, these results linking self-efficacy to respond to disruptive behaviors to RNs' perceptions of patient care quality, confirm the need for this type of training in pre-licensure education. Nurse educators should also be intentional about fostering a respectful academic environment and role-modeling effective response techniques when disruptive behaviors occur in the academic setting.

FUNDING

This work was supported by the University of Missouri Research Board.

CONFLICTS OF INTEREST DISCLOSURE

The author declares that they have no competing interests.

REFERENCES

- [1] American Association of Colleges of Nursing. Fact Sheet: Nursing Shortage.; 2017. Available from: <https://www.aacnnursing.org/Portals/42/News/Factsheets/Nursing-Shortage-Factsheet-2017.pdf> Accessed February 7, 2019.
- [2] World Health Organization. Global Health Workforce Shortage to Reach 12.9 Million in Coming Decades. World Health Organization; 2013. Available from: <http://www.who.int/mediacentre/news/releases/2013/health-workforce-shortage/en/>
- [3] Halter M, Pelone F, Boiko O, et al. Interventions to Reduce Adult Nursing Turnover: A Systematic Review of Systematic Reviews. *Open Nurs J*. 2017; 11: 108-123. PMID:29299084 <https://doi.org/10.2174/1874434601711010108>
- [4] Nursing Solutions, Inc. 2019 National Health Care Retention & RN Staffing Report.; 2019:17. Available from: <http://www.nsinursingsolutions.com/Files/assets/Library/retention-institute/2019%20National%20Health%20Care%20Retention%20Report.pdf> Accessed April 30, 2019.
- [5] Nursing Solutions, Inc. 2018 National Health Care Retention & RN Staffing Report.; 2018:17. Available from: <http://www.nsinursingsolutions.com/files/assets/library/retention-institute/nationalhealthcarernretentionreport2018.pdf>
- [6] Azzi AJ, Shah K, Seely A, et al. Surgical team turnover and operative time: An evaluation of operating room efficiency during pulmonary resection. *J Thorac Cardiovasc Surg*. 2016; 151(5): 1391-1395. PMID:26874599 <https://doi.org/10.1016/j.jtcvs.2015.12.040>
- [7] Cho E, Sloane DM, Eun-Young Kim, et al. Effects of nurse staffing, work environments, and education on patient mortality: An observational study. *Int J Nurs Stud*. 2015; 52(2): 535-542. PMID:25213091 <https://doi.org/10.1016/j.ijnurstu.2014.08.006>
- [8] AbuAlRub R, El-Jardali F, Jamal D, et al. Exploring the relationship between work environment, job satisfaction, and intent to stay of Jordanian nurses in underserved areas. *Appl Nurs Res ANR*. 2016;

- 31: 19-23. PMID:27397813 <https://doi.org/10.1016/j.apnr.2015.11.014>
- [9] Choi SL, Goh CF, Adam MBH, et al. Transformational leadership, empowerment, and job satisfaction: the mediating role of employee empowerment. *Hum Resour Health*. 2016; 14: 1-14. PMID:27903294 <https://doi.org/10.1186/s12960-016-0171-2>
- [10] Blackstock S, Harlos K, Macleod MLP, et al. The impact of organisational factors on horizontal bullying and turnover intentions in the nursing workplace. *J Nurs Manag*. 2015; 23(8): 1106-1114. PMID:25370741 <https://doi.org/10.1111/jonm.12260>
- [11] Giorgi G, Mancuso S, Fiz Perez F, et al. Bullying among nurses and its relationship with burnout and organizational climate. *Int J Nurs Pract*. 2016; 22(2): 160-168. PMID:25825025 <https://doi.org/10.1111/ijn.12376>
- [12] Halpern LW. Five Variables Predict Whether Newly Licensed Nurses Stay on a Unit or Transfer. *Am J Nurs*. 2016; 116(10): 15-15. <https://doi.org/10.1097/01.NAJ.0000503283.01177.4c>
- [13] Houck NM, Colbert AM. Patient Safety and Workplace Bullying: An Integrative Review. *J Nurs Care Qual*. August 2016. Available from: <http://ezproxy.ums1.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=cm edm&AN=27482870&site=ehost-live&scope=site>
- [14] Oh H, Uhm DC, Yoon YJ. Workplace Bullying, Job Stress, Intent to Leave, and Nurses' Perceptions of Patient Safety in South Korean Hospitals. *Nurs Res*. 2016; 65(5): 380-388. PMID:27579505 <https://doi.org/10.1097/NNR.000000000000175>
- [15] The Joint Commission. Sentinel Event Alert Issue 40: Behaviors that undermine a culture of safety. July 2008. Available from: https://www.jointcommission.org/sentinel_event_alert_issue_40_behaviors_that_undermine_a_culture_of_safety/ Accessed January 1, 2019.
- [16] Sanner-Stiehr E, Ward-Smith P. Psychological distress among targets of lateral violence: A conceptual framework. *J Nurs Educ Pract*. 2013; 3(6): 84-90. <https://doi.org/10.5430/jnep.v3n6p84>
- [17] Bowllan NM. Nursing Students' Experience of Bullying: Prevalence, Impact, and Interventions. *Nurse Educ*. 2015; 40(4): 194-198. PMID:25763780 <https://doi.org/10.1097/NNE.00000000000000146>
- [18] Brox E. Overcoming incivility before graduation. *Neu RNformation*. 2015; 24(1): 14.
- [19] Lissade DG. Implementing Training for Nursing Students on Bullying Awareness and Intervention Strategies. *Fla Nurse*. 2015; 63(3): 14-14.
- [20] National Student Nurses' Association. Resolutions 2015. National Student Nurses' Association; 2015. Available from: <http://www.nсна.org/Portals/0/Skins/NSNA/pdf/Final%20resolutions%205-2015%20FINAL.pdf>
- [21] Griffin M, Clark CM. Revisiting cognitive rehearsal as an intervention against incivility and lateral violence in nursing: 10 years later. *J Contin Educ Nurs*. 2014; 45(12): 535-542. PMID:25406637 <https://doi.org/10.3928/00220124-20141122-02>
- [22] Sanner-Stiehr. Responding to disruptive behaviors in nursing: A longitudinal, quasi-experimental investigation of training for nursing students. *Nurse Educ Today*. 2018; 68: 105-111. PMID:29902739 <https://doi.org/10.1016/j.nedt.2018.05.029>
- [23] Berry PA, Gillespie GL, Gates D, et al. Novice nurse productivity following workplace bullying. *J Nurs Scholarsh*. 2012; 44(1): 80-87. PMID:22339938 <https://doi.org/10.1111/j.1547-5069.2011.01436.x>
- [24] Association of peri-Operative Registered Nurses. When Bullying Affects Patient Safety. *AORN J*. 2018; 108(1): 78-80. PMID:29953608 <https://doi.org/10.1002/aorn.12294>
- [25] Obeidat RF, Qan'ir Y, Turaani H. The relationship between perceived competence and perceived workplace bullying among registered nurses: A cross sectional survey. *Int J Nurs Stud*. 2018; 88: 71-78. PMID:30212747 <https://doi.org/10.1016/j.ijnurstu.2018.08.012>
- [26] Pickering CEZ, Nurenberg K, Schiamburg L. Recognizing and Responding to the "Toxic" Work Environment: Worker Safety, Patient Safety, and Abuse/Neglect in Nursing Homes. *Qual Health Res*. 2017; 27(12): 1870-1881. PMID:28805151 <https://doi.org/10.1177/1049732317723889>
- [27] Wallace SC, Gipson K. Bullying in Healthcare: A Disruptive Force Linked to Compromised Patient Safety. *Pa Patient Saf Advis*. 2017; 14(2): 64-70.
- [28] Research and Markets. Patient Safety Market in Healthcare 2018 - Forecast to 2022: Investment Trends, Growth Opportunities, Challenges, and Future Perspectives - ResearchAndMarkets.com. *Bus Wire Engl*. February 2018.
- [29] Duffield CM, Roche MA, Homer C, et al. A comparative review of nurse turnover rates and costs across countries. *J Adv Nurs*. 2014; 70(12): 2703-2712. PMID:25052582 <https://doi.org/10.1111/jan.12483>
- [30] Kozáková R, Bužgová R, Zeleníková R. Mobbing of nurses: prevalence, forms and psychological consequences in the Moravian-Silesian region. *Ceskoslovenska Psychol*. 2018; 62(4): 316-329.
- [31] Mohd Halim HA, Halim FW, Khairuddin R. Does Personality Influence Workplace Bullying and Lead to Depression Among Nurses? *J Pengur*. 2018; 53: 85-100. <https://doi.org/10.17576/pengurusan-2018-53-01>
- [32] Reknes I, Pallesen S, Magerøy N, et al. Exposure to bullying behaviors as a predictor of mental health problems among Norwegian nurses: Results from the prospective SUSSH-survey. *Int J Nurs Stud*. 2014; 51(3): 479-487. PMID:23891534 <https://doi.org/10.1016/j.ijnurstu.2013.06.017>
- [33] American Nurses Association. Incivility, bullying, and workplace violence. 2015. Available from: <http://www.nursingworld.org/Bullying-Workplace-Violence>
- [34] Jackson D, Peters K, Andrew S, et al. Trial and retribution: a qualitative study of whistleblowing and workplace relationships in nursing. *Contemp Nurse*. 2010; 36(1-2): 34-44. PMID:21254821 <https://doi.org/10.5172/conu.2010.36.1-2.034>
- [35] Park H, Bjørkelo B, Blenkinsopp J. External whistleblowers' experiences of workplace bullying by superiors and colleagues. *J Bus Ethics*. June 2018.
- [36] Peters K, Luck L, Hutchinson M, et al. The emotional sequelae of whistleblowing: findings from a qualitative study. *J Clin Nurs*. 2011; 20(19-20): 2907-2914. PMID:21627700 <https://doi.org/10.1111/j.1365-2702.2011.03718.x>
- [37] Sanner-Stiehr E, Ward-Smith P. Lateral violence and the exit strategy. *Nurs Manag (Harrow)*. 2014; 45(3): 11-15. PMID:24569677 <https://doi.org/10.1097/01.NUMA.0000443947.29423.27>
- [38] Sanner-Stiehr E. Lateral violence response training for nursing students. *Journal of Nursing Education and Practice*. 2016; 6(2): 1-9. <https://doi.org/10.5430/jnep.v6n2p1>
- [39] Kang J, Jeong YJ. Effects of a smartphone application for cognitive rehearsal intervention on workplace bullying and turnover intention among nurses. *Int J Nurs Pract John Wiley Sons Inc*. 2019; 25(6): N.PAG-N.PAG. PMID:31523905 <https://doi.org/10.1111/ijn.12786>
- [40] Bandura A. *Self-Efficacy: The Exercise of Self-Control*. 1st ed. New York, NY: W.H. Freeman and Company; 1997.

- [41] Sanner-Stiehr E. Development of a scale to measure self-efficacy to respond to disruptive behaviors. In: Washington, D.C.: National League for Nursing/Sigma Theta Tau International; 2018.
- [42] Kang J, Kim JI, Yun S. Effects of a Cognitive Rehearsal Program on Interpersonal Relationships, Workplace Bullying, Symptom Experience, and Turnover Intention among Nurses: A Randomized Controlled Trial. *J Korean Acad Nurs*. 2017; 47(5): 689-699. PMID:29151565 <https://doi.org/10.4040/jkan.2017.47.5.689>
- [43] Fontes KB, Alarcão ACJ, Santana RG, et al. Relationship between leadership, bullying in the workplace and turnover intention among nurses. *J Nurs Manag John Wiley Sons Inc*. 2019; 27(3): 535-542. PMID:30136314 <https://doi.org/10.1111/jonm.12708>
- [44] Park M, Choi JS. Effects of workplace cyberbullying on nurses' symptom experience and turnover intention. *J Nurs Manag John Wiley Sons Inc*. 2019; 27(6): 1108-1115. PMID:30951229 <https://doi.org/10.1111/jonm.12779>