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Developing Resilience Training for the Healthcare Employee in a Rural Medical Center

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This doctoral project, directed and approved by the candidate’s committee, has been accepted by the College of Graduate and Professional Studies of Abilene Christian University in partial fulfillment of the requirements for the degree

Doctor of Nursing Practice

Dr. Joey Cope, Dean of the College of Graduate and Professional Studies

Date: 06 / 30 / 2019

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Developing Resilience Training for the Healthcare Employee in a Rural Medical Center

A scholarly paper submitted in partial satisfaction
of the requirements for the degree of
Doctor of Nursing Practice

by
Sandra E. Gothard

June 2019
Dedication

This project paper is dedicated to my grandsons Asher and Asa. May your life’s journey bring many exciting opportunities, and may you grow into resilient young men who love the Lord.
Acknowledgements

The journey to complete my doctoral education would not have been possible without the support and understanding of my family. Thank you to my husband, Steve, who filled in all of the gaps where family needs and household chores were at times neglected when study and writing took precedence and who gave me space to simply think. A special thank you to my mother and father for instilling in me the love of learning and reading. Thank you to Christina, Stephen, Jasen, and Joseph for encouraging me to stay focused and resilient on this journey.

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Most of all, thank you, Yeshua, my King and Savior, in whom all things are possible.
Abstract

In the clinical setting and in their personal lives, health professionals are confronted with many stressors that impact their time and the clarity of their role. Stressors are emotional, moral, or spiritual in nature as a result of exposure to suffering and death. There are often occupational stressors, such as reduced social support, excessive workload, or a prolonged misalignment among personal needs, individual values, and the work role. As a result of these challenges, health care employees need to create coping skills when stressors and demands become hindrances to personal well-being and their professional ability to care for others. Developing health care employee resiliency through work site program interventions mitigates the effects of decreased job satisfaction and disengagement in the workplace. The purpose of this quantitative nonexperimental descriptive project was to understand health care workers’ perception of stress and resilience and whether workshop interventions using common domains of wellness and self-care improved the sense of resilience. The project’s 8-week workshop included on-site meetings, self-directed learning modules, and weekly text messages to support participants’ interest in learning self-care and well-being methods for building resilience. The theoretical foundation was supported by Watson’s Human Caring Science and Yusoff’s DEAL learning methodology. Data analysis included pre- and post-DASS-21 and RS™ surveys and select demographic variables. Findings showed meaningful improvement from preintervention to postintervention subscales of stress and depression ($p = .03; p = .01$). The project offers a potential strategy for health care workers and leaders to navigate workplace adversity and change and improve employee health.

*Keywords:* resilience, stress, DASS-21, RS™ scale.
# Table of Contents

Acknowledgements ............................................................................. ii

Abstract ............................................................................................... iv

List of Tables ......................................................................................... viii

List of Figures ........................................................................................ ix

Chapter 1: Introduction ......................................................................... 1

  Problem ............................................................................................... 1
  Background ......................................................................................... 8
  Purpose ............................................................................................... 9
  Significance of the Study ................................................................. 10
  Nature of the Project ......................................................................... 11
  Research Questions .......................................................................... 12
  Theoretical Framework ..................................................................... 13
  Definitions of Key Terms ................................................................ 16
  Assumptions ...................................................................................... 17
  Limitations ......................................................................................... 18
  Summary ........................................................................................... 18

Chapter 2: Literature Review ................................................................. 20

  Historical Overview ......................................................................... 20
  Stress ................................................................................................. 21
  Burnout ............................................................................................. 25
  Secondary Traumatic Stress .......................................................... 27
  Stress in the Health Care Industry .................................................. 28
  Resilience ......................................................................................... 31
  Summary ........................................................................................... 37

Chapter 3: Methods ............................................................................ 39

  Project Design .................................................................................. 39
  Instruments and Measurement Tool .............................................. 40
  The DASS-21 .................................................................................. 41
  The RS™ ........................................................................................ 42
  Data Collection ................................................................................ 43
  Management and Analysis Plan ..................................................... 44
  Methodology ..................................................................................... 46
  Feasibility and Appropriateness ..................................................... 46
  IRB Approval and Process ............................................................... 47
  Interprofessional Collaboration ...................................................... 47
  Practice Setting ................................................................................. 48
Target Population ........................................................................................................... 49
Risk and Benefits ........................................................................................................ 50
Timeline ....................................................................................................................... 50
Final Project Timeline ................................................................................................. 53
Summary ....................................................................................................................... 55

Chapter 4: Results ....................................................................................................... 57
Research Questions ..................................................................................................... 58
Data Analysis ................................................................................................................ 59
The DASS-21 Scale ...................................................................................................... 61
Resilience Scale™ (RS™) ............................................................................................ 66
Postworkshop Evaluation ............................................................................................ 69
Discussion .................................................................................................................... 70

Chapter 5: Conclusions and Recommendations ........................................................ 72
Purpose of the Study ..................................................................................................... 73
Research Questions ..................................................................................................... 73
Hypotheses ................................................................................................................... 74
Results of the Study .................................................................................................... 74
Interpretation of the Findings ...................................................................................... 76
Correlation of the Findings With Published Literature .................................................. 77
Limitations .................................................................................................................... 77
Implications for Leaders ............................................................................................... 78
Essentials of Doctoral Education for Advanced Nursing Practice .............................. 79
Recommendations for Future Research ...................................................................... 83
Summary ....................................................................................................................... 84

References .................................................................................................................... 87

Appendix A: Project Outline Week-at-a-Glance .......................................................... 101
Appendix B: Ten Caritas Processes™ .......................................................................... 103
Appendix C: Communication From Dr. Yusoff ............................................................ 104
Appendix D: Text Message ........................................................................................... 106
Appendix E: Workshop Evaluation ............................................................................... 108
Appendix F: DASS-21 Survey ..................................................................................... 108
Appendix G: The Resilience Scale™ by Wagnild and Young ........................................ 113
Appendix H: Communication From Dr. Peter Lovibond ............................................. 115
<table>
<thead>
<tr>
<th>Appendix</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appendix I</td>
<td>Communication From Dr. Gail Wagnild</td>
<td>116</td>
</tr>
<tr>
<td>Appendix J</td>
<td>Anonymous Code Development</td>
<td>117</td>
</tr>
<tr>
<td>Appendix K</td>
<td>Demographics</td>
<td>118</td>
</tr>
<tr>
<td>Appendix L</td>
<td>Self-Care Plan</td>
<td>119</td>
</tr>
<tr>
<td>Appendix M</td>
<td>Organizational Approval Letter</td>
<td>120</td>
</tr>
<tr>
<td>Appendix O</td>
<td>IRB Request</td>
<td>121</td>
</tr>
<tr>
<td>Appendix P</td>
<td>Recruitment Tools</td>
<td>136</td>
</tr>
</tbody>
</table>
List of Tables

Table 1. Week 1 of Week-at-a-Glance................................................................. 51
Table 2. Final Project Timeline........................................................................... 55
Table 3. Frequency Counts for Selected Demographic Variables ...................... 59
Table 4. Descriptive Statistics for Selected Demographic Variables .................. 61
Table 5. Wilcoxon Signed Rank Test DASS-21 Total Population, Pre- and Posttest ........................................... 66
Table 6. Self-Reported Health Rating and Mean RS™ Score ................................ 68
Table 7. RS™ Pretest/Posttest t Test for Resilience-Level Intervention (n = 22)........... 69
Table A1. Project Outline .................................................................................. 101
List of Figures

Figure 1. An illustration of the conceptual model developed for the theoretical basis of this study based on a combination of Watson (1999, 2009) and Yusoff et al.’s (2013a, 2013b) theories of caring and learning. ................................................................. 16

Figure 2. DASS-21 pre- and posttest self-reported means of the total population ......................... 62

Figure 3. DASS-21 pre- and posttest self-reported means of the male population ..................... 63

Figure 4. DASS-21 pre- and posttest self-reported means of the female population ............... 64

Figure 5. DASS-21 pre- and posttest self-reported means of the over-45 population............. 65

Figure 6. A bar chart showing self-reported scores for RS™ total sample................................. 68

Figure D1. A photo of a nature landscape ............................................................................. 106

Figure P1. Recruitment announcement flyer. ...................................................................... 137
Chapter 1: Introduction

Many stressors confront health professionals in the clinical setting and in their personal lives that impact their time and the clarity of their role (Allen & Palk, 2018). Stressors may be emotional, moral, or spiritual in nature as a result of exposure to suffering and death. There may be occupational stressors such as reduced social support, excessive workload, or a prolonged misalignment among personal needs, individual values, and the work role (Arrogante & Aparicio-Zaldivar, 2017). As a result of these challenges, health care employees need to create coping skills to prevent compassion fatigue and moral distress in the workplace (Roussel, Thomas, & Harris, 2016). However, when stressors and demands facing health care workers become hindrances to their personal well-being and their professional ability to care for others—such as communicating effectively, conveying empathy, and developing meaningful relationships—it becomes evident the skills of resiliency and methods of coping are compromised (Allen & Palk, 2018). Developing health care employee resiliency through a work site program intervention is one potential response to mitigate the effects of decreased job satisfaction and disengagement in this workplace project (Benzo, Kirsch, & Nelson, 2017; Werneburg et al., 2018).

Problem

In the broadest sense, health care workers are defined as anyone working in the health care industry or occupation, whether directly or indirectly caring for patients (Knickman & Kovner, 2015). Health care workers—a group that includes pharmacists, occupational and physical therapists, medical technicians, nutritionists, and administrators, among others—face stress daily, and some are more prepared than others to meet the emotional, physical, and spiritual challenges of caring for others. According to the American Psychological Association
(APA, 2017a, 2017b, 2018a), stress is the human body’s response to any kind of demand, and it occurs when experiences are perceived as threatening to the status quo. Stress triggers physiological changes in the human body that may be perceived as either positive or negative and are related to the level or duration of stress and the presence or absence of coping mechanisms (Allen & Palk, 2018; Roussel et al., 2016). Stress may occur when people believe they do not have the resources for coping with obstacles whether they are people, stimuli, or situations. Stressful incidents can trigger a cascade of stress hormones resulting in physiological changes known as the fight-or-flight response, a protective survival mechanism reacting to life-threatening circumstances.

The brain and body respond to demands from work, school, life changes, and traumatic experiences with the potential to affect health over time. Chronic stress, which is stress that goes unrelieved, often becomes the frontrunner to serious health problems that may disrupt nearly every system in the body; such problems include immune system suppression, digestive and reproductive system upset, increased risk of heart attack and stroke, accelerated aging, as well as the common cold, skin rashes, and a tendency toward suicide (Bemker & Ralyea, 2018; Benzo et al., 2017; Berkland et al., 2017; Khubchandani & Price, 2017). The chronic activation of the stress mechanism may result in persistent hormonal surges that can damage blood vessels and arteries, causing an increase in blood pressure and an increased risk of heart attack or stroke. As such, comorbid diseases such as high blood pressure, cardiovascular disease, diabetes, and obesity are associated with workplace stress (Khubchandani & Price, 2017). Other physical and emotional symptoms of stress include headaches, feeling overwhelmed, nervousness, anxiety, sadness, and depression (Werneburg et al., 2018). It is estimated that 67%–90% of all office visits to a physician can be associated with stress-related symptoms (Mallak & Yildiz, 2016).
According to Aikens et al. (2014), occupationally, chronic stress causes a reduction in productivity, increased absenteeism, increased insurance compensation claims, and rising health insurance expenses for individuals and organizations. Effective management of stress can be learned or developed to mitigate employee stress and can lead to the enhancement of emotional well-being beneficial to both employees and employers (Aikens et al., 2014; Garcia-Dia, O’Flaherty, & Arreglado, 2018). The physical, emotional, and even spiritual symptoms of stress are causes for job strain and work worry, which can contribute to or even create an unhealthy work environment. The APA (2017a, 2017b, 2018a) cited the top reasons for stress as work (61%), money (58%), and the economy (50%). Particularly with the challenges inherent in the health care industry, it is not surprising that work is the top stressor in this list, and health care employees are not likely to be less stressed than the general public.

Secondary trauma stress is another form of stress affecting clinicians and health care staff; often considered a form of post-traumatic stress disorder, it is recognized in a number of specialist clinical areas such as the emergency department, the operating room, and pediatric oncology (Allen & Palk, 2018). Examples of secondary traumas center on death, death of a child or infant, physical violence, and traumatic injury (Allen & Palk, 2018). Another stressor that directly impacts allied health care workers is the nursing shortage in the United States, as indicated by the American Association of Colleges of Nursing (AACN, 2017). The shortage is expected to intensify with the increasing age of Americans and to be compounded by poor patient outcomes and staff dissatisfaction from long working hours, heavy patient loads, and the medically oriented practice of nursing. When fewer nurses are staffed, the result is a greater burden on allied health care workers (see also Blegen, Goode, Spetz, Vaughn, & Park, 2011).
Widely accepted as the compass to improve performance and patient care in the U.S. health care system, the Triple Aim, identified by Berwick, Nolan, and Whittington (2008), focuses on three elements: (a) improving population health, (b) improving the delivery of care, and (c) reducing health care costs. However, the burden of work dissatisfaction and resulting burnout within the health care workforce now challenges these goals and suggests that the Triple Aim should be expanded to a Quadruple Aim that adds the provider’s care to the compass (Bodenheimer & Sinsky, 2014). Burnout is a universal health care occupational danger, often defined as a syndrome and as an adverse reaction to chronic occupational stress in which a gap exists between the needs and values of an individual and the job the individual performs (Arrogante & Aparicio-Zaldivar, 2017). Health care burnout can lead to overwhelming anxiety, low job satisfaction, disengagement, emotional exhaustion, a sense of lack of personal accomplishment, and depersonalization regarding patients. The outcome results in decreased effectiveness, poor work performance, and high turnover rates; it has direct effects on patient care exhibited in reduced care quality, low patient satisfaction, and increased medical errors, rates of health care–associated infections, and 30-day mortality rates (Arrogante & Aparicio-Zaldivar, 2017).

Practitioners and administrators of health systems realize that change must now focus on developing a more profound philosophical approach to provide care-building resiliency for the health and healing of patients and staff. The move toward a caring, loving, meaningful connection of person-centered care realizes that basic human needs, human relationships, and the maintenance of health are intimately interwoven, which is the essence of the science of human caring (Sitzman & Watson, 2018; Watson, 1985, 2009).
Examining workplace stress and implementing resilience strategies include introducing staff to skills that increase the ability to manage stress. Among the options for building a supportive environment are enhancing problem-solving talents, developing positive reappraisal, understanding the significance of seeking social support, and learning about self-control (Allen & Palk, 2018; Dans, Pabico, Tate, & Hume, 2017). Interprofessional workshops for collaborative practice offer stress management techniques and coping skills, reflective writing that promotes self-awareness, and mindfulness practice through mind-body medicine (Wald, Haramati, Bachner, & Urkin, 2016). According to Pidgeon, Ford, and Klaassen (2014), characteristics of mindfulness include purposeful paying of attention in the moment (also known as being present or presence), being without judgment, having patience, showing trust, endeavoring to do the best, being accepting and compassionate, and reframing how events are perceived. Mindfulness-based stress reduction therapy is a meditation-based therapy delivered through meditation, yoga, and group discussion; it is used to support coping mechanisms for stress, is the most commonly practiced stress reliever in the United States, and serves as a viable tool for promoting self-care and well-being (Roussel et al., 2016; Van der Riet, Levett-Jones, & Aquino-Russell, 2018; Zeichner, Zeichner, Gogineni, Shatil, & Ioachimescu, 2017).

Research on the study of resilience began in the 1970s by looking at the development of children in stressful environments. In the 1980s and 1990s, such research progressed to investigating how people experience extreme hardships (Wagnild, 2016). Resilience is a phenomenon characterized by good outcomes when a severe threat(s) to adaptation confronts individuals. Conceptually, resiliency includes survival, recovery, and thriving, with the variables affecting it being either internal or external. Contributing to the ability of the individual to flourish are the traits of positive self-esteem, hardiness, strong coping skills, sense of coherence,
self-efficacy, optimism, substantial social resources, adaptability, risk-taking, minimal fear of failure, perseverance, determination, and a high tolerance for uncertainty. It is only recently that research into resilience has begun to focus on understanding the integration of biological, emotional, and psychological processes to include self-care practices and mindfulness (Roussel et al., 2016; Sitzman & Watson, 2018; Wagnild, 2016). For the health care worker, an essential component of building resilience is Anewalt’s (2009) dual awareness, which illustrates an individual’s ability to focus on the care of others while being aware of one’s reactions and responses to suffering.

The American Nursing Credentialing Center’s (ANCC) Magnet Recognition© and Pathway to Excellence© programs include standards related to workplace well-being and support competencies centered around the caring effort of nursing for patients, self, and others (Dans et al., 2017; Pabico & Graystone, 2018). The American Nurses Association (ANA) Code of Ethics for Nurses (2015) outlined specifications for ensuring an ideal, healthy work environment. Provision 5 of the code stated, “The nurse owes the same duties to self as to others, including the responsibility to promote health and safety, preserve wholeness of character and integrity, maintain competence, and continue personal and professional growth” (p. 19). For nursing, the future of the profession depends on maturation toward distinct health healing and caring with the ability to share the nature of resiliency within the framework of caring relationships, mind-body-spirit medicine, healing arts, and the spiritual dimensions of care with others (Sitzman & Watson, 2018). This provision is of critical importance when considering the issues of stress and resilience for other health care workers because patient quality outcomes require positive practice environments.
Resilience is the ability to recover from stressful and negative emotional experiences. Although the published literature addresses resilience in variable terms, descriptors of balance, competence, optimism, and determination are similar characteristics found in each definition (Polk, 1997; Wagnild, 2016). Resilience is both dynamic and complex, and it includes both inherited traits and experienced environmental interactions (Stoffel & Cain, 2018; Wagnild, 2016). According to Ledesma (2014), three models exist for stress adaptation: compensatory, challenge, and protective. These three models describe similar means of dealing with stress and positive adjustment, but they take in a variety of variables associated with resilient characteristics such as self-efficacy, reliable social resources, risk-taking, and high tolerance of uncertainty. Bandura (1994) determined that a person’s beliefs about self-efficacy develop through mastery of experience, learning through observing others, and social persuasion of positive appraisals, as well as by reducing stress reactions by altering negative emotional inclinations. Roussel et al. (2016) considered the meaning of resilience to include not only descriptors of a natural development process or outcome but also an emphasis on values that are personal for both individuals and their environment.

Change is constant and inevitable. The individual with the skills of resilience can flourish in the health care environment where multifaceted change is pervasive (Pulley & Wakefield, 2014). A vital component of the learning organization is adaptability to change and valuing the learning associated with change (Porter-O’Grady & Mallach, 2011). However, for fundamental change to occur, organizations need employees with skills and means for reducing counterproductive behaviors and self-fulfilling patterns of behavior (Porter-O’Grady & Mallach, 2011). Therefore, it is conceivable that the focus of health promotion and creating a healthy work environment may be less about the characteristics of stress than on education and
enhancement of skills for cognitive and behavioral coping. Building skills of resilience by broadening perspectives and competencies may cultivate a workplace environment that is open to ongoing learning (Garcia-Dia et al., 2018; Kreitzer & Klatt, 2017; Pulley & Wakefield, 2014; Sitzman & Watson, 2018).

Background

Understanding what impacts an individual’s ability to cope with stress brings to light the importance of creating preventative measures to assist health care workers to build resiliency, which can help to ensure their continued health and well-being and potentially support improved retention and job satisfaction. Working in the health care industry can involve long hours, demanding patient care, changing technology, and ever-increasing documentation requirements (Mallak & Yildiz, 2016; H. Robertson et al., 2016; Werneburg et al., 2018). Situational challenges include multiple life roles (particularly for those who work more than one job), financial difficulties, a shortage of time, and negative self-perceptions (Arrogante & Aparicio-Zaldivar, 2017). These demands and ongoing stressors can significantly affect health care workers’ physical and mental well-being. Adverse stress outcomes in the health care worker negatively influence the care provided to others, reduce attention and concentration, diminish decision-making skills, decrease the ability to communicate and convey empathy, and lessen the ability to establish meaningful relationships with colleagues and patients (Allen & Palk, 2018). The prevalence and impact of stress and burnout have been well documented in physicians and nurses (Magtibay & Chesak, 2017; H. Robertson et al., 2016). The 2011 ANA Health and Safety Survey listed the effects of stress and overwork as the number one concern of nurses, with the nursing shortage exacerbating the problems of fatigue and burnout. However, few studies have considered the effects of stress and the development of resiliency in health employees either in
light of the nursing shortage or outside of the nursing shortage’s potential effects on health workers (Mallak & Yildiz, 2016; Werneburg et al., 2018).

**Purpose**

The primary purpose of the study was to understand the perceptions of stress and resilience of health care workers in a rural medical center setting in the northeastern United States. The secondary purpose was to develop an 8-week practicum using common domains of wellness and self-care that might address those perceptions and improve a sense of resilience in participants. Hence, this study was designated to be a pilot with 30 to 40 participants in the hope that strategy from the research and the course material could support both broader investigation and a practicum for use in multiple medical systems. Information from this project contributes to the literature on understanding perceptions of stress and developing resilience in health care workers through skills promoting self-understanding and reflective assessment of positive behavioral patterns for improving the health of individuals and workplace environments.

The study outcome was that participants learned information and skills that helped them to confront health care workplace stressors in positive ways, develop resilience skills, and improve the professional quality of life to enhance workplace well-being. Pretest and posttest assessments used valid, reliable questionnaires for the first workshop (pretest) and after the 8-week intervention (posttest). The eighth week offered an evaluation survey providing participants an opportunity to respond both to quantitative and qualitatively designed questions about their experience. The target population was a convenience volunteer sample of health care workers from the local medical center. There was no control group.
Significance of the Study

The study site was a small, rural medical center located in the northeastern United States with a legacy of providing care to the region for over one hundred years. For example, this medical center’s history includes the work of Dr. Edward L. Trudeau’s development of the tuberculosis sanitorium at the end of the 19th century (Hotaling, 2016). Continuing this legacy, the current hospital plays a significant role in the physical and social health of the community. The hospital’s recent nursing designation of Pathway to Excellence® ensures that for the classification of excellence the work environment is focused on quality patient care, recognizing supportive leadership, interprofessional collaboration, nurse and staff development, and work-life balance as essential elements (Dans et al., 2017). The institution focuses on the construct of resilience defined by Ledesma (2014) as “a class of phenomena characterized by good outcomes in spite of serious threats to [the] adaptation of development” (p. 1). As a health care organization, it attempts to address the fast pace of change that now, more than ever, drives quality of care and influences staff satisfaction for a healthy workplace for all employees.

Individuals and organizations both profit by building resilient employees. Benefits range from improved productivity, healthier employees, improved job satisfaction, and improved patient care. Resilient employees able to withstand job strain or work-worry stressors provide potential positive financial implications for the medical center (Aikens et al., 2014; Benzo et al., 2017).

Resilience is a critical construct supporting behaviors of solving problems and managing through adversity (Achour, Munokaran, Barker, & Soetanto, 2018; Mallak & Yildiz, 2016). Recent natural disasters and violent attacks in the United States have required organizations to hire and train employees who can deal with significant hazards and critical incidents. The rural
region of the medical center is not immune to dangers. Providing resilience training for the health care employees is vital to the organization in creating a healthy work environment for the care of the facility, the employee, and the patient (Achour et al., 2018). Future research may offer information on what health care employees see as the cause of stress during typical work scenarios, how they might build personal resilience, and how they might maintain newly built resilience levels.

**Nature of the Project**

The setting for the study was a small, rural medical center in the northeastern United States with approximately 700 employees. This study was a descriptive, nonexperimental, pretest/posttest pilot study with a convenience sample of health care employees volunteering for an 8-week intervention-based practicum designated to participants as a workshop. Because of the scarcity of research on the stress and resiliency of health care employees, a descriptive, quantitative methodology with survey results of attitudes, opinions, behaviors, and other defined variables was used to examine the relationship of stress and resilience among health care workers. Chapter 3 and Appendix A discuss the goals, knowledge, and skills taught in this workshop setting. The practicum was open to all health care employees with the hope there would be a variety of different departments represented from the medical center. The goal was to enroll a minimum of 30 to 40 participants to allow for some attrition; ideally, 30 participants would complete the course to ensure a suitable sample size for accurate statistical results. In actuality, 31 participants provided the initial data for the project.

The Employee Wellness Department and the Department of Patient Services, both of which are well supported by the medical center’s administration, supported the project. Each participant received written information about the program, potential benefits, and risks, as well
as the opportunity to withdraw at any point of the program. Under Abilene Christian University’s Institutional Review Board (IRB), informed consent was required to participate in the study. The practicum itself, based on the published literature and the primary investigator’s (PI) experience with an in-person weight-management and other extensive educational programs, was developed on the conceptual framework of Detection, Evaluation, Action, and Learning (DEAL) developed by Yusoff, Yaacob, Naing, and Esa (2013b) and Watson’s (1999, 2009) theoretical framework of human caring, caring science, and mindful practice (Sitzman & Watson, 2018).

Quantitative survey responses considered the five characteristics of purpose, perseverance, equanimity, self-reliance, and existential aloneness and the constructs of depression, anxiety, and stress (Lovibond & Lovibond, 1995; Wagnild, 2016). Pretest and posttest responses were compared based on the constructs of the surveys. The final practicum evaluation based on a Likert scale of 1–5 also included qualitative questions. Results enabled me to describe current levels of stress and resilience in the participants as well as to review and revise the practicum for a broader audience and different educational and clinical settings. I used the APA (2018a) definition of resilience: “adapting well in the face of adversity, trauma, tragedy, threats or significant sources of stress—such as family and relationship problems, serious health problems or workplace and financial stressors” (p. 1).

Research Questions

The research questions that guided this study considered the following:

Q1. Do health care workers in a rural medical center who engage in an 8-week workshop focus on building resiliency report a change in their interrelationship with stress, depression, and anxiety from pretraining to posttraining?
Q2. To what degrees does age or gender play a role on resilience-level interventions and the corresponding effects on stress, depression, and anxiety in health care workers in a rural medical center who engage in an 8-week workshop focused on building resiliency?

The PICOT question for the project was, “Do health care workers in a rural medical center who engage in an 8-week workshop focused on building resiliency report a change in their perception of levels of stress, anxiety, and depression from pretraining to posttraining, and does age or gender identification play a role on resilience level interventions and the corresponding effects on stress, anxiety, and depression?”

The PICOT approach of population, intervention, comparison, outcome, and time in this project was used to discover the influence of the evidence-based project design. As stated, health care workers (P) who engaged in a workshop focused on building resilience (I) reported a change in their perception of stress, anxiety, and depression from pretraining to posttraining (C) and considered age or gender playing a role in resilience-level interventions (O) and the effects on stress, anxiety, and depression. The time element (T) was the 8-week project design.

**Theoretical Framework**

The theoretical framework for this project utilized Watson’s (2008) *The Theory of Human Caring* and the expanded philosophy and ethics of the Watson Caring Science Institute. The principal construct of caring science is that caring is inclusive, circular, and expansive (Watson, 2008). Core concepts include relational caring for self and others; multiple ways of knowing; a reflective or meditative approach to caring; and changing self, others, and group culture through the act of caring (Watson, 2008).

The holistic approach to the concept of building resilience and well-being suggests that stress management programs incorporate objectives and program content for student learning to
include multiple environmental, organizational, cultural, and individual factors particular to the workplace and unique to the individual. Supporting this concept is Watson’s (2009) belief that humans cannot be treated as insignificant entities nor can they be detached from their person, surroundings, and the expanded universe, which necessarily includes the workplace. Honoring the unity of the whole person through caring practices affects not only patient outcomes but the success of all individuals and systems as well (2009). According to Hill and Watson (2011), underlying the caring science is the belief that “people are unitary beings and cannot be broken down into parts” (p. 34).

The Ten Caritas Processes™, which form the foundation of understanding nursing as the science of caring, are the elements of basic human needs and skills relative to building resilience (Watson, 1985; see Appendix B). Nursing is both scientific and artistic, with an underlying assumption that caring for another can only be expressed and exercised in person. Watson (1985) believed that “caring consists of carative factors that result in the satisfaction of certain human needs” (p. 9). The science of caring is complementary to building resilience skills for well-being. Watson (1985) acknowledged the power of persons to grow and change and that building resilience aligns by assisting others in finding alternative solutions when undergoing or facing stressful circumstances.

The continuous, dynamic process of the theory of human caring is functional, conceptually aligned, empirical, and generalizable to the tenets of nursing practice, building resilience, and fostering well-being for health care workers within the workplace setting. The ten carative factors were redefined by Watson (2009) as the Caritas Process (see Appendix B); they support the promotion of the interdependence of external and internal environments and strongly influence health and well-being contributing to homeostasis. The maturity of the theory of
human caring expresses the knowledge interests of the professional nurse relating to the evolution, interaction, and relationship of all human needs, defined by Watson as a “requirement of a person, which, if supplied relieves or diminishes immediate distress or improves his or her immediate sense of adequacy and well-being” (p. 107). Watson’s (1985) theory supports the principle that is using the mind constructively, realistically expressing emotions, being creatively engaged with others, having concern for the physical and psychological environment, and being aware of other levels of consciousness that promote the holistic care and self-care necessary for high-quality health.

The study used the theoretical framework of Watson’s human caring theory (1999, 2009) and Yusoff et al.’s (2013b) conceptual DEAL model. Human caring is the essence of nursing, and learning occurs through the taxonomy. These two frameworks were theorized to enable employees (a) to understand factual knowledge of stress, coping strategies, and resilience exercises; (b) to apply knowledge of a self-care plan focused on positive resilience strategies; and (c) to create a sustainable self-care plan. The educational and skills-based program used the instructional approach of the DEAL model for teaching stress management was developed by Yusoff (2010) and Yusoff et al. (2013a; 2013b). Watson (1999, 2009) and Sitzman and Watson (2018) outlined a philosophy of guiding transformative models of caring and healing and learning workshop sessions that incorporated elements of stress reduction based on self-change, self-caring practices, and inner-knowing associated with the interrelationship of stress, stressors, and coping strategies.
Figure 1. An illustration of the conceptual model developed for the theoretical basis of this study based on a combination of Watson (1999, 2009) and Yusoff et al.’s (2013a, 2013b) theories of caring and learning.

Definitions of Key Terms

The following key terms, taken from a range of resources and appropriately referenced, were important concepts for this project.

**Burnout syndrome.** A common occupational danger also known as overwhelming anxiety, low job satisfaction, disengagement, emotional exhaustion, lack of personal accomplishment, and depersonalization. This syndrome is defined as an adverse reaction to chronic occupational stress such that a gap exists between the needs and values of an individual and the job an individual performs (Arrogante & Aparicio-Zaldivar, 2017).

**Detection, Evaluation, Action, and Learning (DEAL).** A conceptual model based on the interrelationship of stress, stressors, and coping about affective, cognitive, and psychomotor learning taxonomy (Yusoff et al., 2013a, 2013b).
**Mindfulness.** An ancient practice that has existed for over 2,500 years and involves purposeful attention in the moment (also known as *being present* or *presence*) and nonjudgment. Characteristics include not being judgmental, having patience, showing trust, endeavoring to do one’s best, being accepting and compassionate, and reframing how events are perceived (Roussel et al., 2016; Zeichner et al., 2017).

**Resilience.** A phenomenon characterized by good outcomes when faced with a severe threat(s) to adaption (Ledesma, 2014).

**Self-efficacy.** An enabling psychology model involving an optimistic self-belief that the individual can accomplish a task with a favorable outcome. Self-efficacy is attained through regulating emotions or for gaining positive emotional reactions, organizing information, and using thinking (cognitive) processes, persistent motivation, and exercising influence over one’s feelings and patterns of behavior (Bandura, 1994).

**Stress.** The human body’s means of responding to any demand—either good or bad—that results from threatening experiences. Stress occurs when persons believe they do not have the resources for coping with obstacles such as people, stimuli, or situations (APA, 2017a, 2017b, 2018b).

**Watson’s human caring theory.** A global caring philosophy to guide transformative models of healing and caring practices for nurses, caregivers, and patients in diverse settings through transpersonal, authentic relationships providing full attention, spirituality, and presence at the moment (Watson, 2009).

**Assumptions**

The project framework and theory established the following assumptions:
1. Employees participating in the teaching intervention were a representative sample of health care employees in the health service departments in the small, rural medical center setting.

2. Employees participating in the education project answered the questions openly and honestly.

3. Employees chose the identified topic(s) of most significant interest to them from the five themes offered through the learning workshop.

4. Employee resilience improved because of the learning exercise.

Limitations

Anticipated limitations in this study included attrition contributed to potential small sample size and, consequently, low statistical power, which limited the type of analysis. The project used self-reporting surveys as tools. The time length of the project and generalizability also were anticipated as possible limitations.

Summary

This chapter provided a general overview of the types of stressors that affect health care workers and their needs for resilience training. All health care staff are vital to the operation of any health care organization. Literature supported the efficacy of resilience training for clinical staff as de rigueur for safe, effective, and quality patient care with similar efforts needed for learning the science of human caring and strengthening resiliency in health care employees. Changes are driven by the Triple Aim to increase population health and improve patient care and satisfaction, which is necessary for improving care and impacts health care employees with constant changes to care delivery. Developing resiliency for the health care worker can provide beneficial solutions to the individual, division, and organization.
Chapter 2 provides a literature review related to the factors associated with stress in the workplace and the development of resiliency training programs. It addresses pertinent literature about stress and resiliency in clinical care professions, contrasting those with the smaller body of research regarding health care workers.
Chapter 2: Literature Review

In this chapter, I review the published literature related to stress and the development of workplace-based resilience training for mitigating occupational stress. The literature review includes both historical and current definitions of the terms stress and resilience, the significance of building resilience in health care workers, and the need for improving well-being. In this chapter, I review the relevant literature related to populations at risk for stress; the progression of the terminology of burnout, professional compassion fatigue, and secondary traumatic stress; and the development of strategies for stress reduction and building resilience. The first section covers a historical perspective and populations at risk, whereas the second section covers the promotion of resilience and the impact of resilience training. Overall, the chapter addresses pertinent literature about stress and resilience in clinical care professions, contrasting those with the smaller body of research regarding health care workers. The literature search was completed using the electronic databases Medline, CINAHL, and PubMed and search terms “resilience OR resiliency OR resilient OR hardiness AND healthcare workers.”

Historical Overview

The concept of positive adaption despite adversity has been evident historically in religion, mythology, and the arts and through stories of people in everyday life. Examples include the biblical account of Job and his effort to remain positive in the face of devastating loss, the 12 labors of Hercules required by King Eurystheus as penance for killing his children, Beethoven’s hardships and early loss of hearing while still creating music amid suffering, and the experiences of Holocaust survivors. These illustrations of the resilient capacity of humanity when faced with overwhelming stressors demonstrate that stress is a subjective phenomenon unique to each person, a problem-focused arrangement of coping strategies, a protective and
adaptive function, and requirement of direct action to accomplish the result of an increased sense of well-being and resilience (Lazarus & Folkman, 1984; Martin, 2013; Slier & Shine, 2007; Swafford, 2014).

**Stress**

**Stress as a process.** The word *stress* is a common word with a variety of meanings. Stress can be reflective of daily frustrations with traffic on the drive to work, loss of Internet connectivity, or job demands. Stress may also occur within the developmental age continuum as with aging or adolescence. For example, an aging individual might experience stress as sensory losses of sight and/or hearing. Stress also can be more critical as when it occurs after or during major life events such as marriage, divorce, relocation, changing jobs, a diagnosis of cancer, or an injury resulting from an accident. Stress is considered a subjective response in that what is deemed to be stressful for one individual may not affect another individual in a similar manner (Marieb & Hoehn, 2018).

Researchers have attempted to explain stress through theory. Selye’s (1959) general adaptation syndrome (GAS) divides stress responses into alarm, resistance, and exhaustion. This theory suggests that regardless of the cause or context of the stress, the body responds with the same chain of physiological events. The physiological responses to stress include a wide range of feedback loops but begin with the stressor (input), which may be sensory and a psychological stimulus processed in the central nervous system (CNS; Marieb & Hoehn, 2018). The CNS includes the brain and spinal cord along with the cranial, spinal, and peripheral nerves and their motor and sensory endings (Drake, Vogl, & Mitchell, 2015). The information inputted into the CNS advances to the hypothalamus (output), which coordinates the necessary adjustments to work toward reestablishing homeostasis by releasing and inhibiting various hormones through
the autonomic nervous system (ANS) and the anterior and posterior pituitary glands (Marieb & Hoehn, 2018). It is the ANS, or the involuntary nervous system, that helps the body relax, rest, and digest food, all processes that humans cannot consciously influence. The ANS system can react quickly for adaptation.

The sympathetic nervous system (SNS), a part of the ANS, is what activates the “fight or flight” mechanism (Cannon, 1939, p. 21), which is the reflexive mechanism of self-protection, by releasing the hormones norepinephrine and adrenaline. The result of the release of these hormones is vital to the regulation of energy expenditure, temperature regulation, pupil dilation, increased sweating, and increased heart rate (Drake et al., 2015). The stress process and stress responses are a complex system of numerous pathways and extensive interaction that occurs within the body; they are natural, regular, and adaptive, yet they can cause harm and death with chronic or long-term imbalance (Marieb & Hoehn, 2018).

Lazarus and Folkman (1984) conceptualized stress as a transactional process where stress is a manifestation between the person and the environment. The cognitive transactional process is described as an appraisal-based theory, where the onset of an event or the primary appraisal process, determined by personal significance of the occurrence and potential threat to well-being, results in the secondary appraisal or the decision to seek available resources or approaches for coping with the threat or challenge (see also Goh, Sawang, & Oei, 2010). The combination of the primary and secondary methods of appraisal determines whether the event is considered harm, a threat, or a challenge. Lazarus and Folkman (1984) suggested that harm and threat appraisals generate negative emotions such as sadness, anger, fear, or anxiety, whereas challenge appraisals prompt positive feelings of excitement and confidence. The linear process of
appraisal–emotion–coping–reappraisal did not offer an understanding of the outcome of the stressor other than the recognition that the condition of chronic stress was a repeat of the process.

Page and Lindsey (2003) suggested four groups that narrow the cognitive and physiological theories of the phenomenon of human stress to (a) homeostasis, (b) stressor, (c) stress, and (d) adaptive response. Homeostasis is considered the balance or maintenance of equilibrium, or “the complex dynamic equilibrium by which life exists” (p. 275). The early work of Cannon (1939), known for creating the phrase “fight or flight,” described the acute physiological stress response of the human body as able to “neutralize or repair the disturbance” or find a level of homeostasis (p. 21). The physiologic interaction of systems such as the digestive system or the cardiovascular system is, when in a state of equilibrium, considered to be in a state of homeostasis. Internal and external forces continually challenge homeostasis, placing lives at risk. Stress is then considered a condition of threatened homeostasis (Marieb & Hoehn, 2018). It is when the adaptive response is insufficient, extreme, or extended over time that the healthy state of homeostasis or equilibrium is unable to be sustained (Marieb & Hoehn, 2018). The responsiveness of the body to the aggressor causing the stress also can be posited as a dose-response curve or an exposure-response relationship that increases with strength of the stressor, shifting to either the right or the left from the middle, representing either a sufficient or insufficient adaptation to the stressor unique to each (Marieb & Hoehn, 2018). Research has demonstrated that long-term chronic exposure to stress increases the risk of severe health problems such as cardiovascular disease (Khubchandani & Price, 2017).

They described this holistic six-path revised model as for primary appraisal (PA), secondary appraisal (SA), stress time 1, overall coping strategies applied (COP), and stress time 2. The 129 participants in their study had full-time employment, included both males and females, and were asked to identify a specific workplace event that had the likelihood of continuing for a prolonged period. The participants were surveyed at 4-week intervals with reliable and valid survey tools and recorded their coping strategies following each 4-week survey. Using structural equation modeling to conduct path analysis, the six-path model accurately represented the transactional theory through the revised version ($\chi^2 = 5.93, p > .20, \text{GFI} = .98, \text{CFI} = .99$). The results showed how individuals appraised and coped with occupational stressors, while it also revealed the fluid process of the psychological and physiological stress experience. The cognitive appraisal process was consistent with the subjective nature of stress and stress responses unique to each. Goh et al.’s (2010) study proposed that the significance between primary and secondary appraisal did not necessarily flow in sequential order, nor did one element have greater significance than the other, suggesting a dynamic association within the appraisal process. Regarding stress, this sign represents the unpredictable nature of the stress experience.

Khubchandani and Price (2017) studied the prevalence of health risk factors and the morbidity of American workers with perceived job insecurity. A random sampling of working adults from the National Health Interview Survey (NHIS) database ($n = 17,441$) were asked to rate their level of worry about being unemployed on a four-point Likert scale from strongly agree to disagree. The National Center for Health Statistics (NCHS), using data compiled through the U.S. Centers for Disease Control and Prevention (CDC) in 2010, used logistic regression with adjusted odds ratios to assess the association between such job insecurity, health outcomes, and health-risk behaviors as sleep duration, tobacco use frequency, patterns of alcohol
use, and physical activity every week. The results ($p < 0.001$) suggested that males, individuals with lower levels of educational completion, those who were divorced or separated, and those paid by the hour were likely to have a higher perception of job insecurity. Although the study showed only an association with perceived job insecurity and adverse health outcomes, it suggested that workplace health promotion programs might mitigate the stress of job insecurity. Education would helpfully address physical activity, mindfulness training, improving communication, employee recognition programs, improving work-life balance with flex hours or job sharing, and developing a culture of shared governance where employees have an essential voice within the workplace setting.

**Burnout**

Researchers have noted that, when experienced over a long period, job or occupational stress becomes *burnout*, or the peak result of emotional exhaustion, depersonalization, and decreased sense of achievement. Freudenberger (1974) was the first to describe the changes in cognitive, emotional, and physical behavior as signs of occupational burnout, seen in a variety of degrees over varying periods. Burnout includes such risk factors as the inability to turn off work; dismissal of family, friends, and values; using alcohol/drugs or overeating to compensate for stress; and depersonalization and emotional exhaustion combined with reduced personal accomplishment. The Agency for Healthcare Research and Quality (AHRQ) reported burnout as widespread with health care workers, with a 20%–80% rate in nurses and 40%–60% rate in providers (Lyndon, 2016). Bridgeman, Bridgeman, and Barone (2018) discussed the role of burnout in practicing pharmacists related to the risk factor of increasing workload, most notably in community pharmacy practitioners. However, there is a lack of research evaluating this risk
factor and the outcome of burnout within pharmacy practitioners and among other health care professionals.

Although not limited to nursing, burnout is a significant theme in nursing research. Because it is skill-intensive and people-oriented, nursing requires the ability to balance the demands of patients, families, and colleagues, and it often results in increased mental exhaustion and workplace stress (Magtibay & Chesak, 2017; Melvin, 2015). Arrogante and Aparicio-Zaldivar (2017) studied burnout and the need for building resilience in critical care professionals. Prevalent in critical care areas, the study suggested that 25%–80% of professionals suffered from mild to severe symptoms of burnout. They surmised that such burnout resulted from reduced social support; intense workloads; time constraints; and the moral, ethical, and spiritual stresses of daily responding to death and dying. The cross-sectional correlational study supported the relational findings between burnout and health, indicating that burnout syndrome had severe implications for health and suggesting the importance of resilience in reducing the impact of burnout syndrome.

Delgado, Upton, Ranse, Furness, and Foster’s (2017) integrative review of quantitative and qualitative studies sought to understand the aspects of nursing work associated with the emotional labor of nursing. The researchers strove to know about the function of resilience and the emotive job of nursing and what interventions might strengthen nurses’ resilience in light of the labor of nursing. The review indicated that emotional work is multidimensional and complex for nursing. Emotional work requires the managing of self and others to fulfill the requirements of the job, which for nursing includes witnessing human distress, interpersonal conflicts with staff, and often a lack of resources and administrative support. These elements suggested a direct correlation to nurses’ poor physical and emotional health, diminished patient satisfaction
and outcomes, and increased organizational costs. The review included 27 relevant studies published between 2005 and 2015. From their analysis, the researchers found emotional labor to be an aspect of all nursing work with differing emotional management related to emotional work and gender. Emotional work was noted to exist across all clinical fields; more prevalent in female nurses was the type of emotional labor known as surface acting or feigning emotions to meet social or work rules resulting in an emotional dissonance. In conclusion, the researchers found that emotional intelligence was an attribute of resilience and considered it to be a protective process that allowed nurses to adapt to the risk of emotional dissonance (Delgado et al., 2017).

Andela, Truchot, and Van der Doef (2016) defined emotional labor as the “face-to-face or voice-to-voice contact[s] with the public. The management of emotion and expression in order to conform to organizational rules and emotional expressions” (p. 298). Their study explored the relationship between job stressors and burnout, and the effects of emotional dissonance between these two elements. The findings of their study supported their hypothesis of strong correlations between emotional conflict, exhaustion, and cynicism, which are risk factors for burnout. The researchers also found that workload and team collaboration were variables related to burnout because of emotional dissonance.

**Secondary Traumatic Stress**

*Secondary traumatic stress* is a result of extreme job demands, though not necessarily related to job burnout. Secondary traumatic stress affects the individual who may not inevitably witness a trauma firsthand but has exposure to the outcome of the injury through one’s profession. Such professions may include clergy, first responders, and health care workers (Allen & Palk, 2018; Melvin, 2015; Shoji et al., 2015). Allen and Palk (2018) and Melvin
(2015) described secondary traumatic stress (STS) as a form of post-traumatic stress in nurses who have secondary experience through recurrent contact of intense emotional occurrences such as death, trauma, and violence. Unlike job burnout, which is traditionally considered to involve the three dimensions of emotional exhaustion, depersonalization, and lack of personal accomplishment, STS is a psychological response to an explicit work environment stressor related to the trauma survivor (Shoji et al., 2015).

Allen and Palk (2018) reported that approximately one-third of nurses working in the emergency department (ED) met the criteria for post-traumatic stress disorder (PTSD)–like symptoms. The purpose of their study was to understand the traumatic experiences of the ED nurse, the effects of trauma on the nurses in the ED, the perceptions of the needs of the ED nurse to develop higher levels of resilience and improve adaptive coping strategies, and how these perceptions add to the literature. The mixed-methods study of ED nurses \((n = 80)\) highlighted the themes of traumatic injury, trauma events in the workplace, trauma in personal life, and the strong need for further education, debriefing, and resilience training. Recommendations from the study included introducing resilience training in mandatory orientation, including cognitive techniques of relaxation, stress management, mindfulness, and self-care practices. The study results also suggested including a self-report screening tool in the orientation manual so nurses could readily measure their stress and coping levels (Allen & Palk, 2018).

**Stress in the Health Care Industry**

Additional descriptors in the literature of stress in nurses and clinical providers included professional compassion fatigue and moral distress (Allen & Palk, 2018; Andela et al., 2016; Bridgeman et al., 2018; Magtibay & Chesak, 2017; Melvin, 2015; Potter et al., 2013; Werneburg et al., 2018).
Based on National Council of State Boards of Nursing (NCSBN, 2018) data, approximately 25% of new nurses leave professional placements within one year of practice because of increased levels of stress, ranging from concerns with workload to the acuity of patients in intricate health settings. Wahab, Mordiffi, Ang, and Lopez (2017) found that inexperienced nursing graduates required time to adjust to the work role from the student role, citing lack of confidence, time management, knowledge deficit, and new environment adaptation. When not allowed to overcome transition stress through orientation designed explicitly for graduates, such as a residency program or preceptor training programs, attrition worsens the nursing shortage (AACN, 2017; Liu, Goryakin, Maeda, Bruckner, & Scheffler, 2017). The loss of nurses in the profession and job changes due to stress and poor work environments are costly for the health care industry. Meyer and Shatto (2018) found the annual cost for nursing turnover in the United States to be between $1.4 and $2.9 billion.

Compassion fatigue is a frequent condition among health care providers. It is considered a combination of secondary traumatic stress and burnout. Potter et al. (2013) conducted a descriptive pilot study with oncology staff nurses to study the occurrence of compassion fatigue and the impact of a resilience program. In nursing, compassion fatigue may be due to a combination of stressors resulting from the physical and emotional demands of the profession. Factors impacting the stressors of nursing work may result from increased turnover, employee absenteeism, decreased patient satisfaction, and retention and recruitment challenges. Potter et al. (2013) found that the prevalence of compassion fatigue among registered nurses ranged from 16% to 39%, with causative factors of poor workplace design, insufficient supplies, and repeated exposure to traumatic events. Compassion fatigue might have effects on individuals’ personal
life such as bad dreams, excessive weight loss or gain, loss of social interest, and diminished sexual activity.

Multiple nursing specialties from the operating room, emergency department, oncology, and intensive care units have identified the devastating effect of moral distress and compassion fatigue, which includes burnout, stress-related illness, turnover, disengagement from patients, and departure from the profession (Allen & Palk, 2018; Arrogante & Aparicio-Zaldivar, 2017; Stutzer & Bylone, 2018). Intensive care unit and operating room professionals experience high levels of perceived stress due to time constraints and workload (Arrogante & Aparicio-Zaldivar, 2017). Managers and executives also carry an emotional burden in their roles, which may affect their ability to manage stress not only within themselves but also with peers, team members, patients, and families (Ellis, 2018; Kester & Wei, 2018). Students, whether prelicensed or graduates in medicine or nursing, are at risk for burnout from the demanding nature of the clinical and academic setting due to the higher level of educational stress compared to students in other health majors (Thomas & Revell, 2016; Van der Riet et al., 2018).

Current health care trends driven by the Triple Aim and population health changing from fee-for-service reimbursement to a value-based payment structure suggest that the workplace is more challenging for providers (Bodenheimer & Sinsky, 2014; H. Robertson et al., 2016). Challenges included communication, administration relationships, organizational pressures, increased review of practice related to quality outcomes, and professional development regulations. Similarly, Cooke, Doust, and Steele (2013) found a negative association with providers with burnout and secondary traumatic stress regarding anxiety and intolerance to the uncertainty, resulting in the reluctance to share and a reduced partnership with patients. Similarly, Waddimba et al. (2016) found the greatest associations with burnout and stress in
providers related to tolerance of uncertainty but also the amount of work in the provider’s practice, how frequently the provider considered the work satisfying, and satisfaction of relational needs with peers. Bowden, Smith, Parker, and Boxall (2015) cited increased workplace stress with diminished control and responsibility of care and transparency regarding excess work and unclear boundaries.

Similar to nursing and physicians, health care staff who provide treatment for preventing disease—including pharmacists, physical therapists, and dieticians, as well as administrators, clerks, engineers, and technicians—face similar stressors in the health care workplace. Yet, few researchers have examined the impact of stress and the need for resilience training in this population of health care employee (Benzo et al., 2017; Berkland et al., 2017; Bridgeman et al., 2018; Mallak & Yildiz, 2016; Stoffel & Cain, 2018; Werneburg et al., 2018).

**Resilience**

Although the meaning of resilience derives from the Latin verb *resilire*, meaning “to leap back,” successful learning of resilience is more about “leaping forward” with newly learned skills involving behaviors, thoughts, and actions through meaning-focused coping drawing on beliefs and goals (Folkman, 2008; Gloria & Steinhardt, 2014; “Resilience,” 2016). Literature and research suggest that internal and external variables influence the ability of a person to move through adverse events toward resilience. One’s purpose in life is considered the most significant internal variable of resilience and the driving force that pulls individuals forward when faced with challenges (Wagnild, 2016). In Ecclesiastes 1:1-11, Kohelet, known in the Greek translation as Ecclesiastes, a council of sages and observer of life under God’s inspiration, required experience to have a purpose for it to be meaningful (Del Housaye & Brewer, 2008, p. 618). Frankl (2006), an Austrian neurologist and psychiatrist, Holocaust survivor, and founder
of the Third Viennese School of Psychotherapy (logotherapy), described the purpose and meaning of life in his account *Man’s Search for Meaning*. Frankl reflected on the sources of his strength and his will to survive determining that one’s purpose for being “differ from man to man, and from moment to moment” and yet is “something very real and concrete” (p. 77).

The Resilient Core concept, as described by Wagnild (2016), identifies five patterns of resilience: (a) purpose, (b) perseverance, (c) equanimity, (d) self-reliance, and (e) existential aloneness or authenticity, with purpose considered the essential characteristic of resilience. Of the five patterns, *purpose* describes not only the sense or meaning of one’s life but also becomes the foundation for the remaining precedents of resilience. *Perseverance* is the determination to keep going in spite of repeated failure, and *equanimity* is about balance and harmony in recognizing that life is neither all good nor all bad. *Self-reliance* is clearly understanding one’s abilities and limitations and learning problem-solving skills from each lesson. And finally, *existential aloneness*, also called authenticity, is the ability to live with oneself or be content with who one is. Wagnild (2016) posited that generally people do not need to search for their purpose but that purpose “typically finds us”; furthermore, she indicated that exhibiting strong resilience as measured by the Resilience Scale (RS™) suggests a healthier lifestyle and well-being. Several current studies have addressed the use of the RS™ in a variety of cultures, clinical settings, education, and disease (Aiena, Baczwaski, Schulenberg, & Buchanan, 2015; Garcia-Dia et al., 2018; Losoi et al., 2013).

Psychology researchers offer the most studies on resilience, although the interest in health care, education, and academia is seen as a growing body in the literature with varied definitions and a paradigm shift moving from risk factors toward identification of strengths within individuals (Auburn, Gott, & Hoare, 2015; Brouska, Kaltsi, & Loumakou, 2018;
Ledesma (2014) described resilience as a construct or “a class of phenomena characterized by good outcomes in spite of serious threats to adaptation” (pp. 1–2). Oshio, Taku, Hirano, and Saeed (2018) studied the term ego resiliency as a trait or personality able to adapt personal responses to meet current situations. Wagnild (2016) argued that resilience cannot be limited to a character trait or an individual’s experiences (state) but is complex and must include both state and character, which by reason becomes effective. Ellis (2018) explored leadership emotional resilience—or the ability to manage stress in self, peers, teams, and patients—suggesting it is not an innate ability but a learned ability. In addition, the research includes the use of tools for managers and executives to build resilience through staff development addressing retention, recruitment, and satisfaction (Garcia-Dia et al., 2018; Hart, Brannan, & DeChasny, 2014). Kuntz, Malinen, and Näswall (2017) suggested that resilience includes both workplace and employee development for improved well-being. They argued that organizational resources need to foster employee resilience through employee appreciation efforts, human capital development, a supportive environment, and building a learning and collaborative organization.

The Nobel laureate and physical chemist Prigogine’s work on complex systems and dissipative structures (Prigogine, Allen, & Herman, 1977) determined that the pattern of the customary, when interrupted with fluctuation, created a period of disorganization, unpredictability, and uncertainty but found the power to emerge at a higher order with a more significant level of organization. The power to develop from a disorganized state to one of more considerable organization is similar to fluctuation in the ordinary course of life, where life regains a regular rhythm. Emerging from the experience achieves a new, higher level of organization—a new stasis that reflects some improvement or growth in life. Individuals can
develop at a higher order and restore equilibrium. Resilience is the ability to rise above and the
literature suggests that patterns of resilience can be conceptualized as a safeguard to restore
balance or homeostasis (Auburn et al., 2016; Ledesma, 2014). Resilience stems from the
synergy of relationships, meaningful intrinsic, and extrinsic relationships, and the ability to seek
these relationships. Resilience becomes the agency for problem-oriented coping, establishing an
internal locus of control, and developing positive beliefs and self-knowledge (Gloria &
Steinhardt, 2014; Ledesma, 2014; Leutenberg & Liptak, 2011; Newman, 1999; Polk, 1997;
Wagnild, 2016).

The prevalence in literature and research outlining the need for workplace resilience to
mitigate stress and enhance well-being provides the opportunity to examine the efficacy of
resilience training programs. I. Robertson, Cooper, Sarkar, and Curran (2015) in a systematic
analysis found a range of workplace resilience training approaches aimed at protecting negative
consequences from stress. The reviewers selected studies based on design, participants,
interventions, comparisons, and outcomes (SPIO), narrowing the search to 14 studies. The
discussion illuminated that the notions of structure, duration, and delivery varied significantly,
and there was inconsistency across studies in the definition of resilience. Research interventions
ranged from one 90-minute single session with optional 30-minute or 60-minute follow-up
sessions to a 13-week group training. Content and methods included cognitive behavioral
therapy (CBT) to boost happiness and gratitude, learning techniques of mindfulness and
relaxation, developing strong relationships, and using personal strengths. Benzo et al. (2017)
explored the effect of self-compassion on employee happiness. After adjusting for variance with
age, marital status, and gender, the researchers suggested that time spent exercising and at an
exercise facility coping with isolation and mindfulness to be significant and independently associated with self-compassion.

Vanhove, Herian, Perez, Harms, and Lester (2016) in a meta-analysis identified three areas of interest in resilience building: (a) overall and long-term effectiveness, (b) impact of moderating characteristics, and (c) outcomes. Outcomes revealed statistically significant effects on health and performance along with greater impact with direct delivery. Long-term efficacy was not consistent within individuals, perhaps because programs utilizing a one-on-one coaching approach for delivery appeared to produce the most substantial effect versus group-based classroom, train-the-trainer, and computer-based delivery. It was unclear whether the moderating characteristics of resilience building for children was different for adults. Rogers (2016) found similar results with variance in measurement, definition, and delivery of resilience. However, the study’s results indicated that the most robust outcomes used workshop delivery, cognitive behavioral training, or a blend of tools. In contrast, through a randomized control study with a 6-month follow-up, Aikens et al. (2014) found a decline in self-reported stress following a 7-week virtual online delivery of a mindfulness intervention to reduce stress in the workplace.

Berkland et al. (2017) and Werneburg et al. (2018) both utilized Stress Management and Resilience Training (SMART) with large sample sizes ($n = 110$ and $n = 150$, respectively). Both studies revealed statistically significant improvements in happiness, satisfaction with life, gratitude, mindfulness, spirituality, and stress ($p < .001$). Designed to build resilience, SMART employs the combination of mindfulness and self-care interventions to reduce symptoms associated with a variety of medical diagnoses. Loprinzi, Prasad, Schroeder, and Sood (2011) adapted the SMART program with attention and interpretation therapy (AIT) to redirect patient
focus from harmful threats and prejudices toward levels of gratitude and compassion. The SMART program is associated with significant statistical improvement in positive psychological functioning focusing on happiness, life satisfaction, and gratefulness (Berkland et al., 2017; Loprinzi et al., 2011).

A variety of strategies for building resilience within the workplace exist in the literature with variation in sample, design, and evaluation. The consensus that this variation may impact the effectiveness of building resilience programs that could result in modest outcomes should not diminish the benefit to organizations of providing resilience-building programs (I. Robertson et al., 2015; Vanhove et al., 2016).

Conceptual Framework

The conceptual framework of stress management education through DEAL is a four-stage problem-solving model used for understanding the effects of stress and the ability to manage stress in association with the affective, cognitive, and psychomotor levels of learning (Yusoff et al., 2013a). Yusoff et al. (2013a) considered self and environmental modification as the two primary groups in which to focus on stress management. Permission to use the DEAL model for this project came from Dr. Yusoff (personal communication, July 2, 2018; see Appendix C). Transformation of self is a personalized approach wherein choosing positive thinking or action along with self-reflection permits positive coping or a mechanism that the individual can control. The environmental change may involve system change to prevent further stressors. The fundamental belief of Watson’s theory of human caring and caring science allows openness to “being” for the formation of the caring-healing environment, which results from utilizing the tools for building resilience through reflective thinking and personal knowledge.
Both approaches play significant roles in guiding individual psychological health (Sitzman & Watson, 2018; Watson, 1999, 2009; Yusoff et al., 2013a, 2013b).

Summary

The health of the individual health care worker and the health care organization gains by building resilient employees. Benefits range from improved productivity, healthier employees, improved job satisfaction, improved patient care, decreased attrition, and a safer work environment. Resilient employees can withstand job strain or work-worry stressors and have a level of protection from the effects of burnout, compassion fatigue, or secondary traumatic stress. Resilient employees are better prepared to provide safe, effective patient care, as all health care staff is vital to the operation of the health care organization. However, what is often missing in the health care setting is the opportunity to learn methods of coping and mechanisms to deal with the daily stress of the work of caring.

The research review addresses populations at risk, the need for approaches to reduce stress, and the development of strategies for building resilience. The learning opportunity must go beyond the offering of employee assistance and counseling and include on-site training and perhaps daily reminders, as well as yearly orientation about the significance of managing stress and building resilience. The efficacy of resiliency training for clinical staff is necessary for safe, effective, and quality patient care while incorporating learning about the science of human caring.

Chapter 3, which is grounded in this theoretical framework, provides the methodology for the project intervention, sample, setting, and analysis of the methods used to demonstrate the effects from the results. It considers pertinent issues, limitations, and outcomes followed by a summary for future studies and the potential for the advancement of current nursing practice.
Chapter 3: Methods

Resilience is the ability to recover from challenging or stressful situations. The high-stress environment of the health care system requires individuals to develop tools to thrive within their environment (Benzo et al., 2017; Werneburg et al., 2018). Ideally, on-the-job educational opportunities should be offered to help health care professionals develop such skills. Implementing a program that aims to support individual adaptive coping strategies and positive emotions while decreasing negative behaviors related to job stress offers individuals the opportunity to enhance resilience when faced with stress and change within the health care setting (Allen & Palk, 2018). Definitions of resilience are complex and multidimensional (Craigie et al., 2016). Despite common themes of adaptation, dynamic process, and rising above a situation, there is no universal definition adopted in the health care literature and often no specific definition outlined in empirical studies (Aburn, Gott, & Hoare, 2016). In this project, I used the APA definition of resilience: “adapting well in the face of adversity, trauma, tragedy, threats or significant sources of stress—such as family and relationship problems, serious health problems or workplace and financial stressors” (APA, 2018, p. 1). This chapter provides an overview of the methodology for this project.

Project Design

In this project, I considered the variables of stress and resilience as a quantitative, nonexperimental, descriptive pretest and posttest pilot study with a workshop intervention. The variables were measured once before the 8-week workshop intervention and again following its completion. There was no control group or randomization. Employee participation was through direct marketing such as posters, flyers, word-of-mouth, and information provided at governance, leadership, and staff meetings. The participants were volunteers.
The descriptive design was chosen to summarize and describe the sets of matching scores considering the phenomena of stress and level of resilience within a single group of participants. This design study did not measure causality. Both pre- and postworkshop surveys used valid and reliable questionnaires. A mid-course intervention meeting provided a check-in opportunity with participants, and each week inspirational messages went to each participant through a text message. Communication topics focused on adequate sleep, gratitude, ways to relax, reflection, exercise, social support, goal setting, and mindfulness (see Appendix D). Two additional text messages were a welcome text to participants on Week 1 following the face-to-face meeting and a text message reminder before the final convening in Week 8. Participants completed an evaluation of the workshop during Week 8 (see Appendix E).

**Instruments and Measurement Tool**

This section provides an overview of the two instruments that were used to measure the participants: relationship, association, and understandings of stress and resilience. Devices used in the pre- and postsurvey included Lovibond and Lovibond’s (1995) Depression Anxiety Stress Scale (DASS-21). The 21-item, four-point Likert scale measured the three subsets with a range of 0 to 3 (0 = did not apply to me at all to 3 = applied to me very much, or most of the time). Wagnild and Young’s (1993) Resilience Scale (RS™) directly measures resilience through a 25-item, seven-point Likert scale (see Appendixes F and G for complete surveys). Both questionnaires have been used by other researchers (Garcia-Dia et al., 2018; Oei, Sawang, Goh, & Mukhtar, 2013; Yusoff, 2013) to measure health and wellness in a variety of cultures and populations including health care professionals and workshop participants.

Instruments used in the workshop to measure the participants’ relationship to awareness of stress and resilience behaviors were the validated DASS-21 and RS™ survey tools. The
Likert scale questionnaire design provided a consistent means to control the dialogue and collect data that measure beliefs, opinions, and attitudes (DeVellis, 2012). The questionnaires were self-reporting, which had limitations related to interpretation and over- or underreporting. Both surveys had proven psychometric properties and were a good fit for this study, measuring the participants’ current level of stress and their overall state of resilience. The choice of the DASS-21 and RS$^\text{TM}$ survey scales was made because of their frequent use, ease of use, and applicability across cultures and age groups.

**The DASS-21**

The DASS-21 is a set of three self-reported scales of depression, anxiety, and stress. Each scale, consisting of seven items, is divided into subscales with similar content and is based on the dimensional concept of psychological disorder versus a discrete diagnostic category. Thus, the DASS-21 survey results do not have correlations to the 10th revision of the International Statistical Classification of Diseases and Related Health Problems (ICD) categories related to mental health (Lovibond & Lovibond, 1995). The characteristics of the depression scale assess hopelessness, inability to experience joy, lack of interest or involvement, and generalized dissatisfaction with life. The anxiety scale evaluates behaviors of apprehension, worry over performance (situational anxiety), and awareness of autonomic nervous system or unconscious stimulation of fear, exhibited as the pounding of the heart, breathing difficulties, or palmar sweat. The stress scale is used to identify behaviors where the individual has trouble relaxing, becomes easily upset, and may be overreactive exhibiting tension, irritability, and intolerance of interruption (Lovibond & Lovibond, 1995).

The DASS-21 survey is a well-validated and reliable instrument measuring health and wellness across cultures and genders (Gomez, Summers, Summers, Wolf, & Summers, 2014;
Oei et al., 2013; Yusoff, 2013). DASS-21 has strong internal consistencies, and alpha reliability ranging from 0.81 to 0.97 (Gomez et al., 2014; Yusoff, 2013). Severity labels for the DASS-21 scoring include (a) normal, (b) mild, (c) moderate, (d) severe, and (e) extremely severe (Lovibond & Lovibond, 1995). The total of the DASS-21 subscale scores is multiplied by two to simulate the full version of the scale. The DASS-21 stress score of 28 or less is considered normal stress, 30–50 is mild-to-moderate stress, and 52–68+ reflects severe-to-extremely severe stress (Lovibond & Lovibond, 1995). The DASS-21 is available in the public domain (P. Lovibond, personal communication, April 15, 2018) and permission to use it for this study was provided (see Appendix H).

The RS™

The RS™ is a 25-point Likert scale designed to measure the strength of participants’ foundation of resilience or an individual’s ability to respond to adversity (Wagnild & Young, 2016). The 25 items of the RS™ reflect five characteristics of resilience in terms of (a) purpose, (b) perseverance, (c) equanimity, (d) self-reliance, and (e) existential aloneness or authenticity (Wagnild & Young, 2016), as defined in Chapter 2.

RS™ scores range from 25 to 175. Ratings higher than 145 indicate moderately high-to-high resilience; 116–144, moderately low levels of resilience; and 115 or less, exceptionally low resilience (Wagnild & Young, 2016). Results are computed by adding each item’s score to the total score. On the Likert scale, 1 represents the lowest score for any question, and 7 represents the highest score. The direction of scoring is toward the positive, from strongly disagree to strongly agree. Internal consistency of the RS™ is strong, with alpha reliability ranging from 0.87 to 0.91 (Aiena et al., 2015; Brouskeli et al., 2018; Garcia-Dia et al., 2018; Losoi et al.,
2013). Permission to use the RS\textsuperscript{TM} scale (G. Wagnild, personal communication, June 11, 2018) was obtained (see Appendix I).

**Data Collection**

The face-to-face method of distributing and collecting surveys on the spot was used to collect data for this project. Although not a personal interview, providing the questionnaires during Weeks 1 and 8 of the workshop intervention part of this project allowed me to answer individuals’ questions, assure that surveys were complete and without missing data points, and provide a 100% return rate from those present on those days. The DASS-21 and RS\textsuperscript{TM} are paper-and-pencil surveys. Each questionnaire included space for inserting the participant identification code, a brief introductory note about the nature of the study, the purpose of the study, and directions for completing the survey (see Appendixes F and G). Survey limitations included self-reporting bias of over- or underreporting and participant interpretation of questions and responses.

Each participant had anonymity with a self-developed, unique identification code following the Damrosch (1986) method (see Appendix J). This method asks participants to create a selection of numbers and letters based on information unknown to the researcher and that participants are easily able to reproduce with accuracy. The ID code remained with the participant alone.

Surveys were secured in a locked cabinet accessible only by me for the period specified by regulation, thus protecting participants’ confidentiality and data security. Additional data collected by me on Week 1 included a demographic survey (see Appendix K) that asked for information related to participants’ age, gender preference, race, relationship status, dependents, pet ownership, work experience, and education. These data described participant characteristics
and may suggest whether the sample was sufficiently representative of the population studied for the project. At the end of the 8-week workshop, an additional survey was given to each participant to determine the value of the intervention. Participants had the opportunity to rate the workshop elements on a five-point Likert scale (1 = *strongly disagree*, 5 = *strongly agree*) in addition to answering open-ended questions seeking anecdotal evidence of what worked well for the individual, barriers encountered, and recommendations on how the project might be improved (see Appendix E).

As part of the workshop intervention, participants were asked to complete a self-care plan, both pre- and postintervention (see Appendix L). Elements of the self-care plan included rating stress perception on a Likert scale of 0 to 5 (0 = *none*, 5 = *extreme*) and identifying three top stressors in their life, three important coping mechanisms they utilized, and a prediction of how they perceived they would cope with stress during the 8-week intervention. The final question was completed on Week 8, thus offering a plan for practicing one or more resilience behaviors learned in the workshop. The self-care plan remained in each participant’s possession and therefore did not provide additional contextual information.

**Management and Analysis Plan**

The project had a quantitative, nonexperimental, descriptive pretest/posttest pilot study design with a workshop intervention that considered the variables of stress and resilience. The baseline data measured for the project included the pretest surveys collected during Week 1 of the workshop. These data included sociodemographic data and the paired DASS-21 and RS™ surveys. The variables were measured one time before the workshop and one time following the completion of the 8-week intervention. There was no control group or randomization. The descriptive design was chosen to summarize and describe the sets of matching scores regarding
the phenomena of stress and the level of resilience within a single group of participants. This design study did not measure causality. Excel 2013 provided statistical analysis. Qualitative data were limited to the final evaluation survey and open-ended questions regarding the value of the program for participants.

Descriptive statistics used both the dependent one-tailed paired \( t \) test and the Wilcoxon signed rank test for the data analysis. The one-tail test considered only values at one extreme of the distribution, positing a positive directional hypothesis using composite scores for stress and resilience and suggesting the training is successful for participants.

**H1\( _0 \).** Resilience-level interventions administered to the health care worker are not related to perceived levels of stress, anxiety, and depression.

**H1\( _a \).** Resilience-level interventions administered to the health care worker are related to perceived levels of stress, anxiety, and depression.

**H2\( _0 \).** Gender identification of the health care worker has no impact on resilience-level interventions and its corresponding effects on stress and depression.

**H2\( _a \).** Gender identification of the health care worker has an impact on resilience-level interventions and the corresponding effects on stress and depression.

**H3\( _0 \).** Age of the health care worker has no impact on resilience-level interventions and the corresponding effects on stress and depression.

**H3\( _a \).** Age of the health care worker has an impact on resilience-level interventions and the corresponding effects on stress and depression.

The statistical analysis assumed a sample size of 30 to 40 based on recommendations from the literature and consideration for attrition. Knapp (1998) suggested using the rule of thumb of having 10 times the number of subjects as variables. Previous studies evaluating the
Effectiveness of resilience training ranged from samples of 10 to 100 (I. Robertson et al., 2015; Van der Riet et al., 2018). Power analysis performed with G*POWER 3 for a dependent sample t test using an alpha of 0.05, power of 0.80, large effect size ($DZ = 0.8$), and one tail yielded 12 participants. The medium effect size using G*POWER 3 for a dependent sample t test using an alpha of 0.05, power of 0.80, medium effect size ($DZ = 0.5$), and one tail yielded a needed sample of 27. Similarly, the small effect size ($DZ = 0.2$) produced a sample size of 156 (Faul, Erdfelder, Buchner, & Lang, 2007; Leppink, O’Sullivan, & Winston, 2016). Therefore, these values offered an approximate guide.

**Methodology**

Participants were offered sufficient personal space in a room large enough to ensure privacy when completing the informed consent form and questionnaires. The informed consent form was reviewed with all participants so they could ask questions and review risks and benefits. Participants had the right to enter the study or decline involvement. Signing the consent form was expected for all those who chose to participate in the study as opposed to the workshop alone. However, the informed consent form clearly explained that each person had the freedom to withdraw from the study at any time without reason, penalty, or impact on employment. Collecting protected health information (PHI) from participants was not a part of the study. There was no fee attached to the workshop for participants. However, participants who completed the full 8-week intervention and the final evaluation were included in a drawing for one of five $20.00 gas gift cards from a local shop.

**Feasibility and Appropriateness**

Feasibility of the intervention included indicators such as the number of volunteer participants attending the workshop and the number of participants who completed the 8-week
workshop and posttest survey. As the researcher, I engaged with stakeholders through the planning stage regarding the logistics of adequate resources necessary for the delivery of the study, space, availability, and materials. Challenges in delivery, workshop content, or expected outcome and effectiveness also were reviewed with the intent of determining the fidelity of the intervention plan before implementation to improve feasibility. With the full range of options for building resilience as outlined from the literature, the project utilized Leutenberg and Liptak’s (2011) structured tool *The Building Resiliency Workbook*.

**IRB Approval and Process**

The IRB approval for the study was through the Abilene Christian University (ACU) Office of Research and Sponsored Programs (ORSP) IRB Committee. The clinical site for the study no longer supported an IRB process and, therefore, did not require a separate IRB particular to the organization. However, a letter of support for the study from the medical center chief nursing officer supported the study (see Appendix N). The application to the ACU IRB for the project was submitted and accepted as an exempt research request (see Appendix O).

**Interprofessional Collaboration**

The goal of the workshop was to provide an opportunity for health care worker participants to identify their stress levels and to strengthen their resilience given those levels (Garcia-Dia et al., 2018; Hart et al., 2014, Kuntz et al., 2017). The interprofessional collaboration built into the culture of the medical center aligned well with the objectives of the resilience development workshop. Critical factors in successful interprofessional collaboration include many of the same elements that are essential for workplace wellness education, such as role clarity, trust and confidence, the ability to overcome adversity and personal differences, and
collective leadership, and are the antithesis of burnout, stress, and compassion fatigue (Bosch & Mansell, 2015; Delgado et al., 2017).

The planning phase for the project included staff from shared governance committees representing a variety of hospital divisions in the patient care services department. Medical center stakeholders provided input on the appropriateness, relevance, and usefulness of the intervention to improve the project’s acceptance at the site (Lamontagne, Perreault, & Gagnon, 2014). Sidani and Braden (2011) considered this approach a “consultative deductive” approach (p. 168). The stakeholders—including administration, nursing, and frontline staff—explored ideas for the workshop through an interview process. The stakeholders identified the need for the workshop intervention utilizing a Strengths, Weakness, Opportunity, and Threat (SWOT) analysis initiated through the Shared Governance Committee. The planning discussions included clarification of the project; overview of goals and delivery; determination of location, dates, and times; and feedback regarding any concerns. Because the project was a pilot study, as described in Chapter 1, additional input from the participants during the actual implementation was used to modify and improve the workshop for future use and research.

**Practice Setting**

The setting for the workshop was a small rural medical center in the northeastern United States with approximately 740 employees and more than 70 physicians on staff. The community has a 100-year legacy of providing care to the region. The current hospital plays a significant role in the community’s physical and social health. The hospital’s recent nursing designation of Pathway to Excellence® ensures that the essential elements required for Pathway® classification of excellence in the work environment focuses on (a) quality patient care, (b) recognizing supportive leadership, (c) interprofessional collaboration, (d) nurse and staff development, and
(e) work-life balance (Dans et al., 2017). Each year the hospital celebrates the Peak of Excellence Awards recognizing outstanding interdisciplinary projects for sustainable quality improvement and innovation during National Patient Safety Awareness Week.

The workshop intervention occurred in the medical center. The selected meeting room was sufficiently large to accommodate large groups of more than 40 participants, preventing the invasion of personal space when completing surveys and forms requiring personal information. The technological resources were sufficient for educational presentations.

**Target Population**

The target population included current hospital employees 18 years of age or older. Both male and female employees from all departments, including neighboring health clinics and long-term care, were encouraged to participate. The intent was for the participants to consist of a broad representation of hospital departments such as pharmacy, dietary, nutritional services, environmental services, administration, and clinical providers. The targeted sample size of 30 to 40 was predicted to allow for attrition and provide appropriate statistical analysis. A total of 31 participants provided the initial data for the project.

The Department of Patient Services managed participant recruitment from health care employees. The study was open to all employees from multiple disciplines and locations within the organization. I did not recruit participants personally; a hospital employee, who served as project liaison, recruited participants. Communication about the workshop was distributed to all employees using a variety of communication tools (e.g., an email to all hospital employees, presentations at several directors’ meetings, a flyer in the monthly publications *Nursing Notes* and *Pathway News Updates*, and flyers posted on the staff bulletin boards). The chief nursing officer of the medical center provided permission for the study and the workshop to be located at
the hospital and granted employees permission to volunteer for participation (see Appendix P and Figure P1).

**Risk and Benefits**

Risks for participants were minimal. These include the potential loss of work or other time, remembering an unpleasant or upsetting event, or boredom with participation in the project. Potential benefits included learning about one’s stress levels and resilience potential, learning how to lower stress in professional and personal life, and succeeding in experiencing less stress both professionally and personally. Benefits to the participants were not guaranteed.

**Timeline**

Whereas Weeks 2, 3, 5, 6, and 7 of the workshop intervention occurred virtually for all participants, two intervention groups were conducted during Weeks 1, 4, and 8 to accommodate the different shifts of the hospital employees. These weeks were especially crucial for encouraging participation because they involved the pre- and posttests and the mid-intervention review. To this end, during Week 1, one group began at 7:00 a.m. and the second group started at 5:00 p.m. Both Week 1 meetings concluded within 2 hours. During Weeks 4 and 8, the meetings again occurred at 7:00 a.m. and 5:00 p.m. to enable participant choice regarding their work schedules. However, these two meetings (Weeks 4 and 8) comprised only 1 hour each. Table 1 provides an outline for week one of the 8-week workshop. The full 8-week workshop provides learning objectives (see Appendix A).

Before the beginning of the workshop, the participants were asked to complete paper-and-pencil-based DASS-21, RS™, and demographic surveys (see Appendix K). A private corporate board room located on the hospital grounds provided the space for the workshop group meetings (Weeks 1, 4, and 8). The total duration of the resilience workshop was 4 hours of class
time over the 8-week timeline. The content and material utilized the Leutenberg and Liptak (2011) workbook. The subject matter from this workbook included reproducible exercises for journaling and self-reflection.

The 2-hour Week 1 intervention session included information about untoward effects of stress, the definition of resilience, and the need for building resilience. The content of the initial Week 1 workshop included PowerPoint slides and information worksheets serving as a minilecture. Resources given to each participant included a folder of the workbook exercises, the week-at-a-glance project outline, a notebook for journaling, and a laminated card from the Watson Caring Science Institute. The pocket card titled Touchstones: Setting Intentionality &

Table 1

<table>
<thead>
<tr>
<th>Objective</th>
<th>Content</th>
<th>Time frame</th>
<th>Teaching methods</th>
</tr>
</thead>
</table>
| Week 1; Objective 1 | Explain the purpose of the study. Introduce the effects of stress, the definition of resilience, and the need for building resilience. Provide and review informed consent. Administer preworkshop measurement tools:  
  - Anonymous ID code materials  
  - Pretest DASS-21 survey  
  - Pretest RSTM survey  
  - Demographic survey  
  Lead group discussion of coping and resilience. | 2 hours | In-person PowerPoint handouts |
Distribute resilience-building tools for building a self-care plan:

- Resilience-building handouts
- Common domains of wellness
- Journals
- Develop a self-care plan

Explain weekly text opt-in, opt-out discussion formats.

Collect signed the informed consent and completed surveys.
Consciousness for Caring & Healing included the Ten Caritas Processes™ to be used as a reminder of what daily self-caring means when practicing resilience skills.

The learning outcome objectives for the workshop were (a) to understand factual knowledge of stress, coping strategies, and resilience exercises; (b) to apply knowledge to a self-care plan focused on positive resilience strategies; and (c) to create a sustainable self-care plan. Utilizing Yusoff et al.’s (2013a, 2013b) conceptual DEAL framework for the management of stress in combination with self-reflection and the affective, cognitive, and psychomotor taxonomy of learning, the week-at-a-glance workshop outline identified the content, time frame, and teaching method for each of the 8 weeks. Each week, inspirational messages were delivered by text message to participants. The topics for each week outlined in the week-at-a-glance supported Learning Objectives 2 and 3. The measurement of Learning Outcome Objectives 1 and 2 included the number of time participants spent each week on resilience exercises. Each participant was asked to log the time in a coded journal. Although I as the researcher anticipated participants would hand in their journals after the workshop, the participants decided they wanted to keep their journals private. The measurement of Objective 3 came from the final evaluation at the end of the 8-week study.

Final Project Timeline

Inception of the project as partial submission for the doctor of nursing practice (DNP) degree began with speaking with the committee chair in February of 2018. The project development included a literature review of the subject matter to determine gaps in the literature, potential standardized measurement tools available, and methodology of prior studies for an understanding of the potential clinical project design. Requests were sent to researchers to
receive permission to utilize their surveys for the project with responses following in April, June and July 2018.

During the months of May through August 2018, weekly meetings occurred with the executive nursing team at the organization where the project would be conducted with the objective to review the goals and feasibility of the project. Two meetings with the Shared Governance Committee occurred in July and August 2018 to present the project idea, review a prior SWOT analysis identifying the need for addressing employee satisfaction and organizational turnover, and the suitability of a building resilience project for employees. The meetings included planning discussions focused on clarification of the project; overview of goals and delivery; determination of location, dates, times; and feedback regarding any concerns.

In June 2018 the project implementer attended a meeting with Dr. Jean Watson at the New York State (NYS) Future of Nursing Conference and the NYS Foundation for Nursing Evidence-Based Practice Measurement Seminar. Scholars presented research projects and met one-on-one with attendees to review project design and measurement strategies.

August and September 2018 began the recruitment of staff for the project at the clinical site. The project intervention lasted 8 weeks, opening in October and closing the first week of December 2018. January and February 2019 began the organization and review of the collected data and meeting with a statistician to confirm appropriate design and testing. Final chapters were prepared during the months of March through May 2019. Results from the project were presented at a state annual conference poster session. A Gantt chart outlines the timeline of the project planning and implementation to the defense (see Table 2).
Summary

This chapter provides an overview of the theoretical framework and methodology used for the project workshop. The rural health care medical center setting and the recently designated Pathway to Excellence® provided an excellent environment supportive of nursing research. Identifying the gaps in the literature around clearly articulating the definition of resilience and utilizing a published workshop plan provided an opportunity for consistency with future projects. The elements of the research study reflected the essentials of doctoral education for advanced nursing practice through the development of an organizational quality improvement initiative, support of the evidence-based practice, analytical methodology, interprofessional collaboration for the improvement of health outcomes, and clinical scholarship for the promotion of wellness.
Chapter 4 provides a summary and discussion of the completed project, including tables and charts. It considers the statistical data analysis, strengths, and weaknesses of the project and participant demographic information, and it confirms predicted procedures. The project implementation occurred between October and December 2018. The data align with the study questions, and the completed project is summarized and discussed.
Chapter 4: Results

Occupational pressure and unrelieved chronic stress are acknowledged as significant sources of stress for health care employees, resulting in comorbid disease and impacting all body systems (Aikens et al., 2014; Benzo et al., 2017; Berkland et al., 2017; Werneburg et al., 2018). It is, therefore, not surprising that building resilience is becoming a focus of health care organizations for the improved well-being of employees, increased retention, and creation of safe, productive work environments (Auburn et al., 2015). The project goal was to implement a resilience training intervention to address stress, anxiety, and depression experienced by health care employees. The intervention consisted of an 8-week resilience building workshop with face-to-face meetings at Weeks 1, 4, and 8. Those participants volunteering to receive inspirational messages received text messages during the 8-week intervention. During the workshop, a participant requested an additional text message about grief; additionally, the investigator sent a text message with the SurveyMonkey link for the project evaluation after Week 8. Examples of text messages are in Appendix D.

The project involved utilizing a practical tool of reproducible exercises for journaling and self-reflection designed by Leutenberg and Liptak (2011) and focused on building resilience around five topics: optimistic outlook, locus of control, sense of self, ability to bounce back, and managing change. Project participants were encouraged to use the Leutenberg and Liptak (2011) tool and Yusoff et al.’s (2013a) DEAL methodology throughout the 8-week workshop as a means of detecting, evaluating, taking action, and learning (DEAL) through self-reflection and knowledge to build resilience and manage stress. The fundamentals of Watson’s Caring Science allowed openness to form a caring environment and build resilience by strengthening reflective thinking and personal knowledge, thus promoting improved psychological health (Sitzman &
Based on Sitzman and Watson’s (2018) Caring Science and Yusoff et al.’s (2013a) DEAL learning model theories, the project provided self-guided resources for individuals to improve their psychological health and resilience using an affective, cognitive, and psychomotor taxonomy of learning. Participants completed pre- and postintervention paper and pencil DASS-21 and RS™ surveys.

**Research Questions**

The purpose of the quantitative, nonexperimental, descriptive pretest/posttest study was to determine the perceived levels of stress, anxiety, depression, and resilience among health care workers before the 8-week intervention using the DASS-21 and RS™ surveys. The following research questions guided the study project, seeking to identify what would be a successful outcome of the 8-week project focused on building resilience with health care workers in a rural acute-care hospital.

**Q1.** Do health care workers in a rural medical center who engage in an 8-week workshop focused on building resiliency report a change in their interrelationship with stress, depression, and anxiety from pretraining to posttraining?

**Q2.** To what degree does age or gender play a role in resilience-level interventions and the corresponding effects on stress, depression, and anxiety in health care workers in a rural medical center who engaged in an 8-week workshop focused on building resiliency?

The following are null and alternative hypotheses for the project:

**H1_0.** Resilience-level interventions administered to the health care worker are not related to perceived levels of stress, anxiety, and depression.

**H1_a.** Resilience-level interventions administered to health care worker are related to perceived levels of stress, anxiety, and depression.
H2a. Gender identification of the health care worker has no impact on resilience-level interventions and the corresponding effects on stress, anxiety, and depression.

H2b. Gender identification of the health care worker has an impact on resilience-level interventions and the corresponding effects on stress, anxiety, and depression.

H3a. Age of the health care worker has no impact on resilience-level interventions and the corresponding effects on stress, anxiety, and depression.

H3b. Age of the health care worker has an impact on resilience-level interventions and the corresponding effects on stress, anxiety, and depression.

Data analysis was completed using Excel 2013, with the level of significance set at \( p = .05 \), to determine statistical significance between the variables from the pretest and posttest scores (Leppink et al., 2016).

Data Analysis

Demographics. Thirty-one volunteer participants from the hospital provided the initial data for the project. A paper-and-pencil questionnaire collected at the start of the project offered demographic data. Table 3 identifies the frequency counts for selected variables from the participants (\( n = 31 \)).

Table 3

Frequency Counts for Selected Demographic Variables

<table>
<thead>
<tr>
<th>Variables and category</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>27</td>
<td>87.0</td>
</tr>
<tr>
<td>Male</td>
<td>4</td>
<td>12.9</td>
</tr>
<tr>
<td>Race/ethnicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White non-Hispanic</td>
<td>28</td>
<td>90.3</td>
</tr>
<tr>
<td>Hispanic</td>
<td>1</td>
<td>3.2</td>
</tr>
<tr>
<td>Multi</td>
<td>2</td>
<td>6.5</td>
</tr>
</tbody>
</table>
Note. \( N = 31 \). The table corresponds to the self-described gender and racial/ethnic background of each of the 31 participants and the percentage of each category relative to the total participant population.

The sample comprised 87% female (\( n = 27 \)) and 13% male participants (\( n = 4 \)). The comparability of gender participation was consistent with the literature supporting the range of 67% to 91% female participation in health care workforce studies (Benzo et al., 2017; Berkland et al., 2017; Garcia-Dia et al., 2018; Gomez et al., 2014; Pidgeon et al., 2014; Werneburg et al., 2018). The self-reported race of participants was homogenous, representing 90% Caucasian participants (\( n = 28 \)).

Table 4 provides descriptive statistics for selected variables. These statistics include the respondents’ age, ranging from 24 to 66 years, with a mean of 50 (\( SD = 12.38 \)). One-way commute time to work ranged from 2 to 70 minutes (\( M = 18.25, \ SD = 14.16 \)). Years of work ranged from 5 to 42 years (\( M = 23.09, \ SD = 13.02 \)), and hours of work per week ranged from 24 to 90 hours (\( M = 23.09, \ SD = 13.02 \)). Additional variables respondents reported included 45% with dependents (\( n = 14 \)), 84% pet ownership (\( n = 17 \)), 74% years in a relationship greater than 10 years (\( n = 23 \)), 35% currently enrolled as a student (\( n = 11 \)), and 29% with highest education attainment as graduate (\( n = 9 \)), 42% baccalaureate (\( n = 13 \)), 26% associate in applied science (\( n = 8 \)), and 3% high school (\( n = 1 \)). These variables are suggestive components of motivating values and self-esteem, which are pillars of a healthy personality reflecting a positive relationship with resilience (Oshio et al., 2018; Rouss et al., 2016; Wagnild, 2016).

Of the 31 participants, 26 completed the 8-week workshop (83.8%) and 22 provided complete data that aligned with postsurvey answers on the DASS-21 and RS\textsuperscript{TM} surveys (67.7%). Attrition of 5 participants from the program included 1 individual leaving due to relocation. The
remaining participants did not offer reasons for not completing the project. Of the 26 participants completing the workshop, 4 were excluded due to incomplete answers to the questions, resulting in a convenience sample of 22.

Table 4

Descriptive Statistics for Selected Demographic Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>49.90</td>
<td>12.38</td>
<td>24.00</td>
<td>66.00</td>
</tr>
<tr>
<td>Commute to work</td>
<td>18.25</td>
<td>14.16</td>
<td>2.00</td>
<td>70.00</td>
</tr>
<tr>
<td>(minutes one way)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Years of work</td>
<td>23.09</td>
<td>13.02</td>
<td>5.00</td>
<td>42.00</td>
</tr>
<tr>
<td>Hrs. work/week</td>
<td>41.67</td>
<td>13.42</td>
<td>24.00</td>
<td>90.00</td>
</tr>
</tbody>
</table>

Note. N = 31. The table corresponds to the range of self-described age, one-way travel time, length of employment, and hours per week for each of the 31 participants.

The DASS-21 Scale

The DASS-21 Scale, validated through extensive research and clinical use, is a reliable screening instrument consisting of three self-reporting scales: depression, anxiety, and stress (Lovibond & Lovibond, 1995). Based on dimensional versus categorical conceptions of psychological disorder, the subscales measure participants’ low positive affect and hopelessness, situational anxiety, difficulty relaxing, and overreactivity and impatience (Gomez et al., 2014; Lovibond & Lovibond, 1995). The DASS-21 Scale informed the process and outcome measures for the project. A student t test was calculated to compare the mean pre- and posttest scores for each category, displayed in Figures 2–6.

Figure 2 illustrates the data collected from the DASS-21 participants. Stress and depression demonstrated a statistically significant decrease. The variable of depression showed a total population self-reported pretest mean score of 7.76 ($SD = 7.23$), which decreased
significantly with a posttest mean score of a 3.92 ($SD = 3.97$), $t(50) = 2.37$, $p = .01$. This 51% decrease was demonstrated as a statistically significant posttest decrease in self-reported depression. The variable of stress showed a total population self-reported pretest mean score of 15.1 ($SD = 10.68$), which decreased significantly with a posttest mean score of 10.43 ($SD = 7.10$), $t(50) = 1.86$, $p = .03$. Anxiety did not show statistical significance in decreasing for the total, self-reporting population. The mean on the pretest was 3.22 ($SD = 3.22$), and the mean on the posttest was 2.63 ($SD = 2.80$), $t(50) = 0.97$, $p = .16$.

![Figure 2](image-url)

**Figure 2.** DASS-21 pre- and posttest self-reported means of the total population. The DASS-21 is available in the public domain. Used with permission (P. Lovibond, personal communication, April 15, 2018).

Figure 3 illustrates the data collected from the DASS-21 male participants. Stress and depression demonstrated a statistically significant decrease. The male population ($n = 4$), representing an age range from 36 to 56 years, showed a statistically significant decrease in both stress and depression following the workshop intervention. The variable of stress showed a pretest mean score of 11.25 ($SD = 0.95$), decreasing to a posttest mean score of 6.5 ($SD = 4.79$), $t$
The variable of depression revealed a pretest score of 6.0 ($SD = 2.21$) and posttest self-reported depression score of 1.3 ($SD = 3$), $t(4) = 2.30, p = .04$. As a variable, anxiety did not reveal statistical significance in the male population with a pretest mean of 11.25 ($SD = 0.95$) and posttest mean of 6.5 ($SD = 4.79$), $t(4) = 0.38, p = .35$, a result that may be linked to the small sample size.

**Figure 3.** DASS-21 pre- and posttest self-reported means of the male population. The DASS-21 is available in the public domain. Used with permission (P. Lovibond, personal communication, April 15, 2018).

Figure 4 illustrates the data collected from the DASS-21 female participants. Depression did not demonstrate a statistically significant decrease ($p > 0.05$). The female participants ($n = 18$), representing an age range from 30 to 66 years ($M = 53.9, SD = 10.5$), did not show statistical significance in posttest self-reported depression. The difference of the mean pretest score of 3.27 ($SD = 3.64$) and posttest mean score of 1.77 ($SD = 1.89$) was not statistically significant despite a 54% decrease in the depression score, $t(34) = 1.54, p = .06$. Evidence supports higher levels of depression in women than men (Gomez et al., 2014). A
possible influence for females showing no significant decrease may be that DASS-21 depression items do not include such somatic sources of variation between genders such as appetite, sleep disturbance, or fatigue (Gomez et al., 2014; Lovibond & Lovibond, 1995). Neither variables of stress—pretest mean score 7.0 ($SD = 5.55$) and posttest mean score of 5.27 ($SD = 3.64$), $t(34) = 1.10, p = .13$—nor anxiety pretest mean score—3.0 ($SD = 3.5$) and posttest score of 2.33 ($SD = 2.49$), $t(34) = 0.65, p = .25$—showed statistical significance.

Figure 4. DASS-21 pre- and posttest self-reported means of the female population. The DASS-21 is available in the public domain. Used with permission (P. Lovibond, personal communication, April 15, 2018).

Figure 5 illustrates the data collected from the DASS-21 for participants over 45 years of age. Depression demonstrated a statistically significant decrease. Age also appeared to make a difference regarding self-reported depression, stress, and anxiety variables on the posttest with those under 45 showing no significant difference. Participants over 45 demonstrated a significant difference with a pretest mean depression score 4.6 ($SD = 3.90$) and posttest mean
score of 1.85 ($SD = 1.7$), $t(26) = 2.42, p = .01$. However, variables of stress and anxiety showed no statistical significance in this population.

Table 5 represents the results of the Kolmogorov-Smirnov Test of Normality (K-S Test), revealing that DASS-21 data did not differ significantly from normal distribution across all subscales of depression, $D = .108, p = .934$; anxiety, $D = .102, p = .955$; and anxiety, $D = .102, p = .955$. A Wilcoxon signed ranks nonparametric test was used to support the outcome from the Student $t$ tests indicated that the median posttest scores were statistically lower than the pretest scores for depression and stress, $Z = -3.05, p = .001$ and $Z = -2.31, p = .01$, respectively.

![Figure 5](image.png)

*Figure 5.* DASS-21 pre- and posttest self-reported means of the over-45 population. The DASS-21 is available in the public domain. Used with permission (P. Lovibond, personal communication, April 15, 2018).
Table 5

Wilcoxon Signed Rank Test DASS-21 Total Population, Pre- and Posttest

<table>
<thead>
<tr>
<th>Variable</th>
<th>W value</th>
<th>M diff</th>
<th>Sum of pos rank</th>
<th>Sum of neg rank</th>
<th>Z value</th>
<th>M(W)</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression</td>
<td>19</td>
<td>5.16</td>
<td>171</td>
<td>19</td>
<td>–3.058</td>
<td>95.0</td>
<td>24.85</td>
</tr>
<tr>
<td>Stress</td>
<td>49</td>
<td>–3.57</td>
<td>182</td>
<td>49</td>
<td>–2.311</td>
<td>115.5</td>
<td>28.77</td>
</tr>
<tr>
<td>Anxiety</td>
<td>71</td>
<td>5.95</td>
<td>139</td>
<td>71</td>
<td>–1.263</td>
<td>105.0</td>
<td>26.79</td>
</tr>
</tbody>
</table>

Note. The table corresponds to the data from the pre- and posttest design, affirming the dependent sample t test for the total population.

Resilience Scale™ (RS™)

Resilience scores from the summation of each item of the 25-item Resilience Scale (RS™) provided the total final score (Wagnild, 2016). Resilience pretest scores in the study population ranged from 81 to 160, and posttest scores ranged from 100 to 169. Scores greater than 145 indicated moderately high to high resilience, meaning an individual possessed the characteristics of a resilient personality but would like to strengthen resilience. Moderately low to low levels of resilience scored in the range of 116–144 (Wagnild, 2016). Resilience scores ranging from 25 to 100 represented low levels of resilience. However, these numbers were less indicative of nonexistent resilience than the fact that opportunity exists for strengthening resilience (Wagnild, 2016). A lower level of resilience, described as “the glass is half empty,” indicates a feeling that isolation and depression may be present, and individuals may experience themselves as having little-to-no energy to keep going (Allen & Palk, 2018; Wagnild, 2016).

Figure 6 outlines the distribution data for the RS™ total population scores (M = 129, SD = 19.18). The figure corresponds to the pretest data collected from the RS™ participants.
Five principal characteristics describe resilience: self-reliance, purpose, equanimity, perseverance, and authenticity (Wagnild, 2016). Mean scores of resilience scale items characterized the essential resilience traits and ranged from a mean of 3.96 to 6.32, with a total mean score of 5.29 ($SD = 0.32$). Thirteen items out of the 25 questions fell below the mean item score of 5.29 that correlated to the core resilience traits. From the 13 questions, 5 described the characteristic for equanimity, or the ability to moderate extreme experiences. The total mean scores for equanimity ranged from 4.0 to 5.25. The questions asked, “I take things one day at a time,” “I can look at a situation in several ways,” and “I do not dwell on things that I can’t do anything about.” Equanimity connotes balance and congruence such that individuals have an enthusiastic outlook and may choose humor to communicate (Garcia-Dia et al., 2018; Wagnild, 2016). Lower scores of participants included questions of authenticity ($M = 5.01$), self-reliance ($M = 5.12$), perseverance ($M = 4.75$), and purpose ($M = 3.96$). Authenticity, or existential aloneness, is the acceptance of each person’s unique path, whereas self-reliance is the ability to believe in oneself. Perseverance is the capacity to carry on toward goals despite adverse challenges and have value and meaning in life learning from challenges (Wagnild, 2016). Items extracted from the core trait for authenticity (Wagnild, 2016) included, “I am friends with myself” and “My belief in myself gets me through hard times.” RS™ items for self-reliance included, “I feel that I can handle many things at a time” and “When I’m in a difficult situation, I can usually find my way out.” Perseverance RS™ items included, “I have self-discipline” and “I have enough energy to do what I have to do.”
Table 6 provides self-reporting health status of participants about posttest mean RS\textsuperscript{TM} scores, indicating that individuals’ perception of health as very good or excellent corresponds with higher RS\textsuperscript{TM} scores ranging from 144.5 to 151.3 \((n = 22)\). No participants reported poor health. A significant increase from pre- to posttest resilience scores in the RS\textsuperscript{TM} survey results suggested that the resilience-level interventions increased resilience from low to moderately high \(t (42) = –2.41, p = .01\).

Table 6

<table>
<thead>
<tr>
<th>Health rating</th>
<th>Sample size</th>
<th>25-item RS\textsuperscript{TM}</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fair</td>
<td>2</td>
<td>127.50</td>
<td>38.88</td>
</tr>
<tr>
<td>Good health</td>
<td>6</td>
<td>139.60</td>
<td>10.25</td>
</tr>
<tr>
<td>Very good health</td>
<td>10</td>
<td>144.55</td>
<td>6.17</td>
</tr>
<tr>
<td>Excellent</td>
<td>4</td>
<td>151.33</td>
<td>9.45</td>
</tr>
</tbody>
</table>

Table 7 shows the mean pretest score of 129 \((SD = 20.46)\) and mean posttest score of 144 \((SD = 19.42)\), which corresponded with the DASS-21 data suggesting that resilience-level interventions may correlate with decreased stress and depression levels in some populations. The alpha level of .05 was used for all statistical tests.
Table 7

*RS*<sup>TM</sup> Pretest/Posttest *t* Test for Resilience-Level Intervention (n = 22)

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>n</th>
<th>SD</th>
<th>Std. error mean</th>
<th>t</th>
<th>df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest</td>
<td>129.54</td>
<td>22</td>
<td>20.46</td>
<td>4.36</td>
<td>-2.41</td>
<td>42</td>
<td>0.01</td>
</tr>
<tr>
<td>Posttest</td>
<td>144.09</td>
<td>22</td>
<td>19.42</td>
<td>4.14</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Dr. Wagnild provided permission to use the *RS*<sup>TM</sup> scale for this study (personal communication, June 11, 2018).

Table 8 shows that the Kolmogorov-Smirnov Test of Normality (K-S Test) revealed *RS*<sup>TM</sup> data did not differ significantly from normal distribution, *D* = .107, *p* = .936. The Wilcoxon signed ranks nonparametric test was used to support the outcome from the student *t* test, indicating that the median posttest scores were statistically higher than the pretest scores, *Z* = –3.116, *p* < .001.

Table 8

*Wilcoxon Signed Rank Test *RS*<sup>TM</sup> Total Population, Pre- and Posttest*

<table>
<thead>
<tr>
<th>Variable</th>
<th><em>W</em> value</th>
<th><em>M</em> diff</th>
<th>Sum of pos rank</th>
<th>Sum of neg rank</th>
<th><em>Z</em> value</th>
<th><em>M</em> (<em>W</em>)</th>
<th><em>SD</em></th>
</tr>
</thead>
<tbody>
<tr>
<td><em>RS</em>&lt;sup&gt;TM&lt;/sup&gt;</td>
<td>30.5</td>
<td>29.55</td>
<td>30.5</td>
<td>222.5</td>
<td>–3.116</td>
<td>125.5</td>
<td>30.8</td>
</tr>
</tbody>
</table>

**Postworkshop Evaluation**

Participants attending the postsurvey face-to-face meeting agreed to provide a cell phone number to receive a link to SurveyMonkey via text for the final evaluation survey. The 15% response rate (*n* = 4) revealed 50% (*n* = 2) strongly agreed the workshop increased awareness of coping strategies and personal positive coping strategies for building resilience. Seventy-five percent (*n* = 3) of the respondents strongly agreed the workshop increased awareness of resilient behaviors. The top three actions identified by respondents as assisting the most with handling
stress included exercising (100%), getting enough sleep (75%), and practicing mindfulness (75%). Mindfulness was considered the resilience behavior of choice to practice by all respondents (100%). Eating a healthy diet, getting enough sleep, and exercise ranked equally (75%) as behaviors to continue following the workshop. The lowest-ranking behaviors included seeking social support, setting goals, and consciously relaxing. Two respondents agreed the workshop increased awareness of community resources for building resilience, 1 respondent neither agreed nor disagreed, and 1 strongly agreed.

**Discussion**

In this project, health care workers participating in the 8-week workshop demonstrated statistically significant improvement in building resilience, which responds to Research Q1, Do health care workers report a change in their interrelationship with stress and depression? and Research Q2, Do gender and age play a role in resilience interventions with similar effects on depression and stress? Perceived depression in the male cohort and the over-45 population showed statistical improvement, rejecting the null hypotheses that gender and age had no impact on resilience interventions and the corresponding effects of depression. The male cohort also demonstrated decreased stress, rejecting the null hypothesis that gender identity has no impact on resilience interventions and with similar effects of stress. Building resilience is the ability to manage and grow throughout the challenges of life as both a learned characteristic and trait (Wagnild, 2016; Yusoff et al., 2013a). This study’s results indicated significant improvement ($p = .003$) from preworkshop scores ($M = 129$) to postprogram assessment scores ($M = 143.4$) for resilience building (Wagnild, 2016; Werneburg et al., 2018).

Positive emotions provide the capacity to broaden coping capabilities and enhance resilience, protecting individuals from stress and depression, which is important to a person’s
mental and physical health (Berkland et al., 2017; Gloria & Steinhardt, 2014; Wagnild, 2016). Although the capacity to build resilience is evident in the project data, challenges appeared to exist for individuals related to moderating extreme experiences or dwelling on disappointment, suggesting lesser strength in the core resilient value of equanimity ($M = 4.0$ to $5.25$). To a slighter degree, but still prevalent, were lower scores in authenticity ($M = 5.01$), where being content with oneself and finding methods for self-compassion builds self-esteem and enhances well-being both pillars of resilience (Benzo et al., 2017; Oshio et al., 2018; Wagnild, 2016).

Other areas with low mean RS$^TM$ question scores included perseverance and purpose ($M = 4.75$ and $M = 3.96$, respectively). Not having a sense of meaning and facing discouragement or disappointment are formidable roadblocks for individuals and probably the most important driving forces of life and challenging the health care worker, who provides purpose and hope for patients and families (Berkland et al., 2017; Wagnild, 2016).

Utilizing the one-tail paired $t$ test values, a positive directional hypothesis suggested successful training. The sample size of 31 participants met the medium effect size from power analysis for the dependent $t$ test using an alpha of 0.05 and power of 0.80. The project had an 83.3% return rate with 67.7% completed, paired data for analysis. The project was a nonrandomized intervention with a small sample size where many additional variables could provide potential explanations for noted changes. Therefore, results must be interpreted cautiously.

Chapter 5 summarizes the interpretive data analysis about outcomes from literature, overall practical application of the project, and recommendations for future study.
Chapter 5: Conclusions and Recommendations

In Chapter 5, I summarize the project findings and offer interpretations related to the context of the study. The chapter connects findings from this project’s results to the published literature, suggests recommendations, accounts for the study’s limitations, and provides suggestions for future research. The Essentials of Doctoral Education for Advanced Nursing Practice (AACN, 2006) are used to guide implications for clinical practice.

A substantial amount of research has guided the understanding of the effects of stress in the human body and the direct impact that stress has on workplace performance (Allen & Palk, 2018; Andela et al., 2016; Bridgeman et al., 2018; Khubchandani & Price, 2017). Research also has suggested that implementing resilience-building strategies into the workplace offers a viable approach to mitigate occupational stress and improve well-being for the health care worker, the organization, and the patient (Auburn et al., 2015; Brouskeli et al., 2018; Kuntz et al., 2017).

The problem considered in this project was whether a workshop focused on building resilience might help to improve the health care worker’s self-reported perceptions of depression, anxiety, or stress.

Stress is a significant contributor to such chronic diseases as heart disease, stroke, cancer, obesity, respiratory illness, arthritis, and type 2 diabetes. Constant unrelieved stress holds the potential to negatively impact health care workers’ quality of life, workplace productivity, job satisfaction, and attrition, ultimately affecting the care and safety of patients (Garcia-Dia et al., 2018; Hart et al., 2014). If this study’s workshop tools used for building resilience did not mitigate the participants’ perceptions of depression, stress, or anxiety, then health care leaders must consider other strategies for building resilience within the workplace.
Purpose of the Study

A gap in the literature exists, with few studies considering the promotion of resilience in the health care worker. The broad definition of the health care worker includes all individuals working in a health care occupation involved in providing services either directly or indirectly to patients (Knickman & Kovner, 2015). Within a health care organization, this definition includes individuals such as food service, pharmacy, physical therapy, environmental services, executives, and training/education workers. The purpose of the project was to determine whether a workshop designed to develop resilience skills through specific learning activities would encourage behaviors of self-understanding, assessment, journaling, and reflection. I chose five particular topics to assist health care workers in reducing self-reported depression, anxiety, and stress (Leutenberg & Liptak, 2011).

Through this project, I explored individual motivating values that promote self-esteem and have potential relational significance (Berkland et al., 2017; Wagnild, 2016). The categories included age, gender, race (optional), marital/relationship status, level of education, pet ownership, travel time to work, and length of employment.

Research Questions

The project addressed two research questions:

Q1. Do health care workers in a rural medical center who engage in an 8-week workshop focused on building resiliency report a change in their interrelationship with stress, depression, and anxiety from pretraining to posttraining?

Q2. To what degree does age or gender play a role on resilience-level interventions and the corresponding effects on stress, depression, and anxiety in health care workers in a rural medical center who engage in an 8-week workshop focused on building resiliency?
Hypotheses

In this project, I considered six hypotheses to respond to the research questions:

**H1₀.** Resilience-level interventions administered to the health care worker are not related to perceived levels of stress, anxiety, and depression.

**H1ₐ.** Resilience-level interventions administered to the health care worker are related to perceived levels of stress, anxiety, and depression.

**H2₀.** Gender identification of the health care worker has no impact on resilience-level interventions and its corresponding effects on stress and depression.

**H2ₐ.** Gender identification of the health care worker has an impact on resilience-level interventions and the corresponding effects on stress and depression.

**H3₀.** Age of the health care worker has no impact on resilience-level interventions and the corresponding effects on stress and depression.

**H3ₐ.** Age of the health care worker has an impact on resilience-level interventions and the corresponding effects on stress and depression.

Results of the Study

Hypothesis 1 was tested using a one-tailed paired student t test and Wilcoxon signed rank test using composite scores for stress, anxiety, depression, and resilience to determine whether a relationship existed between the results. Null Hypothesis 1 stated that resilience-level interventions administered to the health care worker were not related to perceived levels of stress, anxiety, and depression. Figure 2 illustrated the reported means for the total population of participants with paired data (n = 22), which showed a significant decrease in the relationship with subscales of stress (p = .03) and depression (p = .01). The subscale of anxiety did not show significance (p = .16). A statistically significant increase in posttest resilience scores (p = .01) in
the total population was noted from pretest self-reporting resilience scores as noted in Figure 6. Self-reporting health status, identified in Table 6, showed better perceptions of health correlated with higher resilience scores. The findings supported rejecting the Null Hypothesis 1.

Hypothesis 2 was tested using the one-tailed paired student t test and Wilcoxon signed rank test to determine whether a significant relationship existed regarding gender and the relationship of stress, anxiety, and depression with resilience. Null Hypothesis 2 stated that gender identification of the health care worker had no impact on resilience-level interventions and its corresponding effects on stress, anxiety, and depression. Figure 3 illustrates a decrease in stress ($p = .03$) and depression ($p = .01$) in male participants. However, the small male sample size ($n = 4$) did not yield a reliable estimate as it had too few data to separate from random variation. The data provided in Figure 4 did not demonstrate a significant difference between the subscales of stress ($p = .13$), anxiety ($p = .25$), and depression ($p = .06$) in female participants ($n = 18$). The project failed to reject the Null Hypothesis 2 related to the variable of gender and accept the alternative hypothesis in this project; it revealed no significance in difference with RS™ scores between genders ($p = .09$).

Hypothesis 3 was tested using the one-tailed paired student t test and Wilcoxon signed rank test to determine whether a significant relationship existed between the variables of age, stress, anxiety, and depression with resilience. Null Hypothesis 3 stated that age of the health care worker had no impact on resilience-level interventions and its corresponding effects on stress, anxiety, and depression. Figure 5 illustrated the significance in reported depression ($p = .01$) for participants over 45 years of age ($n = 15$). However, the subcategories of stress and anxiety did not reveal significance. The age group under 45 years ($n = 7$) did not have statistical significance or yield reliable data in any of the three subcategories of stress, anxiety, and
depression due to the small sample size. The project rejected the Null Hypothesis 3 related to the variable of age over 45 years but failed to reject the Null Hypothesis 3 for the variable of age under 45.

**Interpretation of the Findings**

The 8-week workshop focused on building resilience skills to mitigate stress, depression, and anxiety. The project’s targeted intervention contributed to the findings that individuals can learn new behaviors to assuage stress and depression and increase perceptions of resilience. The lack of demographic variation resulting from the small sample size needs careful consideration. The rural setting and homogeneity of participants do not provide generalizability to diverse populations or urban environments, but the results suggest the intervention has the potential to impact individuals positively. Assessment of individual workers offered practical guidelines for building personal or collective aptitude toward increasing resilience by enhancing or changing behaviors. Retention of participants (83.8%) suggests the workshop is practical for employees in a workplace setting. It is important to note that building resilience may occur best not in isolation but with the encouragement of community.

Four individuals were inspired to transform the pilot project into a program with their comments that the workshop increased knowledge of developing personal coping strategies. The awareness of resilient behaviors became more evident for these individuals as a result of participation in the study, and practicing mindfulness was the choice of action for sustaining personal resilience growth. Comments included, “The shared experience of the meetings and a belief in God’s will acting in our lives are my building blocks for resilience. Thank you for the opportunity to participate!” and “We need more open discussion about these topics in our departments.”
The project offers a potential strategy for health care workers and leaders to navigate workplace change or adversity. Building resilience is especially of great consequence for health care workers as they are an essential component of the health system and have a direct impact on patient safety, health outcomes, and organizational cost.

**Correlation of the Findings With Published Literature**

Although much research exists on a variety of strategies for building resilience, few published studies have considered the workforce employee beyond the nursing and physician professions (Magtibay & Chesak, 2017; Mallak & Yildiz, 2016; H. Robertson et al., 2016; Werneburg et al., 2018). This project contributes to the literature for building resilience through the study of a small cohort of health care workers consistent with Knickman and Kovner’s (2015) definition of the health care employee. It also is compatible with Vanhove et al.’s (2016) findings of compelling effects with a single-group within-participant design. The project occurred in a rural setting, and the virtual component of weekly inspirational, self-care interventions supported the workshop learning modules. Providing a combination of approaches aimed at mitigating and preventing the negative consequences of stress met the workshop’s learning objectives (I. Robertson et al., 2015). The theoretical framework supported clinical questions. The project focused on creating meaning through learning combined with enabling individuals to identify strengths in support of creating a healing environment, which is a paradigm shift from merely identifying risk factors (Auburn et al., 2015; Brouskeli et al., 2018; Pidgeon et al., 2014; Sitzman & Watson, 2018; Yusoff et al., 2013a, 2013b).

**Limitations**

There were several project limitations. One regards the lack of randomization in the study design, which prevents making causative statements regarding the outcome of increased
resilience. It is possible that several elements in addition to or beyond the intervention may have accounted for score improvement. These elements include increased mindfulness, gratitude, forgiveness, acceptance of circumstances beyond an individual’s control, study biases, or unknown factors. Additionally, the participants were self-selected, all were employed, and the majority were female and represented the Caucasian race. It is unknown how the intervention would be applicable to underserved or minority populations.

I did not collect information on those who chose to withdraw (5 of 31 total). Further research is needed on these individuals to understand whether they achieved their goal before the end of the intervention, elected not to attempt this goal, or were higher-stressed individuals and more likely to withdraw (Benzo et al., 2017; Berkland et al., 2017). The study participants did not represent all subsets of health care employees and were a small sample size, invalidating some descriptive statistical data and not providing for generalizability. A larger sample size representing broader subsets of employees and equal gender representation might offer more significant information on cause-effect relationships.

Follow-up information was not collected, and there was no direct measure of elements that would impact health behaviors such as sleep, diet, or exercise. Although the DASS-21 and RS™ surveys are validated, both are subject to limitations of self-reporting within an environment focusing on elements of resilience, depression, stress, and anxiety and may have resulted in over- or underestimates of actual behaviors and outcomes.

**Implications for Leaders**

The concepts introduced in the project—promoting self-care and building resilience—were effective in disseminating information and encouraging positive behaviors within the health care employee population. This effectiveness suggests that educational interventions can
improve resilience, which may mediate the stressors within the health care setting that result in attrition, increased sick time, and decreased productivity (Aikens et al., 2014; Benzo et al., 2017; Khubchandani & Price, 2017).

Healthy work environments increase resilience through compassionate coworker and leadership relationships that enhance trust and encourage caring for one another. Building resilience in the employee improves the behavioral health domains of better physical activity, quality of sleep, healthy eating, and improvement in people’s confidence in their ability to reduce stress (Vanhove et al., 2016; Werneburg et al., 2018). Effective interventions that build resilient employees are gains for the organization that empower individual employees toward meeting personal goals and improve patient satisfaction, safety, and outcomes.

Nurses must see themselves as leaders with a unique opportunity to anticipate the challenges facing the health care workforce. These challenges include the current and projected shortage of over 200,000 registered nurses (RNs) in the United States through 2026 and the associated expenditures related to turnover and retention of new nurses (Hart et al., 2014). Annual costs to health care organizations for recruitment and retention of new nurses are estimated at $1.4–$2.9 billion (AACN, 2017; Meyer & Shatto, 2018). Building resilience programs is a strategy for nursing leaders to improve the workplace environment (AACN, 2017; Hart et al., 2014).

**Essentials of Doctoral Education for Advanced Nursing Practice**

The Essentials of Doctoral Education for Advanced Nursing Practice provide guidelines useful in addressing how this DNP project meets needs in contemporary practice (AACN, 2006).

**Essential I: Scientific underpinnings for practice.** Building resilience requires the understanding that the conduct of persons is continuously exchanging with the surrounding
environment and is a dynamic process (Wagnild, 2016). The discipline of nursing focuses on the whole person, seeking principles that support well-being and optimal functioning while affecting positive changes in health status. The published literature in the field supports a variety of samples, designs, and evaluations of innovative strategies for building resilience in the workplace. Although variation may result in modest outcomes, this should not be a factor in diminishing the benefit to individuals and organizations (I. Robertson et al., 2015; Vanhove et al., 2016) and combining the research of building resilience with Watson’s (2009) theoretical principle of human caring to impact clinical practice and the health care work environment for all employees.

**Essential II: Organizational and systems leadership for quality improvement and systems thinking.** Creating and sustaining change requires sustainable and measurable outcomes with organizational, cultural, and financial support for the redesign of realistic and efficient care. Caring for both the patient and the provider is consistent with the Quadruple Aim outlined by Bodenheimer and Sinsky (2014), which takes the Triple Aim, first introduced by Berwick et al. (2008), a step further to not only improve health in communities, enhance the patient experience, and reduce the cost of care but to consider the care of the caregiver/provider. The decreased well-being of health care workers reveals itself in reduced job satisfaction, attrition, and increased sick time—all of which influence patient safety, satisfaction, and cost containment (Benzo et al., 2017; Berkland et al., 2017). The building resilience project in this study developed an intervention delivery approach for employees, suggesting that accountability for personal well-being, quality of care, and safety for patients and colleagues is an important outcome.
Essential III: Clinical scholarship and analytical methods for evidence-based practice. The nursing practice applies scholarship and research with a focus on human caring. The resilience project provided collaborative leadership by translating research into practice and evaluating the project application for improvements in the delivery and care of the health care worker. The published literature supports the need for and impact of resilience training programs in the health care workplace. However, systematic reviews suggest methodology, statistical power, and small sample sizes are general issues. Several randomized controlled studies suggested positive results for the efficacy of resilience training. The benefits to employees from resilience training despite study issues should not be discounted (I. Robertson et al., 2015).

Essential IV: Information systems and technology and patient care technology for the improvement and transformation of health care. This project provided the opportunity for participants to evaluate consumer health information through weekly inspirational messages sent to volunteers through text messages. Samples of the text messages are in Appendix D. Data analysis required the proficient use of technology utilizing Excel 2013. Also, as the researcher I used technology for teaching by developing a presentation on the background and efficacy of building resilience through the means of PowerPoint presentations.

Essential V: Health care policy for advocacy in health care. Proactive engagement through the Shared Governance Committee and the Pathway to Excellence® Committee provided the opportunity to educate others on the efficacy of building resilience. The resilience project for the health care employee required advocating within the organization with a variety of stakeholders and resulted in a critical interface between practice, research, and organizational
policy to bring the project to fruition. A new policy was implemented through the Wellness Program of the organization to include incentives to employees participating in the project.

**Essential VI: Interprofessional collaboration for improving patient and population health outcomes.** The interprofessional health care team’s ability to function collaboratively and overcome barriers to practice begins by creating a community developed through shared experience; effective, respectful communication; and understanding of the unique roles of all health care workers (Andela et al., 2016; Hart et al., 2014). The project workshop required employing effective communication and collaborative consulting skills with volunteers from a variety of departments and professions that could create a community around the building resilience project. When led by an advanced practice registered nurse (APRN), teams are provided with a broader understanding of the health care system while simultaneously focusing on the whole person. Raising awareness of the nature of resilience strategies for mitigating stress, burnout, and compassion fatigue provides a new framework for building caring relationships. Introducing mind-body-spirit medicine, healing arts, and caring that is inclusive of others are elements that guide individuals and organizations toward improved health (Andela et al., 2016; Bemker & Ralyea, 2018; Sitzman & Watson, 2018).

**Essential VII: Clinical prevention and population health for improving the nation’s health.** Research supports building resilience to promote health and reduce risk/illness. Resilience is a critical construct supporting problem-solving and managing through adversity (Achour et al., 2018; Mallak & Yildiz, 2016). The ANCC standards related to workplace well-being support competencies on the caring effort of nursing for patients, self, and others (Dans et al., 2017; Pabico & Graystone, 2018). The Code of Ethics for Nurses (Fowler, 2015) outlines provisions for ensuring a healthy work environment for the care of the patient, employee, and
facility and consistent with national goals of developing healthy people and a healthy nation (U.S. Department of Health and Human Services, 2019).

**Essential VIII: Advanced nursing practice.** The project of building resilience in the health care worker met the objective of designing, applying, and evaluating a therapeutic intervention based on nursing science and influenced by other disciplines of education, philosophy, sociology, and physics. Resilience is complex and includes both trait characteristics of individuals or organizations and surrounding environmental experiences. The complexity suggests resilience is not merely an innate ability but also a learned proficiency. Building resilience workshops are a tool essential for strengthening employee resilience when developing a learning, collaborative organization. Fostering the health care worker’s well-being requires a comprehensive strategy able to address system-wide issues that contribute to the emotional dissonance impact within the workforce. Emotional dissonance is the precursor to stress, burnout, compassion fatigue, secondary traumatic stress, attrition, and poor patient outcomes.

**Recommendations for Future Research**

The prevalence of stress in contemporary U.S. society is well-known. It is also well-known that the consequences of stress on individuals in the workplace correlate to chronic disease and illness. Similarly understood are the repercussive impacts that stress and an unhealthy workforce have on the cost and quality of care in health care organizations and the lives of providers and patients. Developing strategies for cultivating resiliency in the health care workforce helps to build healthy employees and a healthy practice environment. These strategies, when combined, can moderate the increasing prevalence of chronic disease and positively influence workforce job satisfaction and patient safety (Aikens et al., 2014; Benzo et al., 2017; Khubchandani & Price, 2017).
There are a wide variety of themes identified in the literature that include exploring components of resilience and considering the contextual process describing resilience. However, no universal definition emerged in the review of the literature. Opportunities for future study include exploring the concept of resilience with a more universally accepted definition that may offer clarity and guidance for prospective studies. As the idea of resilience is used more widely outside of the biomedical model, future research considering the inclusion of the psychosocial perspective that is dependent mainly on the cultural or community context of beliefs, values, and world-views of the study cohort advances potential customized programs.

Future research should include developing longitudinal studies that involve repeated or continuous intervention measures over time. Such studies can establish the outcome of building resilience in connection with risk factors associated with potential disease development. Large randomized controlled trials with more significant gender and cultural diversity are needed to identify effective strategies for building resilience for the health care worker.

Summary

Learning theories and relational caring of self and others were suitable for the project wherein an integrated, learning methodology honored the unity of the whole person situated in time and space. This quantitative, nonexperimental, descriptive pretest-posttest design was directed to the health care worker in a rural medical center. The unique combination of a web-based activity and an academic approach offered over 8 weeks was voluntary. The pre- and posttest surveys were anonymously administered to evaluate relationships of the health care workers’ perception of stress, depression, and anxiety and their perceived levels of resilience. Associated independent variables of gender and age were measured along with variables representing motivational and self-esteem values and were recognized as reflecting a positive
relationship with resilience. The resulting data analyses supported the project’s assumptions regarding building resilience within the group but did not support the variance of resilience between gender and age. The project has the potential to advance the science for nursing with project replication and certainly for follow-up with the original cohort.

The project identified a nursing science gap that has widespread implications related to population health and the prevalence of chronic disease. Also, the project may impact workforce planning efforts with anticipated nursing and provider shortages, as well as improve the health and well-being of the lives of the health care workforce. The current literature is replete with causative issues of occupational stressors such as reduced social support, excessive workload, misalignment of personal needs and values, and the continually changing health care environment. Without empirical studies focused on therapeutic interventions for enhancing wellness in the workplace—whether from theoretical, educational, or evidence-based practice—negative impacts from these stressors will continually plague the health care industry, affecting workplace safety, patient safety and outcomes, employee attrition, and operational costs. The results of this project suggest that focusing on building resilience with the many facets contextually related to specific populations may lead to changing the progression toward illness and disease. Changing the progress toward illness may lead to learning alternative methods for promoting holistic self-care and, as a result, sanctioning the formation of a healing environment.

As the U.S. health care industry continues to evolve and innovative approaches to the delivery of care lead to new health care occupations, it is increasingly vital that organizations develop strategic plans for all employees to be able to participate in stress-relieving activities. Therefore, education for building resilience must be included in annual training for all employees and leaders, orientation, and onboarding for new employees and must be used in the evaluation
process to create learning organizations that are able and well-equipped to render safe, quality care for patients, providers, and health care workers.
References

doi:10.1111/jan.12888


doi:10.1037/trm0000141 supp


Melvin, C. S. (2015). Historical review in understanding burnout, professional compassion fatigue, and secondary traumatic stress disorder from a hospice and palliative nursing


Appendix A: Project Outline Week-at-a-Glance

Objectives of the DNP Resilience Workshop Project

1. To understand factual knowledge of stress, coping strategies, and resilience exercises
2. To apply knowledge to a self-care plan focused on positive resilience strategies
3. To create a sustainable self-care plan

Table A1

*Project Outline*

<table>
<thead>
<tr>
<th>Objective</th>
<th>Content</th>
<th>Time frame</th>
<th>Teaching method</th>
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<tbody>
<tr>
<td>Objective 1</td>
<td>Introduction/Welcome&lt;br&gt;Purpose of the study&lt;br&gt;Introduction to the untoward effects of stress, the definition of resilience, and the need for building resilience&lt;br&gt;Consent review/sign&lt;br&gt;Administration of anonymous ID Code&lt;br&gt;Pretest DASS-21 survey&lt;br&gt;Pretest RS™ survey&lt;br&gt;Administration of demographic survey&lt;br&gt;Group discussion of coping and resilience&lt;br&gt;Distribute handouts of resilience building tools for building a self-care plan—Common domains of wellness&lt;br&gt;Hand out journals&lt;br&gt;Development of self-care plan&lt;br&gt;Weekly text opt-in, opt-out discussion&lt;br&gt;Collection of consent and surveys</td>
<td>2 hours</td>
<td>In-person&lt;br&gt;PowerPoint handouts</td>
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<tr>
<td>Objectives 2 &amp; 3</td>
<td>Week 2 Topic—Sleep&lt;br&gt;Week 3 Topic—Healthy snacks&lt;br&gt;Week 4 Topic—Exercise&lt;br&gt;Week 5 Topic—Social support&lt;br&gt;Week 6 Topic—Mindfulness&lt;br&gt;Week 7 Topic—Goal setting&lt;br&gt;Week 8 Topic—Ways to relax</td>
<td>Weekly text inspiration&lt;br&gt;message and reminder</td>
<td>Self-care plan&lt;br&gt;App(s)&lt;br&gt;Inspirational text</td>
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<td>Objectives 2 &amp; 3</td>
<td>Week 4</td>
<td>1 hour</td>
<td>Open discussion</td>
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<td>Objective</td>
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<td>Objectives 2 &amp; 3</td>
<td>Week 8</td>
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<td>In-person Handouts Open discussion</td>
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<td>Drawing for gift certificates</td>
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<td>Closing comments</td>
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<td>Participant determined amount of time each week spent on resilience exercises of self-care plan</td>
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<td>Participant determined amount of time each week spent on resilience exercises of self-care plan</td>
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<td>Participant determined amount of time each week spent on resilience exercises of self-care plan</td>
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Appendix B: Ten Caritas Processes™

The Ten Caritas Processes™ of the Human Caring Theory include

1. Sustaining humanistic-altruistic values by practice of loving-kindness, compassion, and equanimity with self/other

2. Being authentically present, enabling faith/hope/belief system, and honoring subjective inner, life-world of self/other

3. Being sensitive to self and others by cultivating own spiritual practices beyond ego-self to transpersonal presence

4. Developing and sustaining loving, trusting-caring relationships

5. Allowing for expression of positive and negative feelings; authentically listening another person’s story

6. Creatively problem-solving—solution-seeking—through caring process; full use of self and artistry of caring-healing practices via use of all ways of knowing/being/doing/becoming

7. Engaging in transpersonal teaching and learning within the context of caring relationship; staying within other’s frame of reference—shift toward coaching model for expanded health wellness

8. Creating a healing environment at all levels; subtle environment for energetic authentic caring presence

9. Reverentially assisting with basic needs as sacred acts, touching mind-body-spirit of spirit of other; sustaining human dignity

10. Opening to spiritual, mystery, unknowns; allowing for miracles
Appendix C: Communication From Dr. Yusoff

From: Muhamad Saiful Bahri Yusoff  
Sent: Monday, July 2, 2018 8:26:21 AM  
To: Sandy Gothard  
Subject: Re: DARE

Dear Sandra Gothard,

Thank you so much for your interest on the DEAL model. You are allowed to use the DEAL model to design and develop your programme and if you need any assistants please let me know.

In addition, I’m sharing some relevant papers that might be of your interest and may help you in developing the programme.

The first intervention that was designed and developed based on the DEAL model can be found at this link https://www.mededportal.org/publication/9241/  
The Medical Student Wellbeing Workshop - MedEdPORTAL  
www.mededportal.org  
To view all publication components, extract (i.e., unzip) them from the downloaded .zip file. Editor’s Note: This publication predates our implementation of the Educational Summary  
Report in 2016 and thus displays a different format than newer publications. Hold an awareness of their personal stress  
I wish you all the best and don’t hesitate to contact me again if you need assistant.

Thank you.

Regards,

Dr Muhamad Saiful Bahri Yusoff, MD, MScMEd, PhD  
Associate Professor, Department of Medical Education, School of Medical Sciences, Universiti  
Head: Department of Medical Education, School of Medical Sciences, Universiti Sains Malaysia  
Chairperson: Examination Office, School of Medical Sciences, Universiti Sains Malaysia  
Felo Center for Development of Academic Excellence (CDAE), Universiti Sains Malaysia  
Felo National Higher Education Research Institute, Universiti Sains Malaysia  
Editor in Chief, Education in Medicine Journal, Penerbit USM  
Editorial Board Member, Journal of Taibah University Medical Sciences, Elsevier  
Email:
From: Sandy Gothard  
Sent: Sunday, July 1, 2018 10:00:10 PM  
To: Muhamad Saiful Bahri Yusoff  
Subject: DARE

Hello Dr. Yusoff,

My name is Sandra Gothard and I am a nursing doctoral student at Abilene Christian University in Abilene, TX, USA. My degree project is to conduct a 12 week seminar on building resiliency in a convenience sample of healthcare workers at our local Medical Center - Adirondack Health - in Saranac Lake, NY, USA.

I would like your permission to build my program utilizing your DARE model and be able to cite your model in my paper of interrelationship stress, stressors, and coping strategies in relation to the continual interplay between affective, cognitive, and psychomotor domains.

Thank you in advance for your excellent work as it relates to my doctoral project.

Regards,
Sandra Gothard

Sandra Ellis Gothard, MSN, RN, CNOR, NEA-BC
Appendix D: Text Message

Week Three: Social Support

“How resilient we are may have as much to do with our social milieu and circle of support as it does with our personal strengths.”

—Jill Suttie (2017)

“The struggle ends when gratitude begins.”

—Neale Donald Walsch (Rodenhizer, 2018)

Week Seven: Reflection

“When one door of happiness closes, another opens; but often we look so long at the closed door that we do not see the one which has been opened for us.”

—Sheryl Sandberg (2017)

Figure D1. A photo of a nature landscape. From “Nature Landscape” by Pixabay, 2015 (https://pixabay.com/photos/birds-animals-water-reflection-690545/). Pixabay license for noncommercial use.
Why is self-reflection important?

- It can help you to consider setbacks in a broader context and keep a long-term perspective.
- It helps to ensure that you are taking actions that are sound and not simply running on autopilot.
- It can help you learn from your experience to avoid the trap of simply repeating things that aren’t working.
- It can help you focus on what is important in your life.
- It allows you to notice your habitual ways of responding to people and events so that you have the option of approaching things differently.
Appendix E: Workshop Evaluation

This workshop is designed to increase your skills and understanding of resilient behaviors. Please answer the following questions related to resiliency.

Anonymous Code: ________________________________

Rating Scale
1—Strongly Disagree
2—Moderately Disagree
3—Mildly Disagree
4—Mildly Agree
5—Strongly Agree

Please select the response that best describes how the intervention you chose increased your awareness of your:

A. Stress
   1 2 3 4 5
B. Coping strategies
   1 2 3 4 5
C. Resilient behaviors
   1 2 3 4 5

Do you believe this intervention promoted your personal positive coping strategies/resiliency?

1 2 3 4 5

Of the following, which do you believe assists you in handling stress or allows you to cope better?

A. Getting enough sleep
   1 2 3 4 5
B. Eating a healthy diet
   1 2 3 4 5
C. Exercising
   1 2 3 4 5
D. Social Support
   1 2 3 4 5
E. Goal setting
   1 2 3 4 5
F. Practicing mindfulness
   1 2 3 4 5
G. Consciously relaxing/meditating
   1 2 3 4 5

Of the following, which are you most likely to do in the next eight weeks?

A. Getting enough sleep
   1 2 3 4 5
B. Eating a healthy diet
   1 2 3 4 5
C. Exercising
1 2 3 4 5  
D. Social Support  
1 2 3 4 5  
E. Goal setting  
1 2 3 4 5  
F. Practicing mindfulness  
1 2 3 4 5  
G. Consciously relaxing/meditating  
1 2 3 4 5  

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<tr>
<th>Question</th>
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<th>2</th>
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<th>4</th>
<th>5</th>
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<tr>
<td>In your opinion, did this workshop increase your awareness of community resources for resilience?</td>
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<td>In your opinion, did this workshop increase your sense of a community of social support for resilience?</td>
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<td>In your opinion, did this workshop increase your ability to care for yourself as well as others?</td>
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<td>How helpful has this workshop been for you?</td>
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<td>How helpful were the weekly inspirational messages to you?</td>
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<td>In your opinion, what are the barriers to building resilience at this time?</td>
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<td>What could be done in our community and organization to support your resiliency?</td>
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<td>What worked well in this project?</td>
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<td>In this project what could be improved?</td>
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<td>In this project, what could be eliminated?</td>
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Additional Comments:

Thank you for taking this survey and completing the workshop!
Appendix F: DASS-21 Survey

Anonymous Code:
The purpose of this project is to create a workshop through shared focus, journaling, and experiencing building tools, of your choice, for enhancing resilience of healthcare workers in the acute care setting. Our hope is that your participation in this project will positively support your understanding of possible means of caring for yourself and perhaps others. We hope you will pass along your knowledge and skills of building resiliency to colleagues, friends, and family to help build resilient communities.

As we reviewed in the workshop, various questionnaires measure individual state of being. Literature often uses the following questionnaire to promote awareness of individual’s current state.

Please read each statement and circle a number 0, 1, 2, or 3 that indicates how much the statement applied to you over the last week. There are no right or wrong answers. Do not spend too much time on any statement. Respond to all statements.

The rating scale is as follows:

- 0 Did not apply to me at all
- 1 Applied to me to some degree, or some of the time
- 2 Applied to me a considerable degree, or a good part of the time
- 3 Applied to me very much, or most of the time

<table>
<thead>
<tr>
<th>Statement</th>
<th>0</th>
<th>1</th>
<th>2</th>
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<tbody>
<tr>
<td>1. I found it hard to wind down</td>
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<td>2. I was aware of dryness of my mouth</td>
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<td>3. I couldn’t seem to experience any positive feeling at all</td>
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<td>4. I experienced breathing difficulty (e.g., excessively rapid breathing, breathlessness in the absence of physical exertion)</td>
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<td>5. I found it difficult to work up the initiative to do things</td>
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<td>6. I tended to over-react to situations</td>
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<td>7. I experienced trembling (e.g., in the hands)</td>
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<td>8. I felt that I was using a lot of nervous energy</td>
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<td>9. I was worried about situations in which I might panic and make a fool of myself</td>
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<td>10. I felt that I had nothing to look forward to</td>
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<td>11. I found myself getting agitated</td>
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<td>12. I found it difficult to relax</td>
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<td>13. I felt down-hearted and blue</td>
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<td>14. I was intolerant of anything that kept me from getting on with what I was doing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. I felt I was close to panic</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Description</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
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<td>------------------------------------------------------------------------------</td>
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<tr>
<td>0</td>
<td>Did not apply to me at all</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Applied to me to some degree, or some of the time</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Applied to me a considerable degree, or a good part of the time</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Applied to me very much, or most of the time</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>I was unable to become enthusiastic about anything</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>17</td>
<td>I felt I wasn’t worth much as a person</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>18</td>
<td>I felt that I was rather touchy</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>19</td>
<td>I was aware of the action of my heart in the absence of physical exertion (e.g., sense of heart rate increase, heart missing a beat)</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>20</td>
<td>I felt scared without any good reason</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>21</td>
<td>I felt that life was meaningless</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>
Appendix G: The Resilience Scale™ by Wagnild and Young

Anonymous Code:
The purpose of this project is to create a workshop through shared focus, journaling, and experiencing building tools, of your choice, for enhancing the resilience of healthcare workers in the acute care setting. Our hope is that your participation in this project will positively support your understanding of possible means of caring for yourself and perhaps others. We hope you will pass along your knowledge and skills of building resiliency to colleagues, friends, and family to help build resilient communities.

As we reviewed in the workshop, various questionnaires measure the individual state of being. Literature often uses the following questionnaire to promote awareness of individual’s current state.

The Resilience Scale™

Please read each statement and circle the number to the right of each statement that best indicates your feelings about the statement. Respond to all statements.

<table>
<thead>
<tr>
<th>Circle the number in the appropriate column</th>
<th>Strongly disagree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. When I make plans, I follow through with them</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>2. I usually manage one way or another</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>3. I am able to depend on myself more than anyone else</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>4. Keeping interested in things is important to me</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>5. I can be on my own if I have to</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>6. I feel proud that I have accomplished things in my life</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>7. I usually take things in stride</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>8. I am friends with myself</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>9. I feel that I can handle many things at a time</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>10. I am determined</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>11. I seldom wonder what the point of it all is</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>12. I take things one day at a time</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>13. I can get through difficult times because I’ve experienced difficulty before</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>14. I have self-discipline</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>15. I keep interested in things</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>16. I can usually look at a situation in a number of ways</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>17. My belief in myself gets me through hard times</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>18. In an emergency, I’m someone people can generally rely on</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>19. I can usually look at a situation in a number of ways</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>20. Sometimes I make myself do things whether I want to or not.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>21. My life has meaning.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>22. I do not dwell on things that I can’t do anything about.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>23. When I’m in a difficult situation, I can usually find my way out.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>24. I have enough energy to do what I have to do.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>25. It’s okay if there are people who don’t like me.</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

©1993 Gail M. Wagnild and Heather M. Young. Used by permission. All rights reserved. “The Resilience Scale” is an international trademark of Gail M. Wagnild & Heather M. Young, 1993.
Appendix H: Communication From Dr. Peter Lovibond

Peter Lovibond

Dear Sandy,

You are welcome to use the DASS in your research. Please see the DASS website www.psy.unsw.edu.au/dass/ to download the questionnaires (including translations in certain languages) and scoring key. Please also see the FAQ page on the website for further information.

Best regards,
Peter Lovibond

From: Sandy Gothard
Sent: Friday, 13 April 2018 7:14 PM
To: Peter Lovibond
Subject: Permission to use DASS-21

Dr. Lovibond,

I am a Doctoral Student at Abilene Christian University’s School of Nursing. My doctoral project’s purpose is to enhance our Wellness Program at our community hospital focusing on stress reduction and resiliency in our Professional Registered Nurses. As a component of this work, I will develop a workshop that facilitates nurses stress management.

My letter to you is to request permission to use your instrument, the DASS-21, as part of this project. I would like to adapt DASS-21 to an online format in order to administer the survey by computer. My plan is to administer a pre/posttest questionnaire regarding stress. Your instrument is a very good fit for my project. Thank you in advance for the possibility of building on your work.

If there are additional requirements or references you would like me to include, please let me know so that I may include these as deemed necessary.

Your consideration is greatly appreciated.

Warm Regards,

Sandra Gothard, MSN, RN, CNOR, NEA-BC
DNP Student
Abilene Christian University
Sandra Ellis Gothard, MSN, RN, CNOR, NEA-BC
Appendix I: Communication From Dr. Gail Wagnild

From: **Gail Wagnild**  
Date: Mon, Jun 11, 2018 at 12:17 PM  
Subject: The Resilience Center  
To: Sandra Gothard

Dear Ms Gothard,

Thank you very much for purchasing a licensing agreement to use the RS/RS14 in your graduate research. I’ve attached the User’s Guide, which is password protected. Your password is: XYZ

Print ready copies of the RS and RS14 are attached.

Your licensing agreement is attached.

I wish you all the continued best.

Sincerely,

Dr. Gail Wagnild

_Gail Wagnild, RN, PhD_  
_Owner and CEO_  
_The Resilience Center_  
/www.resiliencecenter.com/
Appendix J: Anonymous Code Development

The following are the directions for generating an anonymous identification code.

Researchers are often faced with the challenge of maintaining conditions of anonymity to protect the privacy of each participant and linking information over a period of time. In our situation, we will be comparing the pre-test surveys and post-test surveys. The method chosen is to have each volunteer generate his/her own Identification Code based on information that is well known to you but unknown to the researcher.

The information you will furnish below is your own self-generated Identification Code which will protect your anonymity. Please carefully complete the following information:

Please circle the letter below that represents the First Letter of your MOTHER’S FIRST NAME:

A B C D E F G H I H K L M

N O P Q R S T U V W X Y Z

Please circle the letter below that represents the First Letter of your FATHER’S FIRST NAME:

A B C D E F G H I H K L M

N O P Q R S T U V W X Y Z

How many Older Brothers do you have?  
(Both alive and deceased, step or otherwise)  _______

How many Older Sisters do you have?  
(Both alive and deceased, step or otherwise)  _______

Please select the month in which you were born.

| January—01 | May—05  | September—09 |
| February—02 | June—06  | October—10 |
| March—03 | July—07  | November—11 |
| April—04 | August—08 | December—12 |

Please circle the letter below that represents the First Letter of YOUR MIDDLE NAME.  
(If you have no middle initial, circle the letter N).

A B C D E F G H I H K L M

N O P Q R S T U V W X Y

This is your anonymous Identification Code ____________________________
Appendix K: Demographics

Please circle or fill in the correct answers.

1. Age ______________________ (in years)

2. Gender perception: Male Questioning Decline to State/Other
   Female Transgender

3. Race: African American Asian Hispanic
   American Indian/Alaskan Caucasian Multi-Racial/Other

4. Relationship Status:
   □ Not in a relationship □ In a relationship (spouse/significant other)
   < 1 year 1-5 years 6-9 years 11+ years

5. Please state the number and age of your dependents:
   Number ______________________
   Age(s) ______________________

6. Do you own pets? □ Yes □ No

7. Travel time to commute to work (one way) ______________________ (minutes)

8. How many years of work experience do you have? ______________________ (years)

9. How many hours a week do you currently work? ______________________ (hours)

10. What is your highest level of education?
    □ High School or GED □ Certificate or AAS □ Bachelors □ Graduate or higher

11. Are you a full-time or part-time student? □ Yes □ No

12. What do you believe to be your health status?
    □ Poor □ Fair □ Good □ Very Good □ Excellent

Thank you for taking this survey!
Appendix L: Self-Care Plan

Resilience and You: Mind and Body

My Self-Care/Resilience Plan

<table>
<thead>
<tr>
<th>Pre-Intervention</th>
<th>Post-Intervention</th>
</tr>
</thead>
</table>

**Stress Perception:** 0 = None, 5 = Extreme

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

**Top Stressors**

| 1. | 1. |
| 2. | 2. |
| 3. | 3. |

**Top Coping Mechanism**

| 1. | 1. |
| 2. | 2. |
| 3. | 3. |

What do I believe I am likely to do to cope with stress in the next 8 weeks?

What one resilience behavior do I want to commit to? What are the specifics of my plan?
June 29, 2018

To Whom it May Concern,

Please be advised that Adirondack Health is strongly supportive of the Resiliency study and project that is being proposed by Sandra Ellis Gothard, MSN, CNOR, NEA-BC. It is our hope to ultimately incorporate some of Sandra’s fine research into an ongoing program to promote resiliency among healthcare workers and to ultimately decrease burn-out, compassion fatigue and enhance staff retention rates. At the very minimum, we hope to achieve a heightened staff awareness of self-care and expose them to a variety of self-care strategies.

Again, we are honored and pleased to be a part of Sandra’s research project and to be affiliated in any way with your fine university.

Sincerely,

David Mader, BSN, RN, CCRN, CDIS
AVP-Patient Care Services

Linda McClarigan, MSHA, BSN, RN, NE-BC
CNO

Adirondack Health
2335 State Route 86
P.O. Box 471
Saranac Lake, NY 12982
p: 518-881-4181
f: 518-891-1191
Appendix O: IRB Request

ACU IRB # 18-048  Date of Approval __/__/____

Abilene Christian University Institutional Review Board Committee

Exempt Research Request

Complete the Request and send as an e-mail attachment to orsp@acu.edu. Include any appendix materials, as applicable, including participant solicitation materials, consent forms, surveys, and the signed Investigator assurance/signature form.

Allow up to 3-4 weeks for the requests to be processed. Many members of the committee are unavailable to review proposals during the summer or holiday months. Submission during the fall or spring term is highly recommended.

Title of Proposed Project: Developing Resilience Training for the Healthcare Employee in a Rural Medical Center  Date of Request: July 27, 2018

Principal Investigator: Sandra E. Gothard

Faculty Advisor (If PI is a student): Lawrence Santiago, EdD. **Note: Faculty Advisor MUST read and sign the Investigator Assurances Form

Phone: XYZ    Email: XYZ

ACU Box:

Point of Contact, if other than PI (Name, phone, email): N/A

<table>
<thead>
<tr>
<th>Investigators on Project (including PI)</th>
<th>Degree/ Credentials</th>
<th>Department / Affiliation</th>
<th>NIH Protecting Human Subject Research Participants Training++</th>
<th>EthicsCORE RCR Training++</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Sandra E. Gothard</td>
<td>RN, MSN, CNOR, NEA-BC</td>
<td>School of Nursing</td>
<td>5/26/2018 2829050</td>
<td>7/3/2018</td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
++ NIH and EthicsCORE Responsible Conduct of Research Training are required of ALL research team members as of January 1, 2017.

Section I—Site and Funding

The project will be conducted: ☐ On Campus ☒ Off Campus

If off-campus, please describe the site, whether you require and have permission to conduct the study at the site, and whether the site is accepting this IRB review or requires their own IRB approval:

The offsite location is Adirondack Health (AH) a rural, upstate New York, 100 licensed bed medical center in the community where I live. The executive team for the patient services division has provided a letter granting permission to conduct the study and accept ACU IRB approval. AH does not have their own IRB process/committee at this time.

Will you be requesting records, documents, or other information or assistance from another office, department, institution, or agency? ☐ Yes ☒ No

If “Yes,” have you discussed this protocol with the appropriate authorized personnel and received approval? ☐ Yes ☐ No ☒ N/A

Is this project being funded by an outside agency? ☐ Yes ☒ No

If yes, please specify which agency:

Section II—Exempt Category

Please choose an Exempt Category below to confirm that your project can be classified as exempt human research according to 45 CFR 46? If your human subjects research does not fall into one of the following categories, you may not use this form. ALL human research activities
involved in the study must fall under one or more exempt categories. Research that includes exempt and non-exempt activities is **not** exempt.

**Please note:** Exempt Research cannot involve prisoners as subjects except when use of broader populations may incidentally include prisoners.

FDA-regulated studies may not file an exempt application. *(21 CFR 50.3)*

☐ **Exemption 1.** Research, conducted in established or commonly accepted educational settings, that specifically involves normal educational practices that are not likely to adversely impact students’ opportunity to learn required educational content or the assessment of educators who provide instruction. This includes most research on regular and special education instructional strategies, and research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods.

☒ **Exemption 2.** Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording and **not** involving participant observations) if at least one of the following criteria is met (please select those that apply):

☒ The information obtained is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained, directly or through identifiers linked to the subjects (If participants are children: May only involve educational tests or the observation of public behavior when the investigator(s) do not participate in the activities being observed.).

☒ Any disclosure of the human subjects’ responses outside the research would not reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects’ financial standing, employability, educational advancement, or reputation (If participants are
children: May only involve educational tests or the observation of public behavior when the investigator(s) do not participate in the activities being observed.)

☐ The information obtained is recorded by the investigator in such a manner that the identity of the human subjects can readily be ascertained, directly or through identifiers linked to the subjects, and an IRB conducts a limited IRB review to make the determination required by §111(a)(7). (Limited Review requires that the IRB determines that adequate steps are taken to ensure that privacy and confidentiality are protected. If this option is selected, please complete the Limited Review section of this application form) (May not involve children).

☐ Exemption 3. Research involving benign behavioral interventions in conjunction with the collection of information from an adult subject through verbal or written responses (including data entry) or audiovisual recording if the subject prospectively agrees to the intervention and information collection and at least one of the following criteria is met (please select those that apply):

☐ The information obtained is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained, directly or through identifiers linked to the subjects;

☐ Any disclosure of the human subjects’ responses outside the research would not reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects’ financial standing, employability, educational advancement, or reputation; or

☐ The information obtained is recorded by the investigator in such a manner that the identity of the human subjects can readily be ascertained, directly or through identifiers linked to the subjects, and an IRB conducts a limited IRB review to make the determination required by §111(a)(7). (Limited Review requires that the IRB determines that adequate steps are taken to
ensure that privacy and confidentiality are protected. If this option is selected, please complete the Limited Review section of this application form)

**Please note:** the regulations define benign behavioral intervention as the following:

“benign behavioral interventions are brief in duration, harmless, painless, not physically invasive, not likely to have a significant adverse lasting impact on the subjects, and the investigator has no reason to think the subjects will find the interventions offensive or embarrassing. Provided all such criteria are met, examples of such benign behavioral interventions would include having the subjects play an online game, having them solve puzzles under various noise conditions, or having them decide how to allocate a nominal amount of received cash between themselves and someone else.”

- Will there be deception involved? □ Yes □ No

- If yes, in order for exemption to apply, there must be prospective consent in which the participant is informed that they will be unaware of or misled about the purpose of the research.

□ **Exemption 4.** Secondary research for which consent is not required: Secondary research uses (information/specimens were collected for a different purpose) of identifiable private information or identifiable biospecimens, if at least one of the following criteria is met (please select those that apply):

  - □ The identifiable private information or identifiable biospecimens are publicly available;

  - □ Information, which may include information about biospecimens, is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be
ascertained directly or through identifiers linked to the subjects, the investigator does not contact the subjects, and the investigator will not re-identify subjects;

☐ The research involves only information (not biospecimen) collection and analysis involving the investigator’s use of identifiable health information when that use is regulated under HIPAA Regulations, for the purposes of “health care operations,” “research,” or for “public health activities and purposes” as those terms are defined in the HIPAA Regulations. The information is not disclosed to non-covered entities, and HIPAA authorization is/was obtained or waiver is approved by the IRB.

Please Note: If a HIPAA Waiver of consent is required, you must still complete the HIPAA/FERPA Form, as only an IRB can approve such waiver requests.

☐ Exemption 5. Research and demonstration projects that are conducted or supported by a Federal department or agency, or otherwise subject to the approval of department or agency heads, and that are designed to study, evaluate, improve, or otherwise examine public benefit or service programs, including procedures for obtaining benefits or services under those programs, possible changes in or alternatives to those programs or procedures, or possible changes in methods or levels of payment for benefits or services under those programs. Such projects include, but are not limited to, internal studies by Federal employees, and studies under contracts or consulting arrangements, cooperative agreements, or grants.

Please Note: There are agency publication requirements for this exemption. See the regulations for more information.

☐ Exemption 6. Taste and food quality evaluation and consumer acceptance studies (select one):

☐ If wholesome foods without additives are consumed, or
☐ If a food is consumed that contains a food ingredient at or below the level and for a use found to be safe, or agricultural chemical or environmental contaminant at or below the level found to be safe, by the Food and Drug Administration or approved by the Environmental Protection Agency or the Food Safety and Inspection Service of the U.S. Department of Agriculture.

☐ **Exemption 7.** Storage or maintenance for secondary research for which broad consent is required: Storage or maintenance of identifiable private information or identifiable biospecimens for potential secondary research use if an IRB conducts a limited IRB review and makes the determinations required by § 111(a)(8). (Limited Review requires that the IRB determines that adequate steps are taken to ensure that privacy and confidentiality are protected and, in this instance, that appropriate broad consent will be obtained. If this option is selected, please complete the Limited Review section of this application form.)

**Please Note:** There must be a plan for documenting any cases in which broad consent was declined. This request is for information or specimens collected for another purpose, not for establishing a data/specimen repository only for research purposes.

☐ **Exemption 8.** Secondary research for which broad consent is required: Research involving the use of identifiable private information or identifiable biospecimens for secondary research use, if all the following criteria are met:

(i) Broad consent for the storage, maintenance, and secondary research use of the identifiable private information or identifiable biospecimens was obtained;

(ii) Documentation of informed consent or waiver of documentation of consent was obtained;
(iii) **An IRB conducts a limited IRB review** and makes the determination required by § 111(a)(7) and makes the determination that the research to be conducted is within the scope of the broad consent referenced above ((Limited Review requires that the IRB determines that adequate steps are taken to ensure that privacy and confidentiality are protected. If this option is selected, please complete the Limited Review section of this application form); and

(iv) The investigator does not include returning individual research results to subjects as part of the study plan. This provision does not prevent an investigator from abiding by any legal requirements to return individual research results.

**Please Note:** An example of the text of the previously signed broad consent must be submitted for the Limited Review. A waiver of consent may be requested when such a waiver meets requirements. However, if anyone was previously offered the opportunity to sign a broad consent and declined, the data may not be used and no waiver of consent may be requested. The researcher should provide evidence of such documentation when applicable.

---

**Section III—Plan**

Please provide a narrative of the study plan that demonstrates the requirements for the Exemption # selected above. Please address the Purpose, Selection and Consent of Participants, Participant Demographics, and Study Methods. This must be sufficiently detailed that the reviewer can determine the exemption qualification and category:

*As background, stress is considered a normal physiological response to individuals’ interactions within the environment. When confronted with a threat to health and well-being, individuals’ response is either ‘fight’ or ‘flight’ behavior going through a cycle of alarm, response, and exhaustion. These normal responses,*
if managed effectively, may be a well-integrated part of positive health and well-being. If such responses are ignored or coped with poorly, stress may become detrimental to health potentially leading to a variety of diseases.

Health professionals are confronted with many stressors in the clinical setting and in their personal lives that impact their time and the clarity of their role. Stressors may be emotional, moral, or spiritual in nature as a result of exposure to suffering and death. There may be occupational stressors such as reduced social support, excessive workload, or a prolonged misalignment among personal needs, individual values, and the work role. As a result of these challenges, healthcare employees need to create coping skills to prevent compassion fatigue and moral distress in the workplace. However, when stressors and demands facing healthcare workers become hindrances to their personal well-being and their professional ability to care for others—such as communicating effectively, conveying empathy, and developing meaningful relationships—it becomes evident the skills of resiliency and methods of coping are compromised. Developing healthcare employee resilience through work site program intervention is a potential response to mitigate the effects of decreased job satisfaction and disengagement in the workplace.

The primary purpose of the study is to understand the perceptions of stress and resilience of healthcare workers in a rural medical center setting in the northeastern United States. The secondary purpose is to develop an 8-week practicum using common domains of wellness and self-care that may address those perceptions and improve a sense of resilience in participants. Information from this study will contribute to the literature on understanding perceptions of stress and
developing resilience in healthcare workers through skills promoting self-understanding and reflective assessment of positive behavioral patterns for improving the health of individuals and workplace environments. The anticipated outcome is that participants may learn information and skills that help them to confront healthcare workplace stressors in positive ways through developing resilience skills and improve professional quality of life to enhance workplace well-being. The PICOT question: Do healthcare workers in a rural medical center who engage in an eight week workshop focused on building resiliency report a change in their interrelationship with stress and coping from pretraining to posttraining and express an intent to continue practicing resiliency self-care behaviors?

Pretest and posttest assessment will use valid, reliable questionnaires (DASS-21 and RS™). Week one will include two pretest surveys, a demographic questionnaire, development of a self-care plan, and creation of participant anonymous ID Code. At the completion of the 8-week intervention participants will complete two posttest surveys, an evaluation survey and the self-care plan. The evaluation of the 8-week study will provide participants an opportunity to respond both to quantitative (Likert) and qualitatively designed questions about their experience.

The participants will be a convenience sample of volunteer employees of the medical center. The workshop will be offered to all departments of the medical center and the health center clinics in neighboring communities. Participants may be both male and female adults (≥18 years of age). There will not be a control group. Recruitment of participants will include an invitation via Director Meetings, Shared
Governance Council, staff department meetings, and through email notice inviting participation with information outlining the project. The anticipated study sample is 30-40 persons.

Participants will be asked to sign a consent with the freedom to withdraw from the workshop at any time without any reason and without penalty or impact on employment. The project will be eight weeks in length with workshops conducted on week one, week four, and week eight. The times will be 7:00 am-9:00 am and 5:00 pm-7:00 pm on each of the scheduled days during week 1, 4, and 8. This allows employees working varying shifts to participate. The study design is pre- post- test using Depression Anxiety Stress Survey (DASS-21) and The Resilience Survey (RS)™. Additional information completed on week one will be a demographic questionnaire, a self-care plan, and an anonymous ID Code based on the Damrosch (1986) method to be used on all documents.

Section IV—Participants

Will you include any special populations requiring additional considerations (see below)?

☐ Yes   x ☐ No

☐ Children
☐ Pregnant Women or Fetuses
☐ Neonates
☐ Decisionally Impaired
☐ Prisoners [**STOP!** you cannot use the Exempt Form for research with prisoners]

☐ Students

☐ Other: _______________

**If yes, please complete the Special Populations Form.**

If you plan to compensate participants, please describe:

Participants will not be paid for their time if attending the workshop on scheduled days of work. Attendance will be either before or after their scheduled shift or on a day off. Employees may receive two Wellness points from their health care insurance carrier for full participation and completion of the project. These points accumulate with various other activities throughout the year to provide employees with an insurance rebate at the end of each year. Nursing staff will receive two points toward their Clinical Ladder for full participation and completion of the project. All participants who complete the 8-week workshop and complete an evaluation of the program will have the opportunity to be included in a drawing for one of five $20 gas gift cards from Stewarts Shops.

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Section V—Limited Review

A. Limited Review for Exemption 2, 3, 7 and 8

Please describe how you will protect the privacy and confidentiality of the participants, including how the data will be coded, stored, and transferred (if applicable):

Participants will create an anonymous ID Code using the Damrosch (1986) method. The directions and reference for generating an anonymous identification
code are attached as a separate document. The method chosen is to have each volunteer generate his/her own Identification Code based on information that is well known to the participant but unknown to the PI.

B. Limited Review for Exemption 7

- You must submit an example of the broad consent that will be obtained from participants. This consent must be for storage, maintenance, and secondary research use of identifiable private information or identifiable biospecimens and meet the requirements of § 116(a)(1)-(4), (a)(6), and (d);

- Consent must be documented. Only in rare circumstances can a waiver of documentation be granted. In such cases, please submit a Waiver of Documentation of Consent Form. Are you requesting such a waiver? □ Yes  x□ No

Will data be shared with anyone outside of the research team/ACU IRB? □ Yes  x□ No

If yes, please describe the data to be shared; whether it is identifiable, limited data set, or de-identified, with whom it will be shared, and how the data will be transferred: N/A

Section VI—Conflicts of Interest

Do any of the study personnel have Conflicts of Interest to report? □ Yes  x□ No

If yes, please list the individual, the conflict, and any plans to manage the conflict:
Section VII—HIPAA and FERPA (medical and educational records, respectively)

Does the **identification of potential participants** require a waiver of HIPAA or FERPA Authorization? □ Yes    x□ No

Will you be **viewing or collecting private information** that is protected by HIPAA or FERPA? □ Yes  x□ No

If the answer to either question is yes, please complete the HIPAA/FERPA Form.

Section VIII—Risk Management

Does your study involve:

□ Use of chemicals or hazardous materials
□ Hazardous waste
□ Large or dangerous equipment
□ Travel abroad
□ Use of an ACU vehicle or rental vehicle

If the answer to any of the above is yes, please contact the Office of Risk Management for proper training and consultation: ________________.

http://www.acu.edu/community/offices/administrative/risk-management/contact.html
APPENDIX to this form

Identify which items are included in the submission (Please submit all documents as SEPARATE attachments)

- [ ] Signed Investigator assurance/signature form (required).
- [ ] NIH Protecting Human Subject Research Participants Training Certificates of Completion for ALL research team members (required). ** NIH Training is required of ALL research team members as of January 1, 2016.
- [ ] EthicsCORE Responsible Conduct of Research Training Certificates of Completion for ALL research team members. EthicsCORE RCR training is required of ALL research team members as of January 1, 2017

☐ Vulnerable Populations Form
- [ ] Participant Solicitation materials
- [ ] Consent Form

☐ Broad Consent Form
☐ Alteration or Waiver of Consent Form
- [ ] HIPAA/FERPA Consent Form (if separate)
- [ ] HIPAA/FERPA Form
- [ ] Survey(s)
- [ ] Other: Damrosch Anonymous ID Code
Appendix P: Recruitment Tools

**RE: Invitation to “Resilience—A Mind and Body Workshop for AH Employees”**

Hello!

I would like to introduce Sandra (Sandy) Gothard a doctoral student at Abilene Christian University. We would like to invite you to join us in an employee focused workshop/study on resilience and stress management.

If you choose to take advantage of this FREE opportunity to develop skills to build resilience, please consider signing up now to attend the one-time workshop from either 7:00 am—9:00 am or 5:00 pm—7:00 pm on September 17th. The workshop will be held in the Redfield Room in the Medical Office Building on the Saranac Lake campus. Light refreshments will be served. Additionally you will be a part of an AH community of learning and sharing about successful methods of combating stress and building resilience.

Surveys are a part of the project and will allow you the opportunity to provide feedback and suggestions for possible improvement.

This 8-week doctoral project is a research study that includes workshop attendance during weeks 1, 4, and 8 with weekly text/email messages for the 8-week duration. Your participation in all aspects of the study is voluntary. We are hopeful this will be a fun and meaningful experience.

Please R.S.V.P. to________

We look forward to seeing you at the workshop!

Warm Regards,

Dave and Sandy
Resiliency Project

Want to be a participant in a study?
Want to learn about strategies, resources, and ways to be resilient?
OPEN TO ALL ADIRONDACK HEALTH EMPLOYEES

9/17/18- Opening Sessions
7:30AM-9:30AM or 5PM-7PM

10/15/18- One Hour Open Discussions
7:30AM-8:30AM or 5PM-6PM

11/16/18- Closing Sessions
7:30AM-9:30AM or 5PM-7PM

All sessions will be held in the Redfield Room.

WELLNESS REWARD POINTS & CLINICAL LADDER POINTS AVAIL

For more information, please contact David Mader at ext 2255.
dmader@adirondackhealth.org

Figure P1. Recruitment announcement flyer.