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Work-Related Stress and Positive Thinking Among Acute Care Nurses: A Cross-Sectional Survey

Findings can inform interventions to increase the use of positive thinking.

Stress is a complex, largely subjective phenomenon for which there is no single, agreed-upon definition. For most people, the term refers to a perception that the demands they face exceed their ability to cope. More specifically, stress has been defined as "a relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and as endangering well-being."[1] As such, stress is a serious and debilitating condition that affects more than half of the American population.[2] According to the American Psychological Association's 2017 Stress in America survey, the most commonly reported sources of stress include the future of the nation (in relation to the political climate) (63%), money (62%), and work (61%).[2] Work-related stress has been defined as "work-related stimuli (aka job stressors) that may lead to physical, behavioral, or psychological consequences . . . that affect both the health and well-being of the employee and the organization."[3] Some degree of stress is beneficial, and may even increase an individual's ability to flourish psychologically.[4,5] But high levels of continual work-related stress can be detrimental to psychological and physiological health.[6]

Nurses have reported higher levels of work-related stress than have any other health care professionals.[6] In a 2011 survey by the American Nurses Association (ANA) among 4,614 nurses, 74% reported concerns about the effects of stress and overwork.[7] To our knowledge, the ANA survey is the most recent national poll evaluating stress among nurses. The relative dearth of more up-to-date data is concerning, given that current literature continues to indicate that work-related stress is one of the strongest factors influencing burnout, job dissatisfaction, and attrition.[8-11]

Various elements within the acute care practice environment have been linked to work-related stress and burnout. High patient-to-nurse ratios and nursing shortages have each been identified as playing a role.[7,12,13] Moreover, nurses working in acute care settings are routinely exposed to such stressors as heavy workloads, time constraints, patient death and illness, and interpersonal conflict. When stress is chronic, burnout—manifested by exhaustion, cynicism or apathy, and inability to cope with challenges[14,15]—and subsequent attrition may result. (There is also evidence that work-related stress and burnout lower the quality of patient care and patient satisfaction.[7,15]) Given the ANA's prediction that an additional 1.1 million nurses will be needed by 2022 "for expansion and replacement of retirees, and to avoid a nursing shortage," it's clear that addressing work-related stress is a matter of urgency.[13]

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ABSTRACT

Background: Acute care nurses work in highly taxing environments, and as such are vulnerable to work-related stress, burnout, and attrition. Yet some nurses appear to flourish even in the presence of such stress, perhaps because of differences in their cognitive processes. Positive thinking, a set of skills that can be learned, has been linked to increased well-being, physical health, and longevity. But at this writing, there has been scant research investigating the use of positive thinking among nurses.

Purpose: To assess the relationship between perceptions of work-related stress and the use of positive thinking among acute care nurses.

Methods: A cross-sectional survey consisting of the Expanded Nursing Stress Scale, the Positive Thinking Skills Scale (PTSS), and a demographic questionnaire was administered to a convenience sample of 298 RNs, which included nurses already working for an eight-campus health care system and newly hired nurses during orientation.

Results: Compared to the established group, the incoming RNs were generally younger, had less education, and reported higher levels of both work-related stress and positive thinking. Linear regression analysis revealed that an increase in perceived stress was predictive of an increase in positive thinking. The PTSS, which had not been previously tested among nurses, was found to be reliable and valid.

Conclusion: This is the first U.S. study to evaluate the use of positive thinking in managing work-related stress among acute care nurses. The data suggest that positive thinking skills are being used to cope with such stress. But the mean PTSS scores for both groups were only slightly above midline, suggesting that nurses' use of positive thinking as a coping skill can be improved through formal training and education.

Keywords: coping, occupational stress, optimism, positive thinking, stress, stress management, work-related stress

Coping strategies are highly relevant here. One such strategy involves skills collectively known as positive thinking, a set of skills drawn from the field of positive psychology. Although positive thinking appears to have potential for managing work-related stress, there has been scant research investigating its use by nursing professionals.

Study purpose. The purpose of this study was to assess the relationship between perceptions of work-related stress and the use of positive thinking in acute care nurses.

BACKGROUND

Coping. In the transactional model of stress and coping, developed by Lazarus and Folkman in the 1980s, a person and the environment interact in a dynamic, bidirectional relationship.[1] When a potential stressor arises, the person first appraises the situation for its level of danger and potential for harm. In a second appraisal, the person evaluates her or his available resources for coping with the situation.[1] Coping strategies are often categorized as either problem or emotion focused. Problem-focused coping strategies seek to manage the stress by dealing with the external stressor, whereas emotion-focused coping strategies seek to do so by changing the internal emotional response to the stressor.[16]

In nursing, problem-focused coping strategies have been shown to be beneficial in decreasing work-related stress.[17] But work environments can be difficult to change, and there is evidence that nurses may be better at and more likely to use emotion-focused strategies.[16, 18] Problem-focused coping strategies appear to be more prevalent in Western culture, whereas emotion-focused strategies tend to be more common in Eastern culture.[19, 20] This contrast may reflect cultural differences. Thus far, it's unclear which of these two types of coping strategies yields the best psychological benefits. Research by Schreuder and colleagues indicated that nurses who used problem-focused strategies had better mental health than those who used emotion-focused strategies.[21, 22] Yet research by Chang and Chan found that nurses who were more optimistic and used internal "proactive coping" mechanisms such as organization, planning, goal setting, and mental simulation had decreased risks of burnout and attrition.[17] In a seminal work by Folkman and colleagues, coping is described as a process in which people use a combination of problem- and emotion-focused coping to manage stress.[1] It's also worth noting that some researchers have categorized coping strategies as either positive (constructive) or negative (destructive). (An example of positive coping might be seeking help from others; an example of negative coping might be avoidance.) A study by Li and colleagues among nurses found that the use of positive coping mechanisms moderated work-related stress.[10]

Positive thinking. The field of positive psychology is concerned with positive subjective experiences, individual traits, and institutions that seek "to improve quality of life and prevent the pathologies that arise when life is barren and meaningless."[23] Positive thinking refers to "a cognitive process that creates hopeful images, develops optimistic ideas, finds favorable solutions to problems, makes affirmative decisions, and produces an overall bright outlook on life."[24] Positive thinking and optimism are closely aligned.[25] People who are optimistic are more likely to use positive coping strategies in a given situation, focusing on elements they can change instead of dwelling on those they cannot control.[25,26] They're also more likely to experience enhanced well-being, greater resiliency, and improved immunity and longevity.[24,25]

While people may innately tend toward optimism or pessimism, research suggests that positive thinking is a skill that can be acquired and mastered by anyone through practice and experience.[4,27,28] Indeed, two recent studies explored the effectiveness of positive thinking interventions among hospital nurses in Iran. Kooshalshah and colleagues tested an educational intervention aimed at teaching positive thinking skills and found that it significantly reduced job stress.[29] And Motamed-Jahromi and colleagues tested an intervention that used social media to communicate information on positive thinking; recipients reported an improved "quality of work life."[30] But neither study used an instrument to directly measure positive thinking. We wanted to learn more.

Psychometrics of the PTSS in a Nursing Population

Our study is the first, to our knowledge, to evaluate and establish the reliability and validity of the Positive Thinking Skills Scale (PTSS) when used among nurses. (One earlier study, conducted among nursing students, suggested that the PTSS had good reliability and construct validity in that population.[31])

We evaluated the PTSS for internal consistency and reliability using Cronbach α. For the eight-item scale, Cronbach α was 0.89, indicating adequate internal consistency and reliability.[32] Item-to-total-scale correlations ranged from 0.51 (noting the need to practice positive thinking) to 0.80 (generating positive feelings by controlling negative thoughts) for each item indicated. All item-to-total-scale correlations were acceptable, given that each was higher than 0.30.[33]

The construct validity of the PTSS was tested using confirmative factor analysis. Assessment results of the final model were χ^2/df, 2.92 (acceptable); root mean squared error of approximation, 0.008 (indicating a good model fit); and normed fit index and confirmative fit index values, 0.96 and 0.98 respectively (indicating a good model fit).[34] Factor loading values were also within the acceptable range.

METHODS

A cross-sectional survey consisting of two instruments and a demographic questionnaire was administered to RNs who voluntarily chose to participate and were working within an eight-campus, acute care hospital system in the Central Florida region. The hospital system's institutional review board reviewed and approved the study before data collection began. Individual hospitals varied in size from less than 50 to 1,400 beds. To control the influence of organizational environment on the results, two groups of RNs were recruited into the study.

Inclusion criteria were being an RN, having at least three months' experience in acute care, and working 50% of the time or more in direct patient care. In early February 2016, 545 nurses who were already working within the hospital system (the established group) and on an internal listserv were invited via e-mail to participate. The e-mail contained a link to the electronic survey, which was offered through SurveyMonkey, and recipients had a three-week window in which to respond. Between June and September 2016, 329 newly hired RNs (the incoming group) entered the organization. They were invited to participate "live" during their orientation and were given an identical paper version of the online survey. They had to respond the same day because we wanted to minimize the potential influence of the organization's culture. For the purposes of this study, we accepted surveys showing 70% or greater completion for analysis.

Measures. *Positive Thinking Skills Scale (PTSS).* Several instruments measure elements that are relevant to positive thinking, including "automatic" (habitual) thoughts, constructive thought content and processing, self-esteem, and optimism. But none of these instruments directly measure the frequency of use of positive thinking skills. The PTSS was developed to do just that; specifically, it measures eight strategies used in positive thought processes.[24] The acronym THINKING refers to these eight skills as follows[24]:

- **T**ransforming negative thoughts into positive thoughts
- **H**ighlighting positive aspects of the situation
- **I**nterrupting negative thoughts by using relaxation techniques and distraction
- **N**oting the need to practice positive thinking
- **K**nowing how to break a problem down into smaller, more manageable parts
- **I**nitiating optimistic beliefs with each part of the problem
- **N**urturing ways to challenge negative thoughts
- **G**enerating positive feelings by controlling negative thoughts

The PTSS is a self-administered questionnaire with eight items that asks the respondent to rate frequency of use of these eight strategies.[24] A four-point Likert

scale provides response options (0 = never, 1 = sometimes, 2 = most of the time, and 3 = always). Total scores can range from 0 to 24, with higher scores indicating higher frequency of use of positive thinking skills. The tool, which was originally tested among lay caregivers of autistic people, demonstrated good reliability and validity in that population. To our knowledge, our study is the first to evaluate the PTSS's reliability and validity when used among nurses. (See *Psychometrics of the PTSS in a Nursing Population*.[31-34])

Expanded Nursing Stress Scale (ENSS). The 57-item ENSS covers nine subscales: death and dying, conflict with physicians, inadequate emotional preparation, problems with peers, problems with supervisors, workload, uncertainty concerning treatment, patients and their families, and discrimination.[35] A five-point Likert scale provides response options (1 = stressful, 2 = occasionally stressful, 3 = frequently stressful, 4 = extremely stressful, and 0 = does not apply). Total scores can range from 0 to 228, with higher scores indicating higher levels of stress. The tool has demonstrated good reliability and validity among nurses and other populations.[35, 36]

Most (87%) had more than three years of nursing experience, and 57% worked in non-ICU patient care areas. There were significant demographic differences between the two study groups. Compared with the incoming group, the established group was less ethnically diverse and included more nurses ages 51 and older and more nurses with higher levels of education. See Table 1 for more demographic details.

Between-group comparison regarding work-related stress and positive thinking. Significant differences were found between the incoming and established groups, with the incoming nurses reporting higher levels of work-related stress (ENSS mean score of 135.90 versus 122.92) and higher use of positive thinking (PTSS mean score of 15.40 versus 14.14). See Table 2 for more details.

Correlation of positive thinking and work-related stress. Pearson r was 0.194 (P = 0.001), indicating a small but significant association between positive thinking and work-related stress.

Predictors of positive thinking. The linear regression model included the following variables: study group, work-related stress (as measured by the ENSS),

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Data analyses. Data were analyzed using IBM SPSS Statistics for Windows, Version 23. Univariate analyses were conducted to evaluate demographic characteristics and to calculate mean scores and standard deviations for PTSS and ENSS results. Differences between groups were examined using the χ^2 test for demographic characteristics and the t test for PTSS and ENSS results. The correlation between the PTSS and the ENSS was analyzed using Pearson r. To determine which factors might influence positive thinking, a multiple linear regression analysis for PTSS total scores against all other variables was conducted.

RESULTS

Sample. Of the 545 nurses invited as the established group, 160 completed the survey, yielding a response rate of 29.4%. Of the 329 new hires invited as the incoming group, 138 completed the survey, yielding a response rate of 41.9%. Thus, the final convenience sample was 298 nurses. Among the respondents to the demographics questions, 91% were female, and a majority (76%) identified their ethnicity as white. Most nurses (41%) were between the ages of 34 and 50 years. A majority (62%) had a bachelor's degree.

and ethnicity. The analysis revealed two significant predictors. When controlling for the study group, a higher level of perceived work-related stress was associated with greater use of positive thinking. Further, Asian ethnicity was predictive of greater use of positive thinking than other ethnicities.

DISCUSSION

An increase in perceived work-related stress was positively correlated with an increase in positive thinking, which was an unexpected finding. Yet in hindsight, it makes sense. These results are best understood through the aforementioned transactional model of stress and coping.[1] In that model, when a potential stressor arises, the person first appraises the degree of threat posed, then appraises her or his available coping resources. Specifically, coping involves finding ways to "reduce, minimize, master, or tolerate" threats.[1] For acute care nurses, given the nature of their work, experiences of work-related stress are inevitable. But the abilities to appraise and to cope with stressful situations can be learned and can help moderate the degree of perceived stress. Nurses in this study were asked about their awareness and use of positive thinking. It stands to reason that nurses who

had more positive coping skills made use of them when stressful events occurred.

Moreover, as noted earlier, the use of positive thinking among nurses has been linked to greater well-being,[25] reduced work-related stress,[29] and improved quality of work life.[30] A recent analysis of data from the Nurses' Health Study, involving more than 70,000 nurses, evaluated relationships between optimism and risk of mortality.[37] The researchers found that higher levels of optimism were associated with decreased all-cause mortality risk, as well as decreased risks of cancer, cardiovascular disease, and respiratory disease. Taken together with our findings, this evidence has important implications for the profession, given the aging of the workforce and the projected impending nursing shortage.

Although 83% of our total sample reported moderate to severe levels of work-related stress, in both groups the mean PTSS scores were only slightly above the midline range. This finding suggests that there is opportunity to increase the frequency of use of positive thinking through formal training, which in other studies has produced significant results. In a randomized controlled trial by Moskowitz and colleagues among people with newly diagnosed HIV, participants who received a positive affect skills intervention were less likely to use antidepressants and had fewer disturbing thoughts about their condition than those in the control group.[28] In another study by Cohn and colleagues, diabetic patients (who are generally at higher risk for depression) were randomized either to a control group or to a group receiving a positive affect intervention.[27] Participants who received the intervention showed a significant decrease in depression compared with those in the control group.

In our study, participants who identified as Asian reported higher use of positive thinking in association with work-related stress than participants from other ethnic groups. Similar findings have been reported in previous research regarding differences in coping styles between Eastern and Western cultures.[19]

Practice implications and recommendations. The concept of positive thinking is relatively new, as is its application within nursing. Research indicates that the

Table 1. Demographic Characteristics of Respondents

Variable	Total, n (%) (N = 298)	Established Group, n (%) (n = 160)	Incoming Group, n (%) (n = 138)
Sex			
Male	28 (9.5)	17 (10.8)	11 (8)
Female	268 (90.5)	141 (89.2)	127 (92)
Age, years			
< 34	87 (29.3)	41 (25.8)	46 (33.3)
34–50	123 (41.4)	60 (37.7)	63 (45.7)
≥ 51	87 (29.3)	58 (36.5)	29 (21)
Highest educational level			
Associate's degree	77 (26.2)	31 (19.5)	46 (34.1)
Bachelor's degree	183 (62.2)	100 (62.9)	83 (61.5)
Graduate degree	34 (11.6)	28 (17.6)	6 (4.4)
Years working as RN			
≤ 3	40 (13.5)	17 (10.7)	23 (16.7)
> 3	257 (86.5)	142 (89.3)	115 (83.3)
Ethnicity			
White	192 (75.9)	112 (78.9)	80 (72.1)
African American	32 (12.6)	10 (7)	22 (19.8)
Asian	29 (11.5)	20 (14.1)	9 (8.1)

Note: Because of missing responses, values may not sum to 298. Percentages are based on the actual number of responses.

Table 2. Between-Group Comparison of ENSS and PTSS Scores

Variable	Established Group		Incoming Group		Independent *t* Test	
	Range	Mean (SD)	Range	Mean (SD)	*t*	*P*
ENSS score	24–226	122.92 (37.74)	49–221	135.90 (34.38)	3.09	0.002
PTSS score	2–24	14.14 (4.18)	1–24	15.40 (4.87)	2.38	0.018

ENSS = Expanded Nursing Stress Scale; PTSS = Positive Thinking Skills Scale.
Note: Possible scores for the ENSS range from 0 to 228, with higher scores indicating higher levels of stress. Possible scores for the PTSS range from 0 to 24, with higher scores indicating higher frequency of use of positive thinking skills.

use of positive thinking, which offers many health benefits, can be learned. Indeed, there is a need for formal training in positive thinking in the nursing population. At the time of this writing, we could find no U.S. studies regarding the effectiveness of such training. But the two aforementioned Iranian studies yielded promising results, as discussed below. We encourage nurses and nurse researchers in the United States to develop interventions designed to teach and increase the use of positive thinking, and to evaluate the effects of such use on work-related stress.

In the study by Kooshalshah and colleagues, 105 hospital nurses were surveyed about work-related stress; most reported that such stress was "severe."[29] Those in the intervention group were then given a two-hour live lecture that included the concepts of positive thinking, resiliency, optimism, happiness in the present moment, forgiveness, gratitude, altruism, and "knowing and enhancing [one's] capabilities." The lecture was followed by a live question-and-answer period; participants were also given a booklet on positive thinking and the training team's contact information. Posters with positive messages and images were displayed on the nursing units to reinforce what had been taught. Compared with nurses in the control group, nurses in the intervention group reported significant decreases in work-related stress.

In the study by Motamed-Jahromi and colleagues, 100 nurses were randomized to either an intervention or a control group.[30] Brooks and Anderson's Quality of Nursing Work Life questionnaire was used to assess such quality both before and after the intervention. Nurses in the intervention group received education in positive thinking via a smartphone social network application. A variety of relevant quotes, images, and audio and video messages were used, with messages delivered daily over a three-month period. The content, which was similar to that used by Kooshalshah and colleagues, focused on the concepts of positive thinking, optimism, resiliency, and adaptation, with an additional emphasis on faith and trust in God. Nurses who received the intervention reported significantly improved quality of work life scores compared with the control group.

Although positive emotions and positive thinking aren't quite the same thing, they appear to be related. Frederickson and colleagues have theorized that positive emotions can lead to "cognitive broadening," which in turn improves coping in response to a crisis.[38] Positive emotions produce hormones that can enhance activity in the prefrontal cortex,[5] the region of the brain involved in executive functions such as creative problem solving,[39] decision making, and attentional focus. Positive emotions have also been linked to physiological benefits such as a reduced cardiovascular response to stress.[40] Thus, creating interventions to enhance both positive emotions and positive thinking may be instrumental in improving how nurses handle work-related stress.

There is some evidence that positive thinking and positive emotions can be elevated through more unconventional methods, including mindfulness-based interventions,[41] journaling about positive experiences,[42] and practicing gratitude.[43] Even the act of simulating a smile has been shown to evoke positive emotions.[4, 40] Further investigations exploring the effectiveness of such modalities among nurses is also warranted. Hospitals might consider partnering with a training company to develop site-specific positive thinking workshops for nurses.

An increase in perceived work-related stress was positively correlated with an increase in positive thinking.

Improving positive thinking skills and use among nurses takes on added importance when one considers

the projected impending nursing shortage.[13] Research conducted among new nurses found that one in five left their first job within the first year, and one in three left within the first two years.[44] If positive thinking can lower work-related stress, this has implications for job satisfaction and job retention, which in turn have financial implications for health care systems.

Limitations. This study has several limitations. Because it used convenience sampling, the sample may not be representative of the greater nursing population, which limits the generalizability of the findings. Because its design was cross-sectional, the collected data reflect only a single point in time. The cultural and ethnic diversity of the sample was limited, with just 10% identifying as Asian; the impact of culture should be further evaluated. A longitudinal sample might reveal greater insight regarding the use of problem-focused versus emotion-focused coping in Western and Eastern cultures. Lastly, the linear regression model used in this study was found to explain about 7% of the variations in the frequency of positive thinking, leaving 93% unexplained. This suggests that other factors may influence positive thinking in nurses. Further research, including replication studies and explorations of other such factors, is warranted.

Research indicates that the use of positive thinking, which offers many health benefits, can be learned.

CONCLUSION

Work-related stress experienced by nurses is a long-standing, well-documented concern. Although the nursing literature reflects this, effective interventions to improve how nurses cope with work-related stress remain elusive. Research indicates that positive thinking can enhance physical health and emotional well-being and increase longevity. This study is the first to evaluate the use of positive thinking by acute care nurses. The findings show a strong correlation between the perception of work-related stress and the use of positive thinking. Interventions specifically designed to increase positive thinking skills among nurses are needed, especially given the projected nursing shortage. Further research to improve our understanding of the relationship between positive emotions and positive thinking is also vital. ▼

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REFERENCES

1. Folkman S, et al. Appraisal, coping, health status, and psychological symptoms. *J Pers Soc Psychol* 1986;50(3):571-9.
2. American Psychological Association. *Stress in America: the state of our nation*. Washington, DC; 2017 Nov 1. Stress in America survey [annual]; https://www.apa.org/news/press/releases/stress/2017/state-nation.pdf.
3. Glazer S, Liu C. Work, stress, coping, and stress management. *Oxford research encyclopedia of psychology*. 2017(Apr). http://psychology.oxfordre.com/view/10.1093/acrefore/9780190236557.001.0001/acrefore-9780190236557-e-30.
4. Acher S. *Before happiness: the 5 hidden keys to achieving success, spreading happiness, and sustaining positive change*. New York, NY: Crown Publishing Group; 2013.
5. Crum AJ, et al. The role of stress mindset in shaping cognitive, emotional, and physiological responses to challenging and threatening stress. *Anxiety Stress Coping* 2017;30(4):379-95.
6. Roberts RK, Grubb PL. The consequences of nursing stress and need for integrated solutions. *Rehabil Nurs* 2014;39(2):62-9.
7. American Nurses Association. *2011 ANA health and safety survey: hazards of the RN work environment*. Silver Spring, MD; 2011. https://www.nursingworld.org/~48dd70/globalassets/docs/ana/health-safetysurvey_mediabackgrounder_2011.pdf.
8. Hersch RK, et al. Reducing nurses' stress: a randomized controlled trial of a web-based stress management program for nurses. *Appl Nurs Res* 2016;32:18-25.
9. Khamisa N, et al. Work related stress, burnout, job satisfaction and general health of nurses. *Int J Environ Res Public Health* 2015;12(1):652-66.
10. Li L, et al. Moderating effects of coping on work stress and job performance for nurses in tertiary hospitals: a cross-sectional survey in China. *BMC Health Serv Res* 2017;17(1):401.
11. Yang H, et al. Validation of work pressure and associated factors influencing hospital nurse turnover: a cross-sectional investigation in Shaanxi Province, China. *BMC Health Serv Res* 2017;17(1):112.
12. American Association of Colleges of Nursing. *Fact sheet: nursing shortage*. Washington, DC; 2017 May 18. Fact sheets; https://www.aacnnursing.org/Portals/42/News/Factsheets/Nursing-Shortage-Factsheet-2017.pdf.
13. American Nurses Association. *Practice and policy: workforce*. n.d. https://www.nursingworld.org/practice-policy/workforce.
14. Maslach C, Leiter MP. *The truth about burnout: how organizations cause personal stress and what to do about it*. San Francisco: Jossey-Bass; 1997.

15. Penprase B, et al. Does mindfulness-based stress reduction training improve nurse satisfaction? *Nurs Manage* 2015;46(12):38-45.
16. Kinman G, Leggetter S. Emotional labour and wellbeing: what protects nurses? *Healthcare (Basel)* 2016;4(4).
17. Chang Y, Chan HJ. Optimism and proactive coping in relation to burnout among nurses. *J Nurs Manag* 2015;23(3):401-8.
18. Ramezanli S, et al. A study of the coping strategies used by nurses working in the intensive care units of hospitals affiliated to Jahrom University of Medical Sciences. *Int J Curr Microbiol Appl Sci* 2015;4(4):157-63.
19. Bhagat RS, et al. Cultural variations in work stress and coping in an era of globalization. In: Bhagat RS, Steers RM, editors. *Cambridge handbook of culture, organizations, and work*. Cambridge, UK: Cambridge University Press; 2011. p. 418-41.
20. Lu DM, et al. Occupational stress and coping strategies among emergency department nurses of China. *Arch Psychiatr Nurs* 2015;29(4):208-12.
21. Schreuder JA, et al. Self-rated coping styles and registered sickness absence among nurses working in hospital care: a prospective 1-year cohort study. *Int J Nurs Stud* 2011;48(7):838-46.
22. Schreuder JA, et al. Coping styles relate to health and work environment of Norwegian and Dutch hospital nurses: a comparative study. *Nurs Outlook* 2012;60(1):37-43.
23. Seligman ME, Csikszentmihalyi M. Positive psychology: an introduction. *Am Psychol* 2000;55(1):5-14.
24. Bekhet AK, Zauszniewski JA. Measuring use of positive thinking skills: psychometric testing of a new scale. *West J Nurs Res* 2013;35(8):1074-93.
25. Mayo Clinic. *Positive thinking: stop negative self-talk to reduce stress*. 2017. https://www.mayoclinic.org/healthy-lifestyle/stress-management/in-depth/positive-thinking/art-20043950.
26. Conversano C, et al. Optimism and its impact on mental and physical well-being. *Clin Pract Epidemiol Ment Health* 2010;6:25-9.
27. Cohn MA, et al. An online positive affect skills intervention reduces depression in adults with type 2 diabetes. *J Posit Psychol* 2014;9(6):523-34.
28. Moskowitz JT, et al. Randomized controlled trial of a positive affect intervention for people newly diagnosed with HIV. *J Consult Clin Psychol* 2017;85(5):409-23.
29. Koolshalshah SFR, et al. Effect of positive thinking intervention on the nurses' job stress. *Acta Medica Mediterranea* 2015;31:1495-500.
30. Motamed-Jahromi M, et al. Effectiveness of positive thinking training program on nurses' quality of work life through smartphone applications. *Int Sch Res Notices* 2017;2017:4965816.
31. Küçükgüçlü O, et al. Reliability and validity of Turkish version of attitudes toward old people scale. *J Clin Nurs* 2011;20(21-22):3196-203.
32. DeVellis RF. *Scale development: theory and applications*. Bickman L, Rog DJ, editors. 3rd ed. Thousand Oaks, CA: SAGE Publications; 2012. Applied social research methods series.
33. Field A. *Discovering statistics using IBM SPSS statistics*. 4th ed. Thousand Oaks, CA: SAGE Publications; 2013.
34. Hu LT, Bentler PM. Cutoff criteria for fit indexes in covariance structure analysis: conventional criteria versus new alternatives. *Struct Equ Modeling* 1999;6(1):1-55.
35. French SE, et al. An empirical evaluation of an expanded Nursing Stress Scale. *J Nurs Meas* 2000;8(2):161-78.
36. Alkrisat M, Alatrash M. Psychometric properties of the Extended Nursing Stress Scale: measuring stress in workplace. *J Nurs Meas* 2017;25(1):31-45.
37. Kim ES, et al. Optimism and cause-specific mortality: a prospective cohort study. *Am J Epidemiol* 2017;185(1):21-9.
38. Fredrickson BL, et al. What good are positive emotions in crises? A prospective study of resilience and emotions following the terrorist attacks on the United States on September 11th, 2001. *J Pers Soc Psychol* 2003;84(2):365-76.
39. Kleibeuker SW, et al. Prefrontal cortex involvement in creative problem solving in middle adolescence and adulthood. *Dev Cogn Neurosci* 2013;5:197-206.
40. Kraft TL, Pressman SD. Grin and bear it: the influence of manipulated facial expression on the stress response. *Psychol Sci* 2012;23(11):1372-8.
41. Tong AC, et al. A low-intensity mindfulness-based intervention for mood symptoms in people with early psychosis: development and pilot evaluation. *Clin Psychol Psychother* 2016;23(6):550-60.
42. Fournier A, Sheehan C. Growing gratitude in undergraduate nursing students: applying findings from social and psychological domains to nursing education. *Nurse Educ Today* 2015;35(12):1139-41.
43. Rippstein-Leuenberger K, et al. A qualitative analysis of the Three Good Things intervention in healthcare workers. *BMJ Open* 2017;7(5):e015826.
44. Kovner CT, et al. What does nurse turnover rate mean and what is the rate? *Policy Polit Nurs Pract* 2014;15(3-4):64-71.

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TEST INSTRUCTIONS

- Read the article. Take the test for this CE activity online at www.nursingcenter.com/ce/ajn.
- You'll need to create and log in to your personal CE Planner account before taking online tests. Your planner will keep track of all your Lippincott Professional Development (LPD) online CE activities for you.
- There is only one correct answer for each question. The passing score for this test is 13 correct answers. If you pass, you can print your certificate of earned contact hours and the answer key. If you fail, you have the option of taking the test again at no additional cost.
- For questions, contact LPD: 1-800-787-8985.
- Registration deadline is March 5, 2021.

PROVIDER ACCREDITATION

LPD will award 1.5 contact hours for this continuing nursing education (CNE) activity. LPD is accredited as a provider of CNE by the American Nurses Credentialing Center's Commission on Accreditation.

This activity is also provider approved by the California Board of Registered Nursing, Provider Number CEP 11749 for 1.5 contact hours. LPD is also an approved provider of CNE by the District of Columbia, Georgia, and Florida #50-1223. Your certificate is valid in all states.

PAYMENT

The registration fee for this test is $17.95.