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Mindfulness Training in Emergency Department Nurses: Review of Literature

BY

Amy Newstrom

A paper submitted in partial fulfillment of the requirements for the degree

Doctor of Nursing Practice

South Dakota State University

2021

Mindfulness Training in Emergency Department Nurses

This Doctor of Nursing Practice (DNP) Project is approved as a credible and independent investigation by a candidate for the DNP degree and is acceptable for meeting the project requirements for this degree. Acceptance of this DNP Project does not imply that the conclusions reached by the candidate are necessarily the conclusions of the major department.

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Abstract

Introduction: Compassion fatigue is prevalent among nurses. Nurses and patients are negatively impacted by the occurrence of compassion fatigue. Research has indicated that nurses working in high-acuity areas, such as the emergency department, are more likely to experience compassion fatigue. Mindfulness training has been shown to reduce symptoms of compassion fatigue. The goal of this project was to examine the effect of mindfulness training on Professional Quality of Life V (ProQOL-V-V) subscale scores. *Evidence Summary:* An evidence search was conducted using the EBSCO Megafile, CINAHL, APA PsychArticles, and APA PsychInfo databases. *Keywords*: *Professional Quality of Life, Maslach Burnout Inventory, Oldenburg Burnout Inventory, Coppenhagen Burnout Inventory, burnout, compassion fatigue, and mindfulness.* Articles were limited to publication dates of 2010-2020, full-text availability, peer-reviewed items, and the English language. Review articles were excluded. The literature suggests that the profession of nursing and systems where nursing occurs should be aware of compassion fatigue and take measures to recognize and prevent it. *Gaps:* Further research is needed to identify accurate methods of identifying, measuring, and preventing compassion fatigue. *Recommendations for Practice:* There are multiple tools that can be used to assess compassion fatigue. Mindfulness training is a valid option for preventing and reducing compassion fatigue.

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Mindfulness Training in Emergency Department Nurses

The prevalence of compassion fatigue varies among caregiving professions. In particular, the nursing profession is greatly impacted by the cumulative psychological toll of caretaking. Research has indicated that nurses working in high-acuity areas, such as the emergency department and intensive care units, are more likely to experience compassion fatigue (CF) (Chernoff et al., 2019; Flarity, Gentry, & Mesnikoff, 2013; Mohammadi, Peyrovi, & Mahmoodi, 2017). Recognizing CF is imperative to reducing the incidence and research regarding the phenomenon and incidence of CF in nursing is abundant. Exploration continues regarding how to reduce or eliminate CF among nurses.

Stress-reduction and mindfulness strategies may help to reduce the negative impact of the stress related to caregiving (Al-Majid et al., 2018; Giarelli et al., 2016; Mohammadi, Peyrovi, & Mahmoodi, 2017; Neville & Cole, 2013). Stress-reduction is a broad term that may include techniques such as mindfulness training. Mindfulness training encompasses cognitive techniques to bring the mind to the present moment. It is the practicing of awareness that allows the mind to release the tension of considering events of the past or future (Sheridan, 2016). This paper will provide a summary of the current evidence regarding CF and mindfulness training in the nursing profession.

Significance

It has been estimated that one in five nurses leaves the profession within one year of their hiring date (Emergency Nurses Association [ENA], 2017). It has been estimated that nursing turnover costs hospital systems in the United States between $5.2 to $8.2 million per year (NSI Nursing Solutions, Inc., 2016). According to the 2016 National Healthcare Retention & Nursing Staffing Report, turnover for bedside nurses was 17.2%

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in 2015 (NSI Nursing Solutions, Inc., 2016). The highest rates of turnover occur in behavioral health nurses, emergency nurses, and medical/surgical nurses (NSI Nursing Solutions, Inc., 2016). Approximately one third of the 138 facilities participating in the 2016 National Healthcare Retention & Nursing Staffing Report had a nursing position vacancy rate of 10% (NSI Nursing Solutions, Inc., 2016).

The cost of nursing burnout may significantly increase as the nursing force has faced the Coronavirus Disease (COVID-19) pandemic. Feedtrail and HOLLIBU, both private providers of services for nurses, surveyed 1,300 nurses and found three out of five nurses reported they were likely to leave their current position or leave the profession as a result of the stress of COVID-19 (Rentner, 2020). Prior to COVID-19, emergency department nurses were more likely to suffer from CF which contributes to turnover. Turnover rates in 2014 and 2015 were approximately 21% (ENA, 2017; Monroe, Morse, & Price, 2020; NSI Nursing Solutions Inc., 2016; Sheridan, 2016). Turnover rates for all emergency department staff at the site of this project is 36% (personal communication, October 12, 2020).

Nurses are the largest group of healthcare professionals that make-up the front line during a pandemic (World Health Organization [WHO], 2020). The nursing profession plays a key role in providing healthcare to patients. Nurses face many challenges created by the pandemic that exacerbate an already strained workforce. Nurses are faced with increased rates of exposure to infection, increased acuity levels of patients, passing contagious infections on to family, and decreased access of personal protective equipment (Fernandez et al., 2020). The compounding stress is increasing nurse's departure from the profession, widening an already expansive gap in the need for nurses

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in the United States. The pandemic makes recognition and reduction of CF an even more pressing issue.

PICOT Question

To guide the evidence search a PICOT question was developed. For this search, the PICOT question is: In (P) emergency department nurses how does (I) mindfulness training compared to (C) no training (O) influence compassion fatigue measured as secondary traumatic stress and burnout over a (T) two-month period?

Evidence Search

An evidence search was conducted using the Elton B. Stephens CO (EBSCO) Megafile, Cumulated Index to Nursing and Allied Health Literature (CINAHL), American Psychological Association (APA) PsychArticles, and American Psychological Association (APA) PsychInfo databases. Searches were conducted using the following keywords: *Professional Quality of Life, Maslach Burnout Inventory, Oldenburg Burnout Inventory, Coppenhagen Burnout Inventory, burnout, compassion fatigue, and mindfulness.* These searches were refined to dates 2010-2020, full-text availability, peer-reviewed items, and the English language. The evidence search was expanded to 2010 to capture important literature regarding the validity and reliability of tools used to assess burnout and CF. Concessions based on relevance and importance for informing this project for research older than 2010 were made. Review articles were excluded.

After the literature search was conducted and appropriate articles were obtained, the Johns Hopkins Nursing Evidence-Based Practice Research Appraisal Tool was used to evaluate the level and quality of the research studies found (Dang & Dearholt, 2017)

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(Appendix B). An evidence table was developed and included 59 level III A/B studies and three level I A/B studies (see Appendix A).

Methods

The review of the evidence identified four themes. These themes were found to be burnout, secondary traumatic stress (STS), CF, and tools used to assess these concepts. Mindfulness training was searched as an intervention for the phenomenon listed above. A review of evidence for the identified themes, mindfulness training, and barriers continue below.

Burnout

Burnout has been known to be a harmful phenomenon among caregiving professions for many years (Cordes & Dougherty, 1993; Freudenberger, 1974; Pines, Aronson, & Kafry, 1981; Shinn, 1982). Burnout has been defined as feelings of hopelessness and fatigue that interfere with caregiving (Geoffrion et al., 2019). Key elements of the definition of burnout include a prolonged response to occupational stress which may include exhaustion, cynicism, disengagement, and ineffectiveness, (Basinka, Wiciak, & Dåderman, 2014; Ogińska-Bulik, & Michalska, 2020). The concept of burnout was introduced in the 1970's by Freudenberger and Maslach (Kristensen et al., 2005). Burnout may be caused or accentuated by chronic strain and organizational issues within a workplace (Ogińska-Bulik, & Michalska, 2020). Experiencing burnout may lead to many negative consequences including reduced emotional, cognitive, and physical energy, increased susceptibility to post-traumatic stress disorder or STS, reduced work performance, absences from work, and increased risk of medical errors (Chernoff et al., 2019; Dyrbye et al., 2019; Ogińska-Bulik, & Michalska, 2020; Peterson et al., 2011). The

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prevalence of burnout has been estimated to be as high as 52% among some nursing populations (Zhang et al., 2017).

Some evidence suggests a negative association between resilience, job burnout, and STS (Ogińska-Bulik & Michalska, 2020). There is a positive correlation between STS and job burnout. The experiences of palliative care nurses may share similarities to those nurses working in other areas, such as the emergency department. Both groups of nurse's experience high prevalence of burnout and STS (Ogińska-Bulik, & Michalska, 2020). Palliative care and emergency department nurses must deal with issues of end-of-life care which can be perceived as increasingly stressful. There is also a higher prevalence of burnout in workers with more than 11 years' experience (Ivanić et al., 2017). The most commonly reported symptoms of burnout in this population were fatigue, exhaustion, and the feeling of unequal effort distribution (Ivanić et al., 2017). Burnout occurred less in emergency department workers who reported higher levels of social support, sense of community, and received feedback (Ivanić et al., 2017).

Further evidence of influencing factors on the incidence of burnout have been found to be age, years of nursing experience, military training, locus of control, sense of well-being, resilience, and emotional maturity. These had significant positive relationships with burnout. Emotional maturity was found to be the most significant protective factor for these nurses (Chakraborty, Catterjee, & Chaudhury, 2012). Additional factors that influence the incidence of burnout as evidenced by scores on the Professional Quality of Life Scale (ProQOL-V) include gender, education level, sex, management, unit acuity level, and major systems level (Sacco et al., 2015). Further research has reported similar factors influencing burnout, CF, and compassion

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satisfaction (Hunsaker et al., 2015). Nurses over 50 years of age scored higher on the compassion satisfaction scale and lower on the burnout and STS scales (Sacco et al., 2015). Other research has indicated that factors related to work including high demands and low influence, reduced social support, and role ambiguity increase the risk of burnout (Borritz et al., 2006).

Secondary Traumatic Stress

Secondary traumatic stress is conceptualized as an element of CF (Stamm, 2010). Secondary traumatic stress is the preoccupation with thoughts of people that helpers have cared for or aided (Geoffrion et al., 2019). This concept addresses fear felt by caregivers. Secondary traumatic stress is trauma experienced vicariously by care givers (Stamm, 2010). Secondary traumatic stress is characterized by intrusive thoughts, avoidance, and hyperarousal (Ogińska-Bulik, & Michalska, 2020). In human service workers, these symptoms are thought to occur in reaction to indirect exposure to traumatic events experienced by the clients that are provided services (Ogińska-Bulik, & Michalska, 2020). Secondary traumatic stress is thought to be a complex state of reduced function and exhaustion (Figley, 1995). There is a strong association between job burnout and STS (Cieslak et al., 2014).

Compassion Fatigue

Compassion fatigue is the consequence of secondary exposure to trauma in the workplace (Ogińska-Bulik, & Michalska, 2020). Compassion fatigue has been defined as the cumulative psychological toll associated with working with survivors of trauma or perpetrators of violence and crime as part of daily work (Geoffrion et al., 2019). Stamm

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(2010) conceptualizes that CF is composed of burnout and STS. The symptoms of CF are like those of post-traumatic stress disorder (PTSD) and burnout.

Researchers in the field of CF have called for further differentiation among CF and related concepts to allow for more concise data analysis (Sorenson et al., 2016). This would improve researcher's ability to compare findings. Peters (2018) answered this call and conducted a concept analysis. The concept analysis concluded that CF is a construct used to describe the negative response to the exposure of suffering. Peters (2018) confirmed that the consequences of CF are measurable. Efforts to reduce CF should be undertaken at an organizational level and should include the reduction of risk for the preventions of CF while considering social context and the change process in both individuals and institutions (Crowe et al., 2020; Giarelli et al., 2016; Peters, 2018).

Compassion Satisfaction

Compassion satisfaction is a concept that describes the positive feeling associated with providing care to others (Zhang et al., 2017). Compassion satisfaction may include feelings of pride, pleasure, success, and being able to make a difference (Stamm, 2010). Compassion satisfaction is a concept vital to nursing job satisfaction and has been linked to patient satisfaction (Sacco et al., 2015). Compassion satisfaction can provide a protective factor from burnout and CF (Sacco et al., 2015).

Tools to Assess Burnout & Compassion Fatigue

Tools have been created to assess burnout. These include the Maslach Burnout Inventory (MBI), the Copenhagen Burnout Inventory (CBI), the Oldenburg Burnout Inventory (OLBI), and the ProQOL-V. It should be noted that these tools were made to assess burnout but not diagnose it (Doulogeri, Georganta, & Montgomery, 2016;

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Kleijweg, Verbraak, & Van Dijk, 2013). Some countries have adopted burnout as a medical diagnosis and have used the MBI as a diagnostic tool (Doulogeri, Georganta, & Montgomery, 2016). The creators of these assessments have cautioned against the use of these tools as diagnostic as it simplifies the concept of burnout without consideration of its multidimensionality and focuses on the symptom of emotional exhaustion (Doulogeri, Georganta, & Montgomery, 2016). A systematic review of burnout literature notes that there is significant variation regarding the classification of the severity of burnout (Doulogeri, Georganta, & Montgomery, 2016).

Professional Quality of Life Scale

The Professional Quality of Life Scale is used to explain the realities of the work carried out by those in helping professions by looking at three subscales. Stamm (2010) conceptualizes CF as being composed of burnout and secondary traumatic stress. The dimension of CF is a newer concept that may make the ProQOL-V a more desirable tool for some research (Smart et al., 2014). The third subscale is compassion satisfaction. Compassion satisfaction subscale measures the positive feelings related to caregiving (Stamm, 2010).

The ProQOL-V is free of charge to use and is currently in its fifth version. The ProQOL-V has been widely used to measure the stress of caregiving. There have been over 200 published studies using the ProQOL-V to assess CF since its creation (Geoffrion et al., 2019; Stamm, 2010). Stamm (2010) clearly states that the ProQOL-V is not diagnostic. The ProQOL-V is a research and screening tool only (Stamm, 2010). It does not measure or indicate symptoms to diagnose PTSD (Stamm, 2010).

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A confirmatory factor analysis and bifactor modeling of the ProQOL-V found that confirmatory factor analysis did not confirm the adequacy of the 3-factor structure as bifactor modeling showed that compassion satisfaction and CF are not separate concepts but are a continuum of one concept measuring high and low (Geoffrion et al., 2019). Overall support for the ProQOL-V's convergent validity with the Well-Being at Work (WBW) tool was found and research also supported the construct validity in a bifactor structure (Geoffrion et al., 2019). The ProQOL-V has demonstrated good psychometric properties and reliability for the compassion satisfaction and STS scales has been established, although reliability estimations for the burnout dimension have been found to be inadequate (Galiana et al., 2017).

Mindfulness

Mindfulness is a concept that is rooted in Buddhist practices. Mindfulness can be conceptualized as non-judgmental awareness of the present moment (Kabat-Zinn, 1994). Others define mindfulness as the ability to be fully present and attentive (Sheridan, 2016). The practice of mindfulness is thought to reduce tension by enhancing appreciation of the present moment (Kabat- Zinn, 1994). Mindfulness has been shown to reduce stress, improve self-compassion, and improve patient care provided by healthcare workers (Sheridan, 2016). Mindfulness training has been found to be associated with changes in brain regions involved in learning and memory processes, emotion regulation, self-referential processing, and perspective taking (Hölzel et al., 2011).

There is specific evidence for the utility of mindfulness training to reduce risk and symptoms of burnout. Many studies in varying helping professional populations have implemented mindfulness training and practices as an intervention to reduce symptoms of

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CF. Mindfulness education and training may help to moderate impact of burnout and improve well-being (Ceravolo & Raines, 2019; Duarte, Pinto-Gouveia, & Cruz, 2016; Duarte, & Pinto-Gouveia, 2016; Dyrbye et al., 2019; Flarity, Gentry, & Mesnikoff, 2013; Flarity et al., 2016; Gracia-Gracia, & Olivan-Blazquez, 2017; Ireland et al., 2017; Kaplan et al., 2017; Kinnunen et al., 2020; Magtibay et al., 2017; Mohammadi, Payrovi, H., & Mahmoodi, 2017; Moody et al., 2013; Neville & Cole, 2013; Westphal et al., 2015; Yang, Meredith, & Khan, 2017; Zhang et al., 2017).

Simply educating nurses about burnout and compassion fatigue may improve compassion satisfaction. A small study of forensic nurses (n=55) found that education about the concepts of the ProQOL-V, relaxation, and self-care increased compassion satisfaction and decreased secondary traumatic stress scores on the ProQOL-V (Flarity et al., 2016). Another small pilot study (n=13) found that promotion of resilience thought education may reduce compassion fatigue and improve nurse satisfaction (Potter et al., 2013).

A study of 50 Swedish emergency department nurses found that there is a robust association between mindfulness and well-being, and emergency department staff may benefit from mindfulness practice to reduce risk of burnout (Westphal et al., 2015). This study also found that mindfulness was a protective predictor of depression, anxiety, and burnout (Westphal et al., 2015). Kinnunen et al. (2019) found that levels of burnout prior to mindfulness training may influence the benefit of mindfulness training (n=105). One small study (n=12) of nurse managers explored the impact on mindfulness workshops on ProQOL-V and CBI scores pre- and post-intervention and found significant, positive changes in the ProQOL-V and CBI scores after mindfulness training, however the scores

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were higher after three months (Ceravolo & Raines, 2019). The study concluded that mindfulness training may be beneficial but needs to be reinforced over time (Ceravolo & Raines, 2019). Kaplan at al. (2017) completed an analysis of responses to mindfulness training in first responders (n=69) and found that mindfulness training increased resilience and reduced burnout.

Although evidence shows that mindfulness is useful in reducing symptoms of CF, the intensity of burnout that an individual experiences may influence the benefit of mindfulness training (Goldhagen et al., 2015; Kinnunen et al., 2019). There is specific evidence about how mindfulness practices impact wellness. In a study of Chinese nurses (n=793), higher scores on three facets of mindfulness were associated with less exhaustion and depersonalization (Zhao et al., 2019).

Barriers

Mindfulness practice is inexpensive and accessible, however there are barriers to mindfulness practice. Barriers that may reduce one's ability to practice mindfulness include physical illness, procrastination, skepticism of the utility of mindfulness, and lack of practice (Radcliffe, 2020). Sleepiness, restlessness, making time, lack of planning, and difficulty accessing educational materials about mindfulness may also be barriers to mindfulness practice (Witkiewitz et al., 2017). Participants in a study about the utility and accessibility of a mindfulness computer application cited busy lifestyles, lack of routine, strong negative emotions, and negative perceptions of mindfulness as barriers to utilizing the on-line resource (Laurie & Blanford, 2016).

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Gaps in the Literature

There are many research opportunities in the area of CF. Further studies are needed in regard to the ability to accurately identify and measure the symptoms of CF (Beckstead, 2002; Demerouti & Bakker, 2007, Dolan et al., 2014; Halbesleben & Demerouti, 2005). Further work is also needed to monitor changes associated with interventions that are employed to combat CF (Hunsaker et al., 2015; Magtibay et al., 2017). Longitudinal research tracking burnout and CF over caregivers' careers is also necessary to more completely understand the efficacy of recognition tools and interventions (Creedy et al., 2017; Dyrbye et al., 2019; Moody et al., 2013; Yang, Meredith, & Khan, 2017). Studying diverse populations would enable researchers to generalize findings to populations (Cieslak et al., 2014; Mahmoudi et al., 2017).

Recommendations for Practice

Compassion fatigue is a prevalent problem facing the nursing profession and evidence-based strategies to reduce occurrence are needed (Al-Majid et al., 2018; Chernoff et al., 2019; Creedy et al., 2017). Strategies to reduce and prevent CF in nurses should be pursued at the organizational level (Al-Majid et al., 2018; Dyrbye et al., 2019; Flarity, Gentry, & Mesnikoff, 2013; Giarelli et al., 2016). Mindfulness is a useful and cost-effective intervention to reduce symptoms of burnout and CF and should be considered to reduce negative impact on nurses (Ceravolo & Raines, 2019; Duarte, Pinto-Gouveia, & Cruz, 2016; Duarte & Pinto-Gouveia, 2016; Gracia-Gracia & Olivan-Blazquez, 2017; Ireland et al., 2017; Kaplan et al., 2017; Moody et al., 2013; Westphal et al., 2015; Yang, Meredith, & Khan, 2017; Zhao et al., 2019).

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Conclusion

Burnout and CF are the negative results of repetitive caregiving. Nurses experience symptoms of burnout and CF and this impacts their well-being and ability to provide care to others. Reducing burnout and CF in the nursing population can improve wellness, decrease turnover, and improve healthcare. Mindfulness is an intervention that reduces the symptoms and risk of burnout and CF. The ProQOL-V can be used to educate nurses and as an assessment tool to measure levels of burnout and CF and to measure interventions (Sacco et al., 2015). Continued work is needed in the area of burnout, CF, and strategies to reduce their prevalence.

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Appendix A
Evidence Table

Author(s) & Date	Study Design	Participants, Sample Size & Setting	Intervention	Results	Comments (Strengths/Weaknesses)	Gaps	Recommendations for Practice	Evidence Level, Quality
Al-Majid, S., Carlson, N., Kiyohara, M., Faith, M., & Rakovski, C. (2018). Assessing the degree of compassion satisfaction and CF among critical care, oncology, and charge nurses. *Journal of Nursing Administration, 48*(6), 310–315.	Cross-sectional survey design	N=48 38 direct care nurses and 10 charge nurses working in a 218-bed nonprofit community hospital in southern California	Professional Quality of Life (ProQOL-V, version 5) and demographic sheet	Nurses in this study scored in the average range for both compassion satisfaction and CF. Charge nurses scored in the high category range for secondary trauma stress (STS). Compassion satisfaction was higher in nurses with > 10 years' experience.	Small sample size	Factors that influence compassion satisfaction were not taken into account. ProQOL-V may not be as sensitive to the nature of nursing work.	High levels of STS among charge nurses indicate that these nurses may be at a higher risk of CF. Strategies to mitigate risk may be opportunities for professional development, training to recognize signs and symptoms of CF, promoting debriefing,	III A/B

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https://doi-org.excelsior.sdstate.edu/10.1097/NNA.0000000000000620							engaging in stress reduction techniques	
Basinska, B.A., Wiciak, I., & Dåderman, A.M. (2014). Fatigue and burnout in police officers: The mediating role of emotions. *Policing: An International Journal of Police Strategies & Management* *37*(3). 665-80. DOI 10.1108/PIJPSM-10-2013-0105.	Cross-sectional survey design	N=169 Polish police officers	Fatigue scale, Oldenburg Burnout Inventory & Job-related Affective Well-being Scale	High arousal emotions were associated with changes in work motivation. Low-arousal negative emotions reduced energy at work. Acute fatigue was more strongly associated with exhaustion than with disengagement.	Explanations of exhaustion were not included. The police officers in the study were mainly experience males.	Further research is needed to explore the relationship between fatigue, emotions, and burnout.	The relationship between acute fatigue and burnout should be considered.	III A/B

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Beckstead, J.W.(2002). Confirmatory factor analysis of the Maslach Burnout Inventory among Florida nurses. *International Journal of Nursing Studies, 39*, 785-792. Need DOI	Confirmatory Factor Analysis	N=151 Registered nurses from Florida	Maslach Burnout Inventory (MBI)	Item 12 loaded more strongly on the emotional exhaustion scale than the personal accomplishment scale. Item 16 loaded on the emotional exhaustion scale, which was it's intended scale, but cross-loaded slightly to the depersonalization scale.	85.4% of the population was female. 83.7% were Caucasian. The sample was limited to one region of the U.S. All the nurses were enrolled in advanced practice programs and this may have skewed results on the personal accomplishment scale.	More studies are needed using a modified MBI comparing the full MBI and a modified MBI with omitting item 12 and 16.	More research should be done to explore the consistency of the MBI.	III A/B
Borritz, M., Rugulies, R., Bjorner, J.B., Villadsen, E., Mikkelsen, O.A., & Kristensen,	5-year prospective intervention cross-sectional survey design	N=1914 Danish human service workers from the areas of social security offices, psychiatric	Copenhagen Burnout Inventory (CBI) at three intervals (baseline and 2 follow ups).	The CBI was developed for use in this study. Midwives and homecare workers had	The self-selection of the organizations may have indicated a	Randomized controlled studies regarding burnout are needed but	The CBI is a valid and reliable tool for assessing burnout.	III A/B

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T.S. (2006). Burnout among employees in human service work: Design and baseline findings of the PUMA study. *Scandinavian Journal of Public Health, 34*(1). 49-58. DOI: 10.1080/14034940510032275.		prison, institutions for the severely disabled, hospitals, and home care.		high levels of burnout in the work- and client-related dimensions of the CBI. Prison officers had the highest level of client-related burnout. The highest correlations of work burnout occurred with job satisfaction, quantitative demands, role conflicts, and emotional demands. Burnout was associated with increase work absences.	work environment that was already interested and thinking about burnout which could have created some bias. Strengths were that it is a prospective study, includes interventions at the worksite, includes client-focused variables, and includes psychosocial work environment factors.	difficult to execute.		

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Ceravolo, D. & Raines, D.A. (2019). The impact of mindfulness intervention for nurse managers. *Journal of Holistic Nursing, 37*(1), 47-55. DOI: 10.1177/0898010118781620.	Pre/posttest intervention design	N=12 Nurse managers at an acute care hospital	8 one-hour mindfulness workshops with Professional Quality of Life Scale (ProQOL-V) and Copenhagen Burnout Inventory (CBI) pre and post intervention.	Significant, positive changes were noted in the ProQOL-V and CBI scores after mindfulness training, however the scores were higher after 3 months.	The sample was very small and specific to nurse managers.	This study needs to be replicated with a larger and varying population.	Mindfulness training may be beneficial but need to be reinforced over time.	III A/B
Chakraborty, R., Chatterjee, A. & Chaudhury, S. (2012). Internal predictors of burnout in psychiatric nurses: An Indian study. *Industrial Psychiatry Journal, 21*(2), 119-	Cross-sectional survey design	N=101 Psychiatric nurses in India	General Health Questionnaire, global adjustment scale, emotional maturity scale, PGI general well-being scale, locus of control scale, and the Copenhagen Burnout	Age, years of nursing experience, military training, locus of control, sense of well-being, resilience, and emotional maturity had significant relationships with burnout. Emotional maturity was found to be the	The sample size was small.	Further research is needed regarding burnout in the population of psychiatric nurses.	Predictors of burnout such as emotional maturity, locus of control, well-being, and ability to adapt may be mitigated by interventions that support and improve mental health.	III A/B

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24. DOI: 10.4103/0972-6748.119604			Inventory (CBI)	most significant protective factor.				
Chernoff, P., Adedokun, C., O'Sullivan, I., McManus, J. & Payne, A. (2019). Burnout in the Emergency Department hospital staff at Cork University Hospital. *Irish Journal of Medical Science (1971-) 188*(2). 667-74. https://doi.org/10.1007/s11845-018-1871-5.	Prospective inclusive cross-sectional survey design	N=97 Populations included 23 physicians, 50 nurses, 8 administrators, 3 care assistants, 3 porters, and 10 radiographers	Oldenburg Burnout Inventory	Burnout was common in the population surveyed. Burnout rates were not significantly different between professions.	The sample size was small and heterogenous for occupation.	Research that describes burnout prevalence in the context of Irish emergency healthcare staff is lacking.	This research supports the high prevalence of burnout in high acuity healthcare workers. Administering valid and reliable measures to assess burnout may identify exhaustion and disengagement so that these symptoms of burnout may be reduced by interventions.	III A/B

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Cieslak, R., Shoji, K., Douglas, A., Melville, E., Luszczynska, A., & Benight, C. C. (2014). A meta-analysis of the relationship between job burnout and secondary traumatic stress among workers with indirect exposure to trauma. *Psychological Services, 11*(1), 75–86. https://doi-org.excelsior.sdstate.edu/10.1037/a0033798	Meta-analysis	N=8256 From 41 studies	Meta-analysis	Burnout and STS have a 55% overlap and may be indistinguishable under the CF framework. Gender inequalities were noted	The review included only articles completed prior to 2012 and the search was completed on a limited number of data bases. Varying measurements of STS and burnout were included.	Further studies should focus on gender inequalities in STS and burnout and be longitudinal in nature.	The association of STS and burnout is high. Moderating effects of theoretical framework, types of measures, language, country, gender and occupation were noted.	III A/B

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Creedy, D.K., Sidebotham, M., Gamble, J., Pallant, J. & Fenwick, J. (2017). Prevalence of burnout, depression, anxiety and stress in Australian midwives: A cross-sectional survey. *BMC Pregnancy and Childbirth 17*(1), 13. DOI 10.1186/s12884-016-1212-5	Cross-sectional survey design	N=1037 Australian midwives	Copenhagen Burnout Inventory (CBI) and Depression, Anxiety and Stress Scale	The incidence of burnout in the population was high. Responses on the CBI were strong predictors of distress in the population studied.	The population was 98% female and was experienced in the practice of midwifery with an average of 16.51 years practicing	Research is needed to identify interventions that support well-being in this population and reduce burnout.	The CBI and the Depression, Anxiety and Stress Scale were found to be reliable and valid tool to assess burnout in the population studied. Interventions are needed to reduce burnout as it has negative consequences for care providers and patients.	III A/B
Crowe, R.P., Fernandez, A.R., Pepe, P.E., Cash, R.E., Rivard, M.K., Wronski, R., Anderson,	Cross-sectional survey design	N=1271 EMS professionals in South Carolina	Copenhagen Burnout Inventory (CBI), EMS Safety Attitudes Questionnaire (SAQ), and	The median agency burnout was 35% and job-related demands were associated with increased burnout. Job-	The majority (74%) of the participants were male and the participants	Further research is needed to explore the impact of job demands and job resources on burnout.	Workplace conditions that contribute to burnout should be recognized in order to	III A/B

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S.E., Hogan, T.H., Andridge, R.R., Panchal, A.R., & Ferketich, A.K., (2020). The association of job demands and resources with burnout among emergency medical services professionals. *Journal of the American College of Emergency Physicians Open, 1*(1), 6-16. DOI: 10.1002/emp2.12014			Agency for Healthcare Research and Quality (AHRQ)	related resources were associated with reduced burnout. In the population, those with high hob demands and low job resources had a 10 times greater risk of burnout.	were from the same general setting.		combat the phenomenon. Interventions should be multi-tiered.	
Demerouti, E. & Bakker, A.B. (2007). The Oldenburg	Cross-sectional survey design	N=1623 Eight different groups of Dutch employees in either heath care	Oldenburg Burnout Inventory	The OLBI is a reliable and valid instrument to measure burnout in this	This population may not be representative of the	Further research should be done with a modified	The OLBI is a reliable instrument with two moderately	III A/B

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Burnout Inventory: A good alternative to measure burnout and engagement. Retrieved from http://www.psicopolis.com/burnout/bumesur.pdf		or white-collar occupations.		population. The dimensions of vigor-exhaustion and dedication-disengagement are more crucial than positively and negatively framed items.	population as they may have been more educated and of a higher socio-economic status	version of the OLBI that removes item D6 as it cannot be clearly classified in one of the two burnout dimensions. Additional validation is also needed	high correlating dimensions.	
Dolan, E.D., Mohr, D., Lempa, M., Joos, S., Fihn, S.D., Nelson, K.M., & Helfrich, C.D. (2014). Using a single item to measure burnout in primary care staff: A psychometric evaluation. *Journal of General Internal*	Cross-sectional survey design	N=5404 Primary care nurses, providers, clinical associates, and administrative clerks in the Veteran's Health Administration	One-item version of the Maslach Burnout Inventory (MBI) EE and a non-proprietary single item burnout measure used in the Physician Work Life Study	The single-item measure from the Physician Work Life Study was a reliable substitute for the MBI:EE	Ages 40-59 comprised 67.9% of the population surveyed. Females comprised 74.6% of the population.	Additional literature is needed to provide support for the use of the non-proprietary single item burnout measure used in the Physician Work Life Study	A non-proprietary single item burnout measure used in the Physician Work Life Study may be used as a reliable substitute for the MBI:EE	III A/B

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Medicine, 30(5), 582-587. doi: 10.1007/s11606-014-3112-6								
Duarte, J., Pinto-Gouveia, J., & Cruz, B. (2016)	Cross-sectional, descriptive study	N=280 Convenience sample of registered nurses from public hospitals in Portugal	ProQOL-V, Interpersonal Reactivity Index, Self-compassion Scale	Self-compassion is positively associated with compassion satisfaction and negatively associated with burnout and CF. Empathy was positively associated with compassion satisfaction and CF. Self-compassion components mediate and moderate the relation between affective empathy and CF.	Cross-sectional nature does not allow causality inferences between empathy and self-compassion and professional quality of life.	Research not based on self-report could enhance the understanding of the relationships between empathy, self-compassion, and professional quality of life.	Training in self-compassion might be valuable to avoid CF and to promote compassion satisfaction. Mindfulness-based interventions have been shown to be an effective way to develop self-compassion and compassion for others.	III A/B

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Duarte, J. & Pinto-Gouveia, J. (2016). Effectiveness of a mindfulness-based intervention on oncology nurses' burnout and CF symptoms: A non-randomized study. International *Journal of Nursing Studies, 64*, 98-107. http://dx.doi.org/10.1016/j.ijnurstu.2016.10.002.	Non-randomized, wait list comparison design.	N=94 Oncology nurses 45 experimental and 48 comparison controls.	6-week onsite abbreviated mindfulness training. Pre and posttest, and 6 months follow up using Professional Quality of Life (ProQOL-V-5), Depression, Anxiety, Stress Scale, Acceptance and Action Questionnaire, Ruminative Responses Scale-Short, Five-Facets of Mindfulness questionnaire, Self-Compassion Scale, Satisfaction with Life Scale	Nurses that received the intervention reported decreases in CF, burnout, stress, experiential avoidance, and increased indicators of well-being. There was no change in the control group.	Limited to oncology nurses. A strength of this study is the multiple assessment tools used to assess change.	Further research with homogenous groups is needed to examine specific demands on those groups and the impact of mindfulness training on the risk of burnout.	Mindfulness training may be an effective intervention to reduce negative impacts of caregiving and improve well-being.	IIA/B

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Dyrbye,L., Shanafelt, T.D., Johnson, P.O., Johnson, L., Satele, D., & West, C.P.(2019). A cross-sectional study exploring the relationship between burnout, absenteeism, and job performance among American nurses. *BioMed Central Nursing, 18*(57). https://doi.org/10.1186/s12912-019-0382-7	Cross-sectional survey design	N=812 U.S. Nurses	Demographic questionnaire, World Health Organization Health and Work Performance Questionnaire, Primary Care Evaluation of Mental Disorders, and Maslach Burnout Inventory Human Services Survey	Approximately a third of the nurses surveyed had meaningful symptoms of burnout. Nurses who experienced burnout were more likely to be absent from work 1 or more days in the previous month. Nurses experiencing burnout were more likely to have poor work performance.	This study had a response rate of 26.2%.	Future research should focus on intervention studies with control groups to inform strategies to reduce burnout. Longitudinal studies are also needed.	Burnout is prevalent and impacts work performance. Organizational investment in strategies to reduce burnout in nurses is needed.	III A/B

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Flarity, K., Gentry, J.E., & Mesnikoff, N. (2013)	Qualitative study	N=73 Convenience sample of emergency department nurses in Colorado	ProQOL-V, demographic data, and 4-hour interactive group seminar and multi-media resources	Participants that attended the group seminar cited the ability to develop a self-help method for addressing and resolving CF symptoms, develop resiliency, and prevent future CF.	Convenience sample. Students were included. Short-time frame.	Recommend study duplication in varying populations of nurses.	Suggests that organizational prevention programs may help to maximize nurses' levels of compassion satisfaction and reduce risk of CF.	III A/B
Flarity, K., Nash, K., Jones, W., & Steinbruner, D. (2016). Intervening to improve CF resiliency in forensic nurses. *Advanced Emergency Nursing Journal, 38*(2), 147-156. DOI: 10.1097/TME	Cross-sectional study design	N=55 Forensic nurses	4-hour interactive seminar that included educational information about CF and relaxation techniques and self-care, and Professional Quality of Life Scale (ProQOL-V)	69% of the population surveyed had moderate to low compassion satisfaction and 73% had moderate to high burnout and secondary traumatic stress. The intervention group showed statistically improved compassion satisfaction and	The population studied was small and all female.	Further research is needed regarding organizational prevention programs.	Education and stress-reduction/coping strategies can increase compassion satisfaction and reduce risk of CF.	III A/B

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.0000000000000101.				a reduction in secondary traumatic stress.				
Fong, T.C.T., Ho, R.T.H., & Ng, S.M. (2014). Psychometric properties of the Copenhagen Burnout Inventory-Chinese version. *The Journal of Psychology 148*(3), 255-66. Retrieved from https://www.researchgate.net/profile/Ted_Fong/publication/259803083_Psychometric_Properties_of_the_Copenhagen_Burnout_Invento	Longitudinal, cross-sectional survey design.	N=312 Human service workers in Hong Kong Followed up with 245 participants.	Copenhagen Burnout Inventory (CBI)	The CBI was found to be a reliable and valid measure of burnout in this population. There may be substantial overlap between personal and work burnout dimensions.	Majority (77.7%) of participants were women.	Further research should identify and follow the symptoms of burnout over time.	This study furthers support for the CBI as a reliable and valid method to assess burnout.	III A/B

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ry-Chinese_Version/links/59e5cc7c458515250250a5bb/Psychometric-Properties-of-the-Copenhagen-Burnout-Inventory-Chinese-Version.pdf								
Galiana, L., Arena, F., Oliver, A., Sanso, N., & Benito, E. (2017). Compassion satisfaction, CF, and burnout in Spain and Brazil: ProQOL-V validation and cross-cultural diagnosis. *Journal of Pain and Symptom*	Cross-sectional survey design	N=546 161 Brazilian palliative care professionals and 385 Spanish palliative care professionals	The Professional Quality of Life Scale (ProQOL-V)	The Spanish and Portuguese versions of the ProQOL-V show psychometric goodness, although some items should be revised. Reliability was established in the compassion satisfaction and secondary traumatic stress scale. Reliability estimations	The sample study for the Brazilian population was small.	Further research should examine influencers that may account for the variations between the Spanish and Portuguese populations.	The ProQOL-V is useful in recognizing burnout in Spanish and Portuguese professionals.	III A/B

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Management, 53(3), 598-604. http://dx.doi.org/10.1016/j.jpainsymman.2016.09.014.				were inadequate for the burnout dimension. There were distinguishable differences between the Spanish and Portuguese populations.				
Geoffrion, S., Lamothe, J., Morizot, J., & Giguere, C.E. (2019). Construct validity of the Professional Quality of Life (ProQOL-V) Scale in a sample of child protection workers. *Journal of Traumatic Stress, 32*, 566-576. DOI:	Cross-sectional survey design	N=310 Child protection workers	The Professional Quality of Life Scale (ProQOL-V)	Confirmatory factor analysis did not confirm the adequacy of the 3-factor structure of the ProQOL-V as bifactor modeling showed that compassion satisfaction and CF are not separate concepts but are a continuum of one concept measuring high and low	The sample was heterogeneous for child protection workers.	This study should be replicated in other professional populations.	This study provides support for the ProQOL-V to assess helping professionals quality of life	III A/B

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10.1002/jts.22410.								
Giarelli, E., Denigris, J., Fisher, K., Maley, M., & Nolan, E. (2016). Perceived quality of work life and risk for CF among oncology nurses: A mixed-methods study. *Oncology Nursing Forum, 43*(3), E121–E131. https://doi-org.excelsior.sdstate.edu/10.1188/16.ONF.E121-E131	Descriptive, mixed-method study	N=20 Oncology nurses in a large urban teaching hospital in Pennsylvania	Self-report questionnaires (Life Events Scale and ProQOL-V) and in-depth interview	Nurses in this study scored average for compassion satisfaction and moderate-to-low scores for burnout and secondary stress	Small sample size and the sample was homogenous in respect to race and ethnicity.	Further research on specific strategies to reduce the risk of CF is needed.	Efforts to reduce risk for and the prevention of CF need to consider social context and involve institutional and interpersonal change.	III A/B

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Goldhagen, B.E., Kingsolver, K., Stinnett, S.S., & Rosdahl, J.A. (2015). Stress and burnout in residents: Impact of mindfulness-based resilience training. *Advances in Medical Education and Practice, 6,* 525-532. Need DOI	Cross-sectional prospective non-controlled design	N=47 Resident physicians at Duke University	1-hour mindfulness-based resilience activities. Demographic data was collected. Pre and posttest assessments included Depression Anxiety Stress Scale (DASS-21), the Oldenburg Burnout Inventory (OLBI), the Mindful Attention Awareness Scale, and ten items from the Cognitive Failures Questionnaire	Most residents OLBI scores were in the abnormal ranges in respect to exhaustion and disengagement. Pre and posttest did not identify short-term changes in stress, burnout, mindful-awareness, or cognitive failure. Females and post-medical school graduates had a reduction in DASS-21 scores after intervention. Those residents that reported higher stress reported reduced stress and burnout after the intervention.	The sample size was small and lacked a control group	This study should be replicated with a larger sample and with a control group.	Certain demographics of the population studied (Females and post-graduate residents) who perceive high amounts of stress may benefit most from mindfulness-based resilience intervention.	III A/B

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Gracia-Gracia, P. & Olivan-Blazquez, B. (2017). Burnout and mindfulness self-compassion in nurses of intensive care units. Holistic *Nursing Practice, 31*(4), 225-233. DOI: 10.1097/HNP.0000000000000215.	Observational-based cross-sectional descriptive study with quantitative and multicentric approach	N=68 ICU nurses in Spain	Demographics and occupational variables, Maslach Burnout Inventory (MBI), Self-compassion scale	The sample had low levels of emotional exhaustion, depersonalization and high levels of personal fulfillment. There is a correlation between mindfulness self-compassion and burnout in ICU nurses.	The sample is small.	Future research should focus on the conducting a mindfulness and self-compassion program to prevent burnout and measure the impact on patient care.	Mindfulness and self-compassion may reduce emotional strain	III A/B
Halbesleben, J.R.B. & Demerouti, E. (2005). The construct validity of an alternative measure of burnout: Investigating the English translation of the	Cross-sectional survey design	N=2599 Generalized sample of working adults and a sample of fire department employees	Oldenburg Burnout Inventory (OLBI)	This study provides evidence of reliability, validity, and convergent validity of the English version of the OLBI.	Large sample size including equal representation of both genders and a variety of ethnicities is a strength.	More research is needed to test the predictive nature of the OLBI and to continue to validate the measure. Future research may also establish clinical	The OLBI is valid and reliable measure of burnout, engagement, and expands on the exhaustion component of burnout.	III A/B

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Oldenburg Burnout Inventory. *Work & Stress, 19*(3), 208-20. DOI: 10.1080/02678370500340728						cutoffs for burnout.		
Hunsaker, S., Chen, H.C., Maughan, D., & Heaston, S. (2015). Factors that influence the development of CF, burnout, and compassion satisfaction in emergency department nurses. *Journal of Nursing Scholarship, 47*(2), 186-194. doi: 10.1111/jnu.12122	Non-experimental, descriptive, and predictive study	N=278 Emergency department nurses.	Demographic questionnaire, Professional Quality of Life Scale (ProQOL-V)	The population exhibited low to average levels of CF and burnout and average to high levels of compassion satisfaction. Reduced manager support predicted higher level of burnout and CF. Higher levels of manger support were correlated to higher levels of compassion satisfaction. Demographic and work-	Response rate was 28%. The study participants were mostly women (87.4%)	Further research should focus on interventions to manage the strain of care giving. Further research into how older nurses develop and maintain compassion satisfaction.	Identifying and increasing awareness of compassion satisfaction, CF, and burnout among emergency department nurses may help to prevent negative effects of burnout and CF. This information could be used to formulate interventions to reduce	III A/B

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				related variables that have a relationship to compassion satisfaction, CF, and burnout were identified as age and manager support.			burnout and CF.	
Ireland, M.J., Cough, B., Gill, K., Langan, F., O'Connor, A., & Spencer, L. (2017). A randomized controlled trial of mindfulness to reduce stress and burnout among intern medical practitioners. *Medical Teacher, 39*(4), 409-414.	Randomized controlled trial design	N=44 Intern doctors completing an emergency department rotation at an Australian hospital	Participants were assigned to 1-hour extra break per week or 10-week mindfulness training intervention. Pre, mid and posttest assessments were a demographic questionnaire and Perceived Stress Scale	Participants assigned to the 10-week mindfulness training intervention reported greater reduction in stress and burnout when compared to controls.	64% of participants were female. The sample size was small.	This study could be replicated with a larger sample.	Mindfulness training may decrease stress and burnout.	I A/B

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http://dx.doi.org/10.1080/0142159X.2017.1294749.								
Ivanić, D., Adam, V.N., Srzić, I., Stepić, A., & Pintarić, H. (2017). Burnout syndrome in emergency medicine. *Hong Kong Journal of Emergency Medicine 24*(6), 290-297. DOI:10.1177/1024907917740094	Cross-sectional survey design	N=120 Emergency department workers in Croatia	Copenhagen Burnout Inventory (CBI) and Copenhagen Psychosocial Questionnaire	Participants suffer from fatigue due to burnout. Burnout occurred most frequently in those workers with 11-15 years of experience in the emergency department. Burnout was less common in workers with higher levels of social support, sense of community, and feedback.	The sample was small and females were over represented (63.3%).	Further research is needed to explore the relationship between specific environmental factors that both increase and reduce risk of burnout.	Developing a sense of community, positive feedback, and increasing social support may decrease the incidence of burnout.	III A/B
Kalliath, T.J., O'Driscoll, M.P., Gillespie, D.F., &	Cross-sectional study analyzed using	N=445 197 nurses, 113 laboratory technicians, 135 managers at a	Maslach Burnout Inventory (MBI) and analyzed	The analysis supported a 2-factor model consisting of emotional	The population was homogeneous for	More research is needed to find a generalizable	There are implications for a 2-factor model of the MBI.	III A/B

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Bluedorn, A.C. (2000). A test of the Maslach Burnout Inventory in three samples of healthcare professionals. *Work & Stress, 14*(1). 35-51. Retrieved from http://search.ebscohost.com.excelsior.sdstate.edu/login.aspx?direct=true&db=rzh&AN=107144622&site=ehost-live.	structural equation modelling with LISREL	general hospital in a large city in the Midwest.	using structural equation modelling with LISREL	exhaustion and depersonalization. The personal accomplishment factor performed poorly. Emotional exhaustion was found to be the most robust dimension.	hospital work and the data set was time limited.	measure of depersonalization.		
Kaplan, J.B., Bergman, A.L., Christopher, M., Bowen, S., Hunsinger, M. (2017). Role of	Secondary analysis of a cross-sectional survey	N=69 47 law enforcement officers, 22 firefighters	8-week Mindful-based Resilience Training (MBRT). Pre and posttest measures were the Five Facet Mindfulness	Increased mindfulness was related to increased resilience and decreased burnout.	The majority of participants were male and identified as Euro-American	Further research of the impact of mindfulness training is needed using more objective,	This research supports that mindfulness training increases resilience and reduced burnout.	III A/B

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resilience in mindfulness training for first responders. *Mindfulness, 8*, 1373-1380. DOI: 10.1007/s12671-017-0713-2.			Questionnaire, Brief Resilience Scale, and the Oldenburg Burnout Inventory (OLBI)			physiological measures		
Kinnunen, S.M., Puolakanaho, A., Lappalainen, R., & Makikangas, A. (2019). Does mindfulness-, acceptance-, and value-based intervention alleviate burnout?- a person-centered approach. *International Journal of*	Randomized control-trial	N=105 Finnish employees 81 in the randomized mindfulness group and 24 controls	8-week mindfulness-, acceptance-, and value-based (MAV) intervention. Measurements were taken using the Bergen Burnout Indicator, Five-Facet Mindfulness Questionnaire, Learning Experience Questionnaire, and measures of mindfulness.	Six distinct profiles of burnout and mindfulness skills were identified. Benefit from mindfulness training varied by profile, although most profiles benefited from the training to some degree.	The sample was 80% women, and all were Caucasian.	Further research is needed to enhance mindfulness learning and continuation to combat burnout.	There are differences in the response to MAV training based on profile findings of level of burnout prior to training and benefit from training.	I A/B

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*Stress Management, 26(*1), 89-101. http://dx.doi.org/10.1037/str0000095			There were repeated 4-month post-intervention.					
Kinnunen, S.M., Puolakanaho, A., Tolvanen, A., Lappalainen, R., & Makikangas, A. (2020). Does a mindfulness-, acceptance-, and value-based intervention for burnout have long-term effects on different levels of subjective well-being? International *Journal of Stress*	Longitudinal, cross-sectional study design	N=105 Finnish employees	8-week mindfulness-, acceptance-, and value-based (MAV) intervention. Measurements were taken using the Bergen Burnout Indicator, Five-Facet Mindfulness Questionnaire, Ryff Scale of Psychological Well-bring, Scales of Social Well-being, and the Life Satisfaction Questionnaire and posttest (8	The MAV intervention was associated with long-term improvements in subjective well-being.	The sample was 80% women.	A more thorough understanding of psychological skills that reduce risk of burnout is needed.	When implementing MAV it is essential that effects on well-being are evaluated using multiple indicators.	III A/B

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Management, 27(1), 82-87. http://dx.doi.org/10.1037/str0000132			weeks after intervention), at 4 months and 10 months.					
Kleijweg, J.H.M., Verbraak, M.J.P.M., Van Dijk, M.K. (2013). The clinical utility of the Maslach Burnout Inventory in a clinical population. *Psychological Assessment, 25*(2), 435-441. DOI: 10.1037/a0031334.	Replication study	N=419 Dutch outpatients at an institution treating work-related psychological problems	Maslach Burnout Inventory (MBI) and Mini International Neuropsychiatric Interview (MINI)	The factorial validity of the MBI was confirmed. The MBI has good psychometric properties. The discriminate validity was not confirmed, and it was concluded that the MBI should not be used by itself as a diagnostic tool for burnout.	Clear diagnostic guidelines for burnout did not exist at the time of this study.	Research should continue to find a validated, individual diagnostic tool for burnout. This study should be replicated in another population.	The MBI should not be used by itself as a diagnostic tool because there is a high probability of over diagnosing burnout.	III A/B
Kristensen, T.S., Borritz, M., Villadsen, E., & Christensen, K.B. (2005).	Analysis of data from the PUMA study (Borritz et al,	N=1914 Danish human service workers from the areas of social security offices, psychiatric	Copenhagen Burnout Inventory (CBI) at three intervals (baseline and 2 follow ups).	Provides evidence of the validity and reliability of the CBI	The self-selection of the organizations may have indicated a	Randomized controlled studies regarding burnout are needed but	The CBI is a valid and reliable tool for the assessment of burnout. The CBI has	III A/B

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The Copenhagen Burnout Inventory: A new tool for the assessment of burnout. *Work & Stress, 19*(3), 192-207. DOI: 10.1080/02678370500297720	2006) 5-year prospective intervention cross-sectional survey design	prison, institutions for the severely disabled, hospitals, and home care.			work environment that was already interested and thinking about burnout which could have created some bias. Strengths were that it is a prospective study, includes interventions at the worksite, includes client-focused variables, and includes psychosocial work environment factors.	difficult to execute.	predictive value for sickness absence, sleep problems, use of pain-killers, and intention to quit.	

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Langballe, E.M., Falkum, E., Innstrand, S.T., & Aasland, O.G. (2006). The factorial validity of the Maslach Burnout Inventory-General survey in representative samples of eight different occupational groups. *Journal of Career Assessment, 14*(3), 370-384. DOI: 10.1177/1069072706286497.	Confirmatory factorial analysis of a cross-sectional study design	N=5024 Eight different occupational groups in Norway (lawyers, physicians, nurses, teachers, church ministers, bus drivers, and those working within advertising and informational technology)	Responses to the Maslach Burnout Inventory (MBI) was examined using confirmatory factor analysis.	The three-factor model fit sufficiently for all occupations with the exception of those working within advertising.	There could be sample bias that may not be generalizable.	Research on the wording effect of positive and negative items is warranted.	The analysis supports the three-dimensional MBI	III A/B
Loera, B., Converso, D., & Viotti, S. (2014). Evaluating	Multi-center intervention study; cross-	N=925 Nurses in Italy	Maslach Burnout Inventory	The analysis found that the factorial structure underlying the	The study was not designed with the purpose of	Consideration of future research may be to reword the	Results are not better and do not justify redefining the item set or	III A/B

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the psychometric properties of the Maslach Burnout Inventory-Human Services Survey (MBI-HSS) among Italian nurses: How many factors must a researcher consider. *PloSONE, 9*(12). doi: 10.1371/journal.pone.0114987.	sectional survey			MBI is three-dimensional even when items 2, 12, and 16 are omitted, or when 12 and 16 are omitted.	studying response styles or bias.	inconsistent items and retest the validity.	revising the syndrome construct, when Alternative models, either with reduced items or with increased number of latent dimensions in the burnout structure, are used.	
Magtibay, D.L. Coughlin, K., Chesak, S.S., & Sood, A. (2017). Decreasing stress and burnout in nurses: Efficacy of blended	Quasi-experimental, 1-group baseline to postintervention	N=50 Nurses working at Mayo Clinic in Minnesota	Stress Management and Resiliency Training (SMART) in a web-based format for 12 modules, Subjective Happiness Scale, Perceived	Improvements in stress, anxiety, resilience, mindfulness, happiness, and burnout were noted at 8 weeks and continued to week 24.	This was a longitudinal study with assessment at baseline, 8, 12, and 24 weeks after intervention. A weakness was that	Further research to validate interventions that reduce the risk of burnout are needed.	Blended learning, as evidenced by this studies results using SMART, is an effective intervention to reduce stress, anxiety and burnout.	III A/B

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learning with stress management and resilience training program. *Journal of Nursing Administration, 47*(7/8), 3910395. DOI: 10.1097/NNA.0000000000000501			Stress Scale, Generalized Anxiety Scale, Connor-Davidson Resilience Scale and Copenhagen Burnout Inventory		there was not a control group.			
Mahmoudi, S., Atashzadeh-Shoorideh, F., Rassouli, M., Moslemi, A., Pishgooie, A.H. & Azimi, H. (2017). Translation and psychometric properties of the Copenhagen Burnout	Methodological and cross-sectional survey study	N=413 Iranian nurses	Copenhagen Burnout Inventory (CBI).	The four-factor Persian version of the CBI was shown to be valid and reliable.	The population was primarily women (90.5%).	Further research is needed in other helping professions.	The CBI can be used to evaluate burnout in Iranian nurses and other healthcare providers.	III A/B

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Inventory in Iranian nurses. *Iranian Journal of Nursing and Midwifery Research 22(*2), 117-22. doi: 10.4103/1735-9066.205958								
Mohammadi, M., Peyrovi, H., & Mahmoodi, M. (2017). The relationship between professional quality of life and caring ability in critical care nurses. *Dimensions of Critical Care Nursing, 36*(5), 273-277. doi:	Descriptive, correlational study	N=253 Convenience sample of critical care nurses working at Tehran University of Medical Sciences	Caring Ability Inventory, ProQOL-V, demographic data sheet	Professional quality of life and caring ability are directly correlated. Increasing nurse's knowledge about patient care and enhancing individual courage may reduce negative effects of CF. Compassion satisfaction positively influences	Strength: Sample size	Further research regarding specific strategies to increase self-care and self-compassion could be useful.	Nurse managers should be aware of the prevalence of CF among critical care nurses. Increasing awareness of the aspects of professional quality of life can help to identify specific strategies that may prevent CF and burnout.	III A/B

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10.1097/DCC.0000000000000263.				professional quality of life.			Teaching self-compassion and self-care may be an important strategy to reduce burnout and CF.	
Moody, K., Kramer, D., Santizo, R.O., Magro, L., Wyshogrod, D., Ambrisio, J., Castillo, C., Lieberman, R., & Stein, J. (2013). Helping the helpers: Mindfulness training for burnout in pediatric oncology- a pilot program. *Journal of Pediatric*	Randomized controlled trial	N=48 Pediatric oncology staff recruited from 2 urban pediatric hematology/oncology programs	Mindfulness-based course (8 weeks of didactic and experiential mindfulness education), Maslach Burnout Inventory (MBI), Beck Depression Inventory, Perceived Stress Scale, qualitative analysis of journals.	The majority of the population exhibited symptoms of burnout at baseline. The intervention did not result in improvement according to assessment tools but qualitative analysis of diary entries showed reduced stress, more peace compassion, and joy, better focus and self-awareness and	The sample was considered 'significantly more stressed'. The training may have increased the participants stress. The sample size was small and the control group was not blinded. The majority of participants	Further studies of interventions for burnout is needed in larger and varying populations.	Mindfulness practices may be a useful tool in stress reduction.	I A/B

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Oncology Nursing, 30(5), 275-294. DOI: 10.1177/104345421350449 7.				less somatic symptoms than the non-treatment population.	in this study were women.			
Neville, K. & Cole, D.A. (2013)	Non-experimental, descriptive, correlational design	N=214 Convenience sample of nurses working in inpatient and outpatient settings	Health Promoting Lifestyle Profile II, ProQOL-V version 5, and demographic data sheet	Nurses in this study have an average level of compassion satisfaction and burnout compared to normative data. There was a significant relationship between total health promotion scale and compassion satisfaction and reduced scores in burnout. Nurses spiritual growth was correlated to compassion satisfaction	Strength: Sample size	Further research is needed to identify factors that prevent or mitigate CF	This study confirms the importance of health promotion behaviors to improve compassion satisfaction and reduce burnout and CF.	III A/B

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Ogińska-Bulik, N., & Michalska, P. (2020). Psychological resilience and secondary traumatic stress in nurses working with terminally ill patients—the mediating role of job burnout. *Psychological Services*. http://dx.doi.org/10.1037/ser0000421	Cross-sectional survey design	N=72 Nurses working with terminally ill patients in Poland.	Secondary Traumatic Stress Scale (STS), Oldenburg Burnout Inventory, &Resilience Measurement	Negative association between resilience, job burnout, and secondary traumatic stress. Positive correlation between secondary traumatic stress and job burnout. Results indicate a high prevalence of burnout and STS among palliative care nurses.	Strengths of this study were the used of multiple instruments to measure burnout and secondary traumatic stress. The sample size is small. The study did not account for the influence of personal trauma history.	Further research is needed to examine the relationship between social support, coping, personal resources, accomplishment, empathy, and negative outcomes of work related stress.	Interventions for work related stress would benefit from interventions that improve resilience.	III A/B
Papaefstathiou, E., Tsounis, A., Malliarou, M. & Sarafis, P. (2019). Translation and validation of the Copenhagen	Cross-sectional survey design	N=284 Greek medical residents	Copenhagen Burnout Inventory (CBI)	The 16-item model of the Greek version of the CBI is a valid tool to assess burnout with high internal consistency.	A strength was that the sample represented both genders. A weakness was that it only looked at medical	Further research in a more generalizable, Greek population is needed.	The CBI demonstrated construct validity and could be used in the general population.	III A/B

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Burnout Inventory amongst Greek doctors. *Health Psychology Research, 7*(7678). doi: 10.4081/hpr.2019.7678					residents and may not be generalizable.			
Peters, E. (2018). CF in nursing: A concept analysis. *Nursing Forum, 53,* 466-480. DOI: 10.1111.nuf.12274	Concept analysis	N=26 English language papers on CF	Walker and Avant's method of concept analysis	CF is a concept used to describe a negative response to the exposure of suffering. The consequences of CF are measurable. Efforts to reduce CF should be undertaken at an organizational level and not left up to the nurse alone.	On-line data bases and professional organizations were searched. The time span of the search was wide and included literature available from 1990-2017.	Research on enhanced education about CF and how to prevent it are needed.	All nurses are at risk of CF. Professional boundaries, self-care measures, self-awareness, and education about CF can help to prevent it.	III A/B

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Peterson, U., Bergström, G. Demerouti, E., Gustavsson, P., Åsberg, M. & Nygren, Å. (2011). Burnout levels and self-rated health prospectively predict future long-term sickness absence: A study among female health professionals. *Journal of Occupational and Environmental Medicine 53*(7). 788-93. DOI: 10.1097/JOM.0b013e318222b1dc.	Cross-sectional survey design	N=3976 Men and women employed by the Swedish County Council N=2793 women for the logistic regression analysis. The participants included physicians, nurses, nursing assistants, social workers, occupational therapists, physiotherapists, psychologists, dental nurses, and hygienists, dentists, secretaries, administrators, teachers, and technicians.	Oldenburg Burnout Inventory, Hospital Anxiety Depression Scale (HAD) & self-rated health	High scores on exhaustion, depression, and poor self-rated health increased the risk of long-term sickness absence.	Men were included in the confirmatory factor analysis of the Oldenburg Burnout Inventory but excluded from the logistic regression analysis as the sample was 82% women. The sample was large and heterogenous in relation to occupations.	This study needs to be replicated with the inclusion of men.	These results emphasize the use of burnout measures to identify and prevent burnout.	III A/B

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Pisanti, R., Lombardo, C., Lucidi, F., Violani. C. & Lazzari, D. (2013). Psychometric properties of the Maslach Burnout Inventory for human services among Italian nurses: a test of alternative models. *Journal of Advanced Nursing, 69*(3), 697-707. doi: 10.1111/j.1365-2648.2012.06114.x	Cross-sectional survey design	N=1613 Italian nurses	Factor analysis of the Maslach Burnout Inventory (MBI).	This study supports the construct validity and reliability of the MBI to assess burnout in Italian nurses.	The stability of the psychometric properties was not evaluated over time.	Further research is needed in other nursing populations and over time.	The MBI is a reliable and valid tool to assess burnout in nurses.	III A/B
Potter, P., Deshields, T., Berger, J.A, Clarke, M., Olsen, S., & Chen, L.	Descriptive pilot study	N=13 Oncology nurses at an outpatient infusion center	Five-week educational program involving five 90-minute sessions on	Long-term benefit was appreciated. Secondary trauma stress scores declined	The majority of participants were white females.	Further studies regarding the efficacy of resiliency	Promotion of resilience through education may reduce CF and	III A/B

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(2013). Evaluation of a CF resiliency program for oncology nurses. Oncology Nursing Forum, 40(2), 180-187.			CF resiliency. Pre, posttest and 6 months follow of the Professional Quality of Life (ProQOL-V), Maslach Burnout Inventory-HSS (MBI), Impact of Event Scale-R (IES-R), Nursing Job Satisfaction Scale.	immediately after the program and continued to decrease at the 3 and 6-month intervals. The average IES-R improved.	The sample was small.	programs are needed.	improve nurse satisfaction.	
Poghosyan, L., Aiken, L.H., & Sloane, D.M. (2009). Factor structure of the Maslach Burnout Inventory: An analysis of data from large scale cross-	Secondary analysis of cross-sectional data	N=56738 Direct care profession nurses from 646 hospitals in the U.S., Canada, the U.K., Germany, New Zealand, Japan, Russia, and Armenia.	Confirmatory and exploratory factor analysis of the Maslach Burnout Inventory (MBI).	The MBI has a similar factor structure and with minor modifications performed similarly across countries. The removal of item 6 and 16 may improve the predictive validity of the emotional	The variability of the populations may have influenced findings. Sample sizes from Armenia and Russia were small. There could have	Additional research into the factor structure of the MBI using other samples would be useful.	The MBI is a valid and reliable tool to the effectiveness of burnout reduction measures with nurses internationally.	III A/B

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sectional surveys of nurses from eight countries. *International Journal of Nursing Studies, 26*, 894-902. doi: 10.1016/j.ijnurstu.2009.03.004.				exhaustion and depersonalization subscales.	been inaccuracy due to translation.			
Sacco, T.L., Ciurzynski, S.M., Harvey, M.E., & Ingersoll, G.L. (2015). Compassion satisfaction and CF among critical care nurses. *Critical Care Nurse, 35*(4), 32-42. http://dx.doi.org/10.4037/ccn2015392.	Cross-sectional survey design.	N=221 Critical care nurses working at a tertiary care, academic medical center	Demographic questionnaire and Professional Quality of Life (ProQOL-V).	Critical nurses surveyed scored with the average range of all 3 subscales on the ProQOL-V. Nurses over the age of 50 scored higher on the compassion satisfaction scale and lower on the burnout and secondary traumatic stress scales. There was also a relationship	Men comprised only 5 % of the studied population.	Studies with longitudinal design to examine burnout and CF are needed.	The ProQOL-V can be used to educate nurses and as an assessment tool to measure interventions.	III A/B

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				between ProQOL-V scores and education level, sex, management, unit acuity level, and major systems level.				
Sedlar, N., Šprah, L., Tement, S. & Sočan, G. (2015). Internal structure of an alternative measure of burnout: Study on the Slovenian adaptation of the Oldenburg Burnout Inventory (OLBI). *Burnout Research* *2*(1), 1-7. http://dx.doi.org/10.1016/j.b	Cross-sectional survey design	N=1436 Slovenian employees of various occupations	Oldenburg Burnout Inventory (OLBI)	This study revealed a notable difference in reliability between negatively and positively framed items in the Slovenian adaptation of the OLBI. Positively framed items showed a relatively low reliability while the negatively framed items showed satisfactory reliability.	The results may have been influenced by an unsuccessful adaptation of the OLBI. The sample was over representative of females and those in the age group of 40-50.	Further systematic study is needed to address the problem of method affect.	The internal structure of the original OLBI needs to be reconsidered. Based on study results, the OLBI cannot be recommended as a measure of burnout.	III A/B

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urn.2015.02.001.								
Sestili, C., Scalingi, S., Cianfanelli, S., Mannocci, A., Del Cimmuto, A., De Sio, S., Chiarini, M., Di Muzio, M., Villari, P., De Giusti, M., & La Torre, G. (2018). Reliability and use of Copenhagen Burnout Inventory in Italian sample of university professors. *International Journal of Environmental Research and Public*	Cross-sectional survey design	N=95 Italian professors at the Academics of Sapienza University of Faculty of Medicine and Pharmacy	Copenhagen Burnout Inventory (CBI), SF12 Health Survey, and Positivity Scale	The Italian version of the CBI is a reliable instrument to assess burnout. In this study, female academics had a higher degree of personal burnout.	The sample size is small, and participants were all recruited from the same university. A strength is that this was the first study with the population of Italian academics.	Further research is needed to assess the prevalence of burnout in academics.	Burnout is occurring in academia. Universities should promote strategies to recognize and reduce burnout.	III A/B

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Health, 15(8). doi: 10.3390/ijerph15081708								
Shoorideh, F.A, Ashktorab, T., Yaghmaei, F. & Majd, H.A. (2015). Relationship between ICU nurses' moral distress with burnout and anticipated turnover. *Nursing Ethics, 22*(1), 64-76. DOI 10.1177/0969733014534874	Descriptive-correlational study	N=159 Intensive care nurses from a university in Iran	Demographic questionnaire, ICU Nurses' Moral Distress Scale, Copenhagen Burnout Inventory, Hinshaw and Atwood Turnover Scale	In the population, moral distress and anticipated turnover was high. Burnout was found to be moderate. There is a positive statistical correlation between ICU nurses age, work experience, patient ratios and moral distress and burnout.	The majority of participants (72.3%) were women and 45.9% were working with a patient ration in the ICU of one nurse to 3 patients.	This research needs to be replicated in other units and non-academic hospitals.	Increased recruitment of young nurses and reducing ICU nurses' moral distress, burnout, and turnover intention are essential.	III A/B
Smart, D., English, A., James, J., Wilson, M., Daratha, K.B.,	Cross-sectional survey design	N=139 Healthcare workers at a community hospital in the United States	Professional Quality of Life Scale (ProQOL-V).	Results indicate that high amounts of sleep and employment in critical care	The participants were all employees of a Magnet	Future studies should replicate this study with a larger, more ethnically	Identification of predictors of burnout can be used to design interventions	III A/B

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Childers, B., & Magera, C. (2014). CF and satisfaction: A cross-sectional survey among U.S. healthcare workers. *Nursing & Health Sciences, 16*, 3-10. doi: 10.1111/nhs.12068.				areas are associated with less burnout.	hospital which may create bias in responses. 96% of the participants were Caucasian.	diverse population in a variety of work settings.	to reduce burnout.	
Sorenson, C., Bolick, B., Wright, K., & Hamilton, R. (2016). Understanding CF in healthcare providers: A review of current literature. *Journal of Nursing Scholarship,*	Literature Review	43 articles	Review of literature	CF has been explored in many medical professionals. Literature is lacking in certain healthcare professionals. There is a need for a well-developed concept analysis of CF.	The search was limited to on-line data bases.	More literature regarding CF in advanced practice nurses, respiratory therapists, physical therapists, and occupational therapists is needed	A better understanding of CF and it's impact has the potential to improve the well-being of healthcare providers and retention.	III A/B

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48(5), 456-465. doi: 10.1111.jnu.12229.								
Tipa, R.O., Tudose, C. & Pucarea, V.L. (2019). Measuring burnout among psychiatric residents using the Oldenburg Burnout Inventory (OLBI) Instrument. *Journal of Medicine and Life 12*(4), 354-60. DOI: 10.25122/jml-2019-0089	Cross-sectional survey design	N=116 Romanian psychiatric residents	Oldenburg Burnout Scale (OLBI)	The majority of those surveyed were dissatisfied with available resources for attending patients.	The sample size is small and specific so the results may not be generalizable.	Burnout is dynamic and may need to be monitored repeatedly.	Adding stress management training to curriculum could help residents cope with the strain of training, be more resilient and potentially prevent burnout.	III A/B
Treglown, L., Palaiou, K., Zarola, A., & Furnham, A. (2016). The	Cross-sectional survey design	N=451 Ambulance personnel.	Hogan Development Survey, Copenhagen Burnout	Moody, emotionally volatile, excitable personalities	Men were overrepresented (n=401) in the sample.	More research is needed to assess the predictive	Certain personality characteristic may predict	III A/B

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dark side of resilience and burnout: A Moderation-Mediation Model." *PLoS ONE 11*(6). http://doi.org/10.1371/journal.pone.0156279			Inventory, Resilience Scale	were at greater risk of burnout. Cautious personality types were also associated with higher rates of burn out.		capacity of psychological variables on burnout and resilience.	resilience and burnout.	
Trigo, T.R., De Freitas, C.C.S., Wang, Y.P., Ribeiro, F.G., De Lucia, M.C.S., Siqueira, J.O., Iosifescu, D.V., Hallak, J.E.C., & Fraguas, R. (2018). The influence of depression on the psychometric properties of the Maslach Burnout Inventory–	Cross-sectional study design	N=521 Nursing assistants with (n=138) and without (n=383) major depressive disorder (MDD) in Brazil	Demographic and occupations data, Maslach Burnout Inventory-HSS and the Primary Care Evaluation of Mental Disorders (PRIME-MD)	For the group with MDD there was a degree of data misfit while the non-MDD group fit well with the three-dimensional model of the MBI. For the total population, the bifactor model fit the data better.	The nursing assistants were recruited from a teaching hospital	Further research is needed to understand the impact of MDD on MBI-HSS validity.	MDD may impair the construct validity of the MBI-HSS.	III A/B

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Human Services Survey: A cross-sectional study with nursing assistants. *Frontiers in Psychiatry, 9*(695). doi: 10.3389/fpsyt .2018.00695.								
Westphal, M., Bingisser, M.B., Feng, T., Wall, M., Blakley, E., Bingisser, R., & Kleim, B. (2015). Protective benefits of mindfulness in emergency department personnel. *Journal of Affective Disorders, 175*, 79-85. http://dx.doi.o	Cross-sectional survey design	N=50 Emergency department nurses recruited from an urban teaching hospital in Switzerland	Demographic measures, work-related factors, 4-items about work conflict, Hospital Depression and Anxiety Scale, Maslach Burnout Inventory and Mindfulness Attention Awareness Scale	Mindfulness was not associated with any of the demographic variables. Mindfulness was a protective predictor of depression, anxiety, and burnout.	The sample size was small.	This study needs to be replicated in larger and more diverse groups.	There is a robust association between mindfulness and well-being and ER staff may benefit from mindfulness practice to reduce risk of burnout.	III A/B

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rg/10.1016/j.jad.2014.12.038								
Worley, J.A., Vassar, M., Wheeler, D.L., & Barnes, L.L. (2008). Factor structure of scores from the Maslach Burnout Inventory: A review and meta-analysis of 45 exploratory and confirmatory factor-analytic studies. Education and *Psychological Measurement, 68*(5), 797-823. DOI:	Meta-analysis	45 exploratory and confirmatory factor-analytic studies were analyzed.	Meta-analysis	Both descriptive and empirical analysis supported a three-factor model	The analysis is limited by the comprehensiveness of the literature reviewed.	Further research is needed regarding the underlying structure of the MBI scale scores and identification of factors that may influence that structure.	There is support for the three-factor model of the MBI but the nature of the relationship is not consistent across studies.	III A/B

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10.1177/0013164408315268.								
Yang, S., Meredith, P. & Khan, A. (2017). Is mindfulness associated with stress and burnout among mental health professionals in Singapore. *Psychology, Health & Medicine, 22*(6), 673-679. http://dx.doi.org/10.1080/13548506.2016.1220595.	Cross-sectional survey design	N=224 Mental health professionals in Singapore	Perceived Stress Scale, Oldenburg Burnout Inventory, Five Facets Mindfulness Questionnaire	Participants with higher levels of mindfulness have lower levels of stress and burnout after controlling for years of experience.	Cross-sectional study design prevents causal conclusions .	Longitudinal studies are needed to understand the implications for developing interventions to reduce burnout.	All 5 facets of mindfulness were negatively associated with stress and burnout when controlling for years of experience.	III A/B
Zhang, Y.Y., Han, W.L., Qin, W., Yin, H.X., Zhang, C.F., Kong,	Meta-analysis	N=7996 Data from 21 studies of nurses	Meta-regression analysis was used to examine	The prevalence of compassion satisfaction was 47.55%, CF was 52.55%,	There was inconsistency in the assessment tools used	Further research could differentiate between	Burnout is highly prevalent among nurses.	III A/B

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C., Wang, Y.L. (2017). Extent of compassion satisfaction, CF and burnout in nursing: A meta-analysis. *Journal of Nursing Management, 26*, 810-819. DOI: 10.1111/jonm.12589.			prevalence rates of compassion satisfaction, CF, and burnout	and burnout was 51.98%	in the 21 studies.	nurses in different areas.	Education and training may help to moderate impact of burnout and CF and improve quality of life.	
Zhang, M., Loerbroks, A., & Li, J. (2018). Job burnout predicts decline of health-related quality of life among employees with cardiovascular disease: A one-year	Longitudinal, cross-sectional survey design.	N=305 Female hospital nurses with cardiovascular disease	Copenhagen Burnout Inventory and short health survey	Physical and mental functioning declined in the high burnout group compared with the low burnout group over 1 year.	Small homogenous sample that did not include males.	Further research is needed to assess the predictive nature of burnout on health-related quality of life.	Job burnout predicts decline of health-related quality of life one year later in female nurses with cardiovascular disease.	III A/B

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follow-up study in female nurses. *General Hospital Psychiatry, 50*, 51-53. http://dx.doi.org/10.1016/j.genhospsych.2017.10.004								
Zhao, J., Li, X., Xiao, H., Cui, N., Sun, L., & Xu, Y. (2019). Mindfulness and burnout among bedside registered nurses: A cross-sectional study. *Nursing & Health Sciences, 21*, 126-131. DOI:	Cross-sectional survey design	N=793 Nurses working in a tertiary care hospital in China	Demographic and job-related variables, Short Survey of Mindfulness Capability, Maslach Burnout INventory	Higher scores on three facets of mindfulness were associated with less exhaustion and depersonalization.	97.9% of the population was women	More randomized-controlled trials are needed to explore the relationship between mindfulness and burnout.	Mindfulness training may reduce burnout in nurses in China	III A/B

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10.1111/nhs.12582.								

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Appendix B

Johns Hopkins Nursing Evidence-Based Practice

Appendix D

Evidence Level and Quality Guide

Evidence Levels	Quality Ratings
Level I Experimental study, randomized controlled trial (RCT) Explanatory mixed method design that includes only a level I quaNtitative study Systematic review of RCTs, with or without meta-analysis	**QuaNtitative Studies** **A High quality**: Consistent, generalizable results; sufficient sample size for the study design; adequate control; definitive conclusions; consistent recommendations based on comprehensive literature review that includes thorough reference to scientific evidence. **B Good quality**: Reasonably consistent results; sufficient sample size for the study design; some control, fairly definitive conclusions; reasonably consistent recommendations based on fairly comprehensive literature review that includes some reference to scientific evidence. **C Low quality or major flaws**: Little evidence with inconsistent results; insufficient sample size for the study design; conclusions cannot be drawn.
Level II Quasi-experimental study Explanatory mixed method design that includes only a level II quaNtitative study Systematic review of a combination of RCTs and quasi-experimental studies, or quasi-experimental studies only, with or without meta-analysis	**QuaLitative Studies** No commonly agreed-on principles exist for judging the quality of quaLitative studies. It is a subjective process based on the extent to which study data contributes to synthesis and how much information is known about the researchers' efforts to meet the appraisal criteria. *For meta-synthesis, there is preliminary agreement that quality assessments of individual studies should be made before synthesis to screen out poor-quality studies*[1]. **A/B High/Good quality** is used for single studies and meta-syntheses[2]. The report discusses efforts to enhance or evaluate the quality of the data and the overall inquiry in sufficient detail; and it describes the specific techniques used to enhance the quality of the inquiry. Evidence of some or all of the following is found in the report: • Transparency: Describes how information was documented to justify decisions, how data were reviewed by others, and how themes and categories were formulated. • Diligence: Reads and rereads data to check interpretations; seeks opportunity to find multiple sources to corroborate evidence. • Verification: The process of checking, confirming, and ensuring methodologic coherence. • Self-reflection and scrutiny: Being continuously aware of how a researcher's experiences, background, or prejudices might shape and bias analysis and interpretations. • Participant-driven inquiry: Participants shape the scope and breadth of questions; analysis and interpretation give voice to those who participated. • Insightful interpretation: Data and knowledge are linked in meaningful ways to relevant literature. **C Low quality** studies contribute little to the overall review of findings and have few, if any, of the features listed for high/good quality.
Level III Nonexperimental study Systematic review of a combination of RCTs, quasi-experimental and nonexperimental studies, or nonexperimental studies only, with or without meta-analysis Exploratory, convergent, or multiphasic mixed methods studies Explanatory mixed method design that includes only a level III quaNtitative study QuaLitative study Meta-synthesis	

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Johns Hopkins Nursing Evidence-Based Practice

Appendix D

Evidence Level and Quality Guide

Evidence Levels	Quality Ratings
Level IV Opinion of respected authorities and/or nationally recognized expert committees or consensus panels based on scientific evidence Includes: • Clinical practice guidelines • Consensus panels/position statements	A **High quality:** Material officially sponsored by a professional, public, or private organization or a government agency; documentation of a systematic literature search strategy; consistent results with sufficient numbers of well-designed studies; criteria-based evaluation of overall scientific strength and quality of included studies and definitive conclusions; national expertise clearly evident; developed or revised within the past five years B **Good quality:** Material officially sponsored by a professional, public, or private organization or a government agency; reasonably thorough and appropriate systematic literature search strategy; reasonably consistent results, sufficient numbers of well-designed studies; evaluation of strengths and limitations of included studies with fairly definitive conclusions; national expertise clearly evident; developed or revised within the past five years C **Low quality or major flaws:** Material not sponsored by an official organization or agency; undefined, poorly defined, or limited literature search strategy; no evaluation of strengths and limitations of included studies, insufficient evidence with inconsistent results, conclusions cannot be drawn; not revised within the past five years
Level V Based on experiential and nonresearch evidence Includes: • Integrative reviews • Literature reviews • Quality improvement, program, or financial evaluation • Case reports • Opinion of nationally recognized expert(s) based on experiential evidence	**Organizational Experience (quality improvement, program or financial evaluation)** A **High quality**: Clear aims and objectives; consistent results across multiple settings; formal quality improvement, financial, or program evaluation methods used; definitive conclusions; consistent recommendations with thorough reference to scientific evidence B **Good quality**: Clear aims and objectives; consistent results in a single setting; formal quality improvement, financial, or program evaluation methods used; reasonably consistent recommendations with some reference to scientific evidence C **Low quality or major flaws**: Unclear or missing aims and objectives; inconsistent results; poorly defined quality improvement, financial, or program evaluation methods; recommendations cannot be made **Integrative Review, Literature Review, Expert Opinion, Case Report, Community Standard, Clinician Experience, Consumer Preference** A **High quality**: Expertise is clearly evident; draws definitive conclusions; provides scientific rationale; thought leader(s) in the field B **Good quality**: Expertise appears to be credible; draws fairly definitive conclusions; provides logical argument for opinions C **Low quality or major flaws**: Expertise is not discernable or is dubious; conclusions cannot be drawn

1 https://www.york.ac.uk/crd/SysRev/ISSJ/WebHelp/IS_4_ASSESSMENT_OF_QUALITATIVE_RESEARCH.htm
2 Adapted from Polit & Beck (2017).

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Mindfulness Training in Emergency Department Nurses: Methodology

BY

Amy Newstrom

A paper submitted in partial fulfillment of the requirements for the degree

Doctor of Nursing Practice

South Dakota State University

2021

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Abstract

Background: Compassion fatigue is prevalent among nurses. Nurses and patients are negatively impacted by its occurrence. Mindfulness training has been shown to reduce symptoms. The goal of this project was to examine the effect of mindfulness training on the three dimensions of the Professional Quality of Life (ProQOL-V) assessment. *Methods*: Emergency department nurses were recruited to attend one brief session of mindfulness training. The ProQOL-V was administered prior to and 8 weeks after the training. *Results*: The sample size for this project was smaller than anticipated despite recruiting efforts and incentives. The did not indicate statistically significant differences between pre- and post-test scores on the three dimensions of the ProQOL-V. Data indicated clinical significance. *Discussion*: This project postulated mindfulness training may reduce perceived symptoms of compassion fatigue. The statistical findings did not indicate a difference between pre- and post-test scores on the ProQOL-V. Clinical significance was perceived by participants and was reflected in individual ProQOL-V scores. The small sample size impacted statistical significance. This project should be replicated in a larger population over a longer period of time. *Implications*: Continued research is needed to explore the relationship between mindfulness training and its impact on symptoms of compassion fatigue.

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Mindfulness Training in Emergency Department Nurses

Background/Purpose

An aging and increasingly acute population are intensifying demands upon the profession of nursing. It is estimated that there will be 100,000 nursing positions open each year, and the nursing shortage will be further exacerbated by an estimated 500,000 seasoned nurses retiring by 2022 (American Nurses Association [ANA], 2020). The nursing shortage will increase stress on the current workforce, therefore, increasing the risk of compassion fatigue (CF). Compassion fatigue is the negative consequence of caregiving and Stamm (2010) conceptualizes it as the culmination of burnout and secondary traumatic stress. Compassion fatigue can lead to exhaustion in nurses which reduces their ability to provide compassionate care (Al-majid, Carlson, & Kiyohara, 2018; Duarte, Pinto-Gouveia, & Cruz, 2016; Neville & Cole, 2013). Nurses working in high-acuity areas are more likely to experience CF (Flarity, Gentry, & Mesnikoff, 2013; Mohammadi, Peyrovi, & Mahmoodi, 2017). Stress-reduction and mindfulness strategies may help to reduce the negative impact of the stress related to caregiving (Al-Majid, Carlson, & Kiyohara, 2018; Giarelli et al., 2016; Mohammadi, Peyrovi, & Mahmoodi, 2017; Neville & Cole, 2013).

Significance

Nursing turnover is a concern both nationally and internationally (Brewer et al., 2012). It has been estimated that nursing turnover could cost a 300-bed hospital $4 million per year (Emergency Nurses Association [ENA], 2017). Other studies have estimated that turnover can cost the U.S. healthcare systems as much as $728 million per year (Brewer et al., 2012). Turnover may be even more costly when nursing positions

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require specialized training, such as in the emergency department. Emergency department nurses need additional education to care for high acuity patients including Advanced Cardiac Life Support (ACLS) and/or Trauma Nursing Core Course (TNCC) (ENA, 2017). Not only is there monetary cost associated with turnover but a loss of 'intellectual capital' as experienced nurses exit the work force (Brewer et al., 2012).

Emergency nurses are more likely than nurses in other areas to suffer from CF due to the fast-paced and tumultuous nature of providing emergency service (ENA, 2017). Emergency nurses are increasingly exposed to secondary traumatic stress as they care for acute emergencies in an unpredictable environment (Monroe, Morse, & Price, 2020). The experience of secondary traumatic stress can lead to troubling emotions such as fear and helplessness (Monroe, Morse, & Price, 2020). Compassion fatigue can contribute to turnover and in 2014 and 2015 the turnover rate for emergency nurses was approximately 21% (Monroe, Morse, & Price, 2020; NSI Nursing Solutions Inc., 2016; Sheridan, 2016). The staff turnover at the site of this project is currently 36% (personal communication with Emergency Department Director, October 12, 2020).

Multiple studies have indicated that CF has a negative impact on nurses' health and on care provided to patients. Effects of burnout on the health of nurses includes increased risk of cardiovascular disease, higher body mass index, higher cholesterol, insomnia, depression, and other mental illnesses (Kelly, 2020; Zhang, Loerbroks, & Li, 2018). Employees experiencing burnout are less productive and quality of work is reduced (Mashlach & Leiter, 2016). Nurses that suffer from CF are less engaged and are more likely to make medical errors and rate patient safety as poor (Kelly, 2020). The cost of CF can ultimately impact patient mortality rates (Kelly, 2020).

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Mindfulness practices have proven effective in reducing symptoms of CF (Ceravolo & Raines, 2019; Duarte, Pinto-Gouveia, & Cruz, 2016; Duarte, & Pinto-Gouveia, 2016; Dyrbye et al., 2019; Flarity, Gentry, & Mesnikoff, 2013; Flarity et al., 2016; Gracia-Gracia, & Olivan-Blazquez, 2017; Ireland et al., 2017; Kaplan et al., 2017; Kinnunen et al., 2020; Magtibay et al., 2017; Mohammadi, Payrovi, H., & Mahmoodi, 2017; Moody et al., 2013; Neville & Cole, 2013; Westphal et al., 2015; Yang, Meredith, & Khan, 2017; Zhang et al., 2017). Mindfulness education and training may help to moderate impact of burnout and improve well-being. Although evidence shows that mindfulness is useful in reducing symptoms of CF, the intensity of burnout that an individual experiences may influence the benefit of mindfulness training (Goldhagen et al., 2015; Kinnunen et al., 2019). There is specific evidence about how mindfulness practices impact wellness (Zhao et al., 2019).

PICOT Question

A PICOT question was developed to guide this DNP Project. For this project the PICOT question was: In (P) emergency department nurses how does (I) mindfulness training compared to (C) no training (O) influence compassion fatigue measured as secondary traumatic stress and burnout over a (T) two-month period?

Summary of Evidence

Compassion fatigue is the consequence of secondary exposure to trauma in the workplace (Ogińska-Bulik, & Michalska, 2020). Compassion fatigue has been defined as the cumulative psychological toll associated with working with survivors of trauma or perpetrators of violence and crime as part of daily work (Geoffrion et al., 2019). Stamm (2010) conceptualizes that CF is composed of burnout and secondary trauma stress

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(STS). The symptoms of CF are like those of post-traumatic stress disorder (PTSD) and burnout. The consequences of CF are measurable and efforts to reduce CF should be undertaken at an organizational level and not left up to the nurse alone (Peters, 2018; Giarelli et al., 2016).

Burnout has been defined as feelings of hopelessness and fatigue that interfere with caregiving (Geoffrion et al., 2019). Key elements of the definition of burnout include a prolonged response to occupational stress which may include exhaustion, cynicism, disengagement, and ineffectiveness (Cordes & Dougherty, 1993; Ogińska-Bulik, & Michalska, 2020). Experiencing burnout may lead to many negative consequences including reduced emotional, cognitive, and physical energy, increase susceptibility to PTSD or STS, reduce work performance, absences from work, and increase the risk of medical errors (Chernoff et al., 2019; Dyrbye et al., 2019; Ogińska-Bulik, & Michalska, 2020; Peterson et al., 2011).

Secondary traumatic stress is the preoccupation with thoughts of people that helpers have cared for or aided (Geoffrion et al., 2019). This concept addresses fear felt by caregivers. Secondary traumatic stress is characterized by intrusive thoughts, avoidance, and hyperarousal (Ogińska-Bulik, & Michalska, 2020). Secondary traumatic stress is thought to be a complex state of reduced function and exhaustion (Figley, Kleber, & Gersons, 1995). There has been found to be a strong association between job burnout and STS (Cieslak et al., 2014).

Compassion satisfaction are positive feelings that one gets from providing care to others (Zhang et al., 2017). Compassion satisfaction may include feelings of pride about the work that is being done and pleasure derived from being able to do work well

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(Stamm, 2010). The concept of compassion satisfaction also encompasses feelings of success and being able to make a difference (Stamm, 2010). This concept is important as nursing job satisfaction has been linked to patient satisfaction and is a protective factor from burnout and CF (Sacco et al., 2015).

Mindfulness is a concept that is rooted in Buddhist practices and can be conceptualized as non-judgmental awareness of the present moment (Kabat-Zinn, 1994). Mindfulness education and training may help to moderate impact of burnout and improve well-being (Ceravolo & Raines, 2019; Duarte, & Pinto-Gouveia, 2016; Flarity, Gentry, & Mesnikoff, 2013; Flarity et al., 2016; Kaplan et al., 2017; Magtibay et al., 2017; Neville & Cole, 2013; Westphal et al., 2015). Mindfulness practice is cost-effective and accessible (Sheridan, 2016). Barriers to mindfulness practices may include physical illness, skepticism of the utility of mindfulness, sleepiness, restlessness, difficulty accessing educational materials about mindfulness, and strong negative emotions (Laurie & Blanford, 2016; Radcliffe, 2020; Witkiewitz et al., 2017).

Recommendations for Practice

The prevalence of CF indicates the need for evidence-based strategies to reduce occurrence (Al-Majid et al., 2018; Chernoff et al., 2019; Creedy et al., 2017). Organizations should actively pursue strategies to reduce and prevent CF in nurses (Al-Majid et al., 2018; Dyrbye et al., 2019; Flarity, Gentry, & Mesnikoff, 2013; Giarelli et al., 2016). Mindfulness has shown utility in reducing symptoms of CF and should be considered as an intervention (Ceravolo & Raines, 2019; Duarte, Pinto-Gouveia, & Cruz, 2016; Duarte & Pinto-Gouveia, 2016; Gracia-Gracia & Olivan-Blazquez, 2017; Ireland et

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al., 2017; Kaplan et al., 2017; Moody et al., 2013; Westphal et al., 2015; Yang, Meredith, & Khan, 2017; Zhao et al., 2019).

Gaps in Current Knowledge

Further research opportunities are abundant in the area of burnout, CF, and the ability to accurately measure the symptoms of the phenomena and changes associated with interventions (Hunsaker et al., 2015; Magtibay et al., 2017). Longitudinal research tracking burnout and CF over caregivers' careers and in association with interventions are needed (Creedy et al., 2017; Dyrbye et al., 2019; Moody et al., 2013; Yang, Meredith, & Khan, 2017). Studies conducted in varying populations would enable researchers to generalize findings (Cieslak et al., 2014; Mahmoudi et al., 2017). Further research is also warranted to study the relationship amongst the concepts and symptoms of CF (Basinka, Wiciak, & Daderman, 2014; Ogińska-Bulik & Michalska, 2020). Further support and validation for tools that measure burnout and CF are needed as well (Beckstead, 2002; Demerouti & Bakker, 2007, Dolan et al., 2014; Halbesleben & Demerouti, 2005).

Methods

Lippitt's Phases of Change Theory, the Iowa Model of Evidence-Based Practice, and the Modeling and Role Modeling nursing theory were used to guide this project. These theories and model were selected for their enduring traits, academic acceptance, and goodness of fit with the Doctor of Nursing Practice (DNP) Project's goal. The theories and models provided the foundation for processes and guidance during challenges.

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Sample

The target population of this DNP Project was emergency department nurses. The convenience sample included emergency department (ED) personnel and one nurse manager from a department other than the emergency department (n=14). The data from the individual working in an area outside the ER was excluded to maintain the homogeny of stress exposure (n=13). There were 109 emergency department staff listed on a demographic sheet provided by the facility, 71 were registered nurses (personal communication with Emergency Department Director, December 1, 2020).

The majority of the sample worked at a full-time status (n=12, 92%). Years of experience ranged from one year to 42 years with a mean and median of 15 years' experience. There were nine emergency department nurses (69%), one paramedic (7.6%), two nurse managers (15%), and one patient care technician (7.6%). The ages of the nurses ranged from 23-63. The mean age of the sample was 43 years, while the median age was 48 years. The majority of the sample was female (n=12, 92%), while males accounted for 7.6% of the sample (n=1). Ethnicities represented in the sample included Native American (7.6%), African American (7.6%), and Caucasian (85%). 61.5% of the sample were bachelor prepared nurses (n=8). There were two associate prepared nurses (15%), one nurse with a Master of Business Administration (7.6%), one certified paramedic (7.6%), and one high school graduate (7.6%). Three nurses (23%) held the Certified Emergency Nurse (CEN) designation. The sample population cares for a variety of patients that range in acuity but include cardiac and respiratory emergencies, diabetes, trauma, and abdominal pain (personal communication with Emergency Department

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Director, October 26, 2020). A summary of demographic information can be found in Appendix I.

Setting

The setting of the DNP Project was a Level II Trauma Center emergency department at a Midwestern, non-profit 387-bed hospital. Services offered in the department include triage, expedited care, laboratory studies, X-ray, CT scan, MRI, and ultrasound. This emergency department cares for 2,200 patients per patient department per year or an average of 57,000 visits each year (personal communication with Emergency Department Director, October 26, 2020). In addition to nurses, the department is staffed with emergency certified physicians, nurse practitioners, patient care technicians, and health unit clerks (personal communication with Emergency Department Director, October 26, 2020).

The current practice in the emergency department to address job-related stress were the offering of a debriefing conference after traumatic events. Debriefings could also occur 'on-demand' by staff but were rarely utilized. Debriefings had been utilized three times in the 12 months prior to this project (personal communication with Emergency Department Director, October 26, 2020). There was also an employee assistance program available that allows for five individual counseling sessions that are free of charge. Employees must initiate these visits by contacting the employee assistance program and scheduling an appointment (personal communication with Emergency Department Director, October 26, 2020).

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Intervention Tool

Simply educating nurses about burnout and compassion fatigue may improve compassion satisfaction. Psychoeducation based on the ProQOL-V's concepts of burnout, STS, CF, and compassion satisfaction were incorporated into the mindfulness training (Stamm, 2010). The mindfulness intervention utilized in this project was curated from the ProQOL-V (Stamm, 2010) and *The Mindful Nurse* (Sheridan, 2016). Exercises from *The Mindful Nurse* were chosen as a representation of principles based on Mindfulness-Based Stress Reduction by Jon Kabat-Zinn (1994). These principles and exercises have been used as interventions in similar studies to determine the impact of mindfulness training in varying populations (Ceravolo & Raines, 2019; Duarte & Pinto-Gouveia, 2016; Ireland et al., 2017) (see Appendix M).

Tools used to assess burnout and CF were reviewed (Borritz et al., 2006; Demerouti & Bakker, 2007; Doulogeri, Georganta, & Montgomery, 2016; Fong, Ho, & Ng, 2014; Kleijweg, Verbraak, & Van Dijk, 2013; Kristensen et al., 2005; Langballe et al., 2006; Loera, Converso, Viotti, 2014; Papaefstathiou et al., 2019; Pisanti et al., 2013; Poghosyan, Aiken, & Sloane, 2009; Sedlar et al., 2015; Sestili, 2018; Tipa, Tudose, & Pucarea, 2019; Trigo et al., 2018; Worley et al., 2008). After review of the literature, the project coordinator chose the Professional Quality of Life Scale (ProQOL-V). The ProOOL-V was chosen is as it is used to explain the realities of the work carried out by those in helping professions. The ProQOL-V measures three dimensions: burnout, STS, and compassion satisfaction. Compassion fatigue is conceptualized as being composed of STS and burnout. The dimension of CF is a newer concept that may make the ProQOL-V a more desirable tool (Smart et al., 2014) (see Appendix F for the tool).

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Stamm (2010) developed the ProQOL-V based on the Compassion Fatigue Self Tests developed by Charles Figley in the 1980's. The ProQOL-V is free of charge to use and is currently in its fifth version (Stamm, 2010) (see Appendix G for permission to use). The ProQOL-V has been found to valid in recognizing burnout and CF (Galiana et al., 2017; Geoffrion et al., 2019). In regard to reliability, Cronbach's alphas were found to be 0.774 for compassion satisfaction, 0.782 for secondary traumatic stress, and 0.857 for compassion satisfaction in a Spanish and Portuguese sample (Galiana et al., 2017).

Participants also completed a demographic and self-care questionnaire and ProQOL-V prior to training (see Appendix F and H). This questionnaire was created by the DNP Project Coordinator to gain qualitative data regarding self-care prior to training and to obtain objective demographic data from the sample. This questionnaire was sent to a panel of 10 people similar to the sample to assess for clarity of questions and ease of understanding to establish face validity. The panel was composed of nurses that are working or have worked in the emergency department and college-educated professionals. Changes were made based on feedback. Changes included adding a definition of self-care and changing 'mindfulness techniques' to 'mindfulness practices' to avoid language that implied a 'right way' to practice mindfulness. Definitions of CF, STS, and burnout were also added based on the panels feedback.

Eight weeks after the mindfulness training, participants completed a qualitative post-training questionnaire and ProQOL-V (see Appendix F and J). This was also created by the DNP Project Coordinator to obtain qualitative data about the impact mindfulness training had on the sample. This questionnaire was sent to 10 people similar to the sample to assess for clarity of questions and ease of understanding to establish face validity.

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Project Procedure

Prior to implementing the project, faculty approval, the hospital nursing council and emergency department director approval were obtained. Participants were recruited using a poster placed in the emergency department break room. Another poster was created by department staff to increase visibility. This flyer recruited all emergency department staff and was posted prior to the DNP Project Coordinators approval. An e-mail was sent by the department director to all emergency department nurses providing information about the project and promoting participation. Prior to each session, the emergency department charge nurse was contacted to announce the time and location of the course to staff who were coming on and off shift. Food was used as an incentive.

One week after promoting the project the first in-person, one-hour mindfulness training session occurred. Participants were asked to complete the demographic/self-care questionnaire and ProQOL-V and were given approximately 10 minutes to complete these documents prior to the session. Participants were encouraged to work on the packet during the training if needed. Each participant created a unique 4-digit identifying number that they would remember. The mindfulness training was led by the DNP Project Coordinator, who is a licensed counselor, using a PowerPoint presentation (see Appendix M). The participants were then led through two mindfulness exercises: Mindful Eating and Body Scan (Sheridan, 2016) (see Appendix L). The participants were encouraged to use mindfulness techniques daily and as needed when stressed and to look for follow-up communication via e-mail. This procedure was repeated at a total of six mindfulness training sessions with new participants at each session.

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A reminder e-mail was sent out approximately four weeks after the training sessions which contained a link to a guided mindfulness practice (see Appendix O). Eight weeks after the training, participants were sent a follow-up ProQOL-V and a qualitative post-training questionnaire (Appendix J) via an e-mail sent by the emergency department director (see Appendix O). This e-mail contained links to on-line formats of the qualitative questionnaire and the Pro-QOL-V. Paper copies of these documents were also placed in the emergency department breakroom with a bowl of candy to incentivize completion. A locked box was placed next to the packets for collection.

Ethical Considerations

The South Dakota State Human Subjects Research Decision Chart was completed by the DNP Project Coordinator and the Project Chair. It was determined that this project was not Human Subjects Research and an application to the Internal Review Board (IRB) was not required (see Appendix A). Documents were also submitted to the facility and it was determined at the facility level that this project does not constitute Human Subjects Research and an IRB research application was not required (see Appendix B). A meeting was held with the hospitals nursing council to propose the project and answer any questions about processes. Participation in this project was voluntary. Participants chose a 4-digit identifying number to link pre- and post-training materials to ensure anonymity. All materials completed by participants were treated confidentially and kept by the DNP Project Coordinator in a secured location. The DNP Project coordinator was the only person with access to the original data.

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Results

The scores on the subscales of the ProQOL-V were obtained pre- and post-intervention. There were thirteen individuals who attended the mindfulness training, however, only four completed the post-test materials. The four completed data sets were analyzed using the Wilcoxon Signed Rank Test. A non-parametric test was chosen because the Central Limits Therom is not applicable due to the small sample size and assumptions cannot be made about the shape of the distribution. The statistical test chosen, and results were discussed with a statistician from the university.

Pre- and post- ProQOL-V scores were analyzed for each of the three subscales using the IBM Statistical Package for the Social Sciences (SPSS). A p-value of 0.005 or less was considered statistically significant. The p-value for the difference between pre- and post-test scores on the STS subscale was 0.102, on the BO subscale was 0.285, and on the CS subscale was 0.465. Although statistical significance was not established, a review of raw scores and qualitative questionnaire answers revealed there may be some clinical significance of the mindfulness intervention. Three of four completers exhibited an increase in CS scores and a reduction of STS scores

Prior to mindfulness training results from the qualitative questionnaires indicated the sample had participated in the following activities that they identified as self-care in the previous two weeks: hiking, camping, swimming, kayaking, exercising, deep breathing, daily devotions, time with friends, stretching, and watching a funny television show. These activities were occurring three to five times per week. Two of the four completers had not heard of mindfulness practices prior to the training and had never practiced mindfulness to reduce stress. Two of the four completers identified using

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mindfulness practices daily prior to the training. All completers identified compassion fatigue as a concern.

After the mindfulness training the completers identified self-care over the prior two weeks as: exercise, good sleep, walking dogs, hiking, time with friends, walking three to four times per week, swimming, kayaking, shopping, massage, and taking a hot bath. All completes reported that mindfulness training was useful. Raw scores on the ProQOL-V subscales can be found in Appendix N and a summary of pre- and post-training qualitative questionnaires can be found in Appendix K.

Discussion

Special circumstances related to the Coronavirus disease (COVID-19) pandemic may have contributed to the difficulty in recruiting and maintaining participants. Serving the most acute patients during the past year may have increased stress on emergency department staff making commitment to activities related to but outside work time challenging. Safety precautions and availability of staff for the trainings were influenced by the circumstances of COVID-19.

Although statistical significance was not established, there may be clinical significance to mindfulness training reducing CF based on qualitative questionnaire date and raw scores on the subscales of the ProQOL-V. This is illustrated by 75% of participants exhibiting reductions on the STS subscale and increases on the CS scale. Comments from participants indicate a perceived utility of mindfulness training in influencing mindfulness practice.

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Implications for Practice

Compassion fatigue may be recognized using an appropriate tool. Once burnout and STS are identified, interventions, such as mindfulness training, could be implemented to reduce distress, improve nursing satisfaction, and nursing staff retention. Implementing policy to reduce burnout and CF may reduce costs associated with nursing turnover and improve patient satisfaction scores. Nurses that are more satisfied in their work are known to provide better patient care (Perry, Richter, & Beauvais, 2017). Policies should be created to identify and serve nurses suffering with the symptoms of CF. Policies may include use of a tool, such as the ProQOL-V, given during intervals throughout the year with those scoring high on the BO and STS being referred to a mindfulness workshop with subsequent follow up.

Sustainability and Limitations

Limitations of this project are sample size and time frame of the project. A larger sample size would produce more generalizable results. This may be achieved by a longer recruitment period or reoccurring mindfulness training throughout the year. The addition of refresher courses or continued mindfulness and stress reduction training courses may further magnify results. Attendance of the mindfulness training could become part of orientation for all staff with education reoccurring over time. A meeting with the facilities nursing council revealed that the facility is interested in incorporating mindfulness into continuing nursing and staff education. Participants would be paid for attending the training.

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Recommendations for Future Projects

This project could be expanded with multiple sessions of mindfulness training and over a longer period of time. There is evidence that results may be more significant with prolonged mindfulness training sessions (Ceravolo & Raines, 2019; Duarte & Pinto-Gouveia, 2016; Ireland et al., 2017). The ProQOL-V could be used to assess change over time. Implementation of mindfulness training with regular occurring refreshers and follow-up may yield more information about the utility of and intensity needed for statistical significance. Turnover rates prior to and after implementation could be examined to quantify utility of the program, as well. Further research is needed using a larger, more demographically variable population.

Conclusion

Burnout and CF are prevalent among nurses. Tools that recognize burnout and CF are available. Mindfulness training is a simple and cost-effect way to reduce burnout and CF once they are recognized. This project illustrated subjective utility of brief mindfulness training based on the participants comments, however statistical analysis did not support a difference in pre- and post-training scores on the ProQOL-V. Increased stress of emergency staff working during the COVID-19 pandemic may have impacted participation. Further research is needed to ensure the generalizability of these findings and expound upon them.

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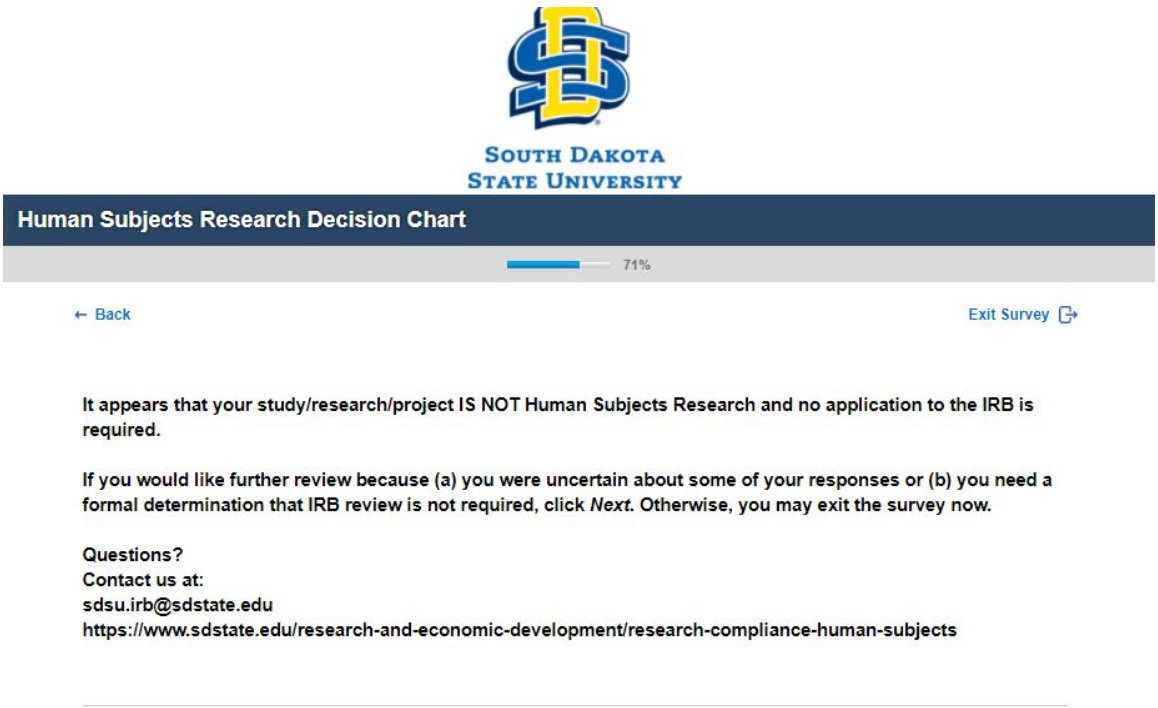
Appendix A

University IRB Approval



SOUTH DAKOTA STATE UNIVERSITY

Human Subjects Research Decision Chart

71%

← Back Exit Survey

It appears that your study/research/project IS NOT Human Subjects Research and no application to the IRB is required.

If you would like further review because (a) you were uncertain about some of your responses or (b) you need a formal determination that IRB review is not required, click *Next*. Otherwise, you may exit the survey now.

Questions?
Contact us at:
sdsu.irb@sdstate.edu
https://www.sdstate.edu/research-and-economic-development/research-compliance-human-subjects

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Appendix B

Facility Approval

[redacted]

[redacted] IRB OFFICIAL

HUMAN SUBJECTS RESEARCH DETERMINATION

Federal regulations and [redacted] Institutional Review Board ([redacted] IRB) policy requires **ALL** research projects involving **humans as subjects** (including involvement of humans in one or more of the categories of research exempted or waived under the federal regulations), **OR the use of identifiable protected health information** be reviewed and approved by an IRB **PRIOR** to initiation of any research related activities, including recruitment and screening activities. The [redacted] IRB is the sole body designed to make official human subject research determinations at [redacted].

This completed form is the official determination of the project information submitted to the [redacted] IRB. Please keep this information for your records.

Name of Submitter	Amy Newstrom
Contact information	[redacted]
Title of the project	Mindfulness Training in Emergency Room Nurses
Date of the submission	7.20.2020
Summary of the project	An aging and increasingly acute population is increasing demands upon the profession of nursing. It is estimated that there will be 100,000 nursing positions open each year, and the nursing shortage will be further exacerbated by an estimated 500,000 seasoned nurses retiring by 2022 (American Nurses Association [ANA], 2020). The nursing shortage will increase stress on the current workforce therefore increasing the risk of compassion fatigue. Compassion fatigue can lead to exhaustion in nurses which reduces their ability to provide compassionate care (Al-majid, Carlson, & Kiyohara, 2018; Duarte, Pinto-Gouveia, & Cruz, 2016; Neville & Cole, 2013). Nurses working in high-acuity areas are more likely to experience compassion fatigue (Clarity, Gentry, & Mesnikoff,2013; Mohammadi, Peyrovi, & Mahmoodi, 2017). Stress-reduction and mindfulness strategies may help to reduce the negative impact of the stress related to caregiving (Al-Majid, Carlson, & Kiyohara, 2018; Giarelli, Deniaris, Fisher, Maley, & Nolan, 2016; Mohammadi, Peyrovi, & Mahmoodi, 2017; Neville & Cole, 2013).
Determination Date	7.20.2020
[redacted] IRB Determination:	

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[redacted]

☐INSUFFICIENT INFORMATION: Additional information is needed to complete the assessment of this project.

☑WAIVED: the proposed activity, as described, **DOES NOT** constitute Human Subjects Research. Submission of a [redacted] IRB research application is not required. This study does involve human subjects but is an evidence-based project.

☐REQUIRED: The proposed activity, as described, **DOES** constitute Human Subjects Research. The Protocol and all accompanying documentation will need to be submitted for IRB review and approval before starting the research at [redacted]. Submission of a [redacted] IRB application or an IRB Authorization agreement is required. [redacted] IRB approval or the IRB of Record approval must be obtained before the investigator begins their research.

[redacted] **IRB Determination form completed by:**

[redacted] 7.21.2020

Date

Thank you for your project submission. If you have any questions or concerns please feel free to reach out to the [redacted]

Please note if any protected health information (PHI) is being seen, collected or used it is important to ensure there are proper authorizations in place before considering taking any PHI out of the boundaries of [redacted] It is everyone's responsibility to protect patient PHI.

[redacted]

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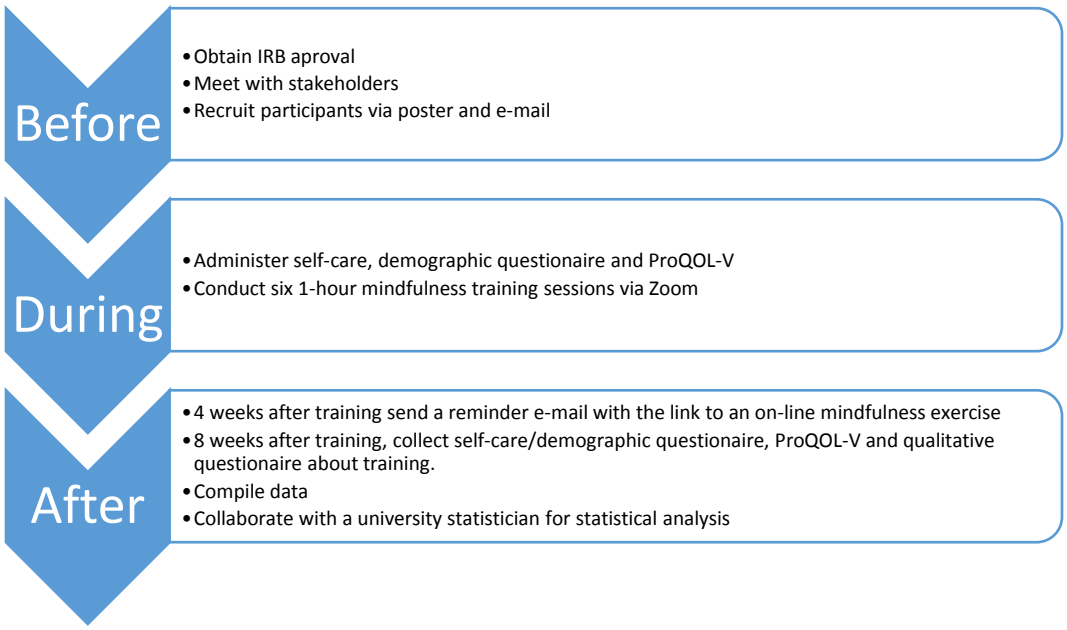
Appendix C

Procedure Algorithm



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Appendix D

Johns Hopkins Nursing Evidence-Based Practice

Johns Hopkins Nursing Evidence-Based Practice

Appendix D

Evidence Level and Quality Guide

Evidence Levels	Quality Ratings
Level I Experimental study, randomized controlled trial (RCT) Explanatory mixed method design that includes only a level I quaNtitative study Systematic review of RCTs, with or without meta-analysis	**QuaNtitative Studies** **A High quality**: Consistent, generalizable results; sufficient sample size for the study design; adequate control; definitive conclusions; consistent recommendations based on comprehensive literature review that includes thorough reference to scientific evidence. **B Good quality**: Reasonably consistent results; sufficient sample size for the study design; some control, fairly definitive conclusions; reasonably consistent recommendations based on fairly comprehensive literature review that includes some reference to scientific evidence. **C Low quality or major flaws**: Little evidence with inconsistent results; insufficient sample size for the study design; conclusions cannot be drawn. **QuaLitative Studies** No commonly agreed-on principles exist for judging the quality of quaLitative studies. It is a subjective process based on the extent to which study data contributes to synthesis and how much information is known about the researchers' efforts to meet the appraisal criteria. *For meta-synthesis, there is preliminary agreement that quality assessments of individual studies should be made before synthesis to screen out poor-quality studies*[1]. **A/B High/Good quality** is used for single studies and meta-syntheses[2]. The report discusses efforts to enhance or evaluate the quality of the data and the overall inquiry in sufficient detail; and it describes the specific techniques used to enhance the quality of the inquiry. Evidence of some or all of the following is found in the report: • Transparency: Describes how information was documented to justify decisions, how data were reviewed by others, and how themes and categories were formulated. • Diligence: Reads and rereads data to check interpretations; seeks opportunity to find multiple sources to corroborate evidence. • Verification: The process of checking, confirming, and ensuring methodologic coherence. • Self-reflection and scrutiny: Being continuously aware of how a researcher's experiences, background, or prejudices might shape and bias analysis and interpretations. • Participant-driven inquiry: Participants shape the scope and breadth of questions; analysis and interpretation give voice to those who participated. • Insightful interpretation: Data and knowledge are linked in meaningful ways to relevant literature. **C Low quality** studies contribute little to the overall review of findings and have few, if any, of the features listed for high/good quality.
Level II Quasi-experimental study Explanatory mixed method design that includes only a level II quaNtitative study Systematic review of a combination of RCTs and quasi-experimental studies, or quasi-experimental studies only, with or without meta-analysis	
Level III Nonexperimental study Systematic review of a combination of RCTs, quasi-experimental and nonexperimental studies, or nonexperimental studies only, with or without meta-analysis Exploratory, convergent, or multiphasic mixed methods studies Explanatory mixed method design that includes only a level III quaNtitative study QuaLitative study Meta-synthesis	

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Johns Hopkins Nursing Evidence-Based Practice

Appendix D

Evidence Level and Quality Guide

Evidence Levels	Quality Ratings
Level IV Opinion of respected authorities and/or nationally recognized expert committees or consensus panels based on scientific evidence Includes: • Clinical practice guidelines • Consensus panels/position statements	**A High quality:** Material officially sponsored by a professional, public, or private organization or a government agency; documentation of a systematic literature search strategy; consistent results with sufficient numbers of well-designed studies; criteria-based evaluation of overall scientific strength and quality of included studies and definitive conclusions; national expertise clearly evident; developed or revised within the past five years **B Good quality:** Material officially sponsored by a professional, public, or private organization or a government agency; reasonably thorough and appropriate systematic literature search strategy; reasonably consistent results, sufficient numbers of well-designed studies; evaluation of strengths and limitations of included studies with fairly definitive conclusions; national expertise clearly evident; developed or revised within the past five years **C Low quality or major flaws:** Material not sponsored by an official organization or agency; undefined, poorly defined, or limited literature search strategy; no evaluation of strengths and limitations of included studies, insufficient evidence with inconsistent results, conclusions cannot be drawn; not revised within the past five years
Level V Based on experiential and nonresearch evidence Includes: • Integrative reviews • Literature reviews • Quality improvement, program, or financial evaluation • Case reports	**Organizational Experience (quality improvement, program or financial evaluation)** **A High quality**: Clear aims and objectives; consistent results across multiple settings; formal quality improvement, financial, or program evaluation methods used; definitive conclusions; consistent recommendations with thorough reference to scientific evidence **B Good quality**: Clear aims and objectives; consistent results in a single setting; formal quality improvement, financial, or program evaluation methods used; reasonably consistent recommendations with some reference to scientific evidence **C Low quality or major flaws**: Unclear or missing aims and objectives; inconsistent results; poorly defined quality improvement, financial, or program evaluation methods; recommendations cannot be made

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• Opinion of nationally recognized expert(s) based on experiential evidence	**Integrative Review, Literature Review, Expert Opinion, Case Report, Community Standard, Clinician Experience, Consumer Preference** A **High quality**: Expertise is clearly evident; draws definitive conclusions; provides scientific rationale; thought leader(s) in the field B **Good quality**: Expertise appears to be credible; draws fairly definitive conclusions; provides logical argument for opinions C **Low quality or major flaws**: Expertise is not discernable or is dubious; conclusions cannot be drawn

1 https://www.york.ac.uk/crd/SysRev/!SSL!/WebHelp/6_4_ASSESSMENT_OF_QUALITATIVE_RESEARCH.htm
2 Adapted from Polit & Beck (2017).

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Appendix E

JHNEBP MODEL AND TOOLS- PERMISSION

Thank you for your submission. We are happy to give you permission to use the JHNEBP model and tools in adherence of our legal terms noted below:

- You may not modify the model or the tools without written approval from Johns Hopkins.
- All reference to source forms should include "©The Johns Hopkins Hospital/The Johns Hopkins University."
- The tools may not be used for commercial purposes without special permission.

If interested in commercial use or discussing changes to the tool, please email ijhn@jhmi.edu.

Downloads:

JHNEBP Tools-Printable Version

JHNEBP Tools-Electronic Version

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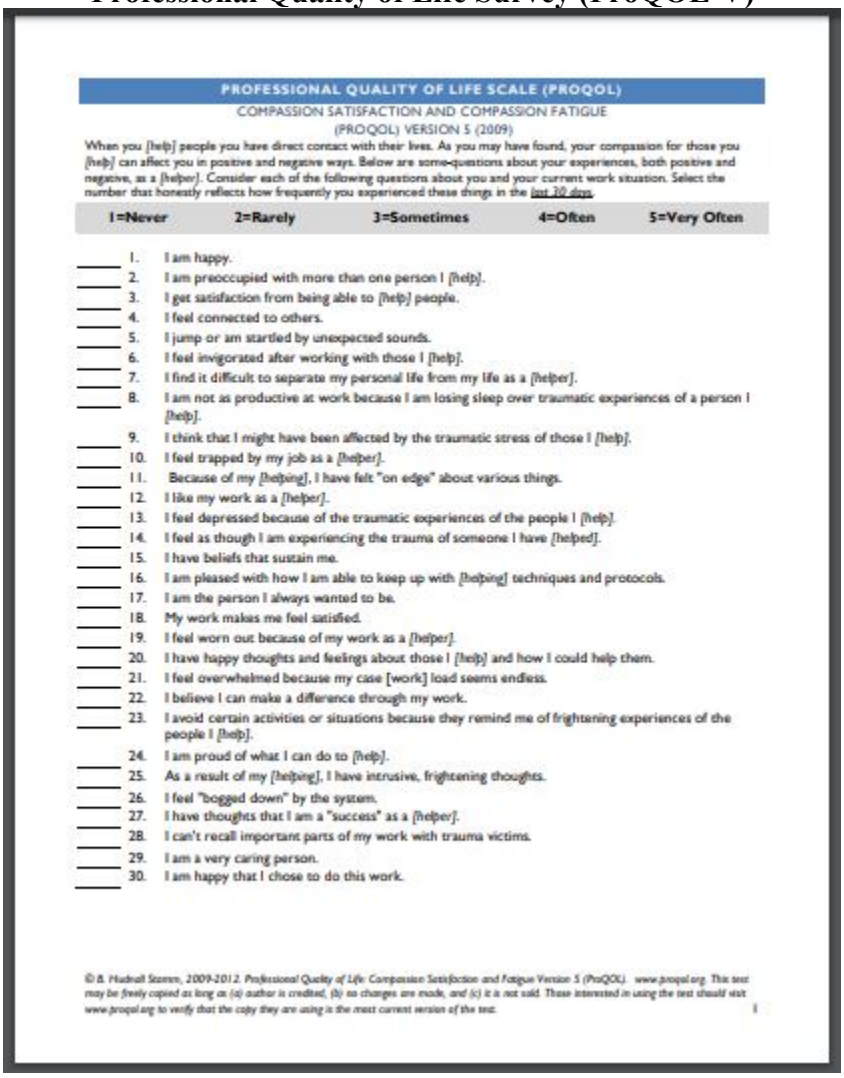
Appendix F
Professional Quality of Life Survey (ProQOL-V)



PROFESSIONAL QUALITY OF LIFE SCALE (PROQOL)

COMPASSION SATISFACTION AND COMPASSION FATIGUE
(PROQOL) VERSION 5 (2009)

When you *[help]* people you have direct contact with their lives. As you may have found, your compassion for those you *[help]* can affect you in positive and negative ways. Below are some questions about your experiences, both positive and negative, as a *[helper]*. Consider each of the following questions about you and your current work situation. Select the number that honestly reflects how frequently you experienced these things in the last 30 days.

1=Never 2=Rarely 3=Sometimes 4=Often 5=Very Often

1. I am happy.
2. I am preoccupied with more than one person I *[help]*.
3. I get satisfaction from being able to *[help]* people.
4. I feel connected to others.
5. I jump or am startled by unexpected sounds.
6. I feel invigorated after working with those I *[help]*.
7. I find it difficult to separate my personal life from my life as a *[helper]*.
8. I am not as productive at work because I am losing sleep over traumatic experiences of a person I *[help]*.
9. I think that I might have been affected by the traumatic stress of those I *[help]*.
10. I feel trapped by my job as a *[helper]*.
11. Because of my *[helping]*, I have felt "on edge" about various things.
12. I like my work as a *[helper]*.
13. I feel depressed because of the traumatic experiences of the people I *[help]*.
14. I feel as though I am experiencing the trauma of someone I have *[helped]*.
15. I have beliefs that sustain me.
16. I am pleased with how I am able to keep up with *[helping]* techniques and protocols.
17. I am the person I always wanted to be.
18. My work makes me feel satisfied.
19. I feel worn out because of my work as a *[helper]*.
20. I have happy thoughts and feelings about those I *[help]* and how I could help them.
21. I feel overwhelmed because my case [work] load seems endless.
22. I believe I can make a difference through my work.
23. I avoid certain activities or situations because they remind me of frightening experiences of the people I *[help]*.
24. I am proud of what I can do to *[help]*.
25. As a result of my *[helping]*, I have intrusive, frightening thoughts.
26. I feel "bogged down" by the system.
27. I have thoughts that I am a "success" as a *[helper]*.
28. I can't recall important parts of my work with trauma victims.
29. I am a very caring person.
30. I am happy that I chose to do this work.

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YOUR SCORES ON THE PROQOL: PROFESSIONAL QUALITY OF LIFE SCREENING

Based on your responses, place your personal scores below. If you have any concerns, you should discuss them with a physical or mental health care professional.

Compassion Satisfaction _____

Compassion satisfaction is about the pleasure you derive from being able to do your work well. For example, you may feel like it is a pleasure to help others through your work. You may feel positively about your colleagues or your ability to contribute to the work setting or even the greater good of society. Higher scores on this scale represent a greater satisfaction related to your ability to be an effective caregiver in your job.

If you are in the higher range, you probably derive a good deal of professional satisfaction from your position. If your scores are below 23, you may either find problems with your job, or there may be some other reason—for example, you might derive your satisfaction from activities other than your job. (Alpha scale reliability 0.88)

Burnout_____

Most people have an intuitive idea of what burnout is. From the research perspective, burnout is one of the elements of Compassion Fatigue (CF). It is associated with feelings of hopelessness and difficulties in dealing with work or in doing your job effectively. These negative feelings usually have a gradual onset. They can reflect the feeling that your efforts make no difference, or they can be associated with a very high workload or a non-supportive work environment. Higher scores on this scale mean that you are at higher risk for burnout.

If your score is below 23, this probably reflects positive feelings about your ability to be effective in your work. If you score above 41, you may wish to think about what at work makes you feel like you are not effective in your position. Your score may reflect your mood; perhaps you were having a "bad day" or are in need of some time off. If the high score persists or if it is reflective of other worries, it may be a cause for concern. (Alpha scale reliability 0.75)

Secondary Traumatic Stress_____

The second component of Compassion Fatigue (CF) is secondary traumatic stress (STS). It is about your work related, secondary exposure to extremely or traumatically stressful events. Developing problems due to exposure to other's trauma is somewhat rare but does happen to many people who care for those who have experienced extremely or traumatically stressful events. For example, you may repeatedly hear stories about the traumatic things that happen to other people, commonly called Vicarious Traumatization. If your work puts you directly in the path of danger, for example, field work in a war or area of civil violence, this is not secondary exposure; your exposure is primary. However, if you are exposed to others' traumatic events as a result of your work, for example, as a therapist or an emergency worker, this is secondary exposure. The symptoms of STS are usually rapid in onset and associated with a particular event. They may include being afraid, having difficulty sleeping, having images of the upsetting event pop into your mind, or avoiding things that remind you of the event.

If your score is above 41, you may want to take some time to think about what at work may be frightening to you or if there is some other reason for the elevated score. While higher scores do not mean that you do have a problem, they are an indication that you may want to examine how you feel about your work and your work environment. You may wish to discuss this with your supervisor, a colleague, or a health care professional. (Alpha scale reliability 0.81)

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WHAT IS MY SCORE AND WHAT DOES IT MEAN?

In this section, you will score your test so you understand the interpretation for you. To find your score on **each section,** total the questions listed on the left and then find your score in the table on the right of the section.

Compassion Satisfaction Scale

Copy your rating on each of these questions on to this table and add them up. When you have added then up you can find your score on the table to the right.

3. ____
6. ____
12. ____
16. ____
18. ____
20. ____
22. ____
24. ____
27. ____
30. ____

Total: ____

The sum of my Compassion Satisfaction questions is	And my Compassion Satisfaction level is
22 or less	Low
Between 23 and 41	Moderate
42 or more	High

Burnout Scale

On the burnout scale you will need to take an extra step. Starred items are "reverse scored." If you scored the item 1, write a 5 beside it. The reason we ask you to reverse the scores is because scientifically the measure works better when these questions are asked in a positive way though they can tell us more about their negative form. For example, question 1. "I am happy" tells us more about

You Wrote	Change to
	5
2	4
3	3
4	2
5	1

the effects of helping when you are not happy so you reverse the score

*1. ____ = ____
*4. ____ = ____
8. ____
10. ____
*15. ____ = ____
*17. ____ = ____
19. ____
21. ____
26. ____
*29. ____ = ____

Total: ____

The sum of my Burnout Questions is	And my Burnout level is
22 or less	Low
Between 23 and 41	Moderate
42 or more	High

Secondary Traumatic Stress Scale

Just like you did on Compassion Satisfaction, copy your rating on each of these questions on to this table and add them up. When you have added then up you can find your score on the table to the right.

2. ____
5. ____
7. ____
9. ____
11. ____
13. ____
14. ____
23. ____
25. ____
28. ____

Total: ____

The sum of my Secondary Trauma questions is	And my Secondary Traumatic Stress level is
22 or less	Low
Between 23 and 41	Moderate
42 or more	High

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Appendix G
Permission to Use ProQOL-V

Permission to Use the ProQOL

Thank you for your interest in using the Professional Quality of Life Measure (ProQOL). Please share the following information with us to obtain permission to use the measure:

Please provide your contact information:

Email Address

[redacted]

Name

Amy Newstrom

Organization Name, if applicable

South Dakota State University

Country

United States

Please tell us briefly about your project:

Does mindfulness training influence Professional Quality of Life (ProQOL) scores in emergency room nurses over a two-week period when compared to emergency nurses that did not receive mindfulness training?

What is the population you will be using the ProQOL with?

Emergency room nurses

In what language/s do you plan to use the ProQOL?

Listed here are the languages in which the ProQOL is currently available (see https://proqol.org/ProQol_Test.html). If you wish to use a language not listed here, please select "Other" and specify which language/s.

English

The ProQOL measure may be freely copied and used, without individualized permission from the ProQOL office, as long as:

- You credit The Center for Victims of Torture and provide a link to www.ProQOL.org;
- It is not sold; and
- No changes are made, other than creating or using a translation, and/or replacing "[helper]" with a more specific term such as "nurse."

Note that the following situations are acceptable:

- You can reformat the ProQOL, including putting it in a virtual format
- You can use the ProQOL as part of work you are paid to do, such as at a training: you just cannot sell the measure itself

Does your use of the ProQOL abide by the three criteria listed above? (If yes, you are free to use the ProQOL immediately upon submitting this form. If not, the ProQOL office will be in contact in order to establish your permission to use the measure.)

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Appendix H
Demographic & Self-Care Questionnaire

Please choose a 4-digit number that you will remember and use this number on all forms for this project. Random identifying number:

Demographic & Self-Care Questionnaire

Gender: Age:
Level of Education: _____
Certification in Nursing Specialty: _____
Current Position Held: _____
Work Status: Part-time Full-time PRN
Years of Experience as a Nurse: _____
Describe self-care activities and frequency of these activities in the last 2 weeks. Self-care can be any activity done deliberately to take care of your mental, emotional, and physical health.

_____
_____
_____

Have you heard of mindfulness practices prior to this training?

_____
_____
_____

Do you use mindfulness practices to reduce stress now? If so, how often?

_____
_____
_____

COMPASSION FATIGUE

Professional quality of life incorporates two aspects, the positive (Compassion Satisfaction) and the negative (Compassion Fatigue). Compassion fatigue breaks into two parts. The first part concerns things such as such as exhaustion, frustration, anger and depression typical of burnout. Secondary Traumatic Stress is a negative feeling driven by fear and work related trauma. It is important to remember that some trauma at work can be direct (primary) trauma. Work related trauma be a combination of both primary and secondary trauma.

BURNOUT

Burnout is one element of the negative effects of caring that is known as Compassion Fatigue. Most people have an intuitive idea of what burnout is. From the research perspective, burnout is associated with feelings of hopelessness and difficulties in dealing with work or in doing your job effectively. These negative feelings usually have a gradual onset. They can reflect the feeling that your efforts make no difference, or they can be associated with a very high workload or a non supportive work environment.

SECONDARY TRAUMATIC STRESS

Secondary Traumatic Stress (STS) is an element of Compassion fatigue (CF). STS is about work related, secondary exposure to people who have experienced extremely or traumatically stressful events. The negative effects of STS may include fear sleep difficulties, intrusive images, or avoiding reminders of the person's traumatic experiences. STS is related to Vicarious Trauma as it shares many similar characteristics.

Is compassion fatigue a concern for you? YES NO

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Appendix I

Demographics

Profession

Position in Emergency Department	***N***	***%***
Registered Nurse	9	69
Paramedic	1	7.6
Nurse Manager	2	15
Patient Care Technician	1	7.6

Age

	Mean	***Median***
Age in years	43	48

Gender

Gender	***N***	***%***
Female	12	92
Male	1	7.6

Ethnicity

Ethnicity	***N***	***%***
Native American	1	7.6
African American	1	7.6
Caucasian	11	85

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Education

Education Level	***N***	***%***
High School Graduate	1	7.6
Associate Degree	2	15
Bachelor's Degree	8	61.5
Master's Degree	1	7.6
Certified Emergency Nurse (CEN)	3	23

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Appendix J
Qualitative Post-Training Questionnaire

Please choose a 4-digit number that you will remember and use this number on all forms for this project. Random identifying number: _____

Qualitative Post-Training Questionnaire

Self-care can be any activity done deliberately to take care of your mental, emotional, and physical health. Describe self-care activities and frequency of these activities in the last 2 weeks:

_____
_____
_____
_____
_____
_____
_____
_____

Did you find the mindfulness training useful? If so, how?

_____
_____
_____
_____
_____
_____
_____

Do you use mindfulness practices to reduce stress after the training? If so, how often?

_____
_____
_____
_____
_____
_____
_____
_____
_____

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Appendix K
Results of Qualitative Questionnaires

Summary of Self-Care Answers Pre-training
***Letters denote those participants that completed pre and posttests.**

Identifier	Describe self-care activities and frequency of these activities in the last 2 weeks.
A	Exercise! 5 days per week 1 hour per day; lake, hike, drinks with friends, breathing deep, faith-daily devotions
B	Hiking- 5days, spending time with friends- 5 days
C	Hiking, camping, swimming, kayaking, exercising at gym
D	Stretching 3-4x/week for 20 minutes, hiking the woods 3-4x/week for 45 minutes, watching a show that makes me laugh for 30 minutes 2-3 x/week
1	Time alone, playing games, smudging, praying, walking
2	Hunting 2-3 times per week, relaxation and exposure to forest
3	Walking 3x/week, running 4x/week, yoga 1x/week, strength training 1x/week, pray
4	Walking 3-4x/week, gardening once per week, bubble bath once per week, meditation 3-4 times per week
5	Family time, reading, camping
6	Physical- biking, weightlifting, running, sewing, hand crafts
7	Started reading, hiking
8	Reading, hiking, coffee with friends, the last 2 weeks have not been good for my self-care- couple walks
9	Running, prayer, thankfulness

	Have you heard of mindfulness practices prior to this training?	
Identifier	**Yes**	**No**
A		X
B		X
C	X	
D	X	
1		X
2	X, in nursing school	
3	X	
4	X	
5	X	
6		X
7		X
8		X
9	X	

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Identifier	**Do you use mindfulness practices to reduce stress now? If so, how often?**
A	No
B	No
C	Yes, daily as simple as deep breathing while washing hands
D	Yes, daily
1	No
2	No
3	Yes, 2x/week
4	Yes, 3-4 x/week
5	No
6	I think I do, but I didn't know it had a name
7	Think before I go into a situation, if/when goes bad think about what you can do better for next time/ learn from experience
8	No
9	Yes, every day off

	Is compassion fatigue a concern for you?	
Identifier	**Yes**	**No**
A	X	
B	X	
C	X	
D	X	
1	X	
2	X	
3		X
4		X
5	X	
6		X
7	X	
8	X	
9	No answer	

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Summary of Post-Training Qualitative Questionnaire

	Describe self-care activities and frequency of these activities in the last 2 weeks:	**Did you find the mindfulness training useful? If so, how?**	**Do you use mindfulness practices to reduce stress after the training? If so, how often?**
A	Exercise, 6 times/week Good sleep- 7 times week	Yes, being more purposeful in slowing down and thoughts.	I do, not as often as I should, need to remember to do this more often.
B	Walking dog, hiking with friends, dinner with friends, walking 3-4 times per week at 45 minutes, hiking 3-5 miles twice, dinner- one time	Yes, be more aware of what I need	Yes, 4-5 times
C	Hiking, swimming, kayaking, sleeping, shopping, massage	Yes, it made me think/remind me how often I just brush things off. I wish I had the slide show to look at .	Yes, I would say daily
D	Hike outside 2-3 miles at least 3-4 times per week, taking a hot bath for 30 minutes twice a week	Yes, it reminds me to be present to what I am doing. Sometimes when I hike, I think about other things (what I need to do next, what bills need paid, clean this, clean that etc.). I remind myself to notice the color of the sky, the smell of the air, the sound of the squirrel/bird chirping, the sound of the creek. Staying present.	I have not done mindfulness sessions with lying there and thinking toes to my head mostly because it takes too much time. I just try to be mindful in my everyday life.

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Appendix L

Mindfulness Exercises and Permission from The Mindful Nurse

Permission to Use

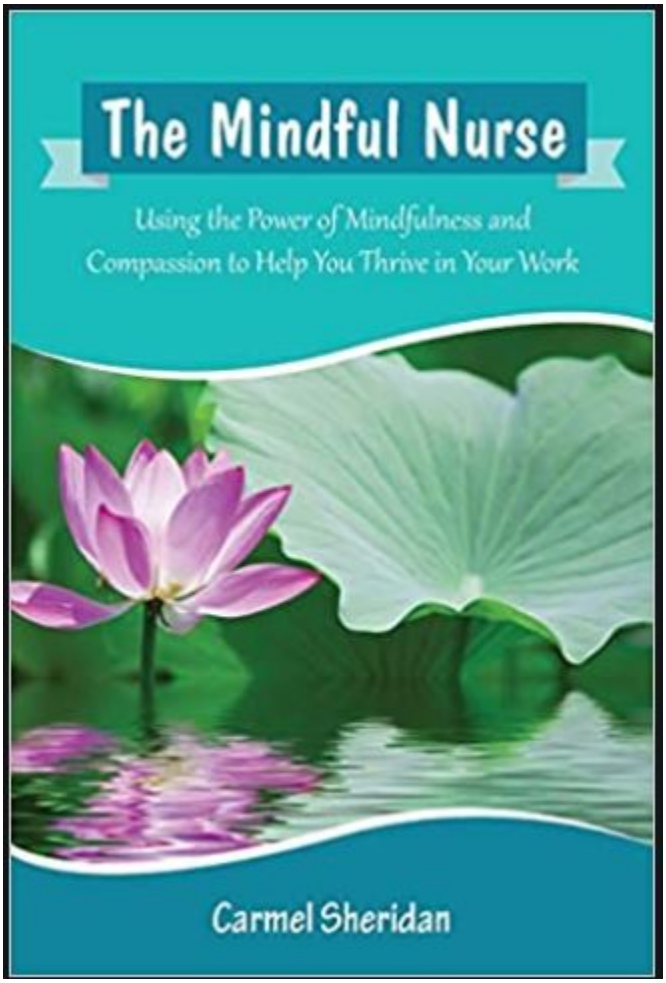
carmel@nursingmindfully.com
Thu 7/30/2020 8:54 AM
To: Smith, Amy Ann - SDSU Student

Thanks Amy and I'm delighted to know my book has been a useful resource for you.

You have my permission to use those excerpts in your project papers so long as you quote the source.

Many thanks

Carmel
www.nursingmindfully.com



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Try This:
Mindful Eating

To get started, choose a time when you have a moment to sit by yourself, and take a few cleansing breaths.

Now, look at your food, observing the various shapes and colors, feeling the weight of the food as you pick it up with your utensils. If it is something you eat with your hands, gently run your fingertips along its surface, feeling the texture and temperature and inhaling the scent.

Put the food in your mouth—but don't start chewing yet. Take your time. To avoid the thought of your next bite distracting you, put down the utensil or the food in your hand as you focus on eating one bite mindfully. How does it taste? Feel the texture on your tongue. Is it smooth or lumpy? Warm or cold? As you move the food around in your mouth, does it melt? Do you sense new flavors emerging?

Notice the movement in your mouth as you chew. Listen to the sound. Is it crunchy? Pay attention to the act of swallowing. Continue eating mindfully throughout your meal. Notice as your body begins to feel satisfied. How much food is left on your plate when your body feels full?

A nurse named Eileen Cameron who works in a pediatric orthopedic surgeon's office told how sitting down to a leisurely meal was a rarity for her. "Being a busy nurse, I regularly skipped meals and always grabbed breakfast on the run. Food was simply fuel for my body. Mindful eating has helped me to really taste my food, and also to notice how certain foods make me feel energized or bloated and tired. Now, I make better choices and eat the kind of food that supports me to do my work. I listen to my body and intuitively know what it needs. And I make a point of starting each day with a mindful breakfast."

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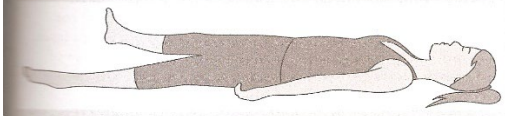
...response to bodily discomfort may be to numb it or to distract ...tention from it. By practicing the body scan, you learn instead to ...present with these uncomfortable sensations, and bring a friendly ...ness, acceptance, and curiosity to whatever is present, even ...n it is difficult or painful.

Try This:
Body Scan

Allow at least thirty minutes for the body scan. (To access a guided audio recording of this practice, visit www.nursingmindfully.com.)



Turn off your phone and try to eliminate other potential distractions. Wear comfortable, loose-fitting clothes. The most comfortable position is to lie flat on your back, arms by your sides, palms facing up, and legs resting slightly apart. If necessary, support your neck or lumbar area with a pillow or folded towel. If lying down feels too uncomfortable, sit in a chair instead.

Give yourself permission to devote this time fully to you—to nourish yourself and receive whatever restoration the practice offers you. This time is not about changing things for the better or lamenting about what has slipped away. Accept relaxation if it happens without striving for it, because striving to relax may simply create more tension.

Let these steps guide you through the body scan.

(cont'd)

To begin, feel your body's weight, noticing the contact your body makes with the surface on which you are resting... noticing physical sensations in each body part: tingles, warmth, or tightness in any of your limbs... setting the intention to welcome whatever you encounter, whether it's emotional or physical.

When you become aware of intense sensations or tension anywhere in the body, use the in-breath to gently bring awareness into the sensations, and, on the out-breath, have a sense of the sensations releasing. This is called "breathing into" the sensation or body part.

Center on where you feel your breath the most, in the abdomen, chest or nostrils, resting your awareness there for some time...then, as though your awareness were a warm laser, pass your attention over your entire body...having a sense of your breath moving down to the toes of your left foot, taking with it any strain and tightness along the way.

Are your toes warm or cold? Numb? Do they tingle? If you're not noticing any sensation, be aware of the absence of feeling.

Move from the toes, to the ball, sole, and the heel of your foot...moving up around the sides, noticing any physical sensations, onto the top of the foot and up to the ankle...letting your foot slip from your awareness, moving your attention up into your left leg, noticing any heaviness, weight, or movement.

Now, releasing your left leg from your awareness, and roll your attention over and all the way down your right leg, ending at the toes...repeating the same process as before, coming up your right leg..., moving on from the leg to your pelvis, noting whether the sensations are pleasant or unpleasant as well as your reactions to them...as you leave each major area, breathing into it on the in-breath, then releasing that body part when you exhale.

(cont'd)

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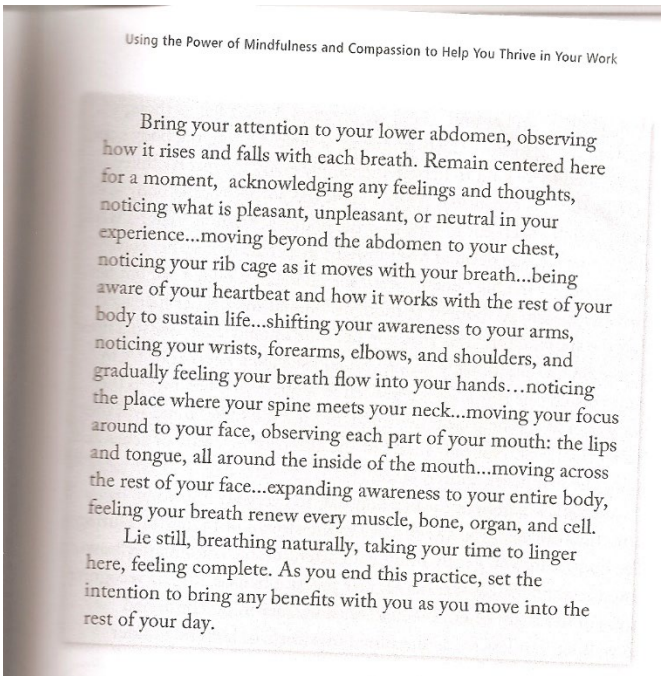

Bring your attention to your lower abdomen, observing how it rises and falls with each breath. Remain centered here for a moment, acknowledging any feelings and thoughts, noticing what is pleasant, unpleasant, or neutral in your experience...moving beyond the abdomen to your chest, noticing your rib cage as it moves with your breath...being aware of your heartbeat and how it works with the rest of your body to sustain life...shifting your awareness to your arms, noticing your wrists, forearms, elbows, and shoulders, and gradually feeling your breath flow into your hands…noticing the place where your spine meets your neck...moving your focus around to your face, observing each part of your mouth: the lips and tongue, all around the inside of the mouth...moving across the rest of your face...expanding awareness to your entire body, feeling your breath renew every muscle, bone, organ, and cell.

Lie still, breathing naturally, taking your time to linger here, feeling complete. As you end this practice, set the intention to bring any benefits with you as you move into the rest of your day.

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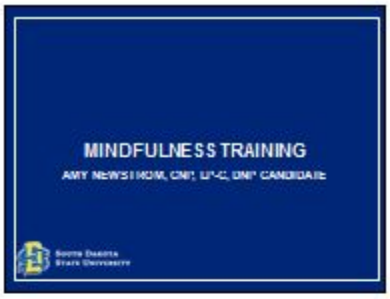
Appendix M

Mindfulness Training PowerPoint



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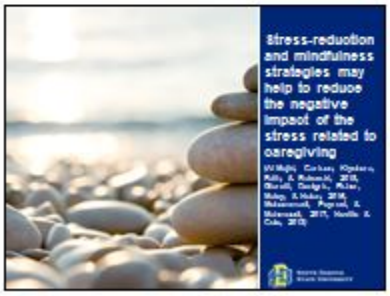

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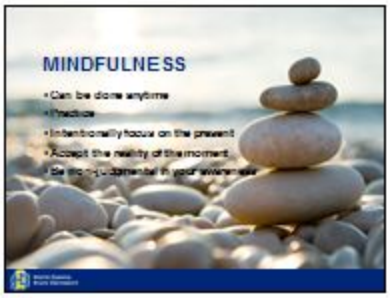

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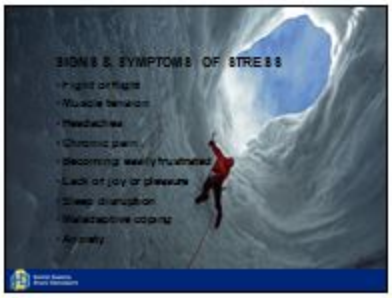

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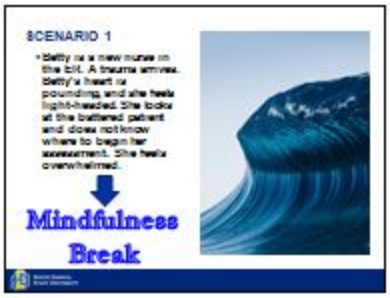

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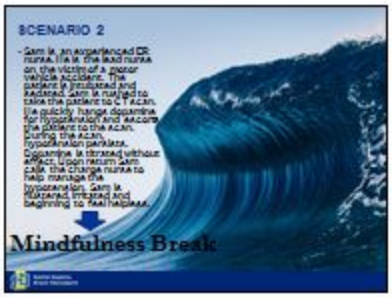

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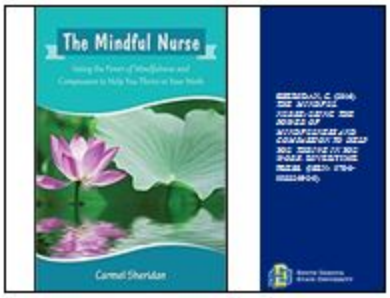

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Appendix N
Results

	A	B	C	D	E	F	G
	Identifying Numbe	PRE CS	PRE BO	PRE STS	POST CS	POST BO	POST STS
	A	40	29	32	43	21	25
	B	32	31	20	27	31	13
	C	39	27	27	40	29	27
	D	27	28	27	33	24	25

Nonparametric Tests

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between PRE BO and POST BO equals 0.	Related-Samples Wilcoxon Signed Rank Test	.285	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Nonparametric Tests

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between PRE STS and POST STS equals 0.	Related-Samples Wilcoxon Signed Rank Test	.102	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

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Nonparametric Tests

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between PRE CS and POST CS equals 0.	Related-Samples Wilcoxon Signed Rank Test	.465	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

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Appendix O
Emails Sent to Participants

E-mail sent 4 weeks post-training

Dear Emergency Department Staff,

Thank you for your participation in the mindfulness training session that occurred as a single course on September 18th, September 22nd, October 1st and October 5th. This is a reminder e-mail to utilize mindfulness techniques to reduce stress. Here is a link to an on-line mindfulness technique:

https://www.youtube.com/watch?v=_DTmGtznab4

Body Scan Meditation - Jon Kabat-Zinn

Jon Kabat-Zinn guides a 30-minute Body Scan meditation practice. (From The Mindful Way through Depression, 2007)

www.youtube.com

E-mail sent 8 weeks post-training

Thank you for participating in one of the mindfulness training sessions that occurred as a single course on September 18th, September 22nd, October 1st and October 5th. This is the final e-mail of the project. If you attended one of the mindfulness sessions, please go to the **two** separate links below to complete the follow up Professional Quality of Life- V tool and a brief questionnaire about the training. Paper copies of these questionnaires are also located in the breakroom if you would prefer to complete them that way. After completing the final two questionnaires, you may send an e-mail to [redacted] at [redacted] to receive well-being points which can be used to enter a drawing for $500!

Thank you again for your participation!
Sincerely,
Amy Newstrom