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## **Does the use of Mental Health Screenings and Targeted Stress Interventions Improve Mental Health Outcomes in Outpatient Clinic Staff?**

Mary Benson

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DOES THE USE OF MENTAL HEALTH SCREENINGS AND TARGETED STRESS  
INTERVENTIONS IMPROVE MENTAL HEALTH OUTCOMES IN  
OUTPATIENT CLINIC STAFF?

by

Mary Benson

A Doctoral Project  
Submitted to the Graduate School,  
the College of Nursing and Health Professions  
and the School of Leadership and Advanced Nursing Practice  
at The University of Southern Mississippi  
in Partial Fulfillment of the Requirements  
for the Degree of Doctor of Nursing Practice

Approved by:

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## ABSTRACT

The Perceived Stress Scale (PSS) has been used as a classic stress assessment instrument to evaluate perceived stress across many settings. As stress is the primary phenomenon in this review due to varying stressors, including infectious diseases among healthcare workers, the PSS is the most appropriate scale for evaluating the degree to which a health worker feels stressed. In addition, the PSS is valuable as it encompasses ten items that researchers use to explore how respondents react to stress due to unpredictable events. Thus, this DNP project is based on the postulation that screening with the PSS and applying stress interventions would reduce perceived stress among mental healthcare workers. The DNP project utilized a quasi-experimental research design by collecting data from 19 healthcare workers at baseline and after four weeks of intervention. The DNP project integrated the perceived stress scale (PSS) comprising ten items. The primary method of analysis is the paired t-test, which is ideal for collecting the DNP project's pre-and-post data. The DNP project used stratified sampling and random assignment to the intervention group. Using **Statistical Package for the Social Sciences** (SPSS v 25), the researcher found that the perceived stress reduced significantly after the one-month intervention with a paired t-test mean of 3.421. The pre-test and post-test results for means were 16.16 over 19.79 and a standard deviation (STD) of 6.058 and 4.936, respectively. Thus, the stress levels in the sample were reduced to a lower moderate statistic compared to the baseline mean. The paired t-test also showed a significance level of .02 with a 95% confidence (.595 and .6247) with  $df=18$  and a  $t=2.544$ . Thus, the DNP project rejected the  $H_0$  and confirmed  $H_1$ : stress reduction screening and interventions reduce perceived stress among mental healthcare workers.

Healthcare workers experienced augmented stress at work, primarily due to various stressors such as COVID-19. However, stress management strategies and screening can enable health systems to make informed decisions on stress management. The DNP project has important implications for practice, such as creating organizations that allow easier leader-buy-in for rapid integration of stress management strategies.

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## DEDICATION

To my children, Charlie, Jermaine, Curtis, and Tressa, you are my drive as God saw fit to bless me to be your mother, and there is nothing more precious than the gift of the four of you. Each milestone and more so this terminal educational milestone before me is because of you all. I love you all immensely. Thank you for your unwavering support in my absence when I was fully engaged in my career endeavors; as it is to you four, I fully dedicate this degree. No words hold more truth than “love conquers all and provides the strength to endure all things.”

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## LIST OF ABBREVIATIONS

<i>ANOVA</i>	Analysis of Variance
<i>CINAHL</i>	Cumulative Index to Nursing and Allied Health Literature
<i>COVID 19</i>	Coronavirus Disease
<i>DSM-5</i>	Diagnostic and Statistical Manual of Mental Disorders
<i>DNP</i>	Doctor of Nursing Practice
<i>GAD-7</i>	Generalized Anxiety Disorder
<i>IRB</i>	Institutional Review Board
<i>LMX</i>	Leader-Member Exchange Theory
<i>PICOT</i>	Patient, Intervention, Comparison, Outcome, and Time
<i>PSS</i>	Perceived Stress Scale
<i>Q-Q</i>	Quantile- quantile plot
<i>RCT</i>	Randomized Controlled Trials
<i>RN</i>	Registered Nurse
<i>STD</i>	Standard deviation
<i>SPSS</i>	Statistical Package for the Social Sciences
<i>USM</i>	The University of Southern Mississippi

## CHAPTER I – INTRODUCTION

### Overview

Mental health issues are problematic and impact many adult populations worldwide in America and other societies. However, certain groups have exceptionally higher risks of developing the symptoms of diagnosable forms of many mental health conditions than others. Among these at-risk adult populations are healthcare professionals currently working in patient care settings (Rose et al., 2021). Mental healthcare workers, in particular, have exhibited substantially high risks of developing many forms of mental health issues when delivering patient care services due to individual, organizational, and other factors (Yang et al., 2021). Mental healthcare professionals worldwide have shown an even more pronounced tendency to develop mental health conditions and symptoms during the ongoing Coronavirus disease (COVID-19) pandemic, as they have often needed to work longer hours in environments that had inadequate resources for protecting staff members from infections (Hendrickson et al., 2022). Mental health symptoms and disorders can adversely impact healthcare professionals' well-being and workplace performance, making interventions to address mental healthcare workers' mental health needs on the job a priority for many healthcare provider organizations worldwide. Therefore, this Doctor of Nursing Practice (DNP) project introduces targeted stress interventions based on the results of regular screenings administered to mental healthcare workers working at a single outpatient clinic in central Mississippi to improve staff members' mental health.

## Background and Significance

The research problem that the present DNP Project addresses relate to the substantial risks and high prevalence of adverse mental health outcomes among healthcare professionals currently involved in patient care. Mental health needs are a common issue that affects mental healthcare workers. Still, many healthcare organizations, particularly outpatient healthcare service providers, do not have processes in place to identify and address those needs through preventative and management interventions (Yang et al., 2018). The emergence of the COVID-19 pandemic has exacerbated the already severe and widespread degrees of mental health disorders and symptoms among mental healthcare workers (Kriakous et al., 2020; Pollock et al., 2020). Mental health symptoms and disorders adversely impact mental healthcare workers by increasing the likelihood of absenteeism, professional burnout, and leaving the healthcare profession, as well as worsening performance and safety outcomes (MacKenzie et al., 2021; Rose et al., 2021). Patient satisfaction and health outcomes, along with organizational performance outcomes, also suffer when mental healthcare workers develop these mental health issues (Klatt et al., 2020).

The purpose of this DNP project was to improve mental health functioning and related outcomes for the participants in its components, who are mental healthcare workers currently employed at a single outpatient clinic in central Mississippi. The reason for achieving this purpose is that, in the era of COVID-19, the focus has mainly been on the mental health demands of the workplace that affect inpatient setting mental healthcare workers, such as those employed at hospitals, yet these burdens have also fallen on and adversely impacted mental healthcare employees who work in outpatient

settings such as community clinics (Gray et al., 2019). Moreover, the mental health needs of mental healthcare workers, in particular, can be highlighted through the DNP project, which is important given that these needs may be more complex or intensive compared to other healthcare professionals, particularly those who have less extensive contact with patients (Watanabe et al., 2019).

The present DNP project contains several areas of significance for the members of the mental health profession. The research on addressing mental health needs among healthcare professionals has tended to make use of samples whose participants include, but are not limited to, mental healthcare workers. For the purposes of this DNP project, mental healthcare workers were defined as staff members working at a clinic or other healthcare facilities, who deliver clinical mental healthcare services to patients at risk for or who have been diagnosed with one or more mental health conditions. Because mental healthcare workers have extensive contact with patients and other healthcare professionals alike, they often run greater risks of developing and carrying diseases such as COVID-19 and also encounter more substantial stressors they must address with fewer resources when compared to some of the other healthcare professions (Yang, 2021). The DNP project emphasizes that, for mental healthcare workers and other healthcare professionals, mental health issues are a widespread, common, and often unaddressed workplace health problem that can impact not just the individual professionals adversely, but also entire professional teams, patients, the work unit and organization, and even the community as a whole (Klatt et al., 2020). This DNP project highlights the need for timely prevention and management interventions delivered explicitly to mental healthcare workers and, more broadly, to all healthcare professionals. Lastly, the DNP project



offered a source of evidence that other nurse leaders can use to develop their own evidence-based practice interventions that will be effective in promoting better mental health among mental health staff and other healthcare professionals through the use of stress reduction techniques and coping skills, especially when combined with regular stress screenings.

### Review of the Evidence

The literature search and literature review for this DNP project were conducted using the processes described by Melnyk et al. (2010) in their seminal article on evidence-based practice design and implementation. The literature search involved simultaneously searching the Medline and Cumulative Index of Nursing and Allied Health Literature (CINAHL) databases. Both the Medline and CINAHL searches therefore employed the same search terms, which included “health care OR nurse\* OR RN\* OR clinician\* OR provider\*,” “mental health OR psychological\* OR psychiatric\* OR mental illness\*,” “stress\* OR coping OR DSM-5 OR depress\* OR anxiety,” and “intervention\* OR RCT\* OR randomized controlled trial\* OR quality OR practice change\*” using the asterisk for a wildcard symbol.

The literature searches were also conducted using parameters to apply multiple inclusion and exclusion criteria selected for the search to screen for high-quality, current sources of evidence relevant to the DNP project topic. The inclusion criteria for sources of evidence in the DNP project required these sources to be: written in English, found in a peer-reviewed scholarly journal, presented as the full text of the original article online, published during or after 2017, describing quantitative primary research or a systematic review of quantitative studies, and focused on intervention research addressing mental

health needs among healthcare professionals, particularly mental healthcare workers. The exclusion criteria for the literature review encompassed sources that were: written in a language other than English, found in a publication that was not peer-reviewed, unavailable as full text, published prior to the year 2017, describing qualitative research, or consisting of any article that was not reporting primary research or systematically reviewing such research, and focused on exploratory studies or research that did not address the mental health needs of healthcare professionals.

The literature searches initially returned 134 results indicating sources of evidence. The abstracts and publishing information for those sources were examined in order to apply the inclusion and exclusion criteria. After doing so, 51 articles remained that met the criteria. Those sources' abstracts were re-read to remove search results that were less relevant to the DNP project topic, leaving 27 articles remaining. These articles were first to be read in their entirety, and the ten highest quality sources were selected for inclusion in the present literature review.

The sources selected for inclusion were first assessed and their contents summarized, which led to the creation of the evaluation matrix found in Appendix A. Then, the sources were critically appraised and analyzed to identify strengths and weaknesses in their methods and data. The analytical process was also employed to determine common themes in the sources' purposes, sampling, methodologies, findings, and conclusions.

The results of the analysis are described in the following sub-sections. The first sub-section discusses the impact of mental health interventions on healthcare professionals. The second sub-section describes the types of interventions that have been

found to improve mental health outcomes for healthcare professionals. The third subsection describes methodological considerations, including the variables and instruments that have been used to evaluate this topic.

### *Impact of Mental Health Interventions*

One of the most consistent themes that appeared in the sources of evidence selected for inclusion in this literature review involved the effects that mental health interventions had on the mental health functioning of healthcare professionals. Yang et al. (2020) found that the reported stress of healthcare professionals who were involved in a stress reduction program specifically designed for those persons providing care during the ongoing pandemic significantly decreased, as did worries about infection from COVID-19, while knowledge about COVID-19 increased. Similarly, the psychiatric workers in the study by Yang et al. (2018) had experienced declines in reported stress after receiving a stress reduction therapy, while mental health outcomes, including mental health symptoms, anxiety, and depression, were found to decrease as well. The systematic reviews by Kriakous et al. (2021) and Pollock et al. (2020), who studied stress reduction programs that respectively were not and were developed specifically for COVID-19 stress, were found to show consistent outcomes of reducing healthcare professionals' stress levels, anxiety symptom counts, depression symptom counts, and mental health symptom severity. Gray et al. (2019) found that interventions developed using a range of theoretical perspectives, not only mindfulness, were linked to stress reduction and improvements in mental health functioning when they were delivered to healthcare professionals. Rose et al. (2021) and Klatt et al. (2020) found that their programs successfully reduced COVID-19 stress while improving mental health

symptomatology, retention of staff, and workplace performance. The main exception to these findings was in the study by Watanabe et al. (2019), who did not find that their intervention was associated with improvements in stress or mental health among a sample of mental healthcare workers.

### *Mental Health Intervention Types*

Although the types of mental health interventions considered in the research literature contained some notable distinctions, there were also crucial similarities in the descriptions of these interventions, which indicated the most successful interventions tended to share some commonalities. Many of the interventions, such as those in Watanabe et al. (2019), Yang et al. (2021), Rose et al. (2021), Klatt et al. (2020), and Pollock et al. (2020), combined stress reduction and coping skills approach with screenings for mental health conditions, information about mental health, and information about COVID-19 disease transmission and stressors, as they had been designed to be delivered in the current pandemic. On the other hand, studies like Yang et al. (2018) and Kriakous et al. (2021) were focused on mindfulness-based stress reduction techniques specifically. They did not include intervention content specifically related to mental health or the COVID-19 pandemic.

### *Methodological Considerations*

The final major theme to be considered in this literature review relates to the methodological considerations that past researchers have made when developing studies of mental health interventions that target healthcare professionals. A limited number of methodological choices and research designs were used in the studies included in this review. Hendrickson et al. (2022), Rose et al. (2021), and MacKenzie et al. (2021) used

descriptive quantitative approaches to evaluate the impact of the pandemic on mental health symptoms and the functioning of healthcare workers. The pre-test and post-test design approaches were used in multiple intervention studies, including Klatt et al. (2020), Yang et al. (2018), and Yang et al. (2020). Gray et al. (2019), Kriakous et al. (2021), and Pollock et al. (2020), however, used a systematic review design. Of the studies considered, only Watanabe et al. (2021) used a randomized controlled trial design.

The variables used to frame the data collection and analysis in the research on this DNP project's topic also tended to show areas of overlap, even if not every study included the exact same sets of variables. Stress was a commonly measured variable in the studies, including in Gray et al. (2019), Kriakous et al. (2021), and Pollock et al. (2020). Global mental health functioning was also evaluated in multiple studies.

The instrumentation selected for the studies examined showed greater levels of variation compared to the measured variables, but even these instruments still showed certain commonalities when compared across sources. The Perceived Stress Scale (PSS) was the most frequently used measure of stress that was included in multiple sources (Gray et al., 2019; Klatt et al., 2020; Pollock et al., 2020; Rose et al., 2021; Yang et al., 2018). Other instruments that were used often included the General Anxiety Disorder – 7 Item questionnaire to evaluate anxiety and the Patient Health Questionnaire – 9 Item to evaluate depression (Hendrickson et al., 2022; Kriakous et al., 2021; MacKenzie et al., 2021).

## Synthesis of Evidence

The review of evidence described above supports this DNP project in multiple ways. First, the descriptive research from Hendrickson et al. (2022) and MacKenzie et al. (2021), along with preintervention measures of mental health in Klatt et al. (2020), Yang et al. (2018), and Watanabe et al. (2021), revealed a need for the DNP project by demonstrating that mental healthcare workers in current outpatient care settings experience excessively high stress as well as high frequencies and severity levels of mental health disorder symptoms. The use of stress and mental health assessments and interventions to improve mental healthcare workers' mental health outcomes and performance was also supported in the evidence, revealing the choice of intervention in this DNP project was appropriate (Gray et al., 2019; Klatt et al., 2020; Kriakous et al., 2021; Pollock et al., 2020; Yang et al., 2018; Yang et al., 2020). The association between mental health outcomes and patient care performance was likewise supported by this review of the literature (Gray et al., 2019; Kriakous et al., 2021; Pollock et al., 2020).

## Needs Assessment

Although the review of the literature provided ample support for the present DNP project, the evidence also indicated that there is a need for this DNP project as a means to address gaps in the literature. Stress and mental health symptoms have been shown to increase in pandemic conditions and when mental healthcare workers are confronted by other difficult situations, such as working longer hours while short-staffed (Hendrickson et al., 2022; Rose et al., 2021). However, there have not been any studies in the literature that have shown whether mental healthcare workers working in healthcare service

delivery settings during the current COVID-19 pandemic would show mental health benefits from stress reduction interventions.

Most of the literature on stress and mental health among mental healthcare workers during the current pandemic has not come from literature specific to them, let alone from studies that sampled mental healthcare workers from outpatient care settings only. The bulk of the literature developed on this topic has sampled healthcare workers in general, of which these employees sometimes have, but not always, comprised a majority of the sample (Hendrickson et al., 2022; Klatt et al., 2020; MacKenzie et al., 2021; Rose et al., 2021). Additionally, these studies have often sampled staff from inpatient care settings, particularly hospitals, in part due to the hospitals having had drastic patient increases during the pandemic (Klatt et al., 2020; Watanabe et al., 2019; Yang et al., 2021). Staff members from outpatient care environments may potentially be impacted by stress and mental health issues somewhat differently than those working in inpatient care settings, making research on the former settings quite important.

At the facility where the DNP project site was located, the issue of stress profoundly impacted the mental healthcare workers. According to informal discussions with mental healthcare workers, the mental staff had experienced rising levels of stress and self-reported mental health issues. Moreover, staff employment records indicated that over the last two years at the DNP project site, the absenteeism rate among mental healthcare workers employed at the clinic had doubled, from 12.5% to 25%. This rising absenteeism rate was tied to stress levels among the mental healthcare workers at the DNP project site because the mental healthcare workers during that time had to cover

their peers in cases where their peers had called in already to account for their absences at the clinic.

### Problem Statement

This DNP project was necessarily limited in the sample it could actually reach, and the components of the scope show how the DNP project was bounded in this manner. First, the DNP project was implemented at a single outpatient mental health clinic facility located in a lower-income part of a large city in central Mississippi, serving predominantly African-American adults as patients. The DNP project was implemented as a quality improvement initiative within the clinic using a team comprised of clinic staff who had volunteered for their team member roles. The intervention was only made available to the mental healthcare workers working as full- or part-time employees at the clinic during the DNP project's implementation period and not to non-clinical staff, interns, students, or staff placed at the clinic via temporary employment services. Also, these individuals were not included in the data collection or analysis processes. Past staff members hired to work at the clinic after the DNP project implementation period began were also not included in the intervention delivery or the data collection or analysis processes.

### Project Purpose

The following PICOT question was developed as the main inquiry that would guide the entire DNP project: Among psychiatric mental healthcare workers ages 19-60 in an urban health clinic in central Mississippi, an implementation of the Perceived Stress Scale screening tool (Appendix A) and mental health strategies assist in early identification of mental healthcare workers who are at risk for stress-related mental health



disorders during a four-week time frame? This PICOT question was developed following a review of the literature on mental health interventions for healthcare workers, including mental healthcare workers. Because the staff at the DNP project site had high risks of unaddressed stress and mental health needs, achieving the DNP project purpose was an essential component in promoting quality patient care by minimizing burnout, absenteeism, and other adverse outcomes. Achieving this purpose would enable the DNP project leader to determine whether existing stress screenings could identify mental health disorders in mental healthcare workers quickly enough for early interventions to be launched to address them. Also, achieving the DNP project purpose would enable the DNP project to contribute to the body of evidence about mental healthcare workers' mental health needs in outpatient settings.

#### Theoretical and Conceptual Framework

This DNP project employed Barker's Tidal Model of Mental Health Recovery as its theoretical and conceptual framework. The tidal model deems patients as playing an active role in their own mental health treatment. Rather than silently adhering to treatment plans only, asserting that people with mental health issues must find their voice to allow them to articulate their own stories of mental health issues as they have fit into their lives. Barker (2005) stated that the model contains six key assumptions, which are that curiosity is helpful; that providers and patients should focus on resourcefulness rather than deficits; respect for the patient's desires and needs are important; that crisis can also present opportunities; those individual patients should set individualized goals; and that the simplest means to achieve goals should be found. This model states that mental health professionals must help patients explore their domains of self, wherein the patient

perceives experiences; the world, where patients contain their stories of mental health; and others, where patient relationships exist (Barker, 2005). The DNP project employed Barker's tidal model of mental health recovery by respecting mental healthcare workers taking part in the interventions as autonomous individuals who require assistance rather than paternalistic care plans. Moreover, the interventions encouraged the participating staff members to set their own individualized mental health goals, drawing directly on Barker's tidal model's theoretical and conceptual components.

#### Evaluation Plan

This DNP project had a quasi-experimental research design to evaluate the impact of stress screenings and stress reduction interventions among mental healthcare staff members at an outpatient mental health clinic. The PSS was used as the primary instrument to measure the main outcome variable of perceived stress. This outcome would be measured using a paper survey handed out to all mental healthcare staff members at the conclusion of the DNP project period.

#### DNP Essentials

The DNP Essentials published by the American Association of Colleges of Nursing (2006) each had significant roles in this DNP project. Essential I: Scientific Underpinnings for Practice had been met by basing the DNP project and intervention on evidence from the review of literature, creating and evaluating a hypothesis from the gaps in current knowledge, and using data analysis to test the hypothesis. Essential II: Organizational and Systems Leadership for Quality Improvement and Systems Thinking was achieved by evaluating whether a novel stress reduction approach could improve mental healthcare workers' mental health, which has implications for the entire care

system. Essential III: Clinical Scholarship and Analytical Methods for Evidence-Based Practice was met because the DNP project was designed with a quantitative methodology and because the scholarship was used in developing the evidence-based practice intervention. Essential IV: Information Systems/Technology and Patient Care Technology for the Improvement and Transformation of Health Care, was met by using online databases in the literature search and review, as well as recording and analyzing data using information technology. Essential V: Health Care Policy for Advocacy in Health Care was achieved through the outcomes, which could possibly inform clinical guidelines in promoting staff mental health in order to facilitate better patient care. Essential VI: Interprofessional Collaboration for Improving Patient and Population Health Outcomes was met by working with an interdisciplinary team to discuss the DNP project's outcomes and make recommendations on sustaining it. Essential VII: Clinical Prevention and Population Health for Improving the Nation's Health, was achieved through analysis of the data which could aid in reducing mental health issues and stress among the staff and ultimately improving patient care delivery. Essential VIII: Advanced Nursing Practice was met because an advanced practice nurse led the DNP project and undertook all data analyses to answer a question with implications for patient care and staff well-being.

### Summary

This DNP project addressed the issue of increasingly high rates of mental health symptoms and diagnosed mental health disorders among mental healthcare workers, especially at the present time during the COVID-19 pandemic. The DNP project helped promote awareness of mental health needs among mental healthcare providers working in

outpatient care settings and also evaluated the effectiveness of a relatively brief workplace intervention to promote healthy strategies for preventing and managing mental health issues. This DNP project considered the following PICOT question: Among psychiatric mental healthcare workers ages 19-60 in an urban health clinic in central Mississippi, an implementation of the Perceived Stress Scale screening tool and mental health strategies assist in the early identification of mental healthcare workers who are at risk for stress-related mental health disorders during a four-week time frame

## CHAPTER II – METHODS

### Overview

The purpose of this chapter is to describe the methodology of the DNP project, which examined the stress and mental health impact of stress reduction interventions delivered to mental health staff members working in an outpatient clinic environment. The chapter first describes the DNP project setting, followed by the population and sample. Contextual elements are discussed afterward. The study design is detailed, and the chapter explains the ethical considerations. The chapter concludes with a summary of the major points covered in the sections.

### Setting

The setting for the DNP project consisted of an outpatient clinic that provided mental health services to patients in a major urban area in central Mississippi. This clinic predominantly served a patient population of African-American adults from lower-income households. The clinic employed 19 mental healthcare workers on a full or part-time basis, but none of these staff members received stress screenings or screenings for mental health symptoms as part of their regular workplace resources, despite the increased levels of stress that many mental healthcare workers have experienced during the COVID-19 pandemic. Additionally, the clinic as a workplace did not offer individualized mental health services or training to staff to deliver these services when the DNP project was conducted.

### Target Population

The target population for the DNP project encompassed mental healthcare workers who were employed as full- or part-time employees of the outpatient clinic that

served as the DNP project setting. There had been less of a focus on mental healthcare workers' stress and mental health needs among employees working in outpatient mental health settings since the COVID-19 pandemic began. Yet, these mental healthcare staff members had also experienced a significant increase in stressors and expanded mental health needs (Rose et al., 2019). The sample was drawn using convenience sampling from the population of the clinic staff, who numbered 19 individuals in total. These staff members included men and women, ranging in age from 19 to 60 years old, with a vast array of professional expertise. They included but were not limited to two nurse practitioners, two registered nurses, seven therapists, two peer support personnel staff members, one marketer, two drivers and technicians, and three program assistants.

#### Contextual Elements

The contextual elements of the DNP project included the clinic leadership, who were highly receptive to change and process improvements in the clinic. These leaders were willing to support practice changes if they were evidence-based and likely to promote improvements in patient care. The staff members were knowledgeable in mental health needs and were likely to support the intervention in the DNP project. This support was also likely because the staff was used to participating in quality improvement initiatives, and many staff members had even helped implement these initiatives as team members in the past.

#### Design

The methodology for the DNP project was quantitative, and the design for the DNP project was a quasi-experimental research study. A quasi-experimental research design measures a cause-and-effect relationship between an independent and dependent

variable. The reason for using this type of research design was because the design enables the DNP project leader to compare the characteristics of the same individuals following an intervention. The single time point measurement made this design usable with a quickly deployed study.

The participants were told about the DNP project and their roles in it initially. All staff members identified as having high, moderate, or low stress were able to participate in individualized stress reduction intervention sessions. The data was collected using the PSS as a paper survey questionnaire at the end of the implementation period. Sample group means on the PSS for the staff members who engaged in the pre-and post-interventional counseling PSS questionnaire were compared utilizing between-groups t-tests.

#### Ethical Considerations

There were a few ethical considerations that needed to be made in this DNP project. First, the employees taking part in the DNP project needed to provide their informed consent because the DNP project specifically collected data outside of the usual collection processes already employed at the clinic with the expectation of the implementation of a quality control initiative. The DNP project also required permission from the clinic preceptor and The University of Southern Mississippi (USM) Institutional Review Board (IRB) to protect participant rights (Protocol # 22-992). The clinic staff were recruited via flyers posted in the clinic's staff areas with a QR code and a request for voluntary participation. The online form did not require any personal information and instead only requested participation and content. The DNP project leader collected completed paper questionnaires at week one and week four of the purposed DNP project

week in sealed envelopes and stored online questionnaire data in a data set with password protection. Additionally, all data collected was confidential and stored without any personally identifying markers, which encouraged honesty in the participant's responses to the questionnaire items.

### Summary

This chapter addressed the DNP project design. Its setting was a private mental health outpatient clinic in central Mississippi. The target population consisted of the full- and part-time mental health worker staff employed at the clinic, and the support of the staff and leadership at the clinic was likely. The design was a quasi-experimental research study. Permission was required from the clinic supervisor and IRB at USM, and consent was obtained before data collection.



## CHAPTER III – RESULTS

### Overview

In the course of the intervention, the 19-participating mental healthcare workers met the criteria. The mean differences in the paired t-test for pre-and post-tests were 19.58 and 16.16, respectively. Thus, the intervention difference averages showed a reduction of stress levels in one session given for one month, including strategies to reduce stress. Ultimately, the DNP project helped the participants gain problem-solving processes, techniques, and skills that can mitigate stress. Therefore, the DNP project showed that the perceived stress scale (PSS) screening tool among healthcare workers was used to screen and identify anxiety and mental health disorders. Only one phase of the intervention was present, but no modifications were made to the intervention during the DNP project.

### Analysis of Findings

#### *Descriptive Statistics*

The PSS precisely measures perceived stress and ranks perceived stress according to low (0-13), moderate (14-26), or high (27-40) stress. Thus, it is essential to assess how each group's stress levels varied to determine if they were significant and evaluate what could have caused the differences. Based on the quantile-quantile (Q-Q) plot, as shown in Figure 1, essential descriptive differences are evident within the group. For example, the group's pre-and-posttest standard deviation (STD) was at 6.058 and 4.936, a moderate statistic showing that the pre-and-post test score for group one is not as close to the mean, although the pre-test score is much more intimate. As the means for both pre-and-post scores is 19.79 and 16.16, the intervention showed that most respondents' stress levels

reduced significantly after one month. For example, two individuals have low-stress levels, three have severe stress levels, and 13 people have moderate stress. In the post-test results, the STD reduces, and the rationale could be that only one person has severe anxiety, as explained by the post-test means, which are more clustered than the pre-test results. As shown in Table 1, stress levels reduced significantly, with an average of 16.16 over 19.79, respectively.

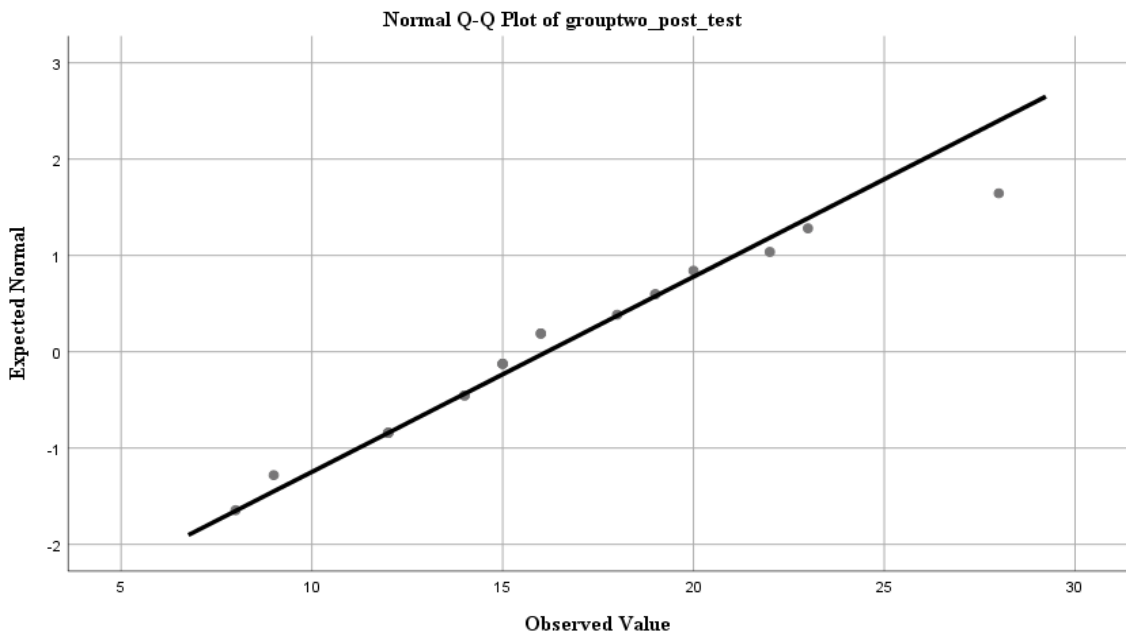


Figure 1. Normal Q-Q Plot of Group Two Post-Test Scores.

*Steps of Intervention*

The overall goal of this chapter is to use statistical procedures to observe differences between the pre and post-test scores among the 19 participants after the intervention. Selecting the proper statistical test to measure the differences in the pre and post-test is crucial to ensure no threats to internal and external validity exist. Before observing group differences in the sample, the first test that will be chosen will confirm if the data fit the assumptions of the parametric analysis. If the data does not meet the

premises of a parametric test, the option is to use an ordinal level of measurement, a nonparametric test such as the Kruskal-Wallis-H, or the Pearson Chi-square test for assessing nonparametric nominal level data. For parametric statistics, the options include independent samples t-test, paired or dependent samples t-test, and analysis of variance (ANOVA). According to Grove and Ciper (2019), the data collected should meet various assumptions to assume the use of parametric statistics. Thus, group one showed a slight stress reduction after the post-test, but most participants still had moderate anxiety.

The primary assumption that parametric statistics should meet includes the normally distributed data. The DNP project used the Shapiro-Wilk test because the data had less than 1,000 cases. If the sample were more significant than 1000 people, other tests that might be appropriate include the Kolmogorov-Smirnov D test. Upon testing the dependent variable pre and post-intervention, the results of the Shapiro-Wilk test did not depart from normality, as shown in Table 1 below, with a p-value of .428 and .725, which is above .005. The initial testing was pertinent since the mental health screening, and the DNP project was conducted among Mississippi healthcare workers, a relatively small sample. If the example involved a more robust selection, there would be no need to assess normality as the mean is always average due to the central limit theorem. Hence, it would be unaffected by normality violations. The analysis used parametric tests, as illustrated in Table 1, indicating that the distribution under examination is not significantly different from the normal curve, meaning it does not violate normality assumptions.

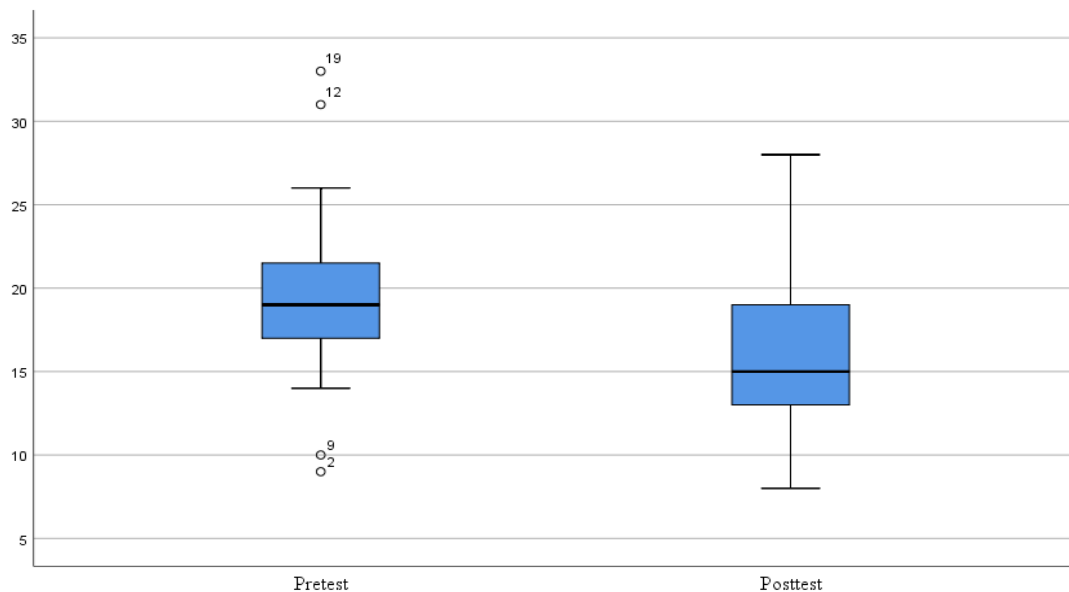
Table 1

*A Test of Normality Showing the Need for Parametric Statistics*

<i>Tests of Normality</i>						
	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	Df	Sig.
Pre-test	144	19	.200*	.952	19	.428
Post-test	144	19	.200*	.967	19	.725
* This represents a lower bound of the true significance.						
a. Lilliefors Significance Correction						

The paired t-test was utilized to assess mean differences in the baseline and post-intervention results. According to Kim et al. (2018), a paired sample t-test is a statistical tool that is widely used to ascertain whether two-time points, conditions, or measurements are statistically different. The test is appropriate for this DNP project as each participant’s stress levels are measured at two different points in time, leading to paired observations. The DNP project takes a quasi-experimental research design as the test would determine the same group of people following an intervention, also called a repeated measures design. However, a case-control design may not be as appropriate as this DNP project did not have a control subject matched for each case. However, the sample fulfills independent and customarily distributed paired scores. The independent variable is treated as all 19 participants received an intervention within four weeks. On the other hand, the dependent variable includes the participant scores on the PSS, where higher scores represent severe stress levels.

The paired t-test aims to assess if the within-subjects design would show that the post-test stress scores were significantly lower than the pre-test scores after the intervention across the 19 subjects. Before running a paired t-test on SPSS, it is essential to visualize pre and post-test scores on a comparative boxplot as it enables one to visualize numbers. As shown in Figure 2, the pre-test for the sample indicated that the values are more spread than the post-test scores. The pre-test scores also show more extended spreads than the post-test results, and the post-test results for group one are concentrated in moderate to low stress levels, that is, twenty and below scores.



*Figure 2. Box Plot Results for the Sample's Pre- and Post-Scores*

The paired t-test results resulted in a mean of 19 and 16 for pre-and-post test scores and an STD of 6.058 and 4.936, respectively. As shown in Table 2, the average difference between pre and post-test scores in the paired samples test was 3.421.

However, the pre and post-test scores for the sample were not correlated at .020, although

on average, pre-test scores were higher than post-test scores at 2.544, with a 95% confidence level (.595 and .6.247).

Table 2

*Paired T-Test for the Pre- and Post-Test Scores*

<i>Paired Samples Test</i>								
	Paired Differences					T	Df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 Pretest Posttest	3.421	5.862	1.345	.595	6.247	2.544	18	.020

Discussion

In terms of the pre-and-post test scores, paired differences showed mean differences for the sample, illustrating a reduction of stress after the intervention. The p-value for the sample was not significantly associated ( $p=.020$ ), as showed by the correlation differences, meaning the null hypothesis was rejected; hence, the alternative hypothesis, stating there was a reduction of perceived stress among healthcare workers, was confirmed. The rationale for the successful implementation could be due to the contextual factors of leadership, as leaders play an essential role in initiating

interventions. In addition, the leader is a practice manager and not an operational leader, meaning that the intervention was led by a top manager resulting in reduced stress.

According to Davidoff et al. (2015), contextual factors of leadership or the organizational structure improves success, thereby affecting perceived stress programs. For example, this DNP project had only one intervention for two groups, but one group experienced significant stress reduction compared to the other after post-test results. The results could explain contextual aspects of leadership based on the leader-member exchange theory (LMX). Group one participants may have more access to the leader than other members, ultimately affecting intervention due to contextual leadership factors.

The DNP project contacted 19 individuals for both groups (100%) of the participants in the sample during two periods defined as pre / post-intervention periods. However, there were missing data for two participants who had also completed the survey. In addition, one respondent was unavailable on the phone or by email. The rationale could be one participant was transferring to work with Doctors without borders; thus could not be available for unknown reasons. For the second respondent, the researcher found some aspects of the research missing, which may have occurred due to technical or data entry issues.

### Summary

This chapter analyzed the data collected two times after a one-month intervention involving stress screening and implementing stress-reducing strategies. Overall, the paired t-tests rejected the null hypothesis. In effect, the H1 that the outcome of a one-month intervention led to reduced perceived stress among mental healthcare workers. The p values were above .005 at  $p = .020$ , thereby rejecting H0. The average correlation

difference MEAN of 3.421 illustrates that the intervention successfully reduced stress, as defined by the pre and post-test results. However, individual comparison of groups showed that pre-and-post-treatment mean differences for the post-test scores were significantly lower than the pre-test results, as demonstrated by the mean differences of 16.16 for the post-test compared to pre-test scores of 19.58. In the next chapter, the goal will be to interpret the results of Chapter III and evaluate their relevance in nursing practice.



## CHAPTER IV – DISCUSSION

### Summary

This DNP project was limited to one Mississippi healthcare facility serving lower-income African Americans. The DNP project contextualized stress factors that occur among mental healthcare workers due to varied factors such as COVID-19. The pandemic placed mental healthcare workers at more risk of infection as the primary responders to the crisis. Moreover, the isolation and worrying about family members or the uncertainty around the disease and additional aspects such as burnout augmented mental healthcare workers' perceived stress. As such, this DNP project is relevant as it explores the issue of perceived stress among 19 mental healthcare workers using the PSS as the primary instrument for assessing perceived stress. The objective of this chapter is to discuss the findings from the previous chapter with extant literature and indicate the limitations and strengths resulting from the data analysis.

### Key Findings

The sampled participants were 19 respondents in the interventional DNP project to evaluate whether the intervention reduced stress within four weeks. The DNP project is relevant to establishing whether an intervention for reducing stress due to the job-related issues or complicities of COVID-19 among mental healthcare workers can provide essential practice recommendations and implications. The DNP project's significant findings are that the intervention given over the DNP project decreased perceived stress among healthcare workers based on the mean differences. The average mean difference for pre-test scores was 19.58 and the post-test mean score was 16.16. As the DNP project design was quasi-experimental and mental healthcare workers' intervention results

showed differentiated means using a paired sample test, this outcome resulted in a difference in means between pre-and-post test results. One factor to note is that the PSS rates perceived stress according to low, moderate, and high stress, and the mean at post-test demonstrate that the stress levels reduced to moderate or low, which was a result of various strategies applied. For example, the paired t-test resulted in a mean average of 3.421. Thus, the main findings rejected the null hypothesis ( $H_0$ ) that stress reduction screening and interventions do not reduce perceived stress among healthcare workers. Instead, this DNP project found confirmed the ( $H_1$ ) that  $H_1$ : That stress reduction screening and interventions reduce perceived stress among healthcare workers.

In this interventional study, the DNP project engaged participants through stress screening and initiating stress interventions within one month. As such, the DNP project interfered with nature by providing stress interventions and determining the exposure. The interventional study (before-after (pre-post) study) did not have a comparator arm, and the basis for assessing a conclusion is the temporal link of the measurements with the intervention (Aggarwal & Ranganathan, 2019; Thiess, 2014). However, the DNP project does show the mean differences in the pre-and-post test scores, indicating that stress screening and strategies reduced perceived stress.

The COVID-19 pandemic impacted all aspects of life and affected public mental health (Salari et al., 2020). The pandemic resulted in nervousness, anxiety, and stress due to the unknown. The relevance of this DNP project is that mental healthcare workers have higher stress levels owing to various work stressors that can be attributed to multiple issues, including the COVID-19 pandemic. The pandemic resulted in higher stress levels due to the increased risk of infection, and the isolated nature of the disease makes nurses

more susceptible to stress and other mental health disorders (Salari et al., 2020). The primary respondents to issues such as COVID-19 and healthcare workers find solutions to both physical and spiritual problems, which can be debilitating in the long term. As such, investigating the impact of screening and stress interventions in the healthcare system is critical as it can enable systems to find solutions to stress-related issues. Moreover, this DNP project investigates a research facility that deals with people from a lower-income African American population who may have additional stressors that may increase severe mental health risks.

The DNP project has a few strengths that are crucial to note as they bolster the DNP project's findings. The primary strength is that it relies on the perceived stress scale (PSS), an ideal measure to assess perceived stress. Consistent and calibrated instruments such as the PSS for pre-test and post-tests involved answering questions related to issues that influence stress on a scale of 1 to 4. In the pre-and-post intervention period, the goal was to count all items related to total perceived stress for all 19 participants. Other studies have indicated that the PSS is one of the most widely used psychological scales to assess perceived stress in practice and research (Nielsen et al., 2016). In addition, other studies have validated the measure for diverse uses beyond English research (Lee & Jeong, 2019). The PSS scale was, thus, one of the primary strengths of the DNP project. Selecting measures for human factors research, such as this DNP project which evaluates perceived stress, cannot be understated as the measure should account for representation issues. The issues considered for this DNP project include the uniqueness of perceived stress resulting from COVID-19 as one of the primary stressors for healthcare workers. According to Hagan (2014), the choice of measure is crucial in systematically

representing the scope of attributes. As a result of using the PSS, this DNP project effectively analyzed group differences and determined the intervention's effectiveness. The central premise for any statistical measure in research is that it should measure what it intends to measure. Otherwise, if a phenomenon cannot be measured, it cannot be tested.

The second strength is that the DNP project achieved statistical conclusion validity, which refers to the appropriateness of decisions regarding statistical tests utilized in the DNP project. As such, the DNP project avoided violating assumptions of statistical tests to achieve statistical conclusion validity by considering assumptions of the statistical tests used for the analysis. For example, the DNP project utilized a paired sample t-test, which requires that various assumptions are met, including having normally distributed differences for the dependent variable, ensuring that no outliers exist, and measuring the dependent variable on a continuous scale (interval or ratio level). Furthermore, the Shapiro-Wilk normality test resulted in significance values of .428 and .725, as shown in Table 3. The results, therefore, indicate that the distribution under examination is not significantly different from the normal curve, meaning it does not violate normality assumptions.

#### Interpretation

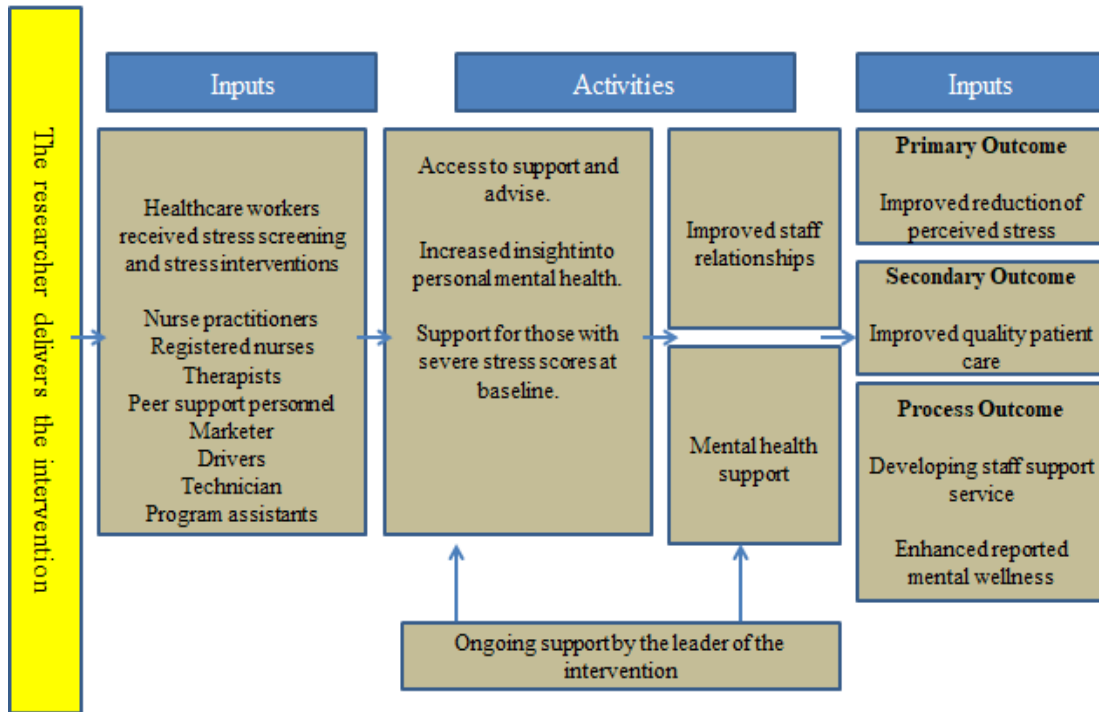
The post-test results of the stress strategies implemented showed that the four-week program reduced perceived stress among the mental healthcare workers based on the paired t-test mean difference of 3.421. The average mean difference for pre-test scores was 19.58, and the post-test mean score was 16.16. As shown in Table 2, the results illustrate a likelihood of reducing stress by 62% within that period, which is

critical for stress reduction among mental healthcare workers in the system. Thus, the results illustrate that a systematic approach to leadership attributes that guide the program's implementation led to lowered stress reduction within the four weeks.

The DNP project showed a reduction of perceived stress in patients with a mean of 3.421, estimated at 60% after the four-week program. The results show that introducing various stress interventions positively impacts mental healthcare workers. Such interventions help reduce perceived stress affecting the system's culture and patient satisfaction or outcomes. The DNP project results agree with a randomized control trial by Pahlavanzadeh et al. (2016) involving 65 nurses. The study included persons working in intensive care who filled the quality patient care scale. The study showed a significant reduction in stress levels among nurses. Using ANOVA, t-tests, and Fisher's exact test, the researchers found that the nurses' mean scores in the intervention group were significant ( $p < 0.001$ ). The study also found that due to stress management, there was an augmented quality of care in the interventional group ( $p < 0.001$ ). However, the DNP project differed in various aspects, such as the measurement and statistical tests performed. Nonetheless, the research illustrates that the interventional group reduced stress, similar to this DNP project.

The researcher learned that the intervention was successful and that participants were eager to become more involved in strategies that mitigate stress. The impact of reduced perceived stress on systems encompasses varied outcomes for patients, employees, and the organization. Perhaps it is critical to describe an intervention program and its impact as the program's objective enables the organization to evaluate progress. The logic model is purposeful, as shown in Figure 3, in allowing the program evaluator to

facilitate stakeholders to change successfully, which impacts the patients, employees, and the organization. According to Savaya and Waysman (2005), a logic model is beneficial as it uses inputs, activities, outputs, and impacts of the intervention on the organization. The outcomes are the benefits that result from the program, which can directly show the effect of the program. As shown in Figure 3, the intervention outcomes include improved health worker well-being due to the stress intervention strategies provided. The result of the DNP project was also a positive culture change due to reduced stress levels among mental healthcare workers. Research on stress management shows that providing stress interventions for mental healthcare workers is vital as it significantly improves the quality of care (Pahlavanzadeh et al., 2016). Patients are the central aspect of any health system, and stress among mental healthcare workers impacts health-related quality of life and, thus, patient outcomes (Sarafis et al., 2016). Therefore, there are positive outcomes due to the intervention for patients, healthcare workers, and the system as a whole.



*Figure 3. Logic Model Illustrating Impact of the Intervention*

The above logic model illustrates the impact of the intervention on the healthcare workers, patients, and the entire system.

During the DNP project, the healthcare workers were eager to become involved. Hence, mental health wellness may have been achieved and perceived stress may have been reduced before fully implementing the intervention. The rationale for this outcome could be the augmented awareness of the researcher's efforts by the healthcare workforce. If the need for replicating the results arises, the hindrances that could reduce effectiveness include inadequate buy-in by the organization and a lack of involvement of critical stakeholders. Similarly, the researcher faced various limitations, which were impediments to the research process due to transport costs and missed workdays by different healthcare workers, which may have delayed the optimal technical aspects of

the DNP project. However, choosing the data collection site in the health facility solved some transportation limitations on the researcher's part.

### Limitations

External validity concerns the extent to which research may be considered generalizable to the population. The primary issue with this DNP project, as related to the *desideratum* (essential generalizability), which is the DNP project's fundamental goal, was the sample size's representativeness (Tsang, 2014). The DNP project included only one center with 19 mental healthcare workers; hence, the DNP project did not extend to other clinics in Mississippi serving the African American population. As such, the DNP project did not achieve generalizability to make inferences beyond the sample studied, reducing the DNP project's usefulness beyond the survey. Thus, generalizability may not have been reached due to selection-treatment interaction as the intervention may have only been effective with the sample. It is also critical to indicate that generalizability decreases with a small sample, and the DNP project only has 19 responses, which could affect representativeness, ultimately affecting external validity.

Threats to construct validity in this DNP project could have occurred due to intra-study social considerations. For example, social interplay could have happened when subjects in the survey guessed the hypothesis and modified their behaviors. In addition, if the mental healthcare workers guess the DNP project premise, it could undermine the project. However, it is crucial to note that asking participants not to modify behaviors may help reduce the effect of construct validity, although there is no way of controlling it. Indeed, the changes in the post-test period could have resulted from other factors that coincided during the intervention. Construct validity could also be affected by social



interplay due to the Rosenthal effect or the novelty effect. The person collecting data encourages specific responses, or performance is much better at the start of the data collection.

Various internal validity issues that may have affected the DNP project include maturation and history effects. The rationale for different historical results may be due to other external events of the DNP project that render the value of perceived stress under investigation invalid. As an internal validity issue, maturation may have occurred, such as fatigue which happens as a time function, affecting perceived stress during the DNP project but not due to the independent variable. Moreover, the threat of internal validity occurs with quasi-experimental research designs as pre-tests influence subsequent post-test results. However, the most significant issue that may have affected internal validity is regression toward the mean. For example, one of the sampled subjects scored a pre-test score of 33 but scored 12 points in the post-intervention. Statistical regression would have affected the move from severe perceived score levels to low stress, as there is a likelihood of scoring less extreme scores post-intervention as opposed to a random assignment.

Moreover, pre-post studies as a form of intervention are weaker than randomized and non-randomized controlled trials. The DNP project did not have a comparator, such as the control group; hence, there is no basis for knowing whether the post-test results were the result of the intervention. Research by Moser (2019) indicated that control groups are crucial as they show what happens when there is no intervention (negative control) and the positive control impact of an intervention. In this DNP project, the lack of a control group implies that the researcher could not fully understand the influence of

variables that cannot be fully eliminated from the experiment. Thus, having a control group would have provided more illumination about the DNP project and treatment effects. Thus, while the baseline control was an essential aspect of the DNP project, it cannot fully demonstrate the impact of the control group as it validates the investigation and offers a foundation for assessing the effect of treatment.

The researcher would do little to minimize external validity issues of generalizability. However, a post-test-only design ensures that a researcher mitigates the testing-intervention interaction (Grove et al., 2012). Moreover, the DNP project utilized random selection with a heterogeneous sample to reduce the effects of selection-treatment interaction and selection-testing interaction. Equally, issues to do with internal validity were avoided through random assignment, lengthening the time taken between tests, and the use of a consistent, calibrated instrument at baseline and intervention. Finally, efforts to reduce the Rosenthal effect were ensured for construct validity by using a double-blind strategy, although there was no way of controlling the novelty effect.

#### Implications for Practice and Further Study in the Field

Based on the DNP project findings that there is perceived stress in working environments, healthcare workers may likely face other stress and anxiety-related concerns, such as post-traumatic stress disorder and other behavioral and psychiatric disorders. As such, there is a need to continually perform stress screening to reduce the burden of disease that ultimately affects patient safety and satisfaction. Secondly, the DNP project results increased leader-follower participation in stress management strategies and screening. For that reason, leader-buy-in and process to create inclusive working environments should be a top priority, as the DNP project helped create a

working environment with a better organizational culture. For example, healthcare providers are more likely to have substance abuse issues due to the stress impacts related to COVID-19.

The DNP project takes a positivist paradigm to answer the research questions. With a positivist paradigm, the DNP project rejected H0, which followed a subtraction process. However, varied aspects of COVID-19 lead to mental distress, causing perceived stress. As such, the elements of perceived stress would benefit from a phenomenological viewpoint or other qualitative guiding philosophies. Gaining a qualitative perspective based on experience is also crucial in a way that quantitative studies cannot answer, especially since the impact of COVID-19 on healthcare workers is still evolving.

The DNP project has the potential for spread and replication, specifically for clinical contexts dealing with non-surgical treatment, as this DNP project was specific to healthcare workers. For example, recent studies show that physicians, generalists, and those in special COVID-19 units report the most significant anxiety (Saeed et al., 2021). In Chang's analysis, the entire healthcare workforce faces considerable stress, as shown by rates of depression (50.4%) and anxiety (44.6%) among clinicians who are particularly vulnerable to the adverse mental health effects associated with the COVID-19 pandemic. As this DNP project reduced the stress level from 19 to 16, it is safe to say that other professions that face significant stressors due to COVID-19 may benefit from this DNP project.

### Conclusion

The DNP project is valuable and topical as the findings show a mean difference between the pre-and-post intervention results, which suggests that the intervention to

screen and implement strategies for reducing perceived stress among mental healthcare workers was positive. The mean difference of 3.421 illustrates that there was a drop in stress from moderately high to moderately lower scores at a mean of 16.16 for the post-test compared to pre-test scores of 19.58. The DNP project thus rejected the  $H_0$  to accept  $H_1$  that stress reduction screening and interventions reduce perceived stress among healthcare workers. The research context of COVID-19 is topical, as the researcher demonstrates the need to improve stress management strategies within healthcare spaces. As the world is reeling from various stressful factors, including COVID-19, this DNP project has demonstrated that leaders should initiate screening for stress and apply relevant strategies to improve mental healthcare workers' overall well-being. In effect, this screening will improve other patient safety quality metrics, such as satisfaction and overall improved outcomes. Mental healthcare workers are primary stakeholders in the health system. As a result, patient safety and health outcomes depend on creating working stress screening and interventions.

To the researcher's knowledge, this DNP project is the first to screen and apply stress interventions for mental healthcare workers providing care for low-income African Americans living in Mississippi. Thus, the DNP project adds to existing research on stress management by integrating stress interventions. The DNP project also shows that leader buy-in and initiative to reduce stress within health systems are necessary.

## Perceived Stress Scale

A more precise measure of personal stress can be determined by using a variety of instruments that have been designed to help measure individual stress levels. The first of these is called the **Perceived Stress Scale**.

The Perceived Stress Scale (PSS) is a classic stress assessment instrument. The tool, while originally developed in 1983, remains a popular choice for helping us understand how different situations affect our feelings and our perceived stress. The questions in this scale ask about your feelings and thoughts during the last month. In each case, you will be asked to indicate how often you felt or thought a certain way. Although some of the questions are similar, there are differences between them and you should treat each one as a separate question. The best approach is to answer fairly quickly. That is, don't try to count up the number of times you felt a particular way; rather indicate the alternative that seems like a reasonable estimate.

**For each question choose from the following alternatives:**

**0 - never   1 - almost never   2 - sometimes   3 - fairly often   4 - very often**

- \_\_\_\_\_ 1. In the last month, how often have you been upset because of something that happened unexpectedly?
- \_\_\_\_\_ 2. In the last month, how often have you felt that you were unable to control the important things in your life?
- \_\_\_\_\_ 3. In the last month, how often have you felt nervous and stressed?
- \_\_\_\_\_ 4. In the last month, how often have you felt confident about your ability to handle your personal problems?
- \_\_\_\_\_ 5. In the last month, how often have you felt that things were going your way?
- \_\_\_\_\_ 6. In the last month, how often have you found that you could not cope with all the things that you had to do?
- \_\_\_\_\_ 7. In the last month, how often have you been able to control irritations in your life?
- \_\_\_\_\_ 8. In the last month, how often have you felt that you were on top of things?
- \_\_\_\_\_ 9. In the last month, how often have you been angered because of things that happened that were outside of your control?
- \_\_\_\_\_ 10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?

## Figuring Your PSS Score

You can determine your PSS score by following these directions:

- First, reverse your scores for questions 4, 5, 7, and 8. On these 4 questions, change the scores like this:

0 = 4, 1 = 3, 2 = 2, 3 = 1, 4 = 0.

- Now add up your scores for each item to get a total. **My total score is \_\_\_\_\_.**
- Individual scores on the PSS can range from 0 to 40 with higher scores indicating higher perceived stress.
  - ▶ Scores ranging from 0-13 would be considered low stress.
  - ▶ Scores ranging from 14-26 would be considered moderate stress.
  - ▶ Scores ranging from 27-40 would be considered high perceived stress.

The Perceived Stress Scale is interesting and important because your perception of what is happening in your life is most important. Consider the idea that two individuals could have the exact same events and experiences in their lives for the past month. Depending on their perception, total score could put one of those individuals in the low stress category and the total score could put the second person in the high stress category.

***Disclaimer:** The scores on the following self-assessment do not reflect any particular diagnosis or course of treatment. They are meant as a tool to help assess your level of stress. If you have any further concerns about your current well being, you may contact EAP and talk confidentially to one of our specialists.*

State of New Hampshire  
Employee Assistance Program



## APPENDIX B – IRB Approval Letter

### Office of Research Integrity



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#### NOTICE OF INSTITUTIONAL REVIEW BOARD ACTION

The project below has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services regulations (45 CFR Part 46), and University Policy to ensure:

- The risks to subjects are minimized and reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered involving risks to subjects must be reported immediately. Problems should be reported to ORI via the Incident submission on InfoEd IRB.
- The period of approval is twelve months. An application for renewal must be submitted for projects exceeding twelve months.

PROTOCOL NUMBER: 22-992  
PROJECT TITLE: DOES THE USE OF MENTAL HEALTH SCREENINGS AND TARGETED STRESS INTERVENTIONS IMPROVE MENTAL HEALTH OUTCOMES IN OUTPATIENT CLINIC STAFF?  
SCHOOL/PROGRAM Leadership & Advanced Nursing  
RESEARCHERS: PI: Mary Benson  
Investigators: Benson, Mary~Coleman, Carolyn~Morgan, Lisa~  
IRB COMMITTEE ACTION: Approved  
CATEGORY: Expedited Category  
PERIOD OF APPROVAL: 15-Aug-2022 to 14-Aug-2023

Donald Sacco, Ph.D.  
Institutional Review Board Chairperson

APPENDIX C – DNP Project Site Letter of Approval



Date: 06/27/2022

RE: Letter of Support for Mary Benson, MSN, FNP, PMHNP

Attn: Facility Nursing Research Council Application Process MSN-DNP Student

To: Nursing Research Council Chair and Committee

This letter is in reference for Mary Benson, MSN, FNP PMHNP who is applying to the Facility Nursing Research Council for application and approval of her Clinical Doctoral Project. The focus and title of her evidenced-based project is: Does The Use Of Mental Health Screenings and Targeted Stress Interventions Improve Mental Health Outcomes in Outpatient Clinic Staff?

I have discussed this topic with Mary Benson and support and recommend the need for the evaluation of stress in full time clinic staff to better provide quality patient care and for the mental well-being of the staff. I understand that the research study would be done in 4 weeks. After data analysis, I understand that Mary Benson will present her findings to the staff and myself.

I understand that following approval by the Nursing Research Council, she will seek approval from the to The University of Southern Mississippi Institutional Review Board (IRB) for final approval of her Clinical Doctoral Project proposal. At present, I understand that Mary Benson is a full-time MSN-DNP student in the Doctor of Nursing Practice Program at the University of Southern Mississippi, Hattiesburg campus.

I am the facility's owner, Joyce Blue at Gateway Behavioral Health (GBH) located at 1828 Hospital Drive, Jackson, MS 39204. I am offering this letter of support of the doctoral student, Mary Benson, in her doctoral project as titled above and look forward to hearing her findings.

I understand that participation by the GBH team members is voluntary. There is no compensation for their participation.

1828 Hospital Drive, Jackson, MS 39204





I understand the planned dates are 30 days from USM IRB approval is received.

I understand that letter of support will be included in the University of Southern Mississippi Institutional Review Board (IRB) application.

Her Chair contact information is Dr. Carolyn Coleman carolyn.coleman@usm.edu and cell 601-██████████. IRB Protocol number for this research study:

22-992.

If there is any other information you should need, please do not hesitate to contact me.

Sincerely,

A handwritten signature in blue ink that reads "Joyce Blue".

Joyce Blue, MHS, BSN, RN  
CEO

1828 Hospital Drive, Jackson, MS 39204

## REFERENCES

- Aggarwal, R., & Ranganathan, P. (2019). Study designs: Part 4—interventional studies. *Perspectives in Clinical Research, 10*(3), 137.  
[https://doi.org/10.4103/picr.PICR\\_91\\_19](https://doi.org/10.4103/picr.PICR_91_19)
- American Association of Colleges of Nursing (AACN). (2006). *The essentials of doctoral education for advanced nursing practice*. Retrieved from:  
<http://www.aacn.nche.edu/dnp/Essentials.pdf>
- Barker, P. (2005). *The tidal model: A guide for mental health professionals*. Routledge.
- Chang, B. P. (2022). The health care workforce under stress—Clinician heal thyself. *JAMA Network Open, 5*(1), e2143167-e2143167.  
<https://doi.org/10.1001/jamanetworkopen.2021.43167>
- Davidoff, F., Dixon-Woods, M., Leviton, L., & Michie, S. (2015). Demystifying theory and its use in improvement. *BMJ Quality & Safety, 24*(3), 228-238.  
<http://dx.doi.org/10.1136/bmjqs-2014-003627>
- Gray, P., Senabe, S., Naicker, N., Kgalamono, S., Yassi, A., & Spiegel, J. M. (2019). Workplace-based organizational interventions promoting mental health and happiness among healthcare workers: A realist review. *International Journal of Environmental Research and Public Health, 16*(4396), 1-22.  
doi:10.3390/ijerph16224396
- Grove, S. K., Burns, N., & Gray, J. (2012). *The practice of nursing research: Appraisal, synthesis, and generation of evidence*. Elsevier Health Sciences.
- Grove, S. K., & Ciper, D. J. (2019). *Statistics for nursing research-e-book: A workbook for evidence-based practice*. Elsevier Health Sciences.

- Hagan, T. L. (2014, July). Measurements in quantitative research: How to select and report on research instruments. *Oncology Nursing Forum*, *41*(4), 431-433.  
<http://dx.doi.org/10.1188/14.ONF.431-433>
- Hendrickson, R. C., Slevin, R. A., Hoerster, K. D., Chang, B. P., Sano, E., McCall, C. A., Monty, G. R., Thomas, R. G., & Raskind, M. A. (2022). The impact of the COVID-19 pandemic on mental health, occupational functioning, and professional retention among health care workers and first responders. *Journal of General Internal Medicine*, *37*(2), 397–408. doi:10.1007/s11606-021-07252-z
- Kim, H., Park, C., & Wang, M. (2018). Paired t-test based on robustified statistics. In *Fall Conference, Korean Institute of Industrial Engineers*. Seoul, Korea.
- Klatt, M. D., Bawa, R., Gabram, O., Blake, A., Steinberg, B., Westrick, A., & Holliday, S. (2020). Embracing change: A mindful medical center meets COVID-19. *Global Advances in Health and Medicine*, *9*, 1-10. doi:10.1177/216495612975369
- Kriakous, S. A., Elliott, K. A., Lamers, C., & Owen, R. (2020). The effectiveness of mindfulness-based stress reduction on the psychological functioning of healthcare professionals: A systematic review. *Mindfulness*, *12*, 1-28. doi:10.1007/s12671-020-01500-9
- Lee, B., & Jeong, H. I. (2019). Construct validity of the perceived stress scale (PSS-10) in a sample of early childhood teacher candidates. *Psychiatry and Clinical Psychopharmacology*, *29*(1), 76-82.  
<https://doi.org/10.1080/24750573.2019.1565693>
- MacKenzie, M., Daviskiba, S., Dow, M., Johnston, P., Balon, R., Javanbakht, A., & Arfken, C. L. (2021). The impact of the coronavirus disease 2019 (COVID-19)

pandemic on healthcare workers with pre-existing psychiatric conditions.

*Psychiatric Quarterly*, 92(3), 1011–1020. doi:10.1007/s11126-020-09870-y

Melnyk, B. M., Fineout-Overholt, E., Stillwell, S. B., & Williamson, K. M. (2010).

Evidence-based practice: Step by step: The seven steps of evidence-based practice. *American Journal of Nursing*, 110(1), 51-53.

doi:10.1097/01.NAJ.0000366056.06605.d2

Moser, P. (2019). Out of control? Managing baseline variability in experimental studies with control groups. *Good Research Practice in Non-Clinical Pharmacology and Biomedicine*, 257.

Nielsen, M. G., Ørnbøl, E., Vestergaard, M., Bech, P., Larsen, F. B., Lasgaard, M., & Christensen, K. S. (2016). The construct validity of the Perceived Stress

Scale. *Journal of Psychosomatic Research*, 84, 22-30.

<https://doi.org/10.1016/j.jpsychores.2016.03.009>

Pahlavanzadeh, S., Asgari, Z., & Alimohammadi, N. (2016). Effects of stress management program on the quality of nursing care and intensive care unit nurses. *Iranian Journal of Nursing and Midwifery Research*, 21(3), 213.

<https://doi.org/10.4103/1735-9066.180376>

Pollock, A., Campbell, P., Cheyne, J., Cowie, J., Davis, B., McCallum, J., McGill, K., Elders, A., Hagen, S., McClurg, D., Torrens, C., & Maxwell, M. (2020).

Intervention to support the resilience and mental health of frontline health and social care professionals during and after a disease outbreak, epidemic, or

pandemic: A mixed-methods systematic review. *Cochrane Database of Systematic Reviews*, 11, 1-163. doi:10.1002/14651858.CD013779

- Rose, S., Hartnett, J., & Pillai, S. (2021). Healthcare workers' emotions, perceived stressors and coping mechanisms during the COVID-19 pandemic. *PLoS One*, *15*(7), 1–12. doi:10.1371/journal.pone.0254252
- Saeed, B. A., Shabila, N. P., & Aziz, A. J. (2021). Stress and anxiety among physicians during the COVID-19 outbreak in the Iraqi Kurdistan Region: An online survey. *PloS One*, *16*(6), e0253903. <https://doi.org/10.1371/journal.pone.0253903>
- Salari, N., Hosseinian-Far, A., Jalali, R., Vaisi-Raygani, A., Rasoulpoor, S., Mohammadi, M., Rasoulpoor S., & Khaledi-Paveh, B. (2020). Prevalence of stress, anxiety, depression among the general population during the COVID-19 pandemic: A systematic review and meta-analysis. *Globalization and Health*, *16*(1), 1-11. <https://doi.org/10.1186/s12992-020-00589-w>
- Sarafis, P., Rousaki, E., Tsounis, A., Malliarou, M., Lahana, L., Bamidis, P., ... & Papastavrou, E. (2016). The impact of occupational stress on nurses' caring behaviors and their health related quality of life. *BMC Nursing*, *15*(1), 1-9. <https://doi.org/10.1186/s12912-016-0178-y>.
- Savaya, R., & Waysman, M. (2005). The logic model: A tool for incorporating theory in development and evaluation of programs. *Administration in Social Work*, *29*(2), 85-103. [https://doi.org/10.1300/J147v29n02\\_06](https://doi.org/10.1300/J147v29n02_06)
- Thiese, M. S. (2014). Observational and interventional study design types; an overview. *Biochemia Medica*, *24*(2), 199-210. <https://doi.org/10.11613/BM.2014.022>

- Tsang, E. W. (2014). Generalizing from research findings: The merits of case studies. *International Journal of Management Reviews*, 16(4), 369-383.  
<https://doi.org/10.1111/ijmr.1202>
- Watanabe, N., Horikoshi, M., Shinmei, I., Oe, Y., Narisawa, T., Kumachi, M., Matsuoka, Y., Hamazaki, K., & Furukawa, T. A., (2019). Brief mindfulness-based stress management program for better mental states in working populations – Happy Nurse Project: A randomized controlled trial. *Journal of Affective Disorders*, 251, 186-194. doi:10.1016/j.jad.2019.03.067
- Yang, B. J., Yen, C. W., Lin, S. J., Huang, C. H., Wu, J. L., Cheng, Y. R., Hsieh, C. C., & Hsiao, F. H. (2021). The effects of an emergency nurse-led stress reduction project during the first 120 days of the COVID-19 pandemic in Taiwan. *Journal of Nursing Management*, 30(2), 367-374. doi:10.1111/jonm.13527
- Yang, J., Tang, S., & Zhou, W. (2018). Effect of mindfulness-based stress reduction therapy on work stress and mental health of psychiatric nurses. *Psychiatric Danubina*, 30(2), 189-196. doi:10.24869/psyd.2018.189