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Resilience Training for Healthcare Professionals: A Literature Review

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A doctoral project completed in partial fulfillment of the requirements
for the degree of Master's Science—Nursing, Family Nurse Practitioner
at the Valley Foundation School of Nursing, San José State University

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Resilience Training for Healthcare Professionals: A Literature Review

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Abstract

Purpose: An exploration of various resilience training programs to determine if there is a significant impact on the psychological resilience of health care professionals.

Method: An electronic systematic review using San Jose State University's OneSearch database search engine was completed. The review contains published research articles between 2011-2022. Nine published articles were reviewed and used for this systematic review.

Results: There is limited data related to resilience training and resources in accredited nursing programs. Resilience training programs are both a feasible and acceptable way of building psychological resilience among interdisciplinary health care professionals.

Conclusion: Mindfulness-based resilience training programs can be feasibly implemented and build psychological resilience among interdisciplinary health care professionals throughout the career span. These programs should be implemented beginning with nursing program curricula and throughout the career by being integrated within established programs or staff meetings. Successful implementation of these programs has the potential to significantly strengthen psychological resilience and improve the quality of life of health care professionals, their patients, and communities.

Keywords: Resilience training, psychological resilience, nursing student, novice nurse

Resilience Training for Healthcare Professionals: A Literature Review

Background

The COVID-19 pandemic has illuminated the urgency of addressing the national nursing shortage in the United States. According to the U.S. Bureau of Labor Statistics (2022) in there are nine registered nurses (RNs) per 100,000 of the population in the United States. While many factors contribute to the national nursing shortage such as an aging workforce and one third of the nursing profession leaving due to burnout, the focus of this paper will be on the potential impact of resilience training among interdisciplinary health care professionals (Shah et al., 2021). The present nursing shortage has influenced healthcare leadership throughout the United States to implement resilience training programs to strengthen psychological resilience and improve retention. Exploration of the distinctive styles of resilience training programs and their impact on psychological resilience in student nurses, nurses, and other health care professionals may provide best-practice guidelines for future resilience training programs. First, it is important to define psychological resilience, introduce the model of individual workforce resilience, and explore the correlation of the psychological variables involved.

Individual Workforce Resilience

Psychological resilience is a multi-factorial phenomenon which describes the capability of one to overcome adversity. Rees et. al (2015) sought to develop a theory-based workforce model of psychological resilience to better understand the importance of psychological resilience as it relates to mental health outcomes. The individual workforce resilience model explores the psychological variables of psychological resilience including neuroticism, mindfulness, self-efficacy, and coping. Neuroticism is a personality trait which makes one more susceptible to strong negative feelings such as anxiety, depression, anger, and guilt (Rees et. al, 2015). Lu et al.

(2014) studied 289 undergraduate students in Northwestern China and found a negative

relationship between psychological resilience and neuroticism and found resilience to influence

neuroticism. This finding demonstrates a possible psychological target for intervention. Another

psychological variable is mindfulness, which is the ability to view an experience from an

objective perspective as opposed to a myopic, emotion driven perspective (Rees et. al, 2015).

Thompson et al. (2011) found that mindfulness fostered psychological resilience suggesting that

mindfulness-based interventions could be a successful approach to strengthen resilience

(Thompson et. al, 2011). Thirdly, self-efficacy describes the ability one believes they must

complete a task. A cross-cultural study of college students in the United States and Taiwan found

a positive correlation between self-efficacy and psychological resilience, irrespective of cultural

differences (Li & Nishikawa, 2012). Given the cultural diversity of the healthcare workforce of

the United States, it is important to note that self-efficacy and resilience can be strengthened

regardless of cultural differences. Coping is the final psychological variable of the individual

work resilience model. Coping is the ability of one to adjust to adversity by use of strategies such

as support groups, venting, planning, etc. (Rees et. al, 2015). Like self-efficacy, coping has also

been found to be positively correlated to psychological resilience (Li & Nishikawa, 2012). This

individual workforce resilience model offers specificities of the individualized psychological

attributes that can contribute to psychological resilience. Knowledge and understanding of these

attributes will aid in analysis of the efficacy of the contrasting resilience training programs to be

reviewed.

Gap and Knowledge Needed

Mental health, wellbeing, and psychological resilience in nurses should be considered

continually throughout the career path. The Covid-19 pandemic magnified the importance of

addressing mental health. In response, the *Dr. Lorna Breen Health Care Provider Protection Act* (HR 1667) was passed into legislation in February of 2022. This bill was created in honor of Dr. Lorna Breen, an emergency room physician who worked in New York during the peak of the COVID-19 pandemic and who completed suicide on April 26, 2020. This bill will establish grants for health care professionals, including students, to aid in providing evidence-based support, education, and training. The primary goals are to both improve the well-being of healthcare professionals and prevent burnout (Dr. Lorna Breen Heroes' Foundation, 2022). As this implementation is new as of 2022, it will be interesting to witness the evolvement of mental health related interventions and their effect on the well-being of health care professionals. Continued literature reviews and long-term research will be critical in developing best practice guidelines to support health care professionals throughout their careers. Based on the literature available, this review will delve into studies that evaluate whether resilience training programs have an impact on psychological resilience in healthcare professionals.

Methods

Study Purpose & Design

An integrative review of the literature to explore various resilience training programs and determine if there is a significant impact on the psychological resilience of health care providers.

Search Strategy

An electronic systematic review using San Jose State University's OneSearch database search engine was completed. Databases used in the systematic review included but were not limited to: CINAHL, Gale Academic, ScienceDirect, and Wiley Online Library. Key search terms included were "resilience training" AND "student nurs*" with a date range of 2011-2022 in English.

Inclusion & Exclusion Criteria

Relevant quasi-experimental, mixed methods, repeated measures, cross-sectional, and correlational study designs will be reviewed. Articles included focused on the psychological impact of resilience training among nursing students, new graduate RNs, bedside RNs, and interdisciplinary healthcare providers in the United States, Ireland, and Canada. Exclusion criteria included studies done before 2011 and studies that did not include nurses as part of the healthcare professional population.

Data Extraction and Analysis

Each study was reviewed, and details were extracted on: population, setting, study design, sample size, description of intervention, and outcomes. Narrative synthesis was used to describe the results.

Quality Appraisal

The Hierarchy of Evidence for Intervention Studies was used to designate the level of evidence for each study based on the study's design. The studies were rated from level I-VII. (Fineout-Overholt et. al, 2019). See Table 1

Results

With inclusion and exclusion requirements considered, 67 articles were identified and screened yielding 9 eligible articles for review. (See Figure 1)

Population and Setting

Seven of the nine studies were conducted in the United States, one in Ireland, and one in Canada. Three of the nine studies focused on BSN students, two bedside Registered Nurses, two interdisciplinary healthcare providers, one new graduate RNs, and one study analyzed nursing schools.

Study Design and Sample Size

Across the nine studies, sample sizes ranged from 13-166. The research study designs

ranged from 33% Quasi-experimental, 11% repeated-measures, 33% mixed-methods, 11% cross-

sectional, to 11% correlational.

Resiliency and the Baccalaureate Nursing Student

Four of the nine articles included data related to resilience and the baccalaureate prepared

nursing (BSN) student. The results of the studies revealed minimal prevalence of resiliency-

related resources for nursing students in the United States. (Cochran, 2020; Pines, 2011; Stoliker,

2021; Taylor, 2012). Cochran et al. (2020) analyzed data from 155 accredited nursing programs

across 39 states of the United States and found that zero of the 155 schools screened their

students for burnout and only 9% implemented resilience training as part of the formal

curriculum. The limited prevalence of resilience-related resources in nursing schools yields

limited interventional data regarding resilience training and nursing students. However, a

correlation between psychological components and resiliency in nursing students has been

studied. Pines et al. (2011) examined the relationship between empowerment and stress

resiliency in 166 BSN nursing students. Empowerment is the psychological component that

allows an individual to fulfill aspirations and resilience is the capability to overcome adversity

(Brancato, 2006, as cited in Pines et al., 2011). The study results presented a positive correlation

between empowerment and stress resilience, suggesting that empowered nursing students have

stronger stress resilience which might increase nurse retention (Pines et al., 2011) Similarly,

Taylor & Reyes (2012) examined the correlation between self-efficacy, resilience, and test score

performance in 136 BSN students. Self-efficacy is the belief a person has the capability to take

action in their life (Bandura, 1994, as cited in Taylor & Reyes, 2011). This study did not include

any intervention and found no significant changes to self-efficacy, resilience, or test scores

throughout one semester of nursing school. Comparatively, Stoliker et al (2021) implemented an

online resilience training program during a baccalaureate nursing program and found a

significant improvement of resilience. These results reinforce the theory that resilience can be

learned and provides an opportunity for future nursing programs and curricula (Cochran, 2020;

Stoliker, 2021).

Resilience Training Programs: *Feasibility and Acceptability*

Four articles explored the feasibility and acceptability of resilience training programs by

measuring attendance and acceptance rates of participants across variable delivery styles and

models (Chesak, 2020; Colgan, 2016; Kinser, 2016; Magtibay, 2017). Chesak et al. (2020) aimed

to determine the feasibility of an integrated resilience training in a nine-month pilot residency

program. This study implemented eight monthly sessions and assessed feasibility based upon

participation rates in the sessions. Of the 27 nurse residents, participation rates were high at

100% attendance in the first session and 93-100% in follow up sessions. A prior study which

provided the same intervention but was not integrated into the residency program had

significantly less participation rates, 16% compared to 93%. Researchers posit this significant

difference may be related to the integration into an established program, reducing scheduling

conflict (Chesak et al., 2020). Correspondingly, Colgan et al. (2019) yielded high levels of

participation and acceptability with a resilience training program that was integrated into weekly

staff meetings. 31 healthcare personnel were to participate in at least 5 out of the 8 weekly

sessions to be qualified as "completers" of the program. All 31 participants were deemed

"completers" with a 100% participation rate. Additionally, participants completed online surveys

which found that 100% of participants would both recommend the course to a colleague and

attend future sessions (Colgan et al., 2019). Another approach to resilience training integration

incorporated concepts of self-enrollment and participant learning preferences (Kinser, 2016;

Magtibay, 2017). Magtibay et al. (2017) used a blended learning style which allowed for

participants to choose between web-based, independent reading, or in-person facilitated

discussions. 50 nurses participated in this study and were to complete surveys in weeks eight, 12,

and 24. Participation results were high at week eight at 90% but dropped off by week 24 to 66%

participation (Magtibay et al., 2017). Similarly, Kinser et al. (2016) implemented an eight week,

in person intervention in which participants voluntarily self-enrolled. Of the 49 participants only

27, or 55%, of participants completed the required surveys for data analysis (Kinser et al., 2016).

The training programs integrated into established programs yielded higher participation

compared to those programs that utilized a voluntary and individualized learning preference

approach.

Resilience Training Style: *Mindfulness-based Training*

Three of the nine articles studied the relationship between mindfulness-based training

programs and psychological variables related to resilience among interdisciplinary health care

professionals (Colgan, 2019; Delaney, 2018; Kinser, 2016). These eight week in-person

programs were led by mental health professionals who provided a variety of mindfulness

curriculums (Colgan, 2019; Delaney, 2018; Kinser, 2016). The weekly programs spent between

60 and 150 minutes per session utilizing both formal and informal mindfulness activities. Formal

activity examples include mindful breathing, yoga, body scan, and meditation; while informal

practices incorporate mindfulness in daily life and "on the job" e.g., completing a body scan

prior to entering a patient's room (Colgan, 2019; Delaney, 2018; Kinser, 2016). Delaney (2018)

One study created a curriculum that primarily focused on the concept of self-compassion with a

secondary emphasis on mindfulness. Self-compassion is described as the ability to approach personal adversity with love and kindness. Delaney (2018) theorized that by increasing self-compassion one would also increase stress resilience. Although post-intervention data revealed an increase in self-compassion, mindfulness, and resilience, there was a stronger positive association between mindfulness and resilience versus self-compassion and resilience (Delaney, 2018). Two studies by Colgan et al. (2019) and Kinser et al. (2016) implemented mindfulness curriculums with an emphasis on interdisciplinary team building grounded in the theory that a strong sense of team and community can improve resilience (Colgan, 2019; Kinser, 2016). Qualitative data from both studies revealed that participants appreciated the integration of other health care professionals and valued the team cohesion approach (Colgan, 2019; Kinser, 2016). Enhancement of self-awareness, self-compassion, mindfulness, team cohesion, and resilience were prevalent in all three studies following the eight-week mindfulness-based curriculums (Colgan, 2019; Delaney, 2018; Kinser, 2016).

Discussion

Resilience training programs can be a successful tool to strengthen psychological resilience among interdisciplinary healthcare professionals from students to experts. Exploration of the prevalence, feasibility and acceptability, and the role of mindfulness within resilience training will be discussed below.

Prevalence

The minimal prevalence of resilience training in accredited nursing schools throughout the United States highlights an opportunity for intervention among this vulnerable population. Rooted in the theory that psychological aspects of resilience can be learned, nurse educators could feel confident in incorporating resilience-based curricula (Cochran et al., 2020). To further

specify the curricula, educators could focus content on self-efficacy and empowerment in the nursing student. Evidence has shown that nursing students who receive resilience training had higher levels of resilience compared to those students who did not receive training, showcasing the potential impact of this intervention (Stoliker, 2021; Taylor, 2012). Providing resilience training early in the career will allow for more time to build the essential skills of self-efficacy and empowerment so that students are better prepared as they transition into their professional roles. Next, it is imperative to discuss what makes a program both feasible and acceptable to ensure the success of integrating resilience training programs for healthcare professionals.

Feasibility and Acceptability

According to a national survey of nurses in the United States, "convenience" was the most key factor when choosing to participate in a training program (Magtibay & Chesak, 2017). Consistent with the evidence, resilience training programs that are integrated into an already existing program are both feasible and acceptable as evidenced by increased participation rates. Comparatively, the blended learning implementation style did not yield strong participation rates. Perhaps, if blended learning was attached to an already established program there would be even greater participation, feasibility, and acceptability. Next, a discussion on the theory of mindfulness-based training and resilience.

Mindfulness-based training and Team Cohesion

A training program that includes both concepts of mindfulness and team building exercises can have a positive impact on health care professionals. The theory of mindfulness-based training has been shown to be effective at building psychological resilience in as little as eight weeks (Colgan, 2019; Delaney, 2018; Kinser, 2016). Compared to self-compassion, mindfulness is more strongly associated with resilience and should be the primary approach for

resilience training (Delaney, 2018). Another significant finding was the positive correlation between team cohesion and resilience. Team cohesion is a fundamental component in resilience training programs and should be considered when implementing these programs (Colgan et al., 2019). Participants shared appreciation for the interdisciplinary approach and reported stronger interpersonal relationships with coworkers and a sense of community suggesting an additional benefit of this approach (Colgan, 2019; Kinser, 2016).

Limitations and Gaps

Research was limited by small sample sizes and lack of longitudinal studies. Minimal prevalence of resilience related resources for nursing students led to minimal evidence of resilience training programs in nursing schools. Future research needs to include larger sample sizes as well as longitudinal studies to determine the long-term impact of resilience training programs.

Conclusions and Practice Implications

Mindfulness-based resilience training programs can be feasibly and effectively implemented. They build psychological resilience among interdisciplinary health care professionals throughout their career span. These programs can be implemented beginning with nursing program curricula and throughout the career, integrated within established programs or standing meetings. Interdisciplinary members should be included, if possible, to strengthen team cohesion and sense of community which further builds resilience. Successful implementation of these programs has the potential to significantly improve the quality of life of health care professionals, their patients, and their communities.

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Table 1.

Authors	Pub Yr.	Country	Dependent Variables	Independent Variables	Study Design	Sample Size	Sampling Method	Data Collection	Findings	Qualit
Chesak et. al	2021	USA	Feasibility Between-group differences in stress, anxiety, resilience, and mindfulness, adherence	SMART program	Two-group quasi-experimental	23 nurses (intervention group), 28 nurses (comparison group)	Convenience	Self-report, Psychometric instrument scales, questionnaire	Feasibility and success of SMART on stress, mindfulness, and resilience	III
Cochran et. al	2020	USA	Prevalence and availability of resilience resources and curricula in nursing schools for nursing students	Analysis of college/university websites and course catalogs or nursing schools, availability of resilience resources (fitness center, wellness center, etc.)	Descriptive	155 nursing schools accredited by the Commission on Collegiate Nursing Education (CCNE)	Simple random	Data collected via coding sheet from public websites and course catalogs.	9% (n=14) offered formal resilience curricula and no nursing schools screened students for burnout syndrome (BOS).	VI
Colgan et. al	2019	USA	Feasibility and acceptability	8-week Mindfulness-based Wellness and Resilience (MBWR) intervention	Mixed methods, naturalistic	36 employees at the medical center conducting primary care	Convenience	Self-report, Instruments: Brief resilience scale, the Five Facet Mindfulness Questionnaire, and Self-compassion scale	MBWR may be feasible and acceptable method to integrate mindfulness and resilience employees in primary care.	II
Delaney	2018	UK	Compassion fatigue and resilience in nurses	8-week Mindful Self-Compassion (MSC) training intervention	Mixed methods	13 nurses working at a university hospital	Convenience	Self-report, Instruments: Neff 26-item self-compassion scale, Freiburg	Preliminary empirical evidence in support of benefit of MSC training for nurses.	VI

									Mindfulness inventory, ProQOL Version 5, Connor-Davidson Resilience Scale-25 item		
Kinser et. al	2016	USA	Feasibility, acceptability, and preliminary effects in stress, anxiety, and burnout.	8-week mindfulness curriculum	Within-group repeated measures	27 health care professional students (nursing, dentistry, psychiatry/psychology, social work, medicine, pharmacy, and clinical research)	Convenience	Self-report, Instruments: Depressive symptom severity, PHQ-9, Perceived Stress Scale-10, State-Trait Anxiety Inventory Form, Ruminative Responses Scale, The Maslach Burnout Inventory	Preliminary support of feasibility, acceptability, and effects of an 8-week mindfulness and mindful movement course for HCPs and trainees.	VI
Magtibay et. al	2017	USA	Mindfulness, resilience, anxiety, stress, happiness, and burnout among nurses.	SMART program, blended learning style (web-based, independent reading, facilitated discussions)	1-group quasi-experimental	50 nurses working at Mayo Clinic in Rochester, MN	Convenience	Self-report, 6 measurement tools: Subjective happiness scale, perceived stress scale, generalized anxiety scale, Copenhagen burnout inventory.	Statistically significant decreases in anxiety, stress, and burnout and increases in resilience, happiness, and mindfulness	VI
Pines et. al	2012	USA	Stress resiliency, psychological empowerment	Conflict management styles	Correlational	160 nursing students enrolled at private, federally designated Hispanic-serving Catholic university	Convenience	Data collected in Spring Semester 2010, research-designed demographic inventory, Conflict mode instrument, Stress resiliency profile, and psychological empowerment instrument	Empowerment significantly correlated with stress resilience and students were less likely to use competing or collaborating strategies to manage conflict.	VI
Stoliker et. al	2022	CA	Psychological resilience, anxiety, and depression of nursing students	Self-paced online resilience training program	Repeated measures	70 nursing students	Convenience	Self-report, Instruments: Resilience scale for Adults, Generalized Anxiety Disorder 7-item, PHQ-9, Coping Strategies	Self-paced online resilience training program can help promote personal resilience among nursing students.	VI

								Inventory-short form		
Taylor & Reyes	2012	USA	Self-efficacy and resilience	One semester of nursing study in baccalaureate program	Quasi-experimental	136 nursing students (baccalaureate)	Convenience	Self-report, Instruments: Resilience scale, General Self-efficacy scale	No significant differences between early and end of semester on the resilience scale	VI

Figure 1.


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Identification
  ┌─────────────────────────────────┐
  │ Records identified from*:        │
  │     Databases (n = 67)           │
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Screening       ▼
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  │ Records screened     │─────▶│ Records excluded**    │
  │ (n =67)              │      │ (n =58)               │
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  │ Reports assessed for │─────▶│                       │
  │ eligibility          │      │ Reports excluded:     │
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