University of North Dakota
UND Scholarly Commons

Theses and Dissertations | Theses, Dissertations, and Senior Projects

January 2023

Attitudes, Subjective Norms, And Perceived Behavioral Control Of Perianesthesia Nurses' Intentions To Engage In Mindful Self-Care

Brenda Sanya

How does access to this work benefit you? Let us know!

Follow this and additional works at: https://commons.und.edu/theses

Recommended Citation

Sanya, Brenda, "Attitudes, Subjective Norms, And Perceived Behavioral Control Of Perianesthesia Nurses' Intentions To Engage In Mindful Self-Care" (2023). *Theses and Dissertations*. 5701.
https://commons.und.edu/theses/5701

This Dissertation is brought to you for free and open access by the Theses, Dissertations, and Senior Projects at UND Scholarly Commons. It has been accepted for inclusion in Theses and Dissertations by an authorized administrator of UND Scholarly Commons. For more information, please contact und.commons@library.und.edu.

ATTITUDES, SUBJECTIVE NORMS, AND PERCEIVED BEHAVIORAL CONTROL OF PERIANESTHESIA NURSES' INTENTIONS TO ENGAGE IN MINDFUL SELF-CARE.

by

Brenda Khamete Sanya
Bachelor of Science in Nursing, Western Governor's University, 2017
Master of Science in Nursing, Western Governor's University, 2018

A Dissertation
Submitted to the Graduate Faculty

of the

University of North Dakota

College of Nursing and Professional Disciplines

In partial fulfillment of the requirements

for the degree of

Doctor of Philosophy

Grand Forks, North Dakota

December

2023

Copyright 2023 Brenda Sanya

Name: BRENDA K. SANYA

Degree: Doctor of Philosophy

This document, submitted in partial fulfillment of the requirements for the degree from the University of North Dakota, has been read by the Faculty Advisory Committee under whom the work has been done and is hereby approved.

DocuSigned by:
Dawn Denny
Dawn Denny

DocuSigned by:
Rhoda Owens
Rhoda Owens

DocuSigned by:
Glenda Lindseth
Glenda Lindseth

DocuSigned by:
Thomas Petros
Thomas Petros

This document is being submitted by the appointed advisory committee as having met all the requirements of the School of Graduate Studies at the University of North Dakota and is hereby approved.

DocuSigned by:
Chris Nelson
Chris Nelson
Dean of the School of Graduate Studies

12/1/2023
Date

PERMISSION

Title	Attitudes, Subjective Norms, and Perceived Behavioral Control of Perianesthesia Nurses' Intentions to Engage in Mindful Self-care.
Department	College of Nursing and Professional Disciplines
Degree	Doctor of Philosophy

In presenting this dissertation in partial fulfillment of the requirements for a graduate degree from the University of North Dakota, I agree that the library of this University should make it freely available for inspection. I further agree that permission for extensive copying for scholarly purposes may be granted by the professor who supervised my dissertation work or, in her absence, by the Chairperson of the department or the dean of the School of Graduate Studies. It is understood that any copying or publication or other use of this dissertation or part thereof for financial gain shall not be allowed without my written permission. It is also understood that due recognition shall be given to me and to the University of North Dakota in any scholarly use which may be made of any material in my dissertation.

Brenda K. Sanya

11/28/2023

TABLE OF CONTENTS

LIST OF FIGURES ……..……..…….xii

LIST OF TABLES ……...….....xiii

ACKNOWLEDGEMENTS …….…….…...xiv

ABSTRACT ……...……...…….……...xv

CHAPTER

I. INTRODUCTION.....1

Problem Statement.....3

Purpose Statement and Specific Aims.....4

Background.....4

Theory of Planned Behavior (TPB).....5

Perianesthesia Nursing.....6

Rural Nursing.....6

Significance of the Study.....7

Nurse Wellness and Patient Outcomes.....8

Gap in Evidence.....9

Theoretical Framework.....10

Theory of Planned Behavior.....10

Description of the TPB Model.....11

Prepositions of the TPB.....12

Assumptions of the TPB.....13

Limitations of the TPB.....13

Operational Definitions.....14

Study Limitations.....16

Study Assumptions.....17

Summary.....17

II. REVIEW OF LITERATURE.....18

Literature Search Strategy.....18

Background on the Concept of Self-Care.....19

Research in Self Care Among Nurses.....21

Self-Care Among Perianesthesia Nurses.....24

Self-Care in Rural Settings.....26

Significance of Self Care.....27

Prioritizing Self Care in Nursing.....29

Self-Care Interventions for Nurses.....30

Theory of Planned Behavior.....32

Beliefs And Values Among Nurses.....33

Attitudes Among Nurses.....35

Subjective Norms Among Nurses.....36

Perceived Behavioral Control Among Nurses.....37

Intentions Among Nurses.....38

Efficacy of the Theory of Planned Behavior.....40

TPB in Promoting Patient and Nurse Safety.....43

Research Using TPB to Support Patient Safety……...43

Research Using TPB to Support Nurse Safety……....44

Mindful Self-Care.....45

The Link Between Mindful Self Care and Intentions.....46

Summary.....47

III. METHODS.....49

Research Design.....50

Sample and Setting.....50

Sample Population.....51

Pilot Study Sample.....51

Experts for the Validation Phase.....52

Sample Size for Main Study.....52

Sample size for Pilot Study.....52

Inclusion and Exclusion Criteria.....53

Data Collection.....53

Survey Response Rate.....54

Procedures for Data Collection.....55

Human Subjects Protection.....55

Informed Consent.....55

Benefits.....56

Privacy and Confidentiality.....57

Recruitment Process.....58

Recruitment Strategy for the Expert Validation Phase ……58

Recruitment Strategy for the Pilot Survey.....58

Recruitment for the Main Survey.....59

Instrumentation.....60

Mindful Self-Care Scale (MSCS).....60

Mindful Self-Care Scale Cutoffs.....61

Theory of Planned Behavior Questionnaire.....61

Modified TPB Questionnaire.....63

Construction of Modified TPB Questionnaire…….63

Steps in the Construction of Modified Version of TPB Questionnaire.....64

Tool Validation Process.....64

Expert Findings.....65

Content Validity.....65

Face Validity.....66

Pilot Testing (Direct Measures).....67

Pilot Study Demographic Characteristics…..68

Pilot Study Data Analysis.....68

Psychometry Evaluation of the Pilot Study for the Modified TPB Questionnaire.....69

Measuring Reliability.....69

Rephrasing and Deleting Questions in the TPB Questionnaire……...70

Question Modification for the Main Study……..…….....70

Data Analysis and Management.....70

Statistical Assumptions…….….71

Missing Data.....71

Normality Distribution.....71

Linearity.....71

Multicollinearity.....72

Outliers.....72

Specific Aims Data Analysis..... 72

Aim 1.....72

Aim 2.....73

Aim 3.....73

Data Storage…….……..….73

Qualtrics.....73

SPSS.....74

Data Protection……...74

Summary.....74

IV. RESULTS.....76

Data Screening Process.....76

Specific Aim 1.....77

Sample Demographic Characteristics.....77

MSCS Characteristics for Perianesthesia Nurses……..…78

Modified TPB Characteristics…….…..…81

Reliability of the Modified TPB Questionnaire…..82

Modified TPB Characteristics for Rural and Non-Rural Perianesthesia Nurses.....82

MSCS Characteristics for Rural and Non-Rural Perianesthesia Nurses.....82

General Items on the Mindful Self-Care Scale…….…...85

Specific Aim 2.....86

Correlation Analysis…….……..….86

Regression Analysis.....88

Specific Aim 3.....90

Differences between Rural and Non-Rural……..…91

Summary.....91

V. DISCUSSION……..…….…….…..…93

Summary of the Study……..….93

Major Findings……..……..…..94

Significant Factors Influencing Intention to Practice Mindful Self-Care.....95

Mindful Self-Care……..……..…..98

Rural and Non-Rural……..…99

Implications for Nursing Science, Practice, Policy, and Education……..….99

Nursing Science ……..…….…..…99

Nursing Practice……..……...….100

Nursing Policy…….100

Nursing Education…….……..101

Direction for Future Research…….……101

Conclusion……...……102

Appendices……..103

APPENDICES

A. University of North Dakota IRB Approval…….…….103

B. University of North Dakota IRB Consent to Participate in Research……..104

C. Participant Consent to Participate in the Pilot Study…….. 107

D. Participant Consent to Participate in the Main Research……..... 109

E. Theory of Planned Behavior Questionnaire to Experts for Face Validity……...111

Theory of Planned Behavior Questionnaire to Experts for Content Validity…….……112

F. Expert Permission to Participate in the Validation Study……...….114

Study Information for Tool Validation……..116

G. Main Survey Participant Flyer…….……118

Pilot Survey Participant Flyer…….….118

H. Mindful Self Care Scale……..….119

Permission to use Mindful Self Care Scale……..…123

I. Guide Questions to Theory of Planned Behavior Questionnaire Construction……124

Permission for Use of the Theory of Planned Behavior Questionnaire…...125

J. Modified Theory of Planned Behavior Questionnaire for Pilot Study……....126

K. Demographic Questions……..128

L. Modified Theory of Planned Behavior Questionnaire for the Main Study…….129

REFERENCES.....131

LIST OF FIGURES

Figure **Page**

1. Model Depicting Theory of Planned Behavior……..……11

LIST OF TABLES

Table **Page**

1: Mindful Self-care Assessed Within Past Seven Days…….……...…60

2: Mindful Self-care Assessed Within Past Seven Days (Reversed Scoring)……60

3: Mindful Self-Care Scale Cutoffs (33-item)……..……..….... 61

4: Demographic Characteristics of Perianesthesia Nurses (N=85) ……..….79

5: Frequency of Engagement in Mindful Self-Care Among Perianesthesia Nurses Within the Past 7 Days (N=85)……..80

6: Mean Sample Scores and Levels of Engagement for Mindful Self-Care for Perianesthesia Nurses (N = 85)……..……80

7: Perianesthesia Modified TPB Characteristics……..……..81

8: Reliability of Modified TPB Questionnaire Constructs……....82

9: Modified TPB Characteristics for Rural and Non-Rural Perianesthesia Nurses (N = 85)….84

10 : Mindful Self-Care Characteristics for Rural and Non-Rural Perianesthesia Nurses (N = 85) ……...…84

11: General Items on Mindful Self Care Scale……..….85

12: Correlation Coefficients for Perianesthesia Nurses on Mindful Self-Care…….. 87

13: Regression of Associations for Mindful Self Care Among Perianesthesia Nurses.....88

14: Regression Model Results of Mindful Self Care Among Perianesthesia Nurses…….89

15: Mann-Whitney U Test Score for Rural and Non-rural…….……90

16: Mann Whitney U Test Median, Ranks, and Mean(SD) for Rural and Non-rural ……91

ACKNOWLEDGEMENTS

My dissertation journey has been made possible by the unrelenting support of the community in which I have thrived.

To my family, parents and sister, I express my deepest gratitude for consistent support, love, and sacrifices that have served as the foundation of my academic career. Thank you for being my pillars of strength and for instilling in me the values of perseverance and hard work. To my sister, Harriet, thanks for being there to help me decompress, talk through my ideas, and your insights and influence on my work. I am grateful for the camaraderie that we share.

To my young boys, Nate-5 years and Azy-3 years, who in trying to understand the world around them, always knew to give mom time for her homework, at times! You inspire me to achieve greater. **This accomplishment is for the two of you, the Dynamic Duo!**

To my church community that supported me through prayers and social support, you enabled me to have a more balanced life and forever grateful for your support.

To my colleagues, who I learnt so much from, in class and when we met for intensives. Your insights and guidance through the academic journey have been instrumental in my intellectual growth. The shared challenges and triumphs have created lasting memories, and I am thankful for the friendships forged during this time.

To my dissertation committee, Dr. Denny, Dr. Owens, Dr. Lindseth, and Dr. Petros, your dedication to imparting knowledge and fostering critical thinking has been invaluable in shaping my academic endeavors. Your guidance, expertise, and constructive feedback have been pivotal in shaping the trajectory of my dissertation.

Special note of gratitude to my advisor, Dr. Dawn Denny, whose mentorship, patience, guidance, fostering a spirit of inquiry, and her commitment to my success, instilled a sense of confidence and resilience. Her unwavering support has shaped my growth as a scholar and deepened my understanding of Nursing Research. I am grateful for the privilege of having Dr. Denny as my advisor.

I am truly grateful to UND resources, UND administration, Nursing staff, and ASPAN for the support in my academic pursuits. Your collective contributions have propelled me to this point.

ABSTRACT

Study Purpose and Design: The purpose of this study was to examine the relationships among attitudes, subjective norms, perceived behavioral control, and intentions to engage in mindful self-care among nurses working in the perianesthesia setting. The study utilized cross-sectional design and was guided by the Theory of Planned Behavior.

Methods: Modified Theory of Planned Behavior questionnaire and Mindful Self Care Scale were utilized for data collection among 85 perianesthesia nurses using a survey through the American Society of PeriAnesthesia Nurses (ASPAN).

Findings: Regression analyses demonstrated that attitude (β=0.51, t=5.63, p=0.001) and self-compassion and purpose (β=0.29, t=2.54, p=0.013) were significant factors influencing the intention to engage in mindful self-care. Overall, the model was a good fit at $F(8,76)=9.33$; $p<.05$; Adjusted $R^2=0.44$.

Conclusion: This study found that there was no difference in rural and non-rural perianesthesia nurses in seeking mindful self-care. The findings from this study contribute uniquely to literature on the emerging concept of mindful self-care for nurses and to the theoretical use of the Theory of Planned Behavior questionnaire in nursing.

Implications: The results from this study could be used to develop theory-based interventions that promote the maintenance of health behavior that enhances self-care. Nurse leaders could consider incorporating strategies and initiatives that cultivate a sense of self-compassion and purpose into their overall approach to staff well-being. Future research emerging from these results could target assessing beliefs on mindful self-care.

CHAPTER I

INTRODUCTION

Self-care is an important aspect of nursing for both the patients and nurses. Nurses have been purported to prioritize the needs of the patients over their own needs. Promoting self-care practices among patients and nurses is vital for both patient and nurse wellbeing. To effectively practice self-care, patients rely on nurses and other providers to educate and provide information necessary resources that could be relevant in self-care management and maintenance. However, to educate and discuss the practice of self-care with patients, it is important that nurses understand and role model good self-care. When nurses neglect their own needs, this may have a detrimental impact on the standard of patient care and lowers patient satisfaction (Linton et al., 2020). People have understood self-care since ancient times and self-care has been managed differently by various groups of people and cultures in the professional and personal areas of their life.

Due in part to the global Coronavirus-19 pandemic, self-care initiatives in healthcare have become central focus for both patients and healthcare providers in promoting wellness. Self-care for nurses specifically, has drawn much attention during the Coronavirus-19 pandemic and there is continuing effort to reinforce self-care activities and awareness through nursing education (Chipu & Downing, 2020). Self-care has gained more attention as nurses dealt with increased numbers of deaths, higher levels of stress, and burnout in the wake of the Coronavirus-19 pandemic (Hossain et al., 2021; Lewis et al., 2022). In particular, the needed focus on mental health has prompted most organizations to provide numerous resources to nurses and other employees to promote self-care. The Wellbeing Initiative and the ANA's Covid 19 Self Care Package for nurses are notable examples that the American Nurses Association has established

as resources that are freely accessible to nurses nationwide to bolster nurse well-being (ANA, 2022). Individual self-care can be encouraged to improve nurses' health and to serve as role models for the community. Mindful self-care is self-care with a component of intentional awareness (Cook-Cottone & Guyker, 2016) and mindful self-care has been demonstrated to effectively promote the wellbeing and work performance of nurses (Melnyk, 2020; Williams et al., 2022). Self-care is essential, thus organizations' understanding of the possibility that nurses could practice self-care would be important in resource allocation.

The Theory of Planned Behavior (TPB) is a behavioral model that has been applied to various healthcare settings to predict health behavior and intentions (Bosnjak et al., 2020; Shmueli, 2021). The TPB comprises of the following four constructs: Attitude, subjective norms, perceived behavioral control, and intention. The constructs of subjective norms, attitudes and perceived behavioral control are theorized to influence intention which produces a favorable or unfavorable disposition towards performing the behavior (Ajzen,1991). In part, the Theory of Planned Behavior's wide application is owing to its capacity to account for a variety of contributing variables. (Ajzen & Driver, 1992).

The perianesthesia care environment is regarded as a critical care setting (Fielden et al., 2018). The acuity of patients in the perianesthesia setting is generally high prompting heightened pressure and quick critical thinking skills when caring for the surgical patients. In turn, burnout is at higher rates compared to other non-critical care units (Costa et al., 2018). Mindful self-care training has been shown to decrease burnout levels, increase resilience, and job effectiveness (Monroe et al., 2021; Janeway, 2020; Zeb et al., 2022).

Problem Statement

Throughout history, nurses have worked with compassion and dedication to ensure proper and quality care for different patient populations with complex needs. While the core objective for nurses is to care for patients, an imbalance exists between nurses caring for themselves and caring for others. According to the findings of an *American Nurses Association Health Risk Appraisal*, 68 percent of nurses prioritized their patients' health, safety, and well-being over their own (ANA, 2015). The principle of self-care is integrated in the American Nurses Association 2015 Code of Ethics for Nurses, Provision 5 which stipulates that nurses owe the same duties to self as to others through health promotion, safety, and integrity. Self-care in nurses has been documented to improve patient outcomes, nurse resilience and satisfaction. However, the number of nurses engaging in mindful self-care practices is low and this could significantly impact the quality of care they provide to patients (Zeb et al., 2022).

There is a limited number of studies regarding self-care practices in perianesthesia nurses in literature. Perianesthesia setting is essential hospital settings to ensure safe recovery of patients following surgery. Employee wellness has become a key focus for several organizations, especially in the healthcare field in the wake of Covid-19. More data is necessary to make scientifically sound decisions. Evidence based decision making is best practice, especially during policy making (WHO, 2020). However, in the absence of evidence, prediction models could be used to quantify evidence that can be used to positively impact decisions and patient outcomes (Kappen et al., 2018). The mindful self-care habits of nurses need to be improved, and there is a need for, and a demand for, informed solutions that may be implemented at both the organizational and individual levels (Zeb et al., 2022). Therefore, this study utilized the TPB

constructs and how they influenced the intentions of engaging in mindful self-care among perianesthesia nurses.

Purpose Statement

The purpose of this study was to examine the relationships among attitudes, subjective norms, perceived behavioral control, and intentions to engage in mindful self-care among nurses working in the perianesthesia setting.

Specific Aims

The specific aims of this study were to:

i. Determine the frequencies of sample demographic characteristics, mindful self-care, attitudes, subjective norms, perceived behavioral control, and intentions, among perianesthesia nurse.

ii. Determine the relationships among attitudes, subjective norms, perceived behavioral control, intention, and mindful self-care of perianesthesia nurses.

iii. Compare intentions and mindful self-care among perianesthesia nurses working in rural and non-rural areas.

Background

In the mid to late 19th century, there was an era of strong movements for health reforms and nursing empowerment when the whistle of holistic self-care in nursing was eloquently blown by Florence Nightingale and other nursing leaders (Hays, 1989). From the late 20th century, the concept of self-care has been influenced by various economic, political, and social factors that diversify its application (Wilkinson & Whitehead (2009). Self-care has mainly centered around an individual's ability to take care of themselves and the community. A nurse must understand holistic self-care, and comprehensive practice with a wide range of theoretical paradigms, in

order to properly take care of their own health (Wilkinson & Whitehead 2009). The failure of nurses to take care of themselves and the role to take care of others as a pivotal role in the profession has led to severe fatigue and job dissatisfaction among nurses (Mealer et al., 2017).

Pioneer nurse, Florence Nightingale professionalized nursing services, and therefore, nursing standards were established and have led to high-quality nursing care provision (IOM, 2011). Attaining the high quality of care has, however, put the nursing profession in a position of strain due to prevailing nurse shortages and inadvertently led to increased levels of stress and burnout (Haddad et al., 2022). To continually provide expected standards of care in a healthy way, it is vital for nurse self-care to take a principal place in nurses' work ethic. The year 2021 was dubbed the year of the nurse and The Gallup Honesty and Ethics poll conducted towards the end of 2021 ranked nurses as the most trusted profession again consistent for the past twenty years in a row (Gaines, 2022). With this trust comes enormous responsibility to the public. This also provides an opportunity for nurses to be role models and advocates for a healthy community. The America Nurses Association launched *Healthy Nurse Healthy Nation (*2017) designed to influence the health of a nation by improving the health of nurses (Gould e al., 2019). Therefore, it is important that nurses prioritize self-care to effectively be health change agents.

Theory of Planned Behavior

In 1985, Icek Ajzen and his colleagues introduced the Theory of Planned Behavior, which posits that people's intentions to engage in a specific behavior are influenced by their attitudes toward the behavior, their perceptions of social norms, and their perceived ability to control the behavior (Ajzen et al., 1985). The three constructs of the theory - attitudes, subjective norms, and perceived behavioral control - are considered key factors in determining an

individual's intentions and actions according to the framework. Attitude, subjective norm, and perceived behavioral control have provided an excellent fit for predicting intention through research.

Perianesthesia Nursing

Perianesthesia nursing is a distinct nursing unit that is fast-paced, intense, high-risk, meticulous, and diversified (Brown et al., 2017; Park et al., 2019). This is a challenging and demanding environment and nurses need to be healthy and ready to assist surgical patients. Perianesthesia is regarded as a critical care unit and nursing care always requires alertness and critical thinking skills to determine the subtle change in patient condition. Therefore, it is vitally important for nurses to practice self-care to provide quality patient care.

Rural Nursing

Rural nursing care settings experience disproportionate number of resources, significant disparities, and workforce (Smith et al., 2019). Due to limited access to healthcare, most residents have chronic diseases, are older, poorer, and health conditions are poorly managed, and they are more likely to die from these conditions (Mester, 2018). Due to challenges in the workforce, rural nurses require high skill levels and are ready to work in all aspects of professional nursing practice (Bigbee, 1993). The burden of providing care in these conditions, increased care demand with limited resources is strenuous and often leads to nurse burnout. To help reduce and manage the feeling of burnout, the practice of self-care may be integral to nurses' wellbeing in the rural areas.

Significance of the Study

The health, safety, and wellness of patients and nurses is imperative. Focusing on patients' needs is central to nursing and often nurses have prioritized patients' needs over their own. 68 percent of nurses are reported to put their patient's health, safety, and wellbeing before their own and 82 percent of nurses significantly at risk for workplace stress (ANA, 2017). Improving nurses' safety and self-care is critical for optimal patient care and patient management (Williams et al., 2022). Research findings show that for nurses to provide quality care, they must exercise self-care and be both physically and psychologically active (Ross[a] et al., 2019). Nurses are essential in providing care and are tasked with the goal of preserving the health of the community, which is paramount. This burden of care at times makes it difficult for the nurses to take care of themselves. While challenges do exist for nurses to practice self-care, it is still necessary to pay attention to their own well-being. Self-care is vital for all nurses, however, critical care specialty units experience different challenges that differ from nurses in the other units (Costa et al., 2018). Similarly, rural nurses experience unique and challenging environments that increase the stress they experience as compared to their urban counterparts (Bigbee, 1993; Smith et al., 2019). As a result, critical care specialty units and rural areas must be actively engaged to determine the intention for self-care, resources, and support available to promote self-care health behaviors. Numerous personal and professional merits, such as improved health, improved work productivity, self-assurance and awareness, empowerment, job satisfaction, strengthened patient and team relationships, and better capacity to manage stress and illnesses is credited to the adoption of self-care for nurses (Brommelsiek & Peterson, 2022; Chipu & Downing, 2020).

This research may be beneficial in assisting organizations and nursing leadership to determine the need for further development of self-care strategies and resources to assist nurses. The study could also be important in guiding informed decisions on nurse self-care practices at the organizational level, as well as providing resources such as training and education to improve self-care among nurses. The finding from this study could potentially support existing standards in nursing that emphasize the obligation of nurses to look after themselves. Furthermore, the results could be instrumental in identifying areas of greater emphasis to promote nurse engagement in self-care through appropriate support and resource management and development of theory-based interventions that promote the maintenance of health behavior that enhances self-care. Future research emerging from these results could target attitudes, social influence, and perceived behavioral control to promote the intention to engage in self-care.

Nurse Wellness and Patient Outcomes

Nurses give patients the best assistance when they are at the height of their wellness (Linton et al., 2020). Patient adverse events like falls and prescription errors, as well as infections associated with healthcare, have been shown to be closely correlated with nurses' stress and mental tiredness (Alexander et al., 2015). Self-care for nurses through mindfulness techniques has been shown to improve their capacity to control their emotional states and reduce stress (Shapiro et al., 2007). The implementation of self-care in nursing is therefore credited with a variety of personal and professional advantages, such as improved health, self-assurance, empowerment, and the ability to handle stress and diseases (Chipu & Downing 2020). Therefore, it is essential to encourage nurses to exercise self-care in clinical settings. In healthcare, the nurse-patient relationship is crucial, and the nurse's capacity to deliver high-quality, compassionate, and safe care has a significant impact on patient outcomes. Instances of patient

overcrowding and working additional hours have put pressure on nurses, which has resulted in mental fatigue that affects their capacity to function effectively, leading to loss of concentration, inattentiveness, and inevitable mistakes (Cho & Steege, 2021; Dall'Ora et al., 2020). This is a state the predisposes a patient to poor outcomes. For the most part, healthcare environments are full of stress and anxiety for both the patients and the nurses, it is utterly important that place a high priority on self-care to mitigate the effects of stress and anxiety and create an environment of quality care, full of compassion. While this is ideal, nurses often care for others before themselves. The American Nurses Foundation has been at the forefront advocating and supporting nurses' self-care through provision of wellbeing tools and resources (Grant, 2021).

An initiative for nurses' well-being called "The Health Nurse, Healthy Nation" was launched in order to connect and engage nurses in improving their physical activity, mental health, quality of life, sleep, safety, and nutrition. It contends that nurses are less healthy than normal Americans and that promoting nurses' health prepares the path for them to be excellent role models for their coworkers, patients, and the community at large. According to the *American Nurses Association Health Risk Appraisal* in a study done between October 2013 and October 2016, 68 and 82 percent of nurses, respectively, put their patients' health, safety, and wellbeing before their own and were significantly at risk for workplace stress. There is an immediate need to improve nurses' safety and self-care for optimal patient care and patient management (ANA, 2017; Williams et al., 2022).

Gap in Evidence

The Theory of Planned Behavior (TPB) has been commonly used in diverse contexts. However, its application in studying self-care, particularly among perianesthesia nurses, is notably scarce. This research addresses this gap by using the TPB framework to assess intentions

for mindful self-care among perianesthesia nurses, contributing novel insights to the scientific knowledge and understanding of self-care and well-being. In so doing, nurses will be equipped to deliver high-quality patient care. Despite the acknowledged importance of self-care in nursing, there is limited literature on self-care for perianesthesia nurses within the TPB framework, prompting this study to explore the relationships between attitudes, subjective norms, perceived behavioral control, and intentions for mindful self-care. The study aims to fill this gap by providing a comprehensive understanding of the constructs and their potential influence on nurses' intentions to engage in self-care, thereby offering valuable insights for tailored interventions in the perianesthesia setting.

Theoretical Framework

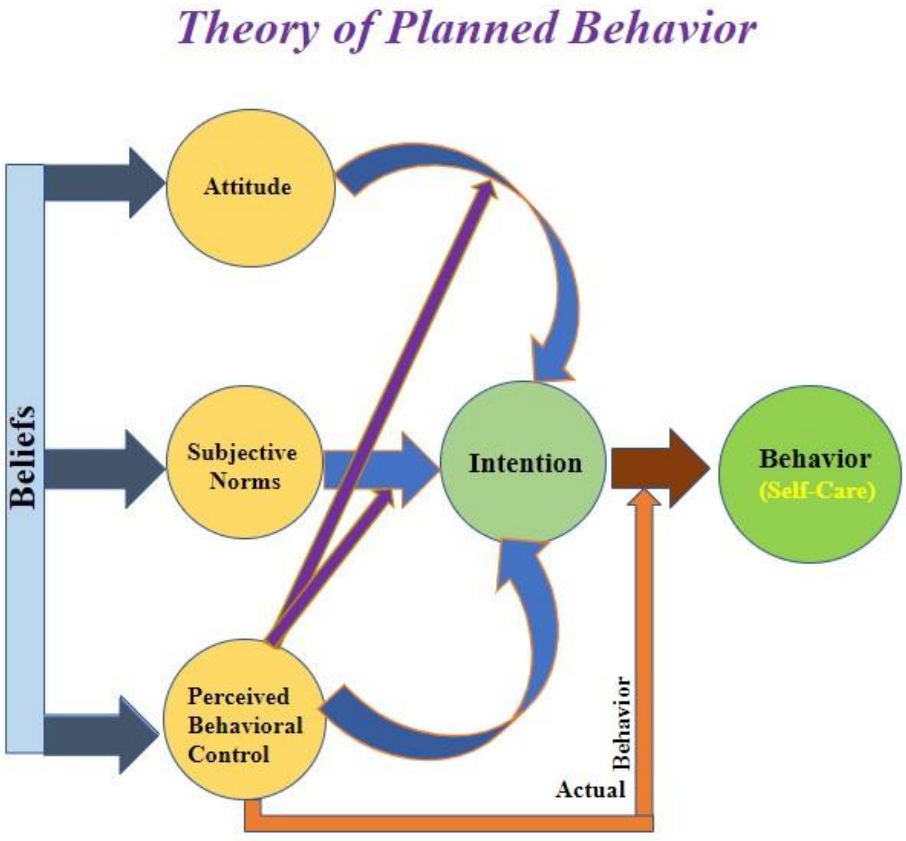
Theory of Planned Behavior

After being amended from the Theory of Reasoned Action, which Martin Fishbein and Icek Ajzen published in 1967 (Ajzen & Fishbein, 1977), the TPB was created by Icek Ajzen in 1985 (Ajzen et al., 1985). In this study, the TPB was utilized as a guideline to explore nurses' intentions to engage in mindful selfcare that is within their control as well as how it affects their outlook and judgment. Attitudes, subjective norms, and perceived self-control are variables that the TPB uses to illustrate how behavioral intention is influenced by these factors (Ajzen, 1991). Collectively, the theoretical elements of the TPB describe the degree to which an individual controls their behavior. The desire of a person to engage in an action at a specific place and time is known as planned behavior (Ajzen, 1991).

As a result, the TPB explains all behaviors under people's control and emphasizes the importance of behavioral intentions. Patients may benefit more when nurses commit to prioritizing their own well-being. As an action becomes more desirable regarding each

dimension, a person is more likely to participate in it. The degree to which a person actually engages in behavior is dependent on their intention. The greater the perceived control, the stronger the subject's intention to engage in the activity in question, and the more favorable the subject's subjective norm and attitude (Ajzen, 1991).

Figure 1



Adapted from https://people.umass.edu/aizen/tpb.diag.html

Theory of Planned Behavior Model Description

This study is guided by the Theory of Planned Behaviors which purports that an individual's beliefs serve as the foundation for both the decision to practice a behavior and the actual performance of the behavior. The intention towards the behavior can be determined by

attitudes, subjective norms, and perceived behavioral control. Intention has to be established for attitude and subjective norms to determine behavior. Perceived behavioral control can independently determine behavior without the construct of intention.

This study focused on how perianesthesia nurse attitudes, subjective norms, and perceived behavioral control influence their decision to participate in self-care. These three constructs were used to determine intention to participate in self-care. The favorability of attitude and the amount of social pressure perceived and the ability to perform self-care is based on the beliefs the perianesthesia nurses hold regarding self-care. The existing conviction after evaluation of the three constructs determined their actual control over engaging in self-care and influence their preparedness to engage in the behavior (intention). It is then possible to decide whether to practice self-care or not once there is intention (decision making). Higher self-care intentions are associated with more favorable and positive subjective norms, attitudes, and perceptions of control.

Prepositions of the Theory of Planned Behavior

i. Attitudes planned behavioral control, and subjective norms will dictate whether or not self-care is intended.

ii. Understanding behavior is facilitated by the way concepts relate to one another. The intention to practice self-care is higher when there is a positive attitude, a stronger subjective norm, and a stronger sense of control.

iii. Intentions determine predictions of self-care behavior. The decision to practice self-care and to engage in other self-care interventions will be guided by intentions.

Assumptions of the TPB

All behaviors are deliberate. All activities are conscious, reasoned, and planned, and TPB dismisses the role of emotions such as grief, frustration, and rage, which can have a significant impact on behavior (Brookes, 2021).

Limitations of the TPB

i. The measurement accuracy of the variables under study determines how predictable behavior is (Nguyen, 2020).

ii. The constructs of the TPB are dependent on precise premises, although their linkages might vary from circumstance to circumstance and are vague (Nguyen, 2020).

iii. All the theoretical concepts are evaluated using questionnaires, with social desirability influencing the results. Goals of participants may differ when they encounter a triggering circumstance (Brookes, 2021).

iv. Regardless of intent, it is assumed that the person has access to the resources and opportunities necessary to successfully engage in the desired behavior.

v. It does not consider other factors that influence behavioral intention and motivation, such as fear, threat, mood, or prior experience.

vi. Normative influences are considered, but environmental or economic elements that may affect a person's decision to engage in behavior are not.

vii. It assumes that behavior is the result of a linear decision-making process and ignores the possibility of change over time.

viii. The theory would have been incomplete without the added construct of perceived behavioral control, but it says nothing about actual behavioral control.

ix. The theory does not address the time lag between "intent" and "behavioral action."

Operational Definitions

Attitudes: Degree of favorability or unfavourability of overall evaluation of behavior in question by an individual (Ajzen, 1991). This was operationalized as positive attitude or negative attitude to participate in mindful self-care . This was measured on a 7-point Likert scale with higher average scores reflecting positive attitude toward mindful self-care. Any negatively worded statement or with negatively worded statements was recoded so that higher numbers always reflect positive attitude towards mindful self-care.

Subjective norms: performing or not performing the behavior due to the perceived social pressure (Ajzen, 1991). This was measured on a 7-point Likert scale with higher mean scores reflecting greater social pressure to engage in mindful self-care. Any negatively worded statement or with negatively worded endpoints were recoded so that higher scores consistently reflect greater social pressure to participate in mindful self-care.

Perceived self-control: performing a behavior with ease or difficulty (within a person's control) assuming that it reflects anticipated impediments and obstacles and past experience (Ajzen, 1991). This was measured on a 7-point Likert scale with higher mean scores reflecting greater level of control to participate in mindful self-care. Any negatively worded statement or with negatively worded endpoints were recoded so that high scores consistently reflect greater level of control to engage in mindful self-care.

Rural: Was determined by the use of the Rural-Urban Commuting Area (RUCA) system (USDA, 2020). Zip codes were used for RUCA designation (Onega et al., 2020). This was collected through one of the demographic questions on zip codes.

Self-care involves being aware and taking care of one's physical and emotional needs including one's daily routines, relationships, and environment accordingly to maintain or advance desirable health and wellbeing (Cook-Cottone & Guyker, 2016).

Mindful self-care addresses self-care and adds the component of mindful awareness and is considered crucial for overall well-being and has been linked to positive physical and mental health outcomes, and emotional well-being. (Cook-Cottone & Guyker, 2016). This construct is operationalized through a series of 33 questions that scores six aspects of Mindful Self Care (mindful relaxation, physical care, self-compassion and purpose, supportive relationships, supportive structure, and mindful awareness) on a 5-point Likert scale.

Intention: Motivational factors that influence behavior, an indication of how hard and how much of an effort one was willing to put forth to engage in a behavior (Ajzen, 1991). This was operationalized as the desire to engage or not engage in mindful self-care. This was measured on a 7-point Likert scale with higher scores reflecting easiness to engage in mindful self-care. Resulting intention was the average scores of the three intention questions in the modified TPB questionnaire.

Planned behavior: An individual's intention to engage in a particular behavior at a predetermined place and time.

Perianesthesia nurse: Perianesthesia nurses are specially trained to provide top-notch care to patients both before and after surgery and are equipped to handle any complications that may arise from anesthesia (ASPAN.org). For this study, perianesthesia nurses are nurses who are members of the ASPAN organization and work at least part time.

Study Limitations

The cross-sectional design limits the causal inferences that could be drawn from the study findings and does not guarantee representation. Known or unknown factors influencing the sample may skew the data. The sample of the study was perianesthesia nurses who are current members of the American Society of PeriAnesthesia Nurses (ASPAN), working full time (>36 hours/week) or part (20 hours per week) time for the past one year in a perianesthesia environment. They needed to access and use a computer. Perianesthesia nurses who were not members of ASPAN were not able to participate in the study. Similarly, perianesthesia nurses who were members but did not have access or could not use a computer, did not work in the perianesthesia environment, worked less than 20 hours per week, and had worked less than 1 year in the perianesthesia environment were not able to participate in the study. The American Society of PeriAnesthesia Nurses (ASPAN) was used to distribute the survey. The disadvantages of using a survey as a data collection method include extensive planning, which can be time consuming, significant effort required, and participant memory lapse, which may not provide the most accurate information (Safdar et al., 2016). Findings from survey studies are difficult to draw casual conclusions from because they are susceptible to non-response bias and associations may be inconclusive (Wang & Cheng, 2020). Although the TPB framework proves effective in elucidating intentions, its efficacy does not necessarily extend seamlessly to the development and implementation of interventions or the actual practice of the targeted behavior (Terry & O'Leary, 1995), therefore, actual participation in mindful self-care by perianesthesia nurses is unknown. The study was open for participation for one month.

Study Assumptions

The TPB constructs provided useful insights into key factors influencing nurses' intention to practice mindful self-care. All perianesthesia nurses are able to read and write in English. All nurses who accessed the survey were ASPAN members. The sample was representative of the total population of ASPAN and perianesthesia nurses generally. The responses received were honest and accurately reflect the perianesthesia nurses' personal beliefs.

Summary

It is well established that nurse self-care increases positive outcomes for both patients and nurses. The quality of nursing care provided to patients may decline if lesser nurses pursue mindful self-care. Limited studies have examined how perianesthesia nurses prioritize or engage in self-care. The integration of the concepts from the TPB and mindful self-care holds the potential to provide new perspectives on the reasons behind perianesthesia nurses' intentions to engage in self-care practices. This study aims to examine the relationship among attitudes, subjective norms, perceived behavioral control, and intentions to engage in mindful self-care for nurses working within the perianesthesia work setting.

CHAPTER II

LITERATURE REVIEW

The purpose of this study was to examine the relationships among attitudes, subjective norms, perceived behavioral control, and intentions to engage in mindful self-care among nurses working in the perianesthesia setting. The specific aims studied in this study included (a) to determine the frequencies of sample demographic characteristics, attitudes, subjective norms, perceived behavioral control, intentions, and mindful self-care among perianesthesia nurses (b) to determine the relationships among attitudes, subjective norms, perceived behavioral control, intention, and mindful self-care of perianesthesia nurses; and, (c) to compare intentions and mindful self-care among perianesthesia nurses working in rural and non-rural areas.

This literature review examined attitudes, subjective norms, perceived behavioral control, and intentions within the nursing profession imperative for establishing support for the application of the Theory of Planned Behavior (TPB). Self-care for nurses was explored through examining factors that affect self-care and studied interventions and selfcare among perianesthesia and rural nurses. Therefore, the constructs from the TPB were used to organize the evidence. Findings from literature reviewed are described and analyzed to reveal existing knowledge and gaps in evidence regarding mindful self-care among nurses.

Literature Search Strategy

A review of published articles on mindful self-care among nurses and the use of the TPB was performed. The search was then narrowed to perianesthesia nurses and rural settings. Scientific literature was searched in relevant databases (Google Scholar, CINAHL, PubMed, APA Psych Info, and Academic Search Ultimate). Keywords used to search included self-care, nurses, intention, mindful self-care, theory of planned behavior, attitude, subjective norms,

perceived behavioral control, intention, perianesthesia , and rural used interchangeably. Boolean operators were utilized as appropriate to narrow on results. The search was conducted with publication language restricted to English. The titles of articles were reviewed, followed by the abstracts and full texts. Reference lists of articles retrieved were used to further identify relevant articles. The inclusion of articles for this review was determined based on relevance to the purpose of this study.

Background on the Concept of Self Care

The fundamental tenet of self-care is the belief that most individuals have the ability and capacity to take care of themselves. Everyone experiences various challenges that have an impact on their overall wellness depending on individual circumstances and what they do in life. Studies show that benefits of self-care seem to transcend cultures, professions, and time (Andrews et al., 2020; Brouwer et al., 2021; Gantz, 1990, Shapiro et al., 2007; Skovholt et al., 2001), even though there is not a consensus on what self-care implies across fields. Contrary to widely held belief, caring for oneself is not a selfish activity. One must pay attention to their needs and either directly meet them or create meaningful ways to do so if they are to maintain good health, be effective at work or school, assist others, and achieve a variety of goals. This is facilitated by practicing self-care. Self-care as a concept has progressively gained a more nuanced definition and a wide range of professional applications. Additionally, reactions and accommodations to self-care are unpredictable due to varied contexts that require comprehensive conceptualization for meaningful understanding.

Self-care is essential but overlooked in modern society due to the prevailing social and cultural shifts, disease outbreaks and their containment, economic fluctuations, environmental changes, technology advancements, and power institutions. Depending on the circumstances,

self-care may take on diverse aspects, and most importantly, these different facets must coexist harmoniously. These dimensions include physical, emotional, spiritual, social, intellectual, economic, environmental, and occupational and for optimal well-being, each aspect must be taken into consideration (Stoewen, 2017). As one of the most well-respected professions, nursing provides nurses with a unique opportunity to serve as role models for both patients and the public. To properly advise and assist clients in their own self-care, nurses should receive comprehensive, consistent education and have access to resources that help them practice self-care through healthy habits. Because nursing is such a compassionate profession, nurses are more likely to become stressed out when providing care for others and inadvertently disregard their own needs (Vachon, 2016). Given the inherent neglect for selfcare in nursing, it is critically important for nurses to take care of themselves.

According to the American Nurses Association (ANA) Code of Ethics, self-care is an ethical imperative and nurses have an obligation to practice self-care parallel to their duty to care for their patients (ANA, 2015; Linton & Koonmen, 2020). This duty exists independently of the nurse's duty to care for their patients. Although providing care for patients is the primary responsibility of nurses, there is a persistent failure on the part of nurses to establish a healthy balance between their responsibilities to patients and themselves. Self-care is a principal element of nursing practice (Younas, 2017). Even though nurses may be aware of the value of self-care as well as other behaviors that are beneficial to health, this awareness has not always translated into nurses being at the forefront of promoting their own self-care and furthering their own wellness. Understanding self-care is important for critical care nurses to help them prioritize self-care for effective care and education of their patients (Chipu & Downing, 2020).

Research in Self-Care Among Nurses

The fundamental tenet of self-care is the belief that most individuals have the ability and capacity to take care of themselves. Self-care is a crucial subject for nurses, particularly at a time when there is much to be accomplished with scarce resources. There are limited studies regarding self-care, especially among critical care nurses and rural nurses, who are unique in terms of skillset and specifically encounter challenging work settings.

Qualitative nursing research studies located on self-care provided diverse aspects of self-care among nurses. Atkins et al. (2018) conducted a qualitative, phenomenological research to better understand the self-care practices of nurses in the hospital environment and how these practices affected the sense of body image using a sample of 12 nurses via in-depth interviews. Findings showed that body image emerged as a recurring topic that was mentioned four times in the other themes that were identified. The relevance of these results is that they may help in determining how to address the limitations of nurses' self-care practices to boost body image and encourage healthier lives (Atkins et al., 2018). A descriptive qualitative study by Ferreira et al. (2015) to determine how nursing staff perceived self-care, describe the self-care activities that staff members engaged in, and explain the consequences of self-care for the health of these staff members was conducted using a sample of ten nurses. Semi-structured interviews were utilized to gather the data, and thematic content analysis was utilized to analyses it. Three areas emerged from the analysis: (i) the meaning of self-care (ii) attitudes, behaviors, and suggestions about the topic and (iii) the effects of self-care on productivity and employees' health.

The Atkins et al. (2018) and Ferreira et al. (2015) studies did not show any commonalities in results. However, both studies point to the need for further exploration of self-care and identifying ways to improve self-care habits and promote employee health through

healthy lifestyles. Mills et al. (2018) conducted a qualitative investigation on the meaning and practice of self-care from the perspective of nurses and clinicians working in palliative care. Twenty-four Australian medical doctors and nurses with expertise in palliative care were interviewed using semi-structured, in-depth interviews. Major themes that emerged from the study include the need to address personal health and well-being as part of an initiative-taking and holistic strategy to improve the quality-of-care professionals provide for their patients and clients (Mills et al., 2018). While this study included both nurses and doctors, it is inconclusive on its findings on nurses. However, personal health and wellness as an overarching theme was dominant in the three qualitative studies (Atkins et al., 2018; Ferreira et al., 2015; Mills et al., 2018).

Ross et al. (2019a) completed an investigation into registered nurses' (RNs) use of health-promoting behaviors and the circumstances at work that affect their engagement in such behaviors. A web-based survey was used to gather data from 335 registered nurses (RNs) on their intake of fruits and vegetables, amount of physical activity, and amount of inactivity. Results revealed that 80.1% of respondents were "sedentary" (sitting for more than three hours a day) and that more than half of them were overweight (34.1%) or obese (23.4%), particularly those who worked in management, research, and education, which do not directly involve direct patient care. Another quantitative study by Zeb et al. (2022) completed a study on the levels and characteristics affecting nurses' mindful self-care in acute care settings using a convenience sample of 258 nurses from 7 acute care hospitals. Analysis of the data showed that nurses' ratings of their own ability to practice mindfulness in relation to self-care were rather low. The two studies' findings indicate poor scores on both samples. Ross et al. (2019a) observed that individuals not directly involved in patient care experienced notably poorer results. Zeb et al.

(2022) sample was acute care nurses. Although different measures were used in both studies, there is inconsistency in the results for nurses who work or do not work directly in patient care. There is an increasing body of research suggesting that a program for stress reduction known as Mindfulness-based Stress Reduction (MBSR) is helpful as an intervention in reducing stress and burnout among nurses (Cohen-Katz et al., 2004; Green & Kinchen, 2021; Mackenzie et al., 2006; Steinberg et al., 2017). Acute care nurses from the Zeb et al. (2022) study could benefit from education and training to reinforce the importance of mindfulness in self-care practice. Consequently, new clinically based individual and organizational techniques to enhance nurses' practices of mindful self-care need to be developed and evaluated. Presenting the simplicity with which a person may conduct an activity that is seen to be under their control might help to promote understanding and the significance of the intervention measures.

Recognition and promotion of self-care for nurses is important to patient safety, patient satisfaction, and the efficiency of patient care delivery. ANA (2015) emphasizes self-care as an ethical imperative and nurses have a responsibility to exercise self-care in conjunction with their duty to care for their patients. While there is broad agreement on a global scale that nurses' personal health is essential (Wills et al., 2020). This was the finding of a research study to determine the degree to which National Nursing Associations throughout the world prioritize the health of nurses. A poll was conducted with 61 nurse representatives and 37 National Nurse Association (NNA) leaders from 33 different countries. The poll was conducted during the 2019 International Council of Nurses Congress in Singapore. More than 130 National Nurses Associations make up the NNA federation, which speaks for more than 20 million nurses globally. A healthy nurse is better equipped to deliver excellent patient care, according to the majority of nurse leaders and participants that took the survey, therefore addressing nurses'

personal health should be a top concern. Associations encourage nurses to focus on their own health and personal behavior change in the area of wellness (Wills et al., 2020).

Self-Care Among Perianesthesia Nurses

The perianesthesia setting is a high acuity area of patient care that is physically, cognitively, and emotionally tasking. Patients undergoing surgery and anesthesia are particularly vulnerable, making the perianesthesia environment of care a high-risk, high-error setting. The best possible patient care and outcomes depend on safe practice adhering the standards set forth by The American Society of Perianesthesia Nurses (ASPAN). Perianesthesia nurses work under very volatile situation, at times, faced with the need to make clinical adjustments based on scientific evidence to suit a patient, meet unique patient demands, understand how a myriad of different surgical conditions need to be addressed safely before, during, and after surgery, and frequent training on elevated level of skilled patient care (Stucky et al., 2020). The COVID-19 pandemic was one such extraneous time when so much had to be considered and shifted to accommodate patients and keep them safe. Nurses must actively pursue regular and innovative approaches to self-care to preserve and improve health and seize every chance to improve body, mind, and spirit (Iacono, 2020). Building resilience through self-care practice is warranted.

A nationwide cross-sectional descriptive survey through ASPAN examined burnout among perianesthesia nurses, risks, and mitigating factors. Findings from the study indicated 18% and 35% of 2,837 respondents were currently and formerly burnt out respectively, with a lower incidence among those over 40 years of age. Burned-out nurses were sicker and felt unappreciated by their employers. Regular engagement in physical (p <.001), creative (p =.004), or mindfulness activities (p < .001) and comfort in addressing work concerns with spouse or partner (p = .001) were related with lower burnout. Nurses preserve patient empathy despite

exhaustion. Burnout may be minimized by having a supportive personal and professional network, a healthy workplace, interests, and frequent exercise (Card et al., 2019).

It is almost paradoxical that nurses have to prioritize their own needs and those of their families, along with those of their patients, their patients' families, and their coworkers, all while maintaining a strong commitment to the community and resolving the conflicts that arise from the many complexities and challenges of their professions (Iacono, 2020). The reality of that was tested during the COVID-19 pandemic where patients and the state of the healthcare system was rapidly evolving requiring hospitals and health care agencies to implement changes to policy and workflow so often. Nurses had to be floated to different units and perianesthesia being a setting with critical care skill set, some nurses had to be deployed to ICUs to care for Covid-19 patients. This put emotional and physical strain on nurses. Prior to a crisis, the formation ethics of care must take place, and it must be shared when the scope of practice is expanded, the standard of care is modified, and patient casualty triage is prioritized (Holt, 2008). The significance of self-care was acknowledged by the leading perianesthesia nurse organization, ASPAN, which provided tools on its website to educate and motivate anesthesia nurses to practice self-care. The details may be found under Covid-19 Toolkit in the strategies for caring for the nurse section (www.aspan.org). The COVID-19 toolkit's opening statement includes a crucial message about the ethics of clinical practice, which is addressed by ASPAN (Mamaril, 2020).

Self-Care in Rural Settings

Providing nursing care in a rural area has special challenges. Since there is a national scarcity of medical professionals, rural nurses often assume a generalist approach when caring for their patients, developing deep connections with the people they serve and assuming responsibility for their overall health. Therefore, in order to satisfy the health expectations of the community, nurses must be very skilled and well-prepared in all areas of professional practice as the demands of nursing increase, nurses, in most cases, neglect their own needs in favor of those of their patients. However, nurses are beginning to realize the need for self-care, especially those working in rural areas with disproportionate professional service providers and healthcare resources. Consistently working with limited resources leads to exhaustion and burnout, making self-care an absolute need (Smith et al., 2019). Health promoting behaviors serve as pillars for increasing resilience that is vital in managing work stressors hence improving clinical practice for rural primary care providers (Brommelsiek & Peterson , 2022).

Lubinska-Welch et al. (2016) studied rural nurses employed by a hospital to understand their current self-care routines and health-promoting habits. This cross-sectional descriptive research gathered data on current self-care routines, interests, and healthcare needs via the use of convenience sampling and a structured questionnaire. The sample included hospital registered nurses, licensed practical nurses, and certified nursing assistants working in the hospital's emergency, outpatient, and inpatient. Based on the results, most of the nursing staff, according to the findings, were aware of the importance of self-care. In addition, Brommelsiek and Peterson (2022) surveyed 22 Advanced Practice Registered Nurse students before and after their participation in rural primary care to better understand the significance of self-care, and the results revealed that self-care is important and helped improve confidence, job satisfaction, and

workplace resilience and increase self-awareness of stressors for managing their emotions. Generally, there is scarce nursing research on self-care in rural settings. However, the two studies located amplify the importance of self-care.

Significance of Self-Care

Research has shown that nurses' levels of productivity, motivation, and patient care are negatively impacted when they do not participate in self-care practices (Ross et al., 2017). Self-care may be seen as selfish behavior by some, yet it serves to enable nurses to prepare themselves for the caregiver role when they recharge their own energy reserves (Silva Júnior et al., 2020). For nurses to competently perform their duties in an efficient manner, it is necessary to place an emphasis on the significance of self-care practices. The modern workplace poses unprecedented risks to individuals' health, making it even more important for those working in the healthcare industry to engage in activities that are beneficial to their health and well-being (Bautista et al., 2020; Maharaj et al., 2019; Melnyk, 2020) Healthcare has grown overly complicated, with a limited number of nurses tasked with caring for populations suffering from complex illness conditions and comorbidities.

Limited staffing has been extensively examined and has been linked to mental and physical fatigue, increased stress levels and burnout, overall job dissatisfaction, an increased patient load, longer hours, and overtime (Nicholls et al, 2017; Mealer et al., 2017). In turn, self-care has been demonstrated to be significantly beneficial in reducing stress, burnout, and work dissatisfaction (Couser et al., 2020; Kramer, 2018; Sultana et al., 2020; Wei et al., 2020; Zhang et al., 2020). Burnout is a real risk after years of work. Challenging work circumstances, staffing issues, patient acuity, work overload, longer shifts, limited managerial support, job conflict, uncertainty, and helplessness are all sources of stress in the healthcare industry (Nicholls et al.,

2017). Stress at work has been linked to a weakened immune system, premature aging, depression, and a host of physical ailments (Blum, 2014). When nurses are exhausted, they may make more mistakes, have less of a capacity to learn new things, have trouble with divergent thinking, creativity, and insight, take more risks, and have difficulty communicating with patients and coworkers (Bratton, 2018). Whenever duty calls, nurses have an obligation to assist the vulnerable during times of global crisis.

Caring for a high number of patients with complicated comorbidities within the confines of their institutions, limited resources, and uncertainty is challenging for nurses as was the case during the Covid 19 pandemic. As a result, these circumstances precipitate distress which impacts mental and emotional well-being (Sultana et al., 2020). The challenge of dealing with the Covid 19 outbreak stretched nurses to their limits, made it more difficult for them to even take care of themselves, and posed a danger to their ability to continue working (Arnetz et al., 2020). Many nurses were not only overworked because of staffing issues, but they were also subjected to stresses that resulted from caring for a larger number of patients, coping with loss as the death toll rose rapidly and globally, and being in toxic work environments (Linton et al., 2020). All these stresses contributed to an increased likelihood of burnout. A substantial number of nurses suffered from burnout, and the practice of self-care was almost unattainable, which may have contributed to major impairments (Tierney, 2021). Some of the impediments might include moral injuries that put nurses in difficult ethical situations due to insufficient resources, a lack of protective equipment, and the mental strain that comes from having to cope with frequent policy and procedure changes as well as being constricted by time (Foli et al., 2021; Hossain et al., 2021). Therefore, self-care and well-being are more vital for nurses' recuperation, particularly when they have sacrificed to work and serve the ill over their own families and

personal wellness, not out of any desire for personal gain, heroism, or fame, but simply because duty beckons.

Prioritizing Self-Care in Nursing

Nurses are constantly faced with circumstances that contribute to psychological stress and emotional pain. Examples of such events include traumatic events, deaths, declining patient health, complex illnesses with no cure, ethical issues, and witnessing patient and family suffering. To reduce the risks posed by such stress, nurses ought to take some time for self-care in order to regain their strength and motivation. Self-care could be viewed as a form of Personal Protective Equipment (PPE) when nurses take proactive steps to promote their well-being, and healthcare organizations provide tailored programs to support their staff's health (Blackburn et al., 2020). There is evidence that exposure to trauma might decrease work capacity and elevate stress in the workplace (Bock et al.,2020; Mealer et al.,2017). Having healthy coping mechanics that allow nurses to effectively perform their tasks while also safeguarding their health is increasingly important. Self-care, which can include education, inspiration, and motivation, may support nurses in managing stress to avoid decreased work productivity and strain. Implementation of self-care by nurses is more likely to occur when one is optimistic and feels in charge of one's life. Stress management and self-care are key skills for nurses to develop (Rettig, 2021).

There may be a connection between nurses' inability to deal with stress and their lack of prioritizing work and lifestyle. How nurses perceive the importance of self-care is a critical contributor in determining whether they practice self-care or not. Self-care may be practiced in a variety of ways, and it is crucial to identify the approach that works best through reflection so that it does not become a burden. Furthermore, self-care intervention in nursing calls for the

application of both nursing theory and empirical research. Care in the nursing profession that is supported by evidence and theory is greatly enhanced when nurses work together. Evidence-based practices and teamwork may provide the necessary support and tools for nurses to conduct good self-care and increase their productivity. Using nursing theories in conjunction with first-hand experience, personal preferences, and verifiable evidence obtained from the clinical setting is essential for addressing nursing difficulties in a variety of circumstances. (Trautman et al., 2018).

Self-Care Interventions for Nurses

Healthy habits and greater physical exercise are crucial in reducing stress, giving nurses a better sense of purpose, and improving their well-being (Ross, et al., 2019). Cho and Han (2018) conducted a study to better understand the relationships between the nursing work environment, personal health-promoting behaviors, and the quality of nursing performance. The researchers reported that leadership support and resource availability significantly increased nurses' perceptions of their health responsibility and performance. Findings suggested that nurses who care for themselves were motivated by the availability of resources and a supportive work environment, which boosts nurses' performance and enhances their level of health responsibility, resulting in better patient outcomes (Cho & Han, 2018). Therefore, adopting many ways to decrease stress and ease burnout is vital for a healthy nurse. Jin Shin Jyutsu (JSJ) Self-Help was examined by Millspaugh et al. (2021) study that completed a randomized, controlled comparison research with a crossover design. Surveys examined stress and caring efficacy at baseline, post education, and 30–40 days following the JSJ educational intervention. The validated Personal and Organizational Quality Assessment-Revised 4 Scale (POQA-R4) survey examined self-reported stress as the primary endpoint. The Coates Caring Efficacy Scale examined caring

efficacy. Eighteen nurses participated in the education group and 23 in the control group. POQA-R4 education group stress changes persisted. Control group changes were short-lived. Education and control differed significantly in emotional vibrancy and buoyancy from baseline to final assessments. Both groups improved nurse caring efficacy. Education groups scored higher. Education group baseline-to-final differences were statistically significant. JSJ Self Help was determined as a feasible choice to reduce nursing stress.

Research has demonstrated that the stress-reduction program known as Mindfulness-based Stress Reduction (MBSR) is effective as an intervention in lowering stress and burnout among nurses. The stress levels of nurses have been proven to go down, burnout symptoms to improve, and self-compassion and compassion satisfaction to rise after participating in mindfulness-based interventions (Botha et al., 2015; Cohen-Katz et al., 2004; Green & Kinchen, 2021). The efficacy of Yoga has been supported by evidence to improve physical and mental health outcomes. A pilot-level randomized controlled experiment by (Alexander et al. (2015) examined yoga's effects on nurse self-care and burnout. After an 8-week yoga intervention, yoga participants (N=20) had better self-care and less emotional tiredness and depersonalization than the control group (n = 20). The yoga group exhibited significant improvements from pre- to post-intervention for emotional exhaustion ($p = .008$), self-care ($p < .001$), depersonalization, mindfulness ($p = .028$), and ($p = .007$) while the control group showed no change.

Stress mitigation among nurses is a proven way to improve patient care. In a randomized-control quantitative study, Calisi (2017) sought to (a) introduce nurses to the Relaxation Response (RR), a technique developed by Benson; (b) assess the RR's impact on nurses' levels of anxiety, depression, well-being, and job-related stress; and (c)investigate nurses' comfort in recommending the RR to their patients was designed among nurses in over an 8-week period.

Findings showed that no statistically significant differences were detected when comparing nurses' reported levels of anxiety, depression, well-being, and work-related stress. In contrast, nurses were more confident demonstrating and instructing this method to patients (p .001). Research findings by Ross et al., (2019b) showed that exercise and practice of other healthy lifestyle habits led to a higher likelihood of experiencing less stress and having more energy.

Maintaining order and stability is essential for well-being, yet there are continual confrontations and disruptions from external forces that exert pressure and uncertainties to nurses' work. The extent to which nurses are able to detect and control their own emotions is strongly associated with their general health and ability for compassionate conduct (Hofmeyer et al., 2020). This enables nurses to easily communicate thoughts and feelings to patients, their loved ones, and coworkers through empathy. Before we can assist others with their needs, we need to develop the ability to show compassion to ourselves and be conscious of our own requirements (Vachon, 2016). Creating a self-care regimen that one can follow every day and to satisfy their fundamental requirements, such as eating well, practicing good hygiene, moving your body, maintaining social interaction online, and working are fundamental in reducing anxiety (Hofmeyer et al., 2020; Wei et al., 2020).

Theory of Planned Behavior

The TPB is a decision-making theory used for predicting, understanding, and changing human social behavior in several studies. The intention is established as a function of attitude, subjective norm, and perceived behavioral control (Ajzen, 2012). Research utilizing this type of framework can help advance our understanding of the contextual factors that influence the effectiveness of nursing care delivery and interventions. Such research could help assist with strategy evaluation, adoption, and maintenance. The importance of sustained behavior change in

nursing research and nursing care is reflected in the dependability of intervention design and execution (Herber et al., 2018).

Nursing behavior is actions that affect patient care and are based on the nurse's way of thinking, perception, and innate caring for others. Through self-care, care for others is amplified. Using a predictive model to address some of nursing behavior has the potential to influence policy and increase patient safety, quality of care, and satisfaction. The literature on self-care among nurses that employs the TPB as a framework is scarce, however, the theory has provided guidance for several studies that examine how intentions are impacted by nurses' attitudes, subjective norms, and perceived behavioral control related to patient safety and nursing care.

Beliefs and Values Among Nurses

Nursing beliefs and values held by nurses are crucial in establishing their profession and providing a foundation for decision making. The upbringing and experiences that an individual has contribute to and help shape their personal values, which, in turn, influence their professional values. These elements include, but are not limited to, the individual's family, community, society, religion, and ethnicity. During the course of one's lifetime, one acquires these values through a process that is both progressive and evolutionary. Professional values, ethics and beliefs are fundamental in guiding and reinforcing professional nursing practice (Patton et al., 2022). It is incredibly significant that the Code of Ethics serves as a guide for nursing techniques and choices, helps to identify the type of care nurses provide, skill knowledge and application, determines the degree of devotion to oneself, the profession, and patients, and creates professional boundaries (Haddad et al., 2018). It is also crucial for nurses to be conscious of the fact that the beliefs they uphold are not just theoretical concepts but rather have a significant

bearing on the context in which they work and live. Allowing ethical principles to guide a nurse's practice serves to fortify one's professional identity and increase one's level of performance.

It is imperative that professional values be integrated into the curricula of nursing students in order to increase knowledge and awareness of professional values. This can be accomplished by promoting ethical competencies and increasing ethical thinking in clinical practice application, both of which form a basis for their ethical, competency commitment and responsibility. (Poorchangizi et al., 2017, Poorchangizi et al., 2019). It is of significance to determine the gap that exists between theory and practice. Clinical practice that yields quality care to patients accompanied by level of understanding is reflective of the professional values and beliefs upheld by the nurses (Erkus et al., 2018). Higher professional values are demonstrated by nurses with more experience and nurses who have received more ethics training(Poorchangizi et al., 2019). This indicates that a closer connection between theory and practice can be achieved with more ethics training and nursing experience. Therefore, organizations could commit to investing in education focused on increasing ethics awareness which could have a positive impact on patient care and work environment (Monroe, 2019).

The ethical practice of these beliefs and values has a considerable influence not only on the level of care that is provided to patients but also on the nurse's overall well-being, including work satisfaction, dedication to the organization, and the desire to continue in the profession. (Habeeb, 2022; Wan et al., 2018). The Code of Ethics provides an articulation of the professional principles that are required from nurses, and it is the responsibility of nurses to adhere to this code of ethics (Habeeb, 2022). Nurses, according to the ANA Code of Ethics, have a dual responsibility to care for both their patients and themselves (Butts & Rich, 2022; Leo et al. 2017). Therefore, these professional values are guidelines that influence nurses' decision

making. Inherently, nurses are more likely to engage in self-care behaviors based on the professional Code of Ethics.

Attitudes Among Nurses

Nursing Attitudes are behaviors toward the nursing profession, and they help in understanding perception in prioritizing care for patients. Researchers report a positive attitude leads to providing care that is unselfish and caring, as well as producing nurses that take pride in their work (Tola et al., 2020). The nursing profession accounts for a sizeable portion of the workforce in the healthcare industry. An integrative review by Kaye (2017) found that the attitudes and perceptions that nurses hold regarding particular behaviors, ideologies, and technologies have significant implications that have the potential to influence business decisions, healthcare outcomes, and the application of healthcare technology. Nurse attitudes influence decision making. These attitudes are affected by the beliefs that nurses hold. Negative attitudes could lead to poor decision making; however, education, training, and awareness could help reduce negative perceptions associated with such inadvertent decisions and actions by nurses as reported by Desroches et al. (2022). It is essential for nurses to maintain a positive attitude in order to provide quality nursing care and care for themselves. Knowledge and attitude are individual factors that determine nursing performance. A study by Momennasab et al. (2021) concluded that a positive attitude could be acquired through knowledge and participation in ethical training, which in turn results in the production of ethically competent nurses, who adhere to the standards of professional performance, and deliver high-quality care. Nursing attitudes towards self-care for nurses was not located in literature, however, cultivating an ethical environment and promoting awareness on self-care, nurses maintaining a cheerful outlook, are more influential in deciding to participate in self-care behaviors.

Subjective Norms Among Nurses

Subjective norm is an individual's perception of how others will perceive their behavior in a certain situation. According to the Theory of Planned Behavior, an individual's beliefs might affect their intention to engage in a certain conduct (Ajzen, 1991). Since individuals' actions can be influenced by the actions of others, intentions are founded on the views of significant others (Ajzen, 1991; Fishbein & Ajzen, 2011). The collective view of a community, which describes a pattern of conduct followed by every member of that society, is the source of subjective norms.

People are subject to the influence of their peers when participating in subjective norms since every member of society is expected to conform to the same set of rules and guidelines for participating in the same behavior (Ajzen & Fishbein, 1980). In a study that sought to examine the relationship between an individual's system use and the beliefs of nurses' peers, data was collected from 207 nurses (from six clinical units in an academic hospital in the United States) that had recently implemented a bar code medication administration system. Results suggest that sharedness of belief about usefulness was positively associated with individual system use. This implies that shared beliefs between an individual and their peer network are significant and may be critical to implementation success (Yuan et al., 2020).

Biraghi and Tortorano (2010) examined how subjective norms of family members and peers influenced tobacco smoking habits in a sample of 812 nursing students. The findings showed that 44% of the 812 students were smokers and that 7% were former smokers. Among the smoking students 75% had at least one smoking parent, 47% had at least one smoking sibling and 87% saw smoking friends.

Findings from the Yuan et al. (2020) and Biraghi and Tortorano (2010) studies demonstrated that subjective norms play a significant role in the decisions that nurses and future

nurses make. Nurses can be motivated to engage in specific activities if they share beliefs with their peers. Similarly, habit formation is highly likely if nurses have peers that are already engaged in those habits. Therefore, nurses are more likely to conform to self-care behaviors if others around them participate in self-care activities.

Perceived Behavioral Control Among Nurses

According to Ajzen (1991), the perceived ease or difficulty with which an individual is able to do an action is the individual's perceived behavioral control. The theorists further explain the success of the behavior is dependent on previous experience, the support that is currently available, modeling, and the prospective challenges that may arise. An important relationship to highlight is that there is a favorable and considerable effect on behavioral intention brought about by perceived behavioral control. According to Ajzen (1988), perceived behavioral control is analogous to self-efficacy, which can be defined as a person's impression that the action being considered is within control.

Self-efficacy is a key factor in the nurses' decision to participate in online continuing education. Researchers examined 267 Taiwanese clinical nurses' perceptions toward web-based continuing education and their Internet self-efficacy. The opinions about web-based continuing education and self-efficacy were surveyed using two questionnaires. A simple and advanced Internet self-efficacy scale was used to measure self-efficacy. The regression analyses showed that nurses' basic and advanced Internet self-efficacy significantly contributed to the nurses' perceived value, usability, and friendliness of web-based continuing learning environments (Liang et al., 2011). Participation in continuing education is boosted by motivation. To explore clinical nurses' Internet self-efficacy and motivations for Web-based learning, Liang and Wu (2010) surveyed 256 Taiwan medical center nurses via a questionnaire. The researchers reported

that higher motivation for web-based continuing education was predicted by higher Internet self-efficacy. The two studies assert that high self-efficacy boost outcome. Individuals with high self-efficacy have demonstrated confidence in their ability to make decisions. A study that used a cross-sectional design and employed a stratified randomized sampling procedure to a sample of 247 nurses working in a hospital setting assessed the relationship between self-efficacy and clinical decision making of nurses in Iran in 2015. Data obtained from the questionnaire revealed an association between nurses' self-efficacy and their capacity for clinical decision making as positive, significant, and reasonably robust at ($r=0.563$, $p<0.01$). As a result of the suggested link between nurse clinical decision-making and self-efficacy, both have a positive impact on performance (Ravanipour et al., 2016). To further reinforce the assertion of a correlation between decision making and self-efficacy, a study of 173 pediatric nurses, Choi and Kim (2015) investigated clinical decision-making processes and their relationships to self-efficacy and nursing professionalism in pediatric nurses. The findings suggest nursing professionalism and self-efficacy influence clinical decision-making behaviors of pediatric nurses. Researchers, therefore, agree that self-efficacy can present the ease with which an individual can perform an action that is considered within their control. Higher levels of self-efficacy facilitate decision making process to engage in an activity.

Intentions Among Nurses

According to the Theory of Planned Behavior, intentions are affected by a person's attitudes, subjective norms, and perceived behavioral control. Behavioral intentions are affected by several factors, including motivation, the perceived effort required to engage in the action, and the availability of resources (Ajzen,1991). The intention of a person's actions is indicative of their motivating factors. The decisions to act or engage in a certain conduct are influenced by

intentions. The stronger the intention to the behavior, the more likely the behavior will be enacted (Ajzen, 1991). Côté et al. (2012) sought to identify the factors that influence nurses' intention to integrate research evidence into their clinical decision-making using a predictive correlational design in a sample of 336 nurses using an extension of the TPB questionnaire. Analysis revealed that the final model explained 70% of the variance in nurses' intention to integrate research findings into clinical decision-making. The evidence could point towards a conclusion that clinical decision-making can be predicted by subjective norms, normative beliefs, perceived behavioral control and past behavior. The subjective norm was the most important predictor (Côté et al., 2012). Che et al. (2018) investigated nursing students' positive attitudes and perceived behavioral control toward older persons using 1462 nursing students in a cross-sectional study design and TPB accounted for 19.7% of the total variance in respondents' intentions to work with older persons.

Côté et al. (2012) and Che et al. (2018) both show that the TPB was able to show some significance of intentions to act despite their differences in research designs and sample sizes. The variance and sample size between the two studies were significant. To boost stronger intentions among nurses, education could be used as an intervention to nurture attitudes and promote self-efficacy. If a person's attitude and subjective norm toward the action in issue are more favorable and the greater the perceived control, then it is reasonable to assume that they have a stronger intention to engage in the behavior in question (Ajzen, 2006).

The results of the research illustrated above corroborate the theoretical tenets of the Theory of Planned Behavior, which holds that attitudes, subjective norms, and perceived behavioral control are all principal factors in determining a person's intentions. Since variances in personal attitudes, perceived behavioral control/self-efficacy, and social forces influence

intention, the degree of favorability of attitude, the intensity of social forces, and the level of self-efficacy will help determine the likelihood of self-care behavioral intention. While the TPB framework is effective in determining intentions, that does not always translate to intervention development and implementation or practicing the behavior in question (Terry & O'Leary, 1995).

Efficacy of the Theory of Planned Behavior

There is evidence of wide application of the TPB and prospective prediction of intention and health-related behaviors by nurses. Attitude, subjective norm, and perceived behavioral control have provided an excellent fit for predicting intention through research. In a study using a cross-sectional design by Angelis et al. (2017) surveyed 500 Italian hospital nurses regarding their intention to report adverse drug reactions in hospital settings. Findings indicated that attitudes, subjective norms and perceived behavioral control significantly predicted nurses' intention to report adverse drug reactions. A survey of 251 respondents (response rate of 70%) from forty-two school health programs across the Province of Québec purposed to identify the determinants of the intention of elementary school nurses to adopt a new health-promotion role as a strategic option for the health-promoting school and a total of 73% of respondents expressed a positive intention to accept to play the proposed role. The main predictors were perceived behavioral control ($\beta = 0.36$), moral norm ($\beta = 0.27$), attitude ($\beta = 0.24$), and subjective norm ($\beta = 0.21$). The TPB explained 83% of the model's variance (Chabot et al., 2010). The two studies found all the three constructs of TPB to be significant in establishing intentions, however, Chabot et al. (2010) reported the extent to which each construct was significant in predicting intention.

To determine behavioral factors that help explain why nurses often do not obtain and administer medications from automated dispensing cabinets (ADCs) "one patient at a time", researchers surveyed 271 nurses at an academic medical center. Attitudes and subjective norms were noted as important independent predictors of nurses' intent to use ADCs properly (Rogers et al., 2017). Sauls (2007) noted that attitude and subjective norms were found to be significantly impactful on the intention of intrapartum nurses to provide professional labor support (PLS). Thirty-nine registered nurses and 419 nurse-patient dyads participated, and the TPB framework explained 70% of the variance in intrapartum nurses' intentions to provide PLS to their patients (Sauls, 2007). Variations exist in the Rogers et al. (2017) and Sauls (2007) in terms of methodology and sample size. However, both studies found attitude and subjective norms to be significant. In a cross-sectional study with a sample of 199 nurses, the researchers investigated the nurses' intention in using a PICC. Findings from the study suggested subjective norms and perceived self-efficacy predicted the intention of nurses to use PICC (Bertani et al., 2016).

The above studies aimed at investigating nursing intentions. The studies had adequate sample sizes and subjective norms emerged as a significant factor across all the studies and at least two of the constructs in the TPB were significant in predicting intention. The results are consistent with the assertions made about the TPB.

Although there are instances when some constructs have demonstrated a more significant or stronger prediction of intention than others, the relative importance of these variables in understanding the nurse's intention to provide support is relevant. Hung et al. (2016) conducted a cross-sectional design study with a sample of 596 staff nurses who worked in a regional hospital and explored the factors that influence nurses' attitudes and intentions toward medication administration error (MAE) and reported that attitude emerged as the sole construct that had

effect on nurses' intention to report MAE. The Theory of Planned Framework explained 70% of variance in a predictive correlational study that used a sample of 336 nurses working in a university hospital to examine factors that influence nurses' intention to integrate research evidence into their clinical decision-making. Results of the study showed that subjective norms were the most important predictor of the nurses' intention to integrate research evidence into clinical decision-making (Côté et al., 2012). Lee and Kang (2020) sought to investigate nurses' intention to care for emerging infectious disease patients in Korea in a descriptive, cross-sectional survey study of 147 Korean nurses using an online questionnaire and perceived behavioral control(self-efficacy) was found to be the strongest predictor in nurses' intention. Comparably, to determine nurses' intention to administer opioids to patients with pain, Edwards et al. (2001) concluded that perceived behavioral control was the strongest predictor. Nash et al. (1993) examined the underlying determinants of nurses' behavior regarding the conduct of pain assessments in 100 nurses in a variety of health care facilities and planned behavioral control made independent contribution to intention to conduct pain assessment. Dilorio (1997) surveyed 368 members of a neuroscience nursing organization to determine the extent to which personal attitudes, subjective norms and perceptions of behavioral control influence the intentions of nurses to care for persons with HIV/AIDS, and only perceived behavioral control contributed significantly to the prediction of intention.

The studies illustrated above show that behavior can adequately be predicted using the Theory of Planned Behavior. Organizations could, therefore, employ study results to emphasize healthy behaviors that promote self-care for nurses through policy changes and classes with contact and activities for health promotion. To increase accountability, individualized self-care plans could be effective in achieving goals toward improved health and encourage participation.

The need for continuing educational efforts in rural areas to address critical care nurses' concerns and their behavioral intentions to seek self-care is imperative. Self-care in nurses is beneficial to both nurses and patients. Nurse burnout and high turnover can have a significant negative impact on patient outcomes, so promoting self-care among nurses is important for improving overall healthcare quality. However, it is important to also consider other factors that may play a role in nurses' ability to practice self-care. Some of these factors include workplace culture, work demands, and work-life balance. By addressing these other factors, organizations may be better able to support nurses in practicing self-care and improving their well-being.

TPB in Promoting Patient and Nurse Safety

The TPB plays a pivotal role in promoting patient and nurse safety and enhancing patient outcomes. TPB emphasizes the importance of fostering positive attitudes towards safety protocols, cultivating a culture of shared norms that prioritize safety, and empowering healthcare professionals with the belief that they have control over safety practices. Leveraging TPB allows healthcare organizations to design targeted interventions that enhance environmental safety leading to increased adherence to safety measures, stronger safety culture, and improved patient and nurse safety.

Research Using TPB to Support Patient Safety

Research recognizes that nursing attitude promotes patient safety through compassionate care. A study analyzed 432 students and 576 new graduate nurses from four countries aimed at determining the nurses' intention to report medication errors using the Theory of Planned Behavior. Results indicated that attitude and perceived behavior are important predictors of nursing students' intention to report medication errors (Secginli et al., 2021). This is valuable information that could help educate students and new graduate nurses on safe medication

administration practices that will enhance patient safety. Similarly, Dionisi et al., (2020) conducted a scoping review to investigate the predictive intentions that foreshadow risk behaviors of nursing interns in preventing medication errors. Attitude was found to be the most significant in predicting intentions. Nursing interns were more likely to report medication errors and adhere to drug therapy management through education on medication safety which heightened their self-confidence and promoted self-responsibility. Understanding nursing intentions is beneficial in ensuring that medication errors are reported, and nurses are supported to improve nursing practice, patient safety and outcomes, and promote a safe medication reporting culture. On investigating the attitudes of intrapartum nurses and the importance of intent to provide professional labor support, the researchers found attitude to influence the intention to provide professional labor support (Aschenbrenner et al., 2016). The TPB has been used to enhance patient care and patient safety. These studies can also be used by nurses to auto diagnose themselves before delivering care to patients. Enhanced training could improve patient experiences, nurse confidence and responsibility.

Research Using TPB to Support Nurse Safety

Safe environments are essential in delivering quality care to patients and vital for wellbeing. In a scoping review by Zahed et al., (2022) sought to understand night shift nurses' attitudes and beliefs that may affect their intention to avoid drowsy driving and determined that perceived health threat and attitude were strong predictors of intention. Education as an intervention on drowsy driving was effective in changing beliefs (Zahed et al., 2022). Beliefs have a direct effect on attitude, subjective norms, and perceived behavioral control which influence intentions and behaviors. Therefore, using education to change beliefs may ultimately change behavior. Using the TPB can also be instrumental in devising effective nursing

interventions to improve nurse's outcomes and decision making. Ditching et al., (2020) performed a cross-sectional study and surveyed 233 senior nursing students on factors that influence nursing students' decision to disclose needlestick injuries, found that decision to report needlestick injuries was significantly correlated to attitude, subjective norm, and perceived behavioral control (Ditching et al., 2020).

Mindful Self-Care

Self-care is the capacity to take care of oneself through knowledge, self-control, and independence to accomplish, maintain, or advance desirable health and wellbeing (Martinez et al., 2021). Mindful self-care adds to the component of intentional awareness (Cook-Cottone & Guyker, 2016). While mindfulness practices originated from Buddhist traditions, Jon Kabat-Zinn was influential in creating awareness of the use in healthcare by researching the benefits of mindfulness in patients with pain and demonstrated significant improvements in pain levels, mood, and psychiatric symptoms (Kabat-Zinn et al., 1985; Kabat-Zinn, 1994). Halm (2017) alludes to the sentiments of Jon Kabat-Zinn that mindfulness is when you pay attention, exist in the present moment, on purpose, and are non-judgmental. The result is awareness. Mindfulness has been shown to elevate a sense of coherence, increase self-compassion and attention awareness (Kabat-Zinn, 2003). By being self-aware, nurses can anticipate their need for self-care and manage their emotions hence may feel more able to offer compassionate care to others (Andrews et al., 2020). Research also demonstrates the importance of self-awareness in developing more adaptive coping strategies (Crane & Ward, 2016). As the most well-researched self-care strategy, mindfulness is well posed to effectively promote the wellbeing and work performance of nurses (Melnyk, 2020; Williams et al., 2022).

Mindfulness training helps nurses develop resilience, improves their capacity to deliver safe and effective patient care, and minimizes burnout caused by emotional weariness, professional burnout, poor personal accomplishment, depersonalization, and secondary trauma. (Janeway, 2020; Sultana et al., 2020; Zeb et al., 2022). Additionally, mindfulness improves work-life balance (Steinberg et al., 2017; Williams et al., 2022). Regular mindful self-care training and skills could lower the risk of professional burnout and improve a nurse's capacity to provide safe patient care, training success, and general mental health (Bueger et al., 2017; McConville et al.,2017). Mindfulness boosts our emotional regulation flexibility. Meditation enhances perspective, compassion, self-compassion, and emotion management (Hofmeyer et al, 2020). Implementing mindful self-care strategies by organizations employing nurses could benefit by reduced attrition of nurses and improved quality of care. Therefore, better patient outcomes, higher patient satisfaction, and increased nurse satisfaction can be attributed to increased mindful self-care (Avino, 2020). If nurses are able to manage the emotions of caring by being self-aware and recognizing when they need to apply self-care and self-compassion, then they may feel more able to offer compassionate care to others.

The Link Between Intention and Mindful Self-Care

Mindfulness involves the core aspect of attention, intention, and attitude to help increase awareness (Jazaieri et al., 2017; Shapiro et al.,2018). Mindfulness is being attuned to the feelings and perspectives of others while remaining aware of the similarities and differences that exist between them. The ability to think logically, to reflect critically, and to be self-aware are all part of this level of awareness (Feize et al., 2019). Practicing self-care fosters meaningful change in nursing care and facilitates self-awareness. Therefore, having the intention to engage in self-care is essential in meaningful self-care.

Therefore, nurses are advised to participate in self-care to enhance their capacity for mindful practice (Sofhauser 2016). The intent to be present during an activity or while engaged in a behavior strengthens the concept of mindfulness in practice. This culminates into a successful process of care in which patients trust the nurses through genuine connections that make them feel appreciated, and in which nurses enjoy a greater feeling of self-worth and purpose (Jones, 2018). This, in conjunction with other motivating variables, may inspire nurses to engage in self-care. By establishing a framework of mindfulness, intentional self-care may help workers feel more engaged in their job, encourage teamwork, and feel more connected to the organization, hence decreasing burnout rates and improving productivity (Monroe et al., 2021). The intent to engage in mindful self-care is manifest is sustained when the outcome of mindfulness yields energy that illuminates vibrancy to perform tasks and provides a rejuvenation of freshness for releasing tension and gain more mental focus.

Summary

Self-care is an initiative-taking and customized approach to the enhancement of one's capacity for compassionate care of patients and their families using a range of tactics, in both personal and professional contexts. Self-care is an emerging concept in contemporary nursing practice, especially in the wake of the worldwide Covid 19 pandemic. Its positive benefits to overall health, especially combatting stress and burnout, could be explored in different nursing environments and inform practice and policy development to address self-care. Furthermore, a positive association has been established through literature that improved self-care promotes wellbeing, leads to effective coping mechanisms, and increases work satisfaction. Further understanding of self-care and its facilitators and barriers will support nurses to care for themselves whilst providing quality, compassionate care for patients. There is a lack of literature

on the topic of self-care for rural locations and perianesthesia nurses. The TPB has not been used to study self-care among the rare community of perianesthesia nurses. Therefore, more research is essential in these areas thus the purpose of this proposal was to use the TPB to explore perianesthesia nurses' intentions to engage in mindful self-care in both rural and non-rural areas.

CHAPTER III

METHODS

The purpose of this study was to examine the relationships among attitudes, subjective norms, perceived behavioral control, and intentions to engage in mindful self-care among nurses working in the perianesthesia setting. The specific aims examined in this study were: (a) to determine the frequencies of sample demographic characteristics, attitudes, subjective norms, and perceived behavioral control, intentions, and mindful self-care among perianesthesia nurses; (b) to determine the relationships among attitudes, subjective norms, perceived behavioral control, intention, and mindful self-care of perianesthesia nurses; and (c) compare intentions and mindful self-care among perianesthesia nurses working in rural and non-rural areas.

This chapter discussed the study design, sample, and setting, protection of human subjects, procedure, and data collecting, as well as data analysis and management. The sample described used descriptive statistics, which measured the central tendency and dispersion appropriate to the level of measurement of each variable. While frequency was used to measure categorical factors for example, gender, level of education, race, rural or non-rural, and years of experience, interval variables like age were described using mean, median, variance, and standard deviation. The strength of the correlations and the statistically significant predictors in the model was determined using regression analyses, which was also used to identify various inter-relationships between the variables. Mann-Whitney U test, for comparison in variables between rural and non-rural settings.

Research Design

This research used a cross-sectional design to assess attitudes, subjective norms, perceived behavioral control, and intentions among perianesthesia nurses to participate in mindful self-care using the TPB framework. A cross-sectional study design is an observational study where the outcome and the exposures in the study are measured at the same time (Setia, 2016). Cross-sectional studies have the advantages of being quick and affordable to conduct, having fewer ethical issues, and having findings that can be applied to more extensive research projects.

Sample and Setting

The American Society of PeriAnesthesia Nurses (ASPAN) is an exclusive professional association for perianesthesia nurses that aims to improve the standard of care provided to patients via the distribution of new research and the advocacy of established best practices. A mass email was sent to members of the American Society of PeriAnesthesia Nurses (ASPAN) to recruit them for the research. Perianesthesia nurses specialize in pre-anesthesia, post anesthesia, pain management and ambulatory surgery. ASPAN membership includes sixty thousand nurses who specialize in perianesthesia (www.aspan.org). The majority of ASPAN's members (almost half) are women and more than 50% of ASPAN members have a Bachelor of Science in Nursing degree. Certified Ambulatory Perianesthesia Nurse (CAPA) and Certified Post Anesthesia Nurse (CPAN) are the two main certifications for perianesthesia nurses. Most perianesthesia nurses hold CPAN (42.51%) and CAPA certification was at 26.64%. The vast majority of perianesthesia nurses are employed as hospital staff nurses (D. Hanisch, personal communication, October 5, 2022). An email including a link to the survey was sent to ASPAN

that included an electronic flyer with a QR code. The study's findings may be applied broadly to the field of perianesthesia nursing.

Sample Population

Member nurses of the American Society of PeriAnesthesia Nurses (ASPAN) made up the sample. In America, perianesthesia nurses are represented by ASPAN. Using this platform allowed recruitment of nurses in both rural and non-rural settings, giving crucial data for addressing the research's specific aims. Once the Institutional Review Board (IRB) provides approval, sampling started (see Appendix A). Convenience sampling was used to gather the data. This form of sampling entails participants being chosen in an arbitrary way on the basis of their accessibility and/or proximity to the research. Convenience sampling's main advantages are that it is cheap, effective, and easy to use. The fundamental problem with convenience sampling is that it cannot be easily generalized to broader populations (Jager et al., 2017). The survey timeline was one month. The survey was halted after the sample size was reached. Email reminders were not sent, however, the email to take the survey was sent out three times to a limited number of perianesthesia nurses chosen randomly to help attain the sample size.

Pilot Study Sample

Sampling for the pilot study consisted of one of the committees of ASPAN membership. This group was excluded from participating in the main study survey. The main body of the email was the flyer, which had a QR code for the survey and a hyperlink in the email that provides access to the pilot survey. Sample selection began after the approval of the IRB. The survey timeline was expected to be two weeks or earlier once the sample size was reached, and email reminders were sent weekly to encourage participation. Incentives were provided for the pilot survey to early responders according to the incentive eligibility criteria.

Experts for the Validation Phase

The tool validation efforts were supported by a team of four highly qualified individuals. Polit and Beck (2021) recommends a group of three to five experts for the validation process. This team included a clinical educator who specializes in Perianesthesia Care Units , a clinical mentor for Perianesthesia Care Units, a perianesthesia charge nurse, and a workplace wellness specialist. Together, these individuals brought a wealth of knowledge and experience to the tool validation process, and their contributions were invaluable. This group of experts had strong credentials on the construct of self-care and the target population.

Sample Size for the Main Study

G-power (version 3.1) was used to conduct a power analysis and determine the sample size required to reach statistical significance. Linear regression analyses with three variables were used to get the estimated sample size (Faul et al., 2009). The power for this sample calculation was set at 80% with a medium effect size of 0.15 and a significance level of .05 ($p<0.05$) to detect significant relationships for a minimum sample size of 77 perianesthesia nurses. According to Francis et al. (2004), when studying the Theory of Planned Behavior (TPB) using a multiple regression method, it was safe to assume at least a medium effect size. Researchers also advise using at least 80 participants in any multiple regression analyses of TPB hypotheses (Francis et al., 2004). Thus, the sample size for this study was 80 participants.

Sample Size for the Pilot Study

Sample size recommended for pilot study according to the TPB questionnaire construction manual is 5 participants (Francis et al., 2004).

Inclusion and Exclusion criteria

The inclusion criteria were registered nurses who are members of ASPAN and actively working full time or part time (at least 20 hours per week) in a perianesthesia setting. They needed to be able to use a computer, read and understand English. Exclusion criteria was perianesthesia nurses who do not work either part time or full time in a perianesthesia nursing unit, ASPAN members that do not work in a perianesthesia setting and are not able to read and understand English or use computers.

Data Collection

Data collection was conducted through a survey. The survey methodology makes analyzing insights into practice and opinions for large populations in various geographical locations relatively simple, convenient, affordable, and flexible (Safdar et al., 2016). The introductory part included the purpose of the study, describe the study's benefits, risks, confidentiality, duration of the survey, voluntary participation, incentives, right to inquire more information about the study, and the implications of their participation so that participants were well informed. Since filling out the survey questionnaire was voluntary, the participants could stop the survey at any time for any reason, however, the participants were encouraged to answer all questions and that incentive eligibility was based on complete surveys. Any incomplete survey was not used for data analysis.

Initial data collection was on demographics. The survey included questions to obtain demographic characteristics needed to describe the sample and determine frequencies. The demographic questions include respondent’s age, gender, education, professional role, certification, experience, practice setting, and rurality (this was assessed through zip codes using RUCA codes). All survey questions from the modified Theory of Planned Behavior

Questionnaire, the Mindful Self-Care Scale, and demographics were combined and input into Qualtrics as one survey.

The survey was disseminated through email via the ASPAN listserv, and the survey incorporated as a hyperlink. Completing the survey automatically generates a thank you note and the e-gift card information if eligible. Both survey tools' results were analyzed for existing correlational and regression relationships, as well as comparisons between rural and non-rural areas. This study provided preliminary evidence for examining self-care behaviors in perianesthesia nurses, which could then be replicated for other nurse specialties in future for advanced and more integrative studies.

Survey Response Rate

Email response rates are approximated at 25- 30%; however, follow-up emails and reinforcements may yield response rates as high as 70% (Yun & Trumbo, 2000). A study conducted using 2121 American Society of PeriAnesthesia Nurses members as respondents on The Revised Individual Workload Perception Scale, a 21% response rate was attained (Ross, 2017). In another study using ASPAN members as respondents, researchers used a mixed-methods descriptive survey sent via email to all ASPAN members to determine the extent to which ambulatory surgical center setting perianesthesia nurses advocated for the safe use, storage, and disposal of opioids for their patients. Of the 1977 nurses who agreed to participate in the survey, 1632 met the criteria. This translated to a response rate of at least 20% of all ASPAN members (Odom-Forren et al., 2019). Response rates were not reported for the vast majority of research studies conducted through ASPAN. Research has shown that offering incentives and sending reminder emails to survey participants on a regular basis was the most effective approaches to increase the percentage of people who complete online surveys (Nulty, 2008).

Financial incentives and a brief survey (ten minutes or less) were shown to almost double online response rates from 17.1 percent to 33.7 percent in a study evaluating demographic surveys and response rates (Guo et al., 2016). Positive and adequate response rate helps strengthen validity. This study had 3200 participants and the study was halted right after the sample size was reached. This could have potentially affected the response rate as nurses, especially from the rural areas, might have benefited more from extended time to take the survey.

Procedures for Data Collection

Human Subjects' Protection

All research, but especially that which involves contact with human subjects, must give careful attention to ethical concerns. Ethical issues are important in nursing research because they reflect the values, relationships, and rights of human subjects. Also, people are more likely to trust researchers if they see that they have high ethical and professional standards. The purpose of this study was to examine the relationships among attitudes, subjective norms, perceived behavioral control, and intentions to engage in mindful self-care among nurses working in the perianesthesia setting (see Appendix B).

Informed Consent

Participants were provided with a comprehensive and meticulously presented explanation of the research before being granted the option to partake. They were informed of the research's purpose, their right to change their mind from participation, the confidentiality measures safeguarding their responses, and the requirement to provide consent through a designated checkbox. Submission of the survey indicated their consent to participate in the study for both the pilot and the main study. To ensure privacy, data was securely stored on a password-protected server.

During the Pilot, the Main Study, and the expert validation process, eligible participants had to be at least 18 years old. Prior to taking the survey, they were furnished with an information sheet that detailed the study's title, objectives, potential risks and benefits, the opportunity to seek clarifications, voluntary participation, survey duration, and the confidentiality measures in place. Compensation details were included in the Pilot and the Main study information sheet. There was no compensation for the expert validation process. Participants were at liberty to withdraw from the study at any stage, although unfinished surveys did not qualify for incentives. It was crucial to emphasize that all survey questions had to be answered for their submission to be deemed complete. Participation in the expert validation process was not anonymous and experts were requested to provide their email addresses should any clarification be needed for the answers provided.

These studies were designed to pose minimal to negligible risks to the participants. Surveys were conducted online through the Qualtrics platform, and responses were encrypted with randomized response IDs to ensure anonymity. Personal identifying information was not collected, and unique codes were generated solely for analytical purposes. Data was analyzed and reported in aggregate forms to further safeguard the participants' privacy and confidentiality (see the description in the consent forms for the pilot and main study, Appendix D and E).

Benefits

Participants in all three phases of the study, including the main study, pilot study, and expert validation study, did not receive any direct benefits. However, their participation was crucial for advancing knowledge in the field of nursing. The main study aimed to help organizations and nursing leaders understand the importance of self-care strategies for nurses, while the pilot study focused on testing the reliability and validity of a researcher-modified

questionnaire. The expert validation study sought feedback on the provided questions to enhance clarity, consistency, and relevance in the overall research (see Appendix H). Collectively, these studies aimed to contribute to the existing understanding of self-care among nurses and inform the development of effective self-care programs for the benefit of current and future nurses.

Privacy and Confidentiality

The study prioritized confidentiality and privacy throughout all phases (expert validation, main study, and pilot study). Participants faced minimal to no risk as surveys were securely conducted online using Qualtrics, with unique codes preserving anonymity. Data was analyzed and reported in an aggregated format to protect individual responses. Participants in the main and pilot studies did not directly receive benefits but contributed to valuable research outcomes. The main study aimed to enhance understanding of self-care strategies, resource management, and nurse engagement, benefiting organizations and nursing leaders. The pilot study focused on testing the reliability and validity of a modified questionnaire for accurate data collection. Participant information remained confidential, securely stored in Qualtrics, and later exported to a password-protected SPSS file on the principal investigator's private OneDrive. Expert email addresses were collected for communication, responses were coded for anonymity, and data sharing was restricted to the research team. Personally identifiable information was not collected, and data transfer occurred through encrypted channels. The electronic dataset will be archived for a minimum of three years in compliance with UND IRB policies, ensuring participant privacy. The study's commitment to confidentiality and privacy upheld the integrity and ethical conduct of the research across all phases.

Recruitment Process

The e-flyer outlined the research title, the purpose of the study, eligibility criteria, the incentive offered, IRB approval, and contact information. Data was collected using the modified TPB questionnaire and the Mindful Self Care Scale which are both validated tools.

Recruitment for the Expert Validation Phase

The validation process involved individually contacting experts who were non-anonymous survey participants. This allowed for clear communication and follow-up between the investigators and the experts to ensure accurate understanding of the responses and their recommendations or suggested modifications. Participants in the validation process did not receive any compensation (see Appendix C).

Recruitment for the Pilot Study:

Recruitment for the pilot study was done through email. The email with a flyer and a QR code was sent to the American Society of PeriAnesthesia Nurses (ASPAN) for distribution (see Appendix L). To be eligible, participants had to meet certain inclusion and exclusion criteria. The identities of those who participated was kept confidential and the responses were gathered using Qualtrics with a randomly assigned code to each participant to comply with HIPAA rules. Participants taking part in the pilot study received a $10 incentive and this was offered to the first 5 respondents. The student investigator provided a $50 grant that was used for the incentives. Participants who completed the survey received an incentive through a link at the end of the pilot survey to an external website that enabled them to claim their e-gift cards by using their emails. The emails submitted to the external website were not linked to the survey in any way or form. The e-flyer included the research title, purpose, eligibility criteria, incentive offered, IRB approval, contact information, and a QR code for survey access. Time needed to

complete the pilot study survey was approximately 10 minutes. The pilot survey was conducted over a one-week period and data collection was stopped after 10 participants had completed the survey, which was double the recommended sample size.

Recruitment Strategy for the Main Survey

An email link with a flyer and QR code were forwarded to ASPAN for distribution (see Appendix L). The benefits of using email in a survey for data collection include the ease and convenience with which the survey can be distributed to a particular large group of respondents, participant information can be captured, responses can be tracked, and those who have not yet responded can be prompted through reminded to take the survey. Eligibility was determined using the inclusion and exclusion criteria. The identities of those who took part in the research were kept confidential. Qualtrics was used to gather the responses online and a random code was assigned to each participant. In order to comply with HIPAA rules, the survey data was coded arbitrarily. There was minimal risk to participants and effort in terms of the time. Total time needed to complete the survey was less than 20 minutes. The survey was administered close to a month period. The survey stopped once the necessary sample size was reached. Only complete surveys were considered for the sample size. A provision was set such that if the required sample size was not reached, a one-month extension was to be added, with weekly email reminders, and the extension would be repeated twice if necessary.

A $10 incentive for an e-gift card was offered to the first 70 eligible perianesthesia nurses who complete the survey. This incentive was available by being transferred to an external website to claim the e-gift card where the respondents entered their names and email to facilitate e-gift card distribution. The emails submitted to the external website were not linked to the survey in any way or form.

The student investigator provided a $700 grant that was used for the incentive. Study results were analyzed in aggregate form to conceal any identifiable personal information. The study involves minimal risks.

Instrumentation

Mindful Self-Care Scale (MSCS)

The MSCS consists of 33 questions and three general questions and examines the frequency of self-reported behaviors that reflect self-care behavior (see Appendix K). The 33 MSCS methodology utilizes a 5-point Likert-scale items, each of which was evaluated on an ordinal scale, to assess how often participants engage in various forms of self-care (Hotchkiss and Cook-Cottone, 2019). The general items are also scored using a 5-point Likert scale. Each behavior was assessed within the past seven days. The days were divided into five categories depending on how often or how much self-care was undertaken, as indicated in Table 1.

Table 1.
Mindful Self-care Assessed Within Past Seven Days

Never	Rarely	Sometimes	Often	Regularly
0 days	1 day	2-3 days	4-5 days	6-7 days
1	2	3	4	5

Note: Scale measuring frequency of behavior (how much or how often) within past week (7days)

The following table shows reversed scores for mindful self-care assessed within the past 7 days.

Table 2.
Mindful Self-care Assessed Within Past Seven Days (Reversed Scoring)

Never	Rarely	Sometimes	Often	Regularly
0 days	1 day	2-3 days	4-5 days	6-7 days
5	4	3	2	1

Note: Scale measuring frequency of behavior (how much or how often) within past week (7days)

The Mindful Self-Care Scale addresses six domains of self-care: mindful relaxation (6 items), physical care (8 items), self-compassion and purpose (6 items), supportive relationships

(5 items), supportive structure (4 items), and mindful awareness (4 items). Each item was scored using the Likert scale of 1-5 then an average calculated for each domain. One item under physical care was reverse scored. Psychometric testing for The Mindful Self-Care Scale using Cronbach's alpha showed reliability and internal consistency of mindful relaxation (0.79), physical care (0.76), self-compassion and purpose (0.84), supportive relationships (0.79), supportive structure (0.79), and mindful awareness (0.82). Construct and concurrent validity of MSCS measures showed positive correlations (Hotchkiss and Cook-Cottone, 2019).

Mindful Self-Care Scale Cutoffs

The cutoffs in this scale serve as benchmarks that help categorize individuals into various levels of self-care and mindfulness. The cutoffs are categorized as low, moderate or high. The higher the score on this scale, the more mindful and engaged an individual is in self-care practices, indicating a greater capacity to manage stress, improve mental health, and enhance overall quality of life.

Table 3.
Mindful Self-Care Scale Cutoffs (33-item)

		Mindful Relaxation	Physical Care	Self-Compassion & Purpose	Supportive Relationships	Supportive Structure	Mindful Awareness	MSCS Total
Cutoffs	Low	0-8	0-12	0-8	0-10	0-7	0-6	0-61
	Medium	9-13	13-18	9-14	11-15	9-11	7-10	62-84
	High	14-24	19-31	15-24	16-20	12-16	11-16	85-125

Note: (C. Cook-Cottone, personal communication, October 10, 2023).

Theory of Planned Behavior Questionnaire

This study utilized the TPB variables which include attitudes, subjective norms, and perceived behavioral control as predictor variables and intention as one of the outcome variables (see Appendix F). The TPB does not have a standardized tool that was applicable to research but the author of TPB developed a comprehensive guide that researchers can adapt for their studies. The guideline facilitates the researcher to construct a theory-based research tool in a methodical

and replicable manner that was then used to measure the concepts of TPB for the unique population, time, and behavior (Francis et al., 2004). This study used a pilot to develop and assess psychometric properties of the researcher-modified version of the TPB questionnaire that was used for measuring the intention of perianesthesia nurses to participate in mindful self-care.

The TPB questionnaire was developed to assess the constructs of the Theory of Planned Behavior. The TPB Questionnaire is not a standardized tool and the construction questionnaire based on the TPB guideline was used to construct tools that are specific to the population being studied. Several studies have used TPB and corroborated the validity and reliability of the questionnaire. Davis et al. (2002) constructed a TPB questionnaire to assess the intention to stay in high school for among African Americans and the TPB constructs of attitude, subjective norms, perceived behavioral control, and behavioral intention generated construct validity of 0.82, 0.71, 0.54, 0.77 respectively (Davis et al., 2002). A study to develop a SARS patient care attrition prediction tool, based on the Theory of Planned Behavior, conducted a pilot to test validity and reliability of on instrument for predicting nursing intention for SARS patient care and Psychometric analysis of survey data provided empirical evidence of the construct validity and reliability of the instrument with Alpha coefficients of .7538 to .9389 indicating high internal consistency of the instrument (You et al., 2005). A TPB questionnaire constructed to understand nurse intention to follow recommendations related to a preventive clinical practice, descriptive statistics and internal consistency of each construct showed Cronbach alpha values for all theoretical constructs (≥ 0.7) after eliminating factor loadings for all items of all theoretical constructs <0.6 through confirmatory factor analysis (Gagnon et al.,2015).

Modified TPB Questionnaire

The modified TPB questionnaire constructed from the above studies evaluating TPB constructs have all indicated strong internal consistency and validity and maintained its consistency despite the population under study (Davis et al. (2002); Gagnon et al.,2015; Yoo, et al., 2005).

Construction of the TPB Questionnaire

The development of this tool was required because there was no prior research that was found to apply TPB in perianesthesia nurses, specifically assessing their mindful self-care behavior. The design of the TPB questionnaire using Francis et al. (2004)'s manual was utilized as a guide in construction of the modified TPB questionnaire.

There are two possible ways to analyze TPB constructs: direct and indirect. Using a set of questions that are worded similarly across all measures, respondents are asked to score their own subjective responses to an idea in direct evaluations. By eliciting specific behavioral beliefs and outcome evaluations from respondents, indirect measures are assessed (Ajzen, 2006). Since they both assume different cognitive processes, the direct and indirect techniques each have their own disadvantages. The measuring findings should have a significant correlation despite the diverse methodologies and the usage of analogous ideas (Francis et al., 2004). Both methods are advised, although depending on the goal of the study, brief version of the questionnaires are acceptable. It is adequate to employ the direct measurements if the study's overarching objective is to predict variation in behavioral intentions (Francis et al., 2004). The three minimum generalized items for the outcome variable and the three minimum items for each of the predictor variables are used in direct measurement analysis. Consequently, a minimum 12-item questionnaire was created for the four variables as a tool to quantify TPB (Francis et al., 2004). The questions for each

construct were mixed up throughout the document once all the questions for direct measurements were developed. That is, questions used to assess attitudes were alternated with questions for measuring subjective norms and perceived behavioral control (Ajzen, 2006; Francis et al., 2004).

Steps in the Construction of Researcher-Modified Version of TPB Questionnaire

There are nine phases that are involved in the construction of the questionnaire to measure the variables in the TPB model. The phases are as follows: (a) Determine and define the population of interest, (b) Carefully define the behavior under study, (c) Decide how best to measure intentions, (d) Determine the most frequently perceived advantages and disadvantages of performing the behavior, (e) Determine the most important people or groups of people who would approve or disapprove of the behavior, (f) Determine the perceived barriers or facilitating factors which could make it easier or more difficult to adopt the behavior, (g) For a standard TPB-based study, include items to measure ALL of these constructs in the first draft of the questionnaire, (h) Pilot test the draft and reword items if necessary, and (i) Assess the test-retest reliability of the indirect measures by administering the questionnaire twice to the same group of people, with an interval of at least two weeks. The nine phases do not have to be completed in a single study, and the phases used are determined by the study's purpose. Four field experts were approached to participate in this process and were engaged in determining the face validity and content validity.

Tool Validation Process

The modified TPB questionnaire was adapted from the TPB framework and given that this was a novel population for this instrument, it was necessary to establish face validity and content validity. The recommended number of participants, as proposed by Francis et al. (2004), for the expert validation process is a minimum of three field experts. For face validity, 13

questions were presented to the experts, with provision for notes to explain or clarify. Similarly, 13 questions were reviewed by experts to assess content validity.

Expert Validation Findings

The expert validation process examined face and content validity. Psychometric testing of the researcher-modified instrument included steps to re-establish face validity by calculating impact score and content validity by calculating the Content Validity Index (CVI).

Content Validity. Content validity describes how well the items on a measuring instrument correspond to the construct that is being measured (Polit, 2015). Qualitative and quantitative approaches were used to assess content validity. A quantitative approach was conducted through the assessment of content experts (Kimberlin and Winterstein, 2008) followed by quantitative that was calculated using the Content Validity Index (CVI) (Alexandre & Coluci, 2011). CVI is an index rating representing the level of consensus among experts about the reliability of the instruments content validity (Polit and Beck, 2021). The CVI technique uses a four-point Likert scale, with 1) indicating a completely inequivalent item, 2) requiring substantial revision before equivalence could be rated, 3) requiring very little revision, and 4) completely equivalent item. The content validity index was generated for each question to determine the proportion of experts who agreed on consistency and equivalency of the questions by averaging the item-content validity index scores for the scale. A less conservative method that averages the item-level CVIs was used to compute scale CVI. A Scale-CVI score of at least .80 is considered acceptable, whereas a value of .90 or higher indicates optimal content validity (Polit and Beck, 2007). CVI = (No. of responses that score 3 or 4)/total number of experts. Scale CVI for the modified TPB questionnaire was 0.83. This is acceptable CVI indicating consistency and equivalency of the variables.

Face Validity. Measurement tools have high face validity if they seem to accurately measure the quantities they were designed to track (Polit & Beck, 2017). This kind of validity is concerned with whether a measure initially appears to be pertinent, sufficient, and appropriate for the item it is evaluating. This subjective evaluation of a measurement tool is a crucial first step in reviewing and validating the questionnaire/tool development process. Face validity was evaluated to establish clarity and relevance of the questions to the perianesthesia nurses' population by a panel of experts with a background in perianesthesia care setting or self-care specialty. The experts included PACU charge nurse, PACU clinical educator, PACU clinical mentor, and a health and wellness practitioner specializing in behavior change. The experts evaluated the items with respect to clarity and relevance. A five-item Likert scale ranging from 0 to 5 (0 being strongly disagree and five being strongly agree) was used evaluation. The data collected from the experts was analyzed using impact score method, which was computed for each item, using the following formula:

Impact score = Frequency (%) × Importance.

Frequency is the number of experts that gave a score of 3 or more divided by the total number of experts who took part in the process. *Importance* is an average of all the responses for each question. Impact score >1.5 is considered acceptable (Lacasse et al., 2002). There was over 90 percent agreement in relevancy and clarity of intention, attitudes, and perceived behavioral control questions among experts. There was 50 percent agreement on social norm questions with the negatively worded question scoring the lowest (1.25). As a result, questions with an impact score of less than 1.5 were reworded to reflect the recommendations from the experts

Pilot Testing (Direct Measures)

Assessing the viability of a full study, creating and testing adequate research tools, and gathering preliminary data are a few of the reasons why pilot studies are conducted (Van & Hundley, 2001). Prior to conducting a primary study, feasibility studies decide whether it was appropriate to proceed forward with a project (Polit & Beck, 2021). The internal consistency and validity of the research instrument can be used to gauge its suitability. Internal validity establishes that existing relationships among the constructs are not influenced by outside factors. Internal consistency is a measure of dependability in which items are connected and the effectiveness of how well an item measures the same construct is examined (Polit & Beck, 2021). The modified TPB questionnaire was adapted from the TPB framework and given that this was a novel population for this instrument, establishing internal consistency was deemed necessary early in the data collection phase to ensure data quality (see Appendix I). This is imperative to ensure that the modified instrument remains suited to measuring the intention, attitude, subjective norms, and perceived behavioral controls variables. Recruitment procedure as described above were adhered to, however, for the pilot data collection, a chapter of ASPAN was sent the email for pilot data collection. This chapter was excluded from the main study's data collection. With IRB approval, ten perianesthesia nurses participated in the pilot study to assess internal consistency. The recommended number of participants, as proposed by Francis et al. (2004), for conducting pilot testing on direct measures is a minimum of five. The pilot study of the modified TPB questionnaire included 21 questions, of which 8 were demographic questions (see Appendix G) and 13 were Likert scale questions based on the constructs of the modified TPB. All the 21 questions could be completed in less than 10 minutes. An incentive of $10 was provided for the first 5 respondents.

Pilot Study Demographic Characteristics

In the pilot study, 10 perianesthesia nurses were involved. Out of these, 90% (n=9) were female, and 60% (n=6) were aged over 60, while 30% fell within the age range of 50-59. In terms of experience, 80% (n=8) had more than 20 years, with the remaining 20% having 16-20 years of experience. Notably, 80% (n=8) of the participants possessed a bachelor's degree, and all respondents were staff nurses. The majority, 90%, worked in a Hospital Post-Anesthesia Care Unit (PACU), with the remaining 10% employed in a pre-anesthesia clinic. Furthermore, 70% of the participants held CPAN certification, with only one rural participant among the surveyed group. Out of the 10 participants, one was rural and there was only one missing value that was accounted for using the mean substitution method for imputation purposes.

Pilot Study Data Analysis

In the pilot study, participants demonstrated a moderately strong intention to engage in mindful self-care, as indicated by a mean score of 5.17 (SD=0.79). The participants displayed a nearly neutral level of social pressure when it came to embracing mindful self-care, with a mean score of 3.97 (SD=0.74). On average, participants reported a mild level of difficulty in practicing mindful self-care, with a mean score of 3.67 (SD=0.65). Furthermore, participants exhibited a moderately positive attitude toward the concept of engaging in mindful self-care, as evidenced by a mean score of 5.48 (SD=1.00).

Correlation analysis involving the four variables revealed varied patterns of strengths in relationships. Notably, there exists a robust and highly significant positive correlation between Intention and Attitude (r=0.883), indicating that perianesthesia nurses with more positive attitudes tend to exhibit stronger intentions to engage in mindful self-care. However, no statistically significant correlations were observed between Intention and Social Norms, as well

as between Social Norms and Perceived Behavioral Control, suggesting that the influence of social norms and perceived control may not be linear in this perianesthesia sample. Perceived Behavioral Control and Social Norms both showed weak relationships to attitude.

Psychometric Evaluation of the Pilot Study for the Modified Version of TPB Questionnaire

Measuring Reliability. This passage discusses the use of psychometric testing to assess a modified version of the TPB questionnaire for perianesthesia nurses. The pilot study data was used to assess the validity and reliability of the modified TPB questionnaire (Beck ,2021). Reliability describes an instrument's steadiness, consistency, or precision. It is the ability to produce the same result under different conditions or from the viewpoints of different observers, demonstrating constancy, coherence, homogeneity, and equivalent (Terwee et al., 2007). Cronbach's alpha is a statistical metric that is useful in assessing the internal consistency (homogeneity) of the items of a measurement scale, with typical values ranging from .00 to +1.00. An alpha value of >0.6 for the internal consistency coefficient is generally acceptable for TPB questionnaire modification (Francis et al., 2004) Cronbach's alpha provides an assessment of the instrument's reliability in measuring the dependent variable, as well as the correlations among its constructs (Francis et al., 2004; Polit & Beck, 2017). The internal consistency of an instrument demonstrates whether or not each component measures the same construct (Streiner, 2003). Cronbach's alpha for the entire modified version of the TPB questionnaire during the pilot study was found to be Cronbach's alpha value of 0.667. This value was achieved after omitting an item that exhibited poor values. This was a question under perceived behavioral control. Individual construct Cronbach's alpha was not calculated due to the small sample size of the pilot survey.

Rephrasing and Deleting Questions in the TPB Questionnaire

Ajzen (2020) acknowledges that the questionnaire guideline questions may not be appropriate for a different population, behavior, or time period, therefore, the questions can be modified to reflect the perspectives within different contexts to align with specific populations and behaviors enhancing their relevance and appropriateness without losing original intended meaning. In selecting direct items, some items can be deleted if that improves the internal consistency of the tool (Ajzen, 2006).

Questions Modification for the Main Study

From the expert validation process and pilot testing feedback, question PBC1 showed poor scores indicating that participants may have struggled with the question or had a challenging time interpreting it hence it was omitted in the main survey. The resulting modified TPB questionnaire contained 12 questions that were used for the main study survey (see Appendix J).

Data Analysis and Management

Both univariate and multi variate analysis were used to understand the distribution and the relationships among the several variables. Data collected from the survey was screened for completeness, and any required survey questions that were unanswered were considered for missing data. Statistical significance was considered at an alpha level of 0.05. The analysis utilized both descriptive and inferential statistics. SPSS software was used to help facilitate data analysis. Data input was a critical activity that requires accuracy because erroneous entries could lead to inconsistencies, compromise the authenticity of the data, and produce random and systematic errors. In order to ensure accuracy, two files were used for double data entry. All variables (questionnaire items) were initially listed in the same order as they appear in the

questionnaire in one SPSS file with the data. The data was cross checked with an excel file. Data was screened and no errors were encountered in comparing the two files, missing data were identified with all the values appearing to be withing normal values (no outliers). Data cleaning entailed regrouping the variables together for easy analysis and examining missing values. Data cleaning helps maintain the integrity of the information and its validity.

Statistical Assumptions

Missing Data

Missing data may pose a threat to external validity and greatly influence conclusions. Consequently, it is crucial to manage missing data properly (Kang, 2013). The missing value pattern was missing completely at random. Missing values were from demographics, the MSCS and the modified TPB. 11 participants did not answer the question on certification, 2 left zip code blank, and other missing values were from no specific participant or in no particular order or pattern. 13 values were randomly missing from the survey tools. After a double entry check, the mean substitution imputation method was used to 'fill in' the missing values.

Normality Distribution

Data was assessed for normal distribution to evaluate skewness and kurtosis. Skewed or kurtosed data violates the assumptions of normality required for the statistical tests employed (Polit & Beck, 2021). Bell curves extrapolated from histograms were visualized for normal distribution. The data generally showed normal distribution.

Linearity

This is the assumption that the relationship between the independent variables and the dependent variables is linear. This is crucial because a regression analysis must be performed under the assumption that the independent and dependent variables have a linear relationship,

which determines the model's accuracy and significance. Linearity was assessed by use of scatterplots. Strong linear relationship decreases the problem of multicollinearity. Linear relationships were observed by using scatter plots.

Multicollinearity

This occurs in a multiple regression when predictor variables are overly correlated, it might result in unstable estimations of the regression coefficient (Polit and Beck, 2021). Two variables are considered to be perfectly collinear if their correlation coefficient is +/- 1.0. Multicollinearity among independent variables resulted in less reliable statistical inference. Tolerance testing and the variance inflation factor (VIF) was used to check for multicollinearity. Multicollinearity is indicated if the tolerance is less than or equal to 1 and the VIF is equal to or more than 10. (Polit, 2010). The statistical significance of the independent variables is compromised by multicollinearity. The data in this study showed no multi collinearity with tolerance value of less than 1and VIF less than 10.

Outliers

The data did not present any outliers. Likert scales were used in data collection and all responses were withing the Likert scale parameters.

Specific Aims Data Analysis

To realize the specific aims, data analysis was planned to be conducted for each study specific aim as follows:

Aim 1: To determine the frequencies of sample demographic characteristics, mindful self-care, attitudes, subjective norms, perceived behavioral control, and intentions, among perianesthesia nurses. To attain this aim, descriptive analyses focusing on frequencies were conducted. The assessment for normality involved both graphical and statistical methods,

ensuring a thorough understanding of data distribution for subsequent analyses. Significance levels were set at .05 ($\alpha = .05$).

Aim 2: Determine the relationships among attitudes, subjective norms, perceived behavioral control, intention, and mindful self-care of perianesthesia nurses. To achieve aim 2, correlational analyses were conducted to identify correlates with outcome variable. Variables correlated with one of the dependent variables with a *p* value of 0.05 or less were included in the multiple regression analysis. Regression analyses were utilized to determine if the TPB constructs could explain statistical significance variance in intention to perform mindful self-care after all other variables have been considered.

Aim 3: Compare intentions and mindful self-care among perianesthesia nurses working in rural and non-rural areas. To achieve aim 3, the Mann-Whitney U test was used to assess differences between nurses working in rural and non-rural areas.

Data Storage

Data was imported to SPSS from Qualtrics. SPSS was used to store and analyze collected data. These files of data were safeguarded by the researcher's use of a password-protected folder belonging to the Principal Investigator on OneDrive, hosted on the secure email servers of the University of North Dakota. After the research was over, the data was safely archived for further use as secondary data.

Qualtrics

Qualtrics, an online survey tool with a password-protected interface, was used in collecting data for the main study, the pilot study, and the expert validation process. Qualtrics is recognized as a popular and valued research tool due to its user-friendly interface, data analysis capabilities, and seamless integration with a variety of programs. Qualtrics importance stems

from its capacity to enable the capture of high-quality, precise, and secure data while preserving participant privacy. The University of North Dakota provides students and faculty researchers with this survey instrument at no cost. Access and utility to the resource was facilitated by the presence of helpful personnel who assisted the researcher throughout the data collection procedure. After adequate data collection, the information was saved safely on the Qualtrics platform. The information was exported to an excel sheet for coding and data cleaning before being exported to the Statistical Package for the Social Sciences (SPSS) for analysis.

SPSS

Upon survey completion, coded pilot, expert validation, and main surveys' data were exported from Qualtrics into SPSS (Statistical Package for the Social Sciences) for data analysis. The data files were electronically stored in a password-protected folder belonging to the Principal Investigator on OneDrive, hosted on the secure email servers of the University of North Dakota. This measure ensured the security and confidentiality of participant data.

Data Protection

Following the conclusion of the research, which involved data collection and analysis, the data was archived for a period of three years, adhering to the University of North Dakota's policy. This archived data will be available for reference in case any inquiries arise from the study. After the minimum retention period of three years, all electronic data and associated software will be permanently deleted.

Summary

The purpose of this cross-sectional study was to examine the relationships among attitudes, subjective norms, perceived behavioral control, and intentions to engage in mindful self-care among nurses working in the perianesthesia setting. This chapter described the research

design, sample and setting, data collection and instrumentation, data collection procedures, consent and protection of human subjects, and statistical data analysis and management.

CHAPTER IV

RESULTS

This chapter will present the results of mindful self-care among perianesthesia nurses. The chapter will discuss the findings guided by the aims stipulated in Chapter 1. The purpose of this study was to examine the relationships among attitudes, subjective norms, perceived behavioral control, and intentions to engage in mindful self-care among nurses working in the perianesthesia setting. The specific aims studied in this study were to: (a) To determine the frequencies of sample demographic characteristics, mindful self-care, attitudes, subjective norms, perceived behavioral control, and intentions, among perianesthesia nurses; (b) To determine the relationships among attitudes, subjective norms, perceived behavioral control, intention, and mindful self-care of perianesthesia nurses; and, (c) To compare intentions and mindful self-care among perianesthesia nurses working in rural and non-rural areas.

Data Screening Process

The data screening process involved cleaning, organizing, and re-labeling the variables ready for analysis. Data screening helps reduce the risk of errors and ensures the reliability of results. Data was imported to Excell, and data was formatted correctly by relabeling the columns, deleting irrelevant columns and rows, grouping the variables together and in the right format, values checked to ensure data integrity by assessing the range of values of variables to identify anomalies, and data was examined for any missing values. Missing values were examined to the extent of missingness and were handled by imputation. Visualization of data did not identify any outliers. A histogram of the data showed normality and homoscedasticity

Specific Aim 1

The first aim of this study was to determine the frequencies of sample demographic characteristics, mindful self-care, attitudes, subjective norms, perceived behavioral control, and intentions, among perianesthesia nurses.

Sample Demographics Characteristics

Table 4 shows the demographic characteristics of the study sample. The questionnaire was completed by n = 85 nurses. The ages of participants ranged from 30 to more than 60 years with a mean age between 40-49 years. In this study's sample, 63.6% (n = 54) of nurses were aged 50 or older, with those under 40 years comprising 17.6% (n = 15). Close to two-thirds of the perianesthesia nurses had a bachelor's degree (64.7%, *n* = 55) and nurses holding diplomas and doctorate degrees tied at 2.4%. MSN educated nurses were the second most frequent level of education at (27.1%, *n* = 23). Perianesthesia nurses who participated in the study were predominantly female (98.8%, *n* = 84). The majority of nurses had over 20 years of experience (44.7%, *n* = 38), while the average experience was between 11-15 years. Notably, 61.2% (n = 52) of the participants were staff nurses with 58.8% (*n* = 50) of them working in a Hospital Post-Anesthesia Care Unit (PACU) setting. Less than 10% of the participants worked in Pre-Anesthesia clinic and office setting and less than 10% assumed the educator or mentor role. Furthermore, 41.2% (*n* = 35) of the participants held Certified PeriAnesthesia Nurse (CPAN) certification, while 20% (n = 17) held Certified Ambulatory Perianesthesia Nurse (CAPA) certification. A total of 11 participants did not respond to the certification question. The majority of the nurses in the study were non rural (91.8%, n = 78). There were two participants who did not disclose their zip code for assessment of rurality. Among the 85 participants, five participants did not answer one question and 2 were missing two questions. The missing questions were random.

Mindful Self-Care Scale Characteristics for Perianesthesia Nurses

The Mindful Self-Care scale was utilized to assess the frequency of practicing mindful self-care among perianesthesia nurses in a one-week period. Table 5 shows the frequencies of the six subscales that captured the data. Generally, from the frequencies presented in the table below, most nurses practiced mindful self-care 2-3 days/week. For 2-3 days, a majority of the nurses engaged in mindful relaxation (82.4%, *n* = 70) and physical care (81.2%, *n* = 69). Notably, self-compassion, purpose, supportive relationships, and supportive structures seem to be prioritized and practiced more often compared to mindful relaxation and physical care. Nurses are less likely to engage in physical activities and mindful relaxation for more than three days in the past 7 days indicated by frequencies of (*n* = 3) and (*n* = 4) respectively for (4-5) and (6-7) days. The nurses sought supportive relationships (44.7%, *n* = 38) and supportive structure (47.1%, *n* = 40) 4-5 days in a week. Supportive relationships, supportive structures, and mindful awareness have the highest mean scores (3.9, 3.86, and 3.56, respectively) indicating that these aspects of mindful self-care are more frequently practiced and valued by perianesthesia nurses. Overall, participants reported practicing mindful self-care activities 2-3 times in the past week, while physical care had the lowest mean, suggesting that it was practiced less frequently.

Table 4

Demographic Characteristics of Perianesthesia Nurses (N=85)

Demographic Characteristics	n	%
Gender		
Female	84	98.8
Male	1	1.2
Age		
<30 years	0	
30-39 years	15	17.6
40-49 years	16	18.8
50-59 years	31	36.5
>60 years	23	27.1
Experience		
1-5 years	14	16.5
6-10 years	17	20
1-15 years	7	8.2
16-20 years	9	10.6
>20 years	38	44.7
Education		
Diploma	2	2.4
Associate degree	3	3.5
Bachelor's degree	55	64.7
Master's degree	23	27.1
Doctoral degree	2	2.4
Professional Role		
Staff nurse	52	61.2
Charge nurse	9	10.6
Nurse manager/Supervisor	17	20
Educator/mentor	7	8.2
Practice Setting		
Hospital PACU	50	58.8
Ambulatory	19	22.4
Pre-op/Holding	10	11.8
Pre-Anesthesia	5	5.9
Clinic	1	1.2
Certification		
CPAN	35	41.2
CAPA	17	20
Other	22	25.9
Did not answer	11	12.9

Note: Certified Perianesthesia Nurse (CPAN); Certified Ambulatory Perianesthesia Nurse (CAPA); Post Anesthesia Care Unit (PACU)

Table 5

Frequency of Engagement in Mindful Self-Care Among Perianesthesia Nurses Within the Past 7 Days (*N*=85)

	Mindful Relaxation		**Physical Care**		**Self-Compassion & Purpose**		**Supportive Relationships**		**Supportive Structures**		**Mindful Awareness**	
Days	***M*(SD)**		***M*(SD)**		***M*(SD)**		***M*(SD)**		***M*(SD)**		***M*(SD)**	
	2.95(0.74)		2.77(0.67)		3.41(0.88)		3.9(0.92)		3.86(0.68)		3.56(0.92)	
	n	%	n	%	n	%	n	%	n	%	n	%
0	0	0	0	0	0	0	0	0	0	0	1	1.2
1	11	12.9	13	15.3	3	3.5	4	4.7	0	0	7	8.2
2-3	70	82.4	69	81.2	55	64.7	31	36.5	38	44.7	44	51.8
4-5	3	3.5	2	2.4	24	28.2	38	44.7	40	47.1	20	23.5
6-7	1	1.2	1	1.2	3	3.5	12	14.1	7	8.2	13	15.3

Note: M = mean number of days. 0days=1, 1day=2, 2-3days=3, 4-5days=4, 6-7days=5. Standard Deviations are presented in parenthesis.

In determining whether the scores associated with various levels of each aspect of mindful self-care are to be considered high or low, Table 3 (see chapter 3), with standardized scoring, was used as a guide. Sample means for each of the subscales were calculated and the levels are shown in Table 6. If the sample mean shows a low, medium, or high scoring, that suggests lower levels, moderate levels or high levels of engagement in mindful self-care, respectively.

Table 6

Mean Sample Scores and Levels of Engagement for Mindful Self-Care for Perianesthesia Nurses (*N* = 85)

	Mindful Relaxation	Physical Care	Self-Compassion & Purpose	Supportive Relationships	Supportive Structure	Mindful Awareness	MSCS Totals (33)
Sample Mean	17.68	22.10	20.47	19.5	15.44	14.25	109.44
Level of Engagement Category	High	High	High	High	High	High	High

Modified TPB Characteristics

Modified TPB collected data regarding the four constructs that make up the framework: attitudes, subjective norms, intention, and perceived behavioral control. Table 7 shows mindful self-care frequencies of the modified TPB questionnaire characteristics for perianesthesia nurses.

Table 7

Perianesthesia Modified Theory of Planned Behavior Characteristics

	Intention		**Social Norms**		**Perceived Behavioral Control**		**Attitude**	
	***M*(SD)**		***M*(SD)**		***M*(SD)**		***M*(SD)**	
	5.54(1.07)		4.40(0.98)		4.34 (1.37)		6.1 (1.01)	
Level of Engagement	n	%	n	%	n	%	n	%
1	0	0	0	0	1	1.2	0	0
2	0	0	4	4.7	13	15.3	0	0
3	5	5.9	20	23.5	18	21.2	1	1.2
4	17	20	33	38.8	21	24.7	13	15.3
5	20	23.5	22	25.9	18	21.2	15	17.6
6	30	35.3	6	7.1	11	13	23	27.1
7	13	15.3	0	0	3	3.5	33	38.8

Note: N = 85. Level of mindful self-care engagement: the higher the number, the higher the engagement

Participants demonstrated a moderately strong intention to engage in mindful self-care, as indicated by a mean score of 5.54 (1.07). The participants displayed a moderate level of social pressure when it came to embracing mindful self-care, with a mean score of 4.40 (0.98). That was the same case with perceived behavioral control which indicated moderate control over engaging in mindful self-care activities with a mean score of 4.34. Participants reported a favorable attitude mean score of 6.1(1.01) towards engaging in mindful self-care practices.

Reliability of the Modified TPB Questionnaire

Four constructs of TPB were examined for internal consistency using Cronbach's alphas. Francis et al. (2004) consider an alpha coefficient value greater than 0.60 as generally acceptable in statistical analysis of survey data. In this study, Cronbach's alpha was 0.77 for the modified Theory of Planned Behavior questionnaire. Behavioral intention was 0.77, social norms 0.3, perceived behavioral control 0.72, and 0.88 for attitude (See Table 8).

Table 8

Reliability of Modified TPB Questionnaire Constructs

Subscale	Cronbach's Alpha (α)
Intention	0.77
Subjective Norms	0.30
PBC	0.72
Attitude	0.88
Main Study's Cronbach's Alpha 0.77	

Note: Perceived Behavioral Control (PBC)

Modified Theory of Planned Behavior Rural and Non-Rural Data Characteristics

Both rural and non-rural .perianesthesia nurses exhibited a high level of intention (level 5 and above) and a positive attitude regarding engaging in mindful self-care (See Table 9). These factors appear to play a more crucial role in influencing engagement in mindful self-care in this sample compared to social norms and perceived behavioral control. Additionally, perianesthesia nurses indicated a level higher than 4 for social norms and perceived behavioral control when it comes to engaging in mindful self-care, indicating higher level of engagement.

Mindful Self-Care Characteristics for Rural and Non-Rural Perianesthesia Nurses

The observed data in table 10 reveals that 100% of rural participants engaged in mindful relaxation for 2-3 days, while 80% actively pursued physical care and self-compassion and purpose during the same period. The majority of non-rural participants engaged in mindful self-care for 2-3 days for each subscale with the exception of seeking supportive relationships. More

than 90% of non-rural nurses engaged in self-compassion & purpose, supportive relationships, supportive structures, and mindful awareness for at least 2 days per week. Overall, the data suggests a moderate level of engagement in mindful self-care among perianesthesia nurses, 2-5 days per week.

Table 9

Researcher Modified Theory of Planned Behavior Characteristics for Rural and Non-Rural Perianesthesia Nurses

	Intention				Social Norms				Perceived Behavioral Control				Attitude			
	R		NR		R		NR		R		NR		R		NR	
M(SD)	5.87(0.77)		5.51(1.1)		4.07(1.04)		4.42(0.99)		3.9(1.52)		4.34(1.38)		6.45(0.8)		6.06(1.03)	
Level of Engagement	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
1	0	0	0	0	1	20	0	0	2	40	1	1.28	0	0	0	0
2	0	0	0	0	1	20	3	3.85	1	20	11	14.1	0	0	0	0
3	0	0	5	6.41	1	20	19	24.36	2	40	17	21.79	0	0	1	1.28
4	0	0	17	21.79	2	40	31	39.74	0	0	21	26.92	0	0	13	16.7
5	2	40	17	21.79	0	0	19	24.36	0	0	14	17.95	1	20	14	17.9
6	2	20	27	34.62	0	0	6	7.69	0	0	11	14.10	1	20	21	26.9
7	1	20	12	15.38	0	0	0	0	0	0	3	3.85	3	60	29	37.2

Note: SD= Standard Deviation (presented in parenthesis). R=Rural. NR=Non-rural. Rural N=5, Non-Rural; N=78

Table 10

Mindful Self-Care Characteristics for Rural and Non-Rural Perianesthesia Nurses

Frequency Mindful Relaxation					*Physical Care*				*Self-Compassion & Purpose*				*Supportive Relationships*				*Supportive Structures*				*Mindful Awareness*			
	R		NR		R		NR		R		NR		R		NR		R		NR		R		NR	
M(SD)	3.43(0.28)		2.90(0.75)		3.13(0.81)		2.75(0.66)		3.37(1.06)		3.40(0.87)		3.8(0.47)		3.89(0.94)		4.1(0.14)		3.84(0.7)		3.2(0.86)		3.57(0.92)	
# of Days	n	%	n	%	n	%	n	%	n	%	n	%	n	%	N	%	n	%	n	%	n	%	n	%
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1.28
1	0	0	11	14.10	0	0	12	15.39	0	0	3	3.85	0	0	4	5.13	0	0	0	0	0	0	6	7.69
2-3	5	100	63	80.77	4	80	62	79.49	4	80	50	64.10	2	40	28	35.90	0	37	47.44	3	60	41	52.56	
4-5	0	0	3	3.85	1	20	3	3.85	1	20	23	29.49	3	60	35	44.87	5	100	34	43.36	2	40	18	23.07
6-7	0	0	1	1.28	0	0	1	1.28	0	0	2	2.56	0	0	11	14.10	0	0	7	8.97	0	0	12	15.39

Note: SD= Standard Deviation (presented in parenthesis). R=Rural. NR=Non-rural. Rural N=5, Non-Rural; N=78

General Items on the Mindful Self-Care Scale

Three general items appear at the end of the mindful self-care scale and the data is used to assess the individual's general or more global practices of self-care(Cook-Cottone & Guyker, 2017). The three general items are variety, planning, and exploring. Variety inquiries into engagement in diversified self-care practices, planning examines deliberate intention to engage in mindful self-care while exploration entails seeking a variety of ways to incorporate self-care into their lifestyle.

Table 11

General Items on Mindful Self Care Scale

	Variety		Planning		Exploring	
M(SD)	3.44(0.99)		3.18(1.10)		2.74(1.16)	
# of Days	n	%	n	%	n	%
0	1	1.2	4	4.7	9	10.6
1	14	16.5	22	25.9	35	41.2
2-3	31	36.5	25	29.5	18	21.2
4-5	25	29.4	23	27.1	15	17.6
6-7	14	16.5	11	12.9	8	9.4

Note: SD= Standard Deviation in parenthesis. N=85

The data reveals that the majority of respondents (36.5%) engage in a variety of self-care activities for 2-3 days, while a negligible proportion (1.2%) do not participate in diversified self-care activities. Concerning self-care planning, a substantial 29.5% of respondents report 2-3 days, which closely aligns with 27.1% of respondents who plan to engage in mindful self-care for 4-5 days. A very small fraction (4.7%) does not plan to engage in any self-care activities. 41.2% of perianesthesia nurses were seeking ways to engage in mindful selfcare. A limited number (10.6%) do not engage in any self-care exploration. At least 21% of the perianesthesia nurses take 2-3 days to plan and to explore engaging in a variety of mindful self-care activities.

Specific Aim 2

The second aim of this study was to determine the relationships among attitudes, subjective norms, perceived behavioral control, intention, and mindful self-care of perianesthesia nurses. To help understand relationships, correlation analysis was performed to help understand the nature and strength of relationships between the variables. Preliminary results provided some associations between the variables of interest. This process helped identify variables that could further be analyzed using regression analysis. Evidence of weak correlations between variables indicates the variable can be excluded from the regression analysis. Variables with strong correlations to the dependent variable or to each other will be included in the regression model.

In the correlation matrix in table 12, ten variables were included, and only social norms failed to exhibit statistical significance in its associations with the others. Mindful awareness, perceived behavioral control, and self-compassion & purpose showed significant correlations with all the other variables except social norms. With the exception of attitude and social norms, supportive structures showed significant relationship with the other variables. Therefore, this model presents a varied complexity of relationships that will be investigated using regression analysis.

Table 12

Correlation Coefficients for Perianesthesia Nurses on Mindful Self-Care

		MR	PC	SCP	SR	SS	MA	INT	SN	PBC	ATT
MR	Pearson correlation	1	0.431**	0.285**	-0.001	0.280**	0.292**	0.212	-0.033	0.281**	0.036
	Sig(2 tailed)		<0.001	0.008	0.994	0.010	0.007	0.051	0.766	0.009	0.742
PC	Pearson correlation	0.431**	1	0.358**	0.247*	0.406**	0.294**	0.078	-0.150	0.352**	-0.089
	Sig(2 tailed)	<0.001		<0.001	0.023	<0.001	0.006	0.480	0.170	<0.001	0.420
SCP	Pearson correlation	0.285**	0.358**	1	0.368**	0.272*	0.603**	0.449**	0.155	0.512**	0.262*
	Sig(2 tailed)	0.008	<0.001		<0.001	0.012	<0.001	<0.001	0.157	<0.001	0.015
SR	Pearson correlation	-0.001	0.247*	0.368**	1	0.332**	0.277*	0.055	0.027	0.301**	-0.080
	Sig(2 tailed)	0.994	0.023	<0.001		0.002	0.10	0.616	0.804	0.005	0.466
SS	Pearson correlation	0.280**	0.406**	0.272*	0.332**	1	0.457**	0.251*	-0.093	0.288**	0.102
	Sig(2 tailed)	0.010	<0.001	0.012	0.002		<0.001	0.020	0.397	0.007	0.352
MA	Pearson correlation	0.292**	0.294**	0.603**	0.277*	0.457**	1	0.395**	-0.020	0.667**	0.321**
	Sig(2 tailed)	0.007	0.006	<0.001	0.010	<0.001		<0.001	0.858	<0.001	0.003
INT	Pearson correlation	0.212	0.078	0.449**	0.055	0.251*	0.395**	1	-0.025	0.318**	0.616**
	Sig(2 tailed)	0.051	0.480	<0.001	0.616	0.020	<0.001		0.821	0.003	<0.001
SN	Pearson correlation	-0.033	-0.150	0.155	0.27	-0.093	-0.020	-0.025	1	0.077	-0.087
	Sig(2 tailed)	0.766	0.170	0.157	0.804	0.397	0.858	0.821		0.485	0.426
PBC	Pearson correlation	0.281**	0.352**	0.512**	0.301**	0.288**	0.667**	0.318**	0.077	1	0.225*
	Sig(2 tailed)	0.009	<0.001	<0.001	0.005	0.007	<0.001	0.003	0.485		0.039
ATT	Pearson correlation	0.036	-0.089	0.262*	-0.080	0.102	0.321**	0.616**	-0.087	0.225*	1
	Sig(2 tailed)	0.742	0.420	0.015	0.466	0.352	0.003	<0.001	0.426	0.039	

Note: **=correlation is significant at the 0.01 level(2-tailed). *= correlation is significant at the 0.05 level(2-tailed). N=85. MR=Mindful Relaxation, PC=Physical Care, SCP=Self-Compassion & Purpose, SR= Supportive Relationships, SS= Supportive Structures, MA=Mindful Awareness, INT= Intention, SN= Social Norms, PBC=Perceived Behavioral Control, and ATT= Attitude

Regression Analysis

Regression analysis conducted on mindful self-care data provided valuable insights into the relationships among several factors and the outcome variable of intention to participate in mindful self-care. In this analysis, multiple predictor variables were examined for their impact on intention. The β-coefficient shows the strength and direction of the relationships, while the t-test statistics and significance levels (Sig.) indicate the statistical significance of each variable's influence. Additionally, the tolerance and variance inflation factor (VIF) help assess potential multicollinearity issues among the predictors. Regression was therefore, utilized to identify which factors play a significant role in shaping intentions to engage in mindful self-care behaviors. Table 13 shows the regression results. Self-Compassion & Purpose and Attitude emerged as notably significant in determining intention to engage in mindful self-care while the other factors showed weak associations with the outcome variable.

Table 13

Regression of Associations for Mindful Self Care Among Perianesthesia Nurses

Variable	β	E		*p*	95% CI	Tolerance	VIF
Mindful Relaxation	0.103	0.137	1.082	0.283	(-0.125,0.422)	0.738	.354
Physical Care	-0.077	0.164	-0.752	0.455	(-0.450,0.204)	0.633	1.580
Self-Compassion & Purpose	0.286	0.137	2.544	0.013*	(0.076,0.623)	0.525	1.903
Supportive Relationships	-0.042	0.112	-0.432	0.667	(-0.272,0.175)	0.718	1.393
Supportive Structures	0.139	0.159	1.370	0.175	(-0.099,0.533)	0.646	1.547
Mindful Awareness	-0.036	0.152	-0.277	0.783	(-0.346, 0.261)	0.388	2.575
Perceived Behavioral Control	0.052	0.090	0.447	0.656	(-0.138,0.219)	0.501	1.998
Attitude	0.513	0.096	5.634	<0.001*	(0.350,0.734)	0.799	1.251

Note: VIF=Variance Inflation Factor; S.E= standard error; **p<0.05;* CI=Confidence Interval

The results of a regression model provide crucial insights into the intricate relationships between predictor variables and the outcome variable. By assessing the coefficients (β), standard errors (S.E.), t-test statistics, significance levels (Sig.), and additional metrics like tolerance and variance inflation factor (VIF), researchers gain a comprehensive understanding of the factors

that impact the dependent variable. These results allow for the identification of which predictors significantly influence the outcome, providing a basis for data-driven decision-making. In essence, the regression model results serve as a roadmap for understanding the dynamics of a particular phenomenon, offering the means to make informed predictions and tailored interventions.

Table 14

Regression Model Results of Mindful Self Care Among Perianesthesia Nurses (*N* = 85)

	R Squared	Adjusted R	Standard Error	F statistic	df1	df2	Sig.	Durbin-Watson
	0.495	0.442	0.799	9.329	8	76	<.001	2.111

Note: df= degrees of freedom; **p <0.05.* Predictors: mindful relaxation, physical care, self-compassion & purpose, supportive relationships, supportive structures, mindful awareness, perceived behavioral control, and attitude. Dependent variable: Intention

Regression model results shown in table 14 show a good model fit at F(8,76)=9.33; $p<.05$; Adjusted R^2 =0.44. This indicates that 44.2% change in intention can be accounted for by attitude, mindful relaxation, physical care, self-compassion & purpose, supportive relationships, supportive structures, perceived behavioral control, and mindful awareness. There is also significant impact of these variable on intention at ($p<0.001$). The model explains 44.2% of the variance in intention to engage in mindful self-care among perianesthesia nurses. Self-compassion & purpose (β=0.29, t=2.54,p=0.013) and attitude (β=0.51, t=5.63, p=<0.001) were strong and unique predictors of intention to participate in mindful self-care. The model does not show evidence of multicollinearity between the variables as evidenced by the tolerance levels ($0.1 < x < 1$) and VIF value of less than 10 (Field, 2017). This is further evidenced by the Durbin Watson statistic of 2.11(Field, 2017). Despite significant correlations, the variables did not meet the threshold for collinearity.

Specific Aim 3

The third aim of the study was to compare intentions and mindful self-care among perianesthesia nurses working in rural and non-rural areas. The Mann Whitney U test was used to determine if there was a difference in intention to seek mindful self-care between the rural and non-rural perianesthesia nurses. The Mann Whitney U test is a non-parametric statistical test used for comparing two independent groups when the assumption of normality between the two groups is violated.

Table 15

Mann-Whitney U Test Score for Rural and Non-rural

Variables	Mann-Whitney U test	z-score	Significance ($p<0.05$)	Median	r^2
Mindful Relaxation	109	-1.65	0.1	3	0.03
Physical Care	133.5	-1.17	0.24	2.75	0.02
Self-Compassion & Purpose	181	-0.27	0.79	3.5	0.00
Supportive Relationships	156.5	-0.74	0.46	4	0.00
Supportive Structures	140.5	-1.05	0.29	4	0.00
Mindful Awareness	153	-0.81	0.42	3.5	0.00
Intention	165	-0.58	0.56	6	0.00
Social Norms	164	-0.6	0.55	4.3	0.00
Perceived Behavioral Control	156	-0.75	0.45	4	0.00
Attitude	151	-0.87	0.39	6.5	0.00

Note: N=85

The analysis of the results in table 15 show no statistical significance between rural and non-rural perianesthesia nurses in intention to seek mindful self-care. A Mann-Whitney U test revealed that there was no difference between rural (Median=6, n=5) compared to non-rural group of (Median= 5.8, n=78) in intentions to seek mindful self-care with an effect size of 0. Variability in mindful self-care is not accounted for by intentions.

Table 16

Mann Whitney U Median, Ranks, and Mean (SD) for Rural and Non-rural

	Mean Ranks		Median		Sig.
Variables	Rural	Non-Rural	Rural	Non-Rural	
Mindful Relaxation	59.20	40.90	3.50	3.00	.10
Physical Care	54.30	40.21	3.13	2.75	.24
Self-Compassion & Purpose	39.20	42.18	3.17	3.50	.79
Supportive Relationships	34.30	42.49	4.00	4.20	.46
Supportive Structures	52.90	41.30	4.00	4.00	.29
Mindful Awareness	33.60	42.54	3.25	3.50	.42
Intention	48.00	41.62	6.00	5.83	.56
Social Norms	35.80	42.40	4.33	4.33	.55
Perceived Behavioral Control	34.20	42.50	3.50	4.00	.45
Attitude	50.80	41.44	7.00	6.38	.39

Note: Significance $p<0.05$

The medians, mean ranks, and mean scores were similar for both groups across these aspects of mindful self-care. While there were some differences in mean ranks and medians, these differences did not reach statistical significance, as indicated by the *p*-values, which were all above alpha level of 0.05. Therefore, based on this analysis, it appears that there are no significant disparities in mindful self-care practices between the rural and non-rural groups.

Summary of Results

In this chapter, findings presented are from a cross-sectional survey targeting perianesthesia nurses in the US, conducted using a modified Theory of Planned Behavior questionnaire and the Mindful Self-Care Scale. Out of 3,200 ASPAN participants surveyed over three weeks, 85 completed the survey, with the majority being female nurses between the ages of 50-59 years old, BSN educated, having over 20 years of experience, staff nurses working at hospital Peri Anesthesia Care Units, and most holding Certified Peri Anesthesia Nursing certification. Of the participants, 78 were non-rural, and 5 were rural. The modified TPB questionnaire assessed intention, social norms, perceived behavioral control, and attitude. Intentions and attitudes were the primary determinants of engaging in mindful self-care, while

social norms and perceived behavioral control had a moderate influence. The MSCS explored mindful relaxation, physical care, self-compassion & purpose, supportive relationships, supportive structures, and mindful awareness. Supportive relationships and supportive structures were the most practiced aspects, while physical care and mindful relaxation were least practiced. Most participants engaged in self-care 2-3 days per week. Regression analysis revealed that attitude and self-compassion & purpose were significant predictors of nurses' intentions for mindful self-care, with no significant differences between rural and non-rural populations in seeking mindful self-care. These results will be discussed in the following chapter.

CHAPTER V

DISCUSSION

Summary of the Study

This chapter provides a summary of the study and important conclusions drawn from the findings in Chapter IV. The chapter will discuss major findings and its interpretation, and their significance for nursing science, practice, policy and education. The purpose of this study was to examine the relationships among attitudes, subjective norms, perceived behavioral control, and intentions to engage in mindful self-care among nurses working in the perianesthesia setting. The specific aims studied in this study were to: (a) To determine the frequencies of sample demographic characteristics, attitudes, subjective norms, perceived behavioral control, intentions, and mindful self-care among perianesthesia nurses, (b) To determine the relationships among attitudes, subjective norms, perceived behavioral control, intention, and mindful self-care of perianesthesia nurses, and (c) To compare intentions and mindful self-care among perianesthesia nurses working in rural and non-rural areas.

This study used a cross-sectional design to assess attitudes, subjective norms, perceived behavioral control, and intentions among perianesthesia nurses to participate in mindful self-care using the Theory of Planned Behavior framework. Perianesthesia nurses were randomly sampled for the study through a survey that was disseminated through the American Society of PeriAnesthesia Nurses (ASPAN). Data was collected using the mindful self-care scale tool and the modified TPB questionnaire. Information was provided and at the beginning of the survey respondents consented prior to participating in the survey. The survey contained 56 questions and required less than 20 minutes to complete. Data were obtained from 85 respondents and analyzed using descriptive analyses, correlations, regressions, and the Mann Whitney U test.

Excel and SPSS were used to store and analyze collected data. Data files were electronically stored in a password-protected folder belonging to the Principal Investigator's Advisor on OneDrive and hosted on the secure email servers of the University of North Dakota.

Major Findings

The study's participants predominantly included perianesthesia nurses who resided in predominantly non-rural areas (91.76%), were over 50 (63.6%) years of age, possessed over 20 years of nursing experience (44.7%), held bachelor's degrees (64.7%), worked as staff nurses in a hospital Post Anesthesia Care Units (58.8%), and were Certified Peri Anesthesia Nurse certified (41.2%). For the mindful self-care scale, Supportive Relationships, Supportive Structures, and Mindful Awareness exhibited the highest mean scores of (3.9), (3.86), and (3.56), respectively, signifying that perianesthesia nurses more frequently engaged in and valued these subscales of mindful self-care. In the broader context, the study revealed that mindful self-care activities were typically practiced 2-3 times per week, while Physical Care had the lowest mean score (SD = 2.77), implying less frequently practiced. The overall sample mean for all the mindful self-care subscales was high ($\mu = 3.44$) indicating that engagement in mindful self-care was moderately high among perianesthesia nurses. Therefore, more than 90% of rural and at least 85% of non-rural perianesthesia nurses engaged in mindful self-care for at least 2 days per week.

In the broader context, perianesthesia nurses participated in a variety of mindful self-care for mean days of 3.44 (SD = 0.99). Perianesthesia nurses took an average of 2.74 days to explore getting engaged in mindful self-care practices. The modified Theory of Planned Behavior questionnaire demonstrated that mean scores for attitude of 6.1 (SD = 1.01) and intention of 5.54 (SD = 1.07) had strong and moderately strong participation in mindful self-care, respectively. Perceived behavioral control had the lowest mean 4.34 (SD = 1.37). When considering both

rural and non-rural perianesthesia nurses, attitude and intention showed strong influence on participating in mindful self-care. The modified Theory of Planned Behavior questionnaire showed an acceptable internal consistency of 0.77. Correlations showed multiple relationships between the variables. In addition, the regression model showed Self-Compassion & Purpose and Attitude as significant predictors of intention to engage in mindful self-care. The Mann Whitney U test was conducted and showed no significance between rural and non-rural perianesthesia nurses' intention to engage in mindful self-care.

Significant Factors Influencing Intention to Practice Mindful Self-Care

The theoretical tenets of the Theory of Planned Behavior indicated that attitudes, subjective norms, and perceived behavioral control are all principal factors in determining a person's behavioral intentions; however, variances existed in diverse populations. This study was designed to examine attitudes, subjective norms, and perceived behavioral control of perianesthesia nurses' intentions to engage in mindful self-care. Perceived behavioral control (r = 0.318, p = 0.003) and attitude (r = 0.616, p = <0.001) showed positive correlations to intentions while social norms did not demonstrate an association to intention to engage in self-care (r = -0.025, p = 0.821). Regression analysis indicated attitude (p = <0.001) was the sole significant predictor of intention to engage in mindful self-care. While perceived behavioral control showed a positive correlation with intention variable, the relationship did not reach statistical significance in the regression analysis.

Previous researchers have identified attitude as a significant factor of nurse intention. Hung et al. (2016) examined the factors that affect nurses' attitudes and intentions toward medication administration error (MAE) with a sample of 596 staff nurses working in a regional hospital using a cross section study design. They found that attitude emerged as the only

construct that had an impact on nurses' intention to report MAE. In addition, findings from two other studies indicated attitude as well as perceived behavioral control as significant factors affecting intention. A study by Che et al. (2018) employed a cross sectional study design to investigated 1462 nursing students perceived behavioral control and positive attitude towards working with older persons using the theory of planned behavior, the framework accounted for 19.7% of the variance in participants intention to work with older persons. Another study by Zahed et al. (2022) investigated the attitudes and beliefs of night shift nurses that may influence their intention to avoid sleepy driving and discovered that perceived health threat as well as attitude were significant predictors of intention.

Furthermore, studies examined in chapter II found attitude, perceived behavioral control as well as social norms to be significant predictors of intention of nurses. For example, Angelis et al. (2017) used a cross-sectional methodology to survey 500 Italian hospital nurses about their intention to report adverse drug reactions in hospital settings. According to the findings, attitudes, subjective norms, and perceived behavioral control predicted nurses' intention to report adverse medication reactions (Angelis et al, 2017). In order to determine the factors that influence elementary school nurses' decision to take on a new health-promotion role as a strategic option for the health-promoting school, a survey of 251 respondents (response rate of 70%) from 42 school health programs across the Province of Québec was conducted. A total of 73% of respondents indicated that they would be willing to accept the proposed role. This study supported attitude, social norms, and perceived behavioral control as a significant determinant of intention (Chabot et al., 2010). In contrast to this study, researchers conducted a cross-sectional study wherein they surveyed 233 senior nursing students regarding the factors that impact their decision to disclose needlestick injuries. The results indicated a significant correlation between

the decision to report needlestick injuries with attitude, subjective norm, and perceived behavioral control (Ditching et al., 2020).

Discrepancies in findings between this study and previous studies could be attributable to beliefs, culture, environmental factors, and variability in populations. In this study, social norms showed weak correlation. Mindful self-care is a behavior that relates to the self and, notably, previous studies involved behaviors by nurses towards external actions or clinical decisions. Looking at three studies with attitudes, social norms and perceived behavioral control as significant predictors of nurses' intention, the behaviors in the studies were to report adverse drug reactions (Angelis et al., 2017); to take on a new health promotion role (Chabot et al., 2010); and to disclose needle stick injuries (Ditching et al., 2020). The social influence for each of these actions varies based on the specific context and the parties involved. Reporting adverse drug reactions and disclosing needlestick injuries often involved external pressures driven by safety and professional ethics, while taking on a new health promotion role involved pressure of making decisions that impact others.

The decision to engage in mindful self-care is self-based and grounded on personal beliefs and knowledge, which could be a reason social norms in this study did not show any positive correlation. Looking at an example where social norm was a sole significant predictor of intentions. In utilizing a predictive correlational methodology to determine factors influencing nurses' intention to incorporate research findings into their clinical decision-making, Côté et al. (2012) found the most significant predictor to be subjective norms. In this case, there could be a variety of external factors that would impact a nurse's decision as compared to the influence of others to participate in mindful self-care. Results from research by Yuan et al. (2020) and

Biraghi and Tortorano (2010) showed that decisions made by nurses and aspiring nurses are heavily influenced by subjective standards.

Mindful Self-Care

The present study's findings suggest that Perianesthesia Nurses are actively engaging in various aspects of mindful self-care, with a strong emphasis on self-compassion & purpose, supportive relationships, supportive structures, and mindful awareness. These aspects of mindful self-care are supported by Halm (2017) who refers to the ideas of Jon Kabat-Zinn, who defined mindfulness as being aware, purposefully present in the moment, and nonjudgmental. Literature addresses mindful awareness as being crucial in self-care (Andrews et al., 2020; Crane and Ward, 2016; Melnyk, 2020; Williams et al., 2022). This study found self-compassion & purpose ($\beta = 0.29$, $t = 2.54$, $p = .013$) as a significant predictor of intention to engage in mindful self-care. Research has shown that engaging in mindfulness practices can enhance one's sense of coherence, self-compassion, and attentive awareness (Kabat-Zinn, 2003). Mindfulness has been posited as a significant enhancer of mindful self-care and even imperative in influencing other factors that affect mindful self-care like self-compassion. Consequently, it was anticipated that mindful awareness would emerge as a prominent predictor of mindful self-care. Nevertheless, this study found self-compassion and purpose as a sole significant predictor of mindful self-care which was an unexpected finding.

The present study's findings identified mindful relaxation and physical self-care as having low rates of engagement in our sample of Perianesthesia Nurses. Given that the majority of the nurses were over 50 years old (63.7%), female (98.8%), non-rural (91.8%,) and had over 15 years of nursing experience (55.3%), organizations may promote nurse well-being by planning for mindful self-care activities that support aging nurses.

Rural and Non-Rural

The results indicated no significant differences in mindful seeking behaviors between the rural and non-rural perianesthesia nurses. Card et al. (2019) conducted a nationwide study of perianesthesia nurses to investigate burnout, risks, and mitigating factors, revealing an 18% burnout rate. On the other hand, Lubinska-Welch et al. (2016) aimed to comprehend the existing self-care practices and health-promoting habits among rural nurses and results indicated that the rural nurses aware of the importance of self-care. Card et al. (2019) and Lubinska-Welch et al. (2016) findings indicated that a significant portion of the nursing staff recognized the significance of self-care. These two studies collectively underscore the importance of self-care and indicate that both rural and non-rural nurses are aware of self-care practices to promote well-being.

Implications for Nursing Science, Practice, Policy, and Education

Nursing Science

Findings from this study could serve as a foundation for other researchers to explore further studies on mindful self-care and its impact on other variables. The information can also be used to tailor interventions aimed at promoting mindful self-care. This will have an impact of improving overall wellbeing for nurses and potentially enhancing patient outcomes.

The knowledge from this study can be instrumental in designing interventions aimed at promoting self-care activities for nurses. This study did a pilot study on the Theory of Planned Behavior which could contribute to further development and refinement of the model in nursing. In that manner, the theory can be applied to other nursing specialties.

Nursing Practice

The study findings could help understand factors that influence nurses' intentions to participate in mindful self-care and this could guide healthcare organizations to develop strategies and programs that promote self-care practices. Professional and personal advantages, such as improved health, improved work productivity, self-assurance and awareness, empowerment, job satisfaction, strengthened patient and team relationships, and better capacity to manage stress and illnesses is credited to the adoption of self-care for nurses (Brommelsiek & Peterson, 2022; Chipu & Downing, 2020). Improved self-care practices among nurses may lead to better patient outcomes.

Nursing Policy

The results of this study can inform healthcare organizations and policymakers with meaningful evidence about the importance of creating supportive work environments that encourage self-care among nurses. It can lead to the development of policies that promote nurses' well-being, such as adequate break times, mental health resources, and stress management programs. Furthermore, self-care could play a role in job satisfaction, workplace resilience, and improve job confidence (Brommelsiek and Peterson, 2022). The study findings could also be used to identify and design specific strategies aimed at promoting appropriate self-care activities for specific groups of nurses based on demographic dynamics of the organization or department or nursing specialty. Such a pro-active stance could go along way into addressing nurses' self-care needs and potentially promote and maintain workforce retention.

Nursing Education

The principle of self-care is integrated in the American Nurses Association 2015 Code of Ethics for Nurses, Provision 5 which stipulates that nurses owe the same duties to self as to others through health promotion, safety, and integrity. Selfcare could therefore be adopted and incorporated into nursing education and continuing education programs as a core component of the curriculum to enhance nurses' understanding of the importance of self-care and provide them with tools and strategies for its implementation. Future nurses can be trained not only in clinical skills but also in self-care strategies to prepare them for the demands of the profession which could improve nursing grit. The Theory of Planned Behavior could be utilized strategically by educators to shape educational and staff development initiatives by addressing attitudes, subjective norms, and perceived behavioral control. This approach would entail creating positive learning environments, emphasizing peer support, and providing resources to enhance individuals' perceived control. Continuous assessment and adaptation could be incorporated to ensure that interventions remain effective and aligned with the evolving needs of students or staff.

Direction for Future Research

Additional research is needed to address mindful self-care in different nursing specialties, such as Perioperative, Intensive Care Units, Emergency Departments, Psychiatry Nursing, Oncology Units, and Pediatric Settings, in order to develop and evaluate more clinical-based personal and organizational strategies to enhance the mindful self-care practices of nurses. Given that beliefs shape our intention and hence behaviors, conducting studies that focus on belief assessment may be more insightful to better understanding and assessing nurses' intention to practice mindful self-care. An ethnography study into the beliefs held by nurses

would provide deeper understanding of the experiences, facilitators, and barriers into factors that affect mindful self-care. Since intent does not automatically result into behavior, further research needs to examine the extent to which nurses' intentions predicts their actual behavior in practice. Case studies could be used to explore specific circumstances where nurses' intentions may or may not align with their actual behaviors. Deep analysis could help identify factors influencing the translation of intentions into practice. A longitudinal design could also be conducted to capture more elaborate data on the perianesthesia nurse's intent to engage in mindful selfcare over time. The relationships among demographic characteristics and nurses' intentions to engage in mindful self-care could also be explored in future research.

Conclusion

This study was designed to examine attitudes, subjective norms, and perceived behavioral control of perianesthesia nurses' intentions to engage in mindful self-care. Attitudes were found to significantly influence intention to practice mindful self-care. Self-compassion and purpose were statistically significant in influencing mindful self-care thus nurse leaders should foster a work environment that nurtures the sense of self compassion and purpose. Therefore, nurse leaders should consider incorporating strategies and initiatives that cultivate a sense of self-compassion and purpose into their overall approach to staff well-being. The findings from this study contribute uniquely to the literature on the emerging concept of mindful self-care among nurses and to the theoretical use of the Theory of Planned Behavior Questionnaire.

APPENDICES

Appendix A: University of North Dakota IRB Approval

UND IRB Approval Letter for Exempt Protocol

This sender no-reply@erac.und.edu is from outside your organization. Attachments and pictures have been blocked. Block sender | Show blocked content

N **no-reply@erac.und.edu**
To: Denny, Dawn
Cc: SANYA, BRENDA

Fri 5/12/2023 1:15 PM

Division of Research & Economic Development
Office of Research Compliance & Ethics

Principal Investigator: Dawn LuJean Denny
Protocol Title: Attitudes, Subjective Norms, and Perceived Behavioral Control of Perianesthesia Nurses' Intentions to Engage in Mindful Self-care.
Protocol Number: IRB0005519
Protocol Review Level: Exempt 2
Approval Date: 05/12/2023
Expiration Date: 05/11/2026

The application form and all included documentation for the above-referenced project have been reviewed and approved via the procedures of the University of North Dakota Institutional Review Board.

If you need to make changes to your research, you must submit an amendment to the IRB for review and approval. No changes to approved research may take place without prior IRB approval.

This project has been approved for 3 years, as permitted by UND IRB policies for exempt research. You have approval for this project through the above-listed expiration date. When this research is completed, please submit a termination request to the IRB.

Sincerely,

Michelle L. Bowles, M.P.A., CIP
she/her/hers
Director of Research Assurance & Ethics
Office of Research Compliance & Ethics
Division of Research & Economic Development
University of North Dakota
Technology Accelerator, Suite 2050
4201 James Ray Drive Stop 7134
Grand Forks, ND 58202-7134
O: 701.777.4279
D: 701.777.4079
F: 701.777.2193
Michelle.Bowles@UND.edu
https://und.edu/research/resources/index.html

The preceding e-mail message (including any attachments) contains information that may be confidential or constitute non-public information. It is intended to be conveyed only to the designated recipient(s). If you are not an intended recipient of this message, please notify the sender by replying to this message and then deleting it from your system. Use, dissemination, distribution, or reproduction of this message by unintended recipients is not authorized and may be unlawful.

Appendix B: University of North Dakota IRB Consent to Participate in Research

THE UNIVERSITY OF NORTH DAKOTA
Consent to Participate in Research

Project Title: Attitudes, Subjective Norms, and Perceived Behavioral Control of Perianesthesia Nurses' Intentions to Engage in Mindful Self-care.

Principal Investigator: Dawn Denny <> dawn.denny@und.edu <> 701.777.2699

Student Investigator: Brenda Sanya <> brenda.sanya@und.edu

Department: College of Nursing and Professional Disciplines

What should I know about this research?
Participation in this research is voluntary. You can drop out at any time. If you don't take part, it won't be held against you. If you don't understand, ask questions.

How long will I be in this research?
We expect that your taking part in this research will last less than 20 minutes answering survey questions.

Why is this research being done?
The purpose of this study is to examine the relationship among attitudes, subjective norms, perceived behavioral control, and intentions to engage in mindful self-care among nurses working in the Perianesthesia setting.

What happens to me if I agree to take part in this research?
Your participation is voluntary, and you are free to skip any questions that you prefer not to answer. Nothing will be held against you if you decided not to finish the survey. The entire survey contains less than sixty short questions and requires less than 20 minutes of your time.

Could being in this research hurt me?
There are no foreseeable risks to participating in this study.

Will being in this research benefit me?
It is not expected that you will personally benefit from this research.

How many people will participate in this research?
This study requires a minimum of 80 participants who are members of the American Society of Peri Anesthesia Nurses.

Date:
Subject Initials: _____

Will it cost me money to take part in this research?
You will not incur any costs for being in this research study.

Will I be paid for taking part in this research?
The first 70 respondents who **complete** the survey will receive a **$10** incentive for voluntary participation.

Who is funding this research?
This research is being funded by the student researcher.

What happens to the information collected for this research?
The survey does not ask for any information that would identify who the responses belong to. Therefore, your responses are recorded anonymously. If this research is published, no information that would identify you will be included since your name is in no way linked to your responses. To protect your privacy as a participant in our research, we must warn you that "key logging" software may be used to record personal information you type on computers, therefore, unfortunately, the safety of the computer you choose to answer the survey on is not something we can guarantee.

What if I agree to be in the research and then change my mind?
Participation in this research study is voluntary and if you change your mind, you can stop at any time or skip questions you are not comfortable answering.

Who can answer my questions about this research?
If you have questions, concerns, or complaints, or think this research has hurt you or made you sick, talk to the research team at the phone number listed above on the first page.

This research is being overseen by an Institutional Review Board ("IRB"). An IRB is a group of people who perform independent review of research studies. You may talk to them at 701.777.4279 or UND.irb@UND.edu if:

- You have questions, concerns, or complaints that are not being answered by the research team.
- You are not getting answers from the research team.
- You cannot reach the research team.
- You want to talk to someone else about the research.
- You have questions about your rights as a research subject.
- You may also visit the UND IRB website for more information about being a research subject: http://und.edu/research/resources/human-subjects/research-participants.html

Your signature documents your consent to take part in this study. You will receive a copy of this form.

Date:
Subject Initials: _____

Subject's Name: _____

_____ _____
Signature of Subject Date

I have discussed the above points with the subject or, where appropriate, with the subject's legally authorized representative.

_____ _____
Signature of Person Who Obtained Consent Date

Date:
Subject Initials: _____

Appendix C: Participant Consent to Participate in the Pilot Study

UNIVERSITY OF NORTH DAKOTA
Institutional Review Board
Study Information Sheet

Project Title: *Attitudes, Subjective Norms, and Perceived Behavioral Control of Perianesthesia Nurses' Intentions to Engage in Mindful Self-care.*

Principal Investigator : *Dawn Denny PhD, RN, ONC, dawn.denny@und.edu, 701-777-2699*

Co-Principal Investigator: *Brenda Sanya MSN, RN, CPAN, brenda.sanya@und.edu*

Purpose of the Study:
The purpose of the pilot study is to test the reliability and validity of the modified Theory of Planned Behavior questionnaire to ensure that the data collected will be accurate and can be used to draw valid conclusions regarding attitudes, subjective norms, perceived behavioral control, and intentions to engage in mindful self-care among nurses working in the perianesthesia setting.

Procedures to be followed:
You will be asked to answer 21 questions on a survey.

Risks:
There are no foreseeable risks to participating in this research study.

Benefits:
It is not expected that you will personally benefit from this research beyond those experienced in everyday life.

Durations:
Answering the questions will take less than 10 minutes to complete the survey.

Statement of Confidentiality:
Your identity will be protected to the greatest extent allowed by law. The survey does not ask for any information that would identify those to whom the responses belong. Therefore, your responses are recorded anonymously. If this research is published or presented publicly, no information that would identify you will be included since your name is in no way linked to your responses. All survey responses that we receive will be treated confidentially and stored on a secure server at the University of North Dakota, and only members of the University of North Dakota Institutional Review Board and the investigators will have access to the data. However, given that the surveys can be completed from any computer (e.g., personal, work, school), we are unable to guarantee the security of the computer on which you choose to enter your responses. As a participant in our study, we want you to be aware that certain "key logging" software programs exist that can be used to track or capture data that you enter and/or websites that you visit.

Right to Ask Questions:
The researchers conducting this study are Dawn Denny PhD, RN, ONC. and Brenda Sanya MSN, RN, CPAN. You may ask any questions you have now. If you later have questions, concerns, or complaints about the research please contact Dawn Denny PhD, RN, ONC at 701-777-2699 during the day.

If you have questions regarding your rights as a research subject, you may contact The University of North Dakota Institutional Review Board at (701) 777-4279 or UND.irb@UND.edu. You may contact the UND IRB with

problems, complaints, or concerns about the research. Please contact the UND IRB if you cannot reach research staff, or you wish to talk with someone who is an informed individual who is independent of the research team.

General information about being a research subject can be found on the Institutional Review Board website "Information for Research Participants" http://und.edu/research/resources/human-subjects/research-participants.html

Compensation:
The first 5 respondents who **complete** the survey will receive a **$10** incentive for voluntary participation.

Voluntary Participation:
You do not have to participate in this research. You can stop your participation at any time. You may refuse to participate or choose to discontinue participation at any time without losing any benefits to which you are otherwise entitled.
You do not have to answer any questions you do not want to answer.
You must be 18 years of age and older to participate in this research study.
Completion and return of the survey imply that you have read the information in this form and consent to participate in the research.

By clicking the button below, you acknowledge that:

- You have read and understood the consent form.
- You are a member of ASPAN.
- Your participation in the study is voluntary.
- You are 18 years of age.
- You work at least 20 hours per week in a perianesthesia setting.
    - I consent
    - I do not consent

Appendix D: Participant Consent to Participate in the Main Research

UNIVERSITY OF NORTH DAKOTA
Institutional Review Board
Study Information Sheet

Project Title: *Attitudes, Subjective Norms, and Perceived Behavioral Control of Perianesthesia Nurses' Intentions to Engage in Mindful Self-care.*

Principal Investigator : *Dawn Denny PhD, RN, ONC, dawn.denny@und.edu, 701-777-2699*

Co-Principal Investigator: *Brenda Sanya MSN, RN, CPAN, brenda.sanya@und.edu*

Purpose of the Study:
The purpose of this study is to examine the relationship among attitudes, subjective norms, perceived behavioral control, and intentions to engage in mindful self-care among nurses working in the Perianesthesia setting.

Procedures to be followed:
You will be asked to answer 56 questions on a survey.

Risks:
There are no foreseeable risks to participating in this research study.

Benefits:
It is not expected that you will personally benefit from this research beyond those experienced in everyday life.

Durations:
Answering the questions will take about 20 minutes to complete the survey.

Statement of Confidentiality:
Your identity will be protected to the greatest extent allowed by law. The survey does not ask for any information that would identify those to whom the responses belong. Therefore, your responses are recorded anonymously. If this research is published or presented publicly, no information that would identify you will be included since your name is in no way linked to your responses. All survey responses that we receive will be treated confidentially and stored on a secure server at the University of North Dakota, and only members of the University of North Dakota Institutional Review Board and the investigators will have access to the data. However, given that the surveys can be completed from any computer (e.g., personal, work, school), we are unable to guarantee the security of the computer on which you choose to enter your responses. As a participant in our study, we want you to be aware that certain "key logging" software programs exist that can be used to track or capture data that you enter and/or websites that you visit.

Right to Ask Questions:
The researchers conducting this study are Dawn Denny PhD, RN, ONC. and Brenda Sanya MSN, RN, CPAN. You may ask any questions you have now. If you later have questions, concerns, or complaints about the research please contact Dawn Denny PhD, RN, ONC at 701-777-2699 during the day.

If you have questions regarding your rights as a research subject, you may contact The University of North Dakota Institutional Review Board at (701) 777-4279 or UND.irb@UND.edu. You may contact the UND IRB with problems, complaints, or concerns about the research. Please contact the UND IRB if you cannot reach research staff, or you wish to talk with someone who is an informed individual who is independent of the research team.

General information about being a research subject can be found on the Institutional Review Board website "Information for Research Participants" http://und.edu/research/resources/human-subjects/research-participants.html

Compensation:
The first 70 respondents who **complete** the survey will receive a **$10** incentive for voluntary participation.

Voluntary Participation:
You do not have to participate in this research. You can stop your participation at any time. You may refuse to participate or choose to discontinue participation at any time without losing any benefits to which you are otherwise entitled.
You do not have to answer any questions you do not want to answer.
You must be 18 years of age and older to participate in this research study.
Completion and return of the survey imply that you have read the information in this form and consent to participate in the research.

By clicking the button below, you acknowledge that:

- You have read and understood the consent form.
- You are a member of ASPAN.
- Your participation in the study is voluntary.
- You are 18 years of age.
- You work at least 20 hours per week in a perianesthesia setting.
    - I consent
    - I do not consent

Appendix E: Theory of Planned Behavior Questionnaire to Experts for Face Validity

	Please rate the clarity and relevance of intention based on the following statements. Some of the questions may seem similar, but they may have slight variations in their meaning. Strongly agree indicates that the statement is clear and relevant in measuring the intention to engage in mindful self-care.					
		Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
INT1	I want to engage in mindful self-care	1	2	3	4	5
INT2	I expect to engage in mindful self-care	1	2	3	4	5
INT3	I intend to engage in mindful self-care	1	2	3	4	5
	Please rate the clarity and relevance of attitude based on the following statements. Some of the questions may seem similar, but they may have slight variations in their meaning. Strongly agree indicates that the statement in clear and relevant in measuring attitudes to engage in mindful self-care.					
		Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
ATT1	Overall, I think engaging in mindful selfcare is Unbeneficial/ beneficial	1	2	3	4	5
ATT2	Overall, I think engaging in mindful selfcare is Pleasant/ unpleasant	1	2	3	4	5
ATT3	Overall, I think engaging in mindful selfcare is Unnecessary practice/ necessary practice	1	2	3	4	5
ATT4	Overall, I think engaging in mindful selfcare is Worthwhile/ not worthwhile	1	2	3	4	5
	Please rate the clarity and relevance of Subjective Norms based on the following statements. Some of the questions may seem similar, but they may have slight variations in their meaning. Strongly agree indicates that the statement in clear and relevant in measuring subjective norms to engage in mindful self-care.					
		Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
SN1	I feel under social pressure to engage in mindful self-care	1	2	3	4	5

SN2	People who are important to me think I should NOT engage in mindful self-care	1	2	3	4	5
SN3	It is expected of me that I engage in mindful selfcare	1	2	3	4	5
	Please rate the clarity and relevance of Perceived Behavioral Control based on the following statements. Some of the questions may seem similar, but they may have slight variations in their meaning. Strongly agree indicates that the statement in clear and relevant in measuring perceived behavioral control to engage in mindful self-care.					
		Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
PBC1	The decision to engage in mindful self-care is beyond my control	1	2	3	4	5
PBC2	I have complete control to engage in mindful selfcare	1	2	3	4	5
PBC3	For me, engaging in mindful selfcare is Easy/ Difficult	1	2	3	4	5

Note:

INT=INTENTION	SN=SUBJECTIVE NORMS	PBC=PERCEIVED BEHAVIORAL CONTROL	ATT= ATTITUDE

Theory of Planned Behavior Questionnaire to Experts for Content Validity

	Are the items listed on the measuring instrument consistent with measuring intention? Some of the questions may seem similar, but they may have slight variations in their meaning.				
		Completely inequivalent item	Requiring substantial revision	Requiring very little revision	Completely equivalent item
INT1	I want to engage in mindful self-care	1	2	3	4
INT2	I expect to engage in mindful self-care	1	2	3	4
INT3	I intend to engage in mindful self-care	1	2	3	4
	Are the items listed on the measuring instrument consistent with measuring attitudes? Some of the questions may seem similar, but they may have slight variations in their meaning.				
		Completely inequivalent item	Requiring substantial revision	Requiring very little revision	Completely equivalent item
ATT1	Overall, I think engaging in mindful selfcare is Unbeneficial/ beneficial	1	2	3	4
ATT2	Overall, I think engaging in mindful selfcare is Pleasant/ unpleasant	1	2	3	4
ATT3	Overall, I think engaging in mindful selfcare is Unnecessary practice/ necessary practice	1	2	3	4
ATT4	Overall, I think engaging in mindful selfcare is Worthwhile/ not worthwhile	1	2	3	4

	Are the items listed on the measuring instrument consistent with measuring attitudes? Some of the questions may seem similar, but they may have slight variations in their meaning.				
		Completely inequivalent item	Requiring substantial revision	Requiring very little revision	Completely equivalent item
SN1	I feel under social pressure to engage in mindful self-care	1	2	3	4
SN2	People who are important to me think I should NOT engage in mindful self-care	1	2	3	4
SN3	It is expected of me that I engage in mindful selfcare	1	2	3	4
	Are the items listed on the measuring instrument consistent with the construct being measured? Some of the questions may seem similar, but they may have slight variations in their meaning.				
		Completely inequivalent item	Requiring substantial revision	Requiring very little revision	Completely equivalent item
PBC1	The decision to engage in mindful self-care is beyond my control	1	2	3	4
PBC2	I have complete control to engage in mindful selfcare	1	2	3	4
PBC3	For me, engaging in mindful selfcare is Easy/ Difficult	1	2	3	4

Note: The questions above reflect the original questions of the Theory of Planned Behavior.

Appendix F: Expert Permission to Participate in the Validation Study

UNIVERSITY OF NORTH DAKOTA

Institutional Review Board

Study Information Sheet

Project Title: *Attitudes, Subjective Norms, and Perceived Behavioral Control of Perianesthesia Nurses' Intentions to Engage in Mindful Self-care.*

Principal Investigator : *Dawn Denny PhD, RN, ONC, dawn.denny@und.edu, 701-777-2699*

Co-Principal Investigator: *Brenda Sanya MSN, RN, CPAN, brenda.sanya@und.edu*

Purpose of the Study:
The purpose of this study is to examine the relationships among attitudes, subjective norms, perceived behavioral control, and intentions to engage in mindful self-care among nurses working in the perianesthesia setting. The expert validation phase is to establish face and content validity of the modified Theory of Planned Behavior questionnaire for use with perianesthesia nurses. Collecting accurate data is crucial to ensure that the target construct is measured correctly. By examining how well the items on a measuring instrument correspond to the construct being measured, we can draw valid conclusions regarding attitudes, subjective norms, perceived behavioral control, and intentions to engage in mindful self-care among nurses working in the perianesthesia setting. This will allow us to accurately describe and understand the relationship between these factors and the engagement of perianesthesia nurses in mindful self-care.

Procedures to be followed:
You will be asked to rate 26 quantitative questions using a Likert Scale. In case you give a low score to any of the questions, you will have the option to provide additional information or clarification through a free text response.

Risks:
There are no foreseeable risks to participating in this research phase.

Benefits:
It is not expected that you will personally benefit from this research beyond those experienced in everyday life.

Durations:
Answering the questions will take about 30 minutes to complete the survey. We kindly request your permission to contact you in case we require any clarification on your responses that may need significant modification on our part. This will promote the development of a reliable tool. Your feedback is valuable to us, and we appreciate your time and consideration.

Statement of Confidentiality:
Your identity will be protected to the greatest extent allowed by law. The survey will not be anonymous for the purpose of seeking clarity of the responses as needed. Your email will be the only information that will be required for communication purposes. If this research is published or presented publicly, no information that would identify you will be used. All survey responses that we receive will be treated confidentially and stored on a secure server at the University of North Dakota, and only members of the University of North Dakota Institutional Review Board

and the investigators will have access to the data. However, given that the surveys can be completed from any computer (e.g., personal, work, school), we are unable to guarantee the security of the computer on which you choose to enter your responses. We want you to be aware that certain "key logging" software programs exist that can be used to track or capture data that you enter and/or websites that you visit.

Right to Ask Questions:
The researchers conducting this study are Dawn Denny PhD, RN, ONC. and Brenda Sanya MSN, RN, CPAN. You may ask any questions you have now. If you later have questions, concerns, or complaints about the research please contact Dawn Denny PhD, RN, ONC at 701-777-2699 during the day.

If you have questions regarding your rights, you may contact The University of North Dakota Institutional Review Board at (701) 777-4279 or UND.irb@UND.edu. You may contact the UND IRB with problems, complaints, or concerns about the research. Please contact the UND IRB if you cannot reach research staff, or you wish to talk with someone who is an informed individual who is independent of the research team.

General information about being a research subject can be found on the Institutional Review Board website "Information for Research Participants" http://und.edu/research/resources/human-subjects/research-participants.html

Compensation:
You will not receive compensation for your participation in this research tool validation process.

Voluntary Participation:

- You do not have to participate in this process. You can stop your participation at any time. You may refuse to participate or choose to discontinue participation at any time without losing any benefits to which you are otherwise entitled.
- You do not have to answer any questions you do not want to answer.
- You must be 18 years of age and older to participate in this validation phase.
- Checking the box below indicates permission to agree to be part of this validation phase in our study and that we can contact you for clarification.
    - I agree to be part of this tool validation process
    - I do not agree to be part of this tool validation process

Study Information for Tool Validation

UND UNIVERSITY OF NORTH DAKOTA
COLLEGE OF NURSING & PROFESSIONAL DISCIPLINES
cnpd.UND.edu
430 Oxford Street Stop 9025
Grand Forks, ND 58202-9025
Phone: 701.777.4174
Fax: 701.777.4096

RE: Study Information for Expert Tool Validation Process

Thank you for agreeing to participate in the validation process of the researcher modified Theory of Planned Behavior Questionnaire that will be used for data collection for my dissertation project. The validation process will involve responding to just under 30 questions and providing feedback on the clarity, relevancy, and equivalency of the questions as appropriate to facilitate the validation process. It is estimated that reviewing the questions will require 30 minutes or less.

Title of Research Project:
Attitudes, Subjective Norms, and Perceived Behavioral Control of Perianesthesia Nurses' Intentions to Engage in Mindful Self-Care.

Principal Investigator (PI): Dawn Denny PhD, RN, ONC
Co--PI: Brenda Sanya, MSN, RN, CPAN : ***PhD Candidate, University of North Dakota***

Purpose of Research:
The purpose of this study is to examine the relationships between attitudes, subjective norms, perceived behavioral control, and intentions to engage in mindful self-care among nurses working in the perianesthesia setting. The expert validation phase is to establish face and content validity of the researcher modified Theory of Planned Behavior questionnaire for use with perianesthesia nurses. This ensures that the data collected accurately measures the target construct and describes how well the items on a measuring instrument correspond to the construct that is being measured to draw valid conclusions regarding attitudes, subjective norms, perceived behavioral control, and intentions to engage in mindful self-care among nurses working in the perianesthesia setting.

Background:
After a thorough review of the literature, a valid and reliable tool to measure attitudes, subjective norms, perceived behavioral control, and intentions among perianesthesia nurses was not located. Therefore, to measure the Theory of Planned Behavior constructs, it is necessary to create a valid and reliable tool that will assess the nurses' attitudes, subjective norms, perceived behavioral control, and intentions. Creation of the researcher modified Theory of Planned Behavior Questionnaire will facilitate data collection of the constructs. Creation of the validated tool will provide credibility to subsequent studies examining mindful self-care and focusing on intentions, attitudes, subjective norms, and perceived behavioral control. This tool will be based on Francis et al., (2004).

Description of Research:
The Theory of planned behavior framework will provide the lens through which selfcare among perianesthesia nurses will be examined. The study design will be cross sectional and data will be collected through a survey that will be distributed by American Society of Peri Anesthesia Nurses

Today, the University of North Dakota rests on the ancestral lands of the Pembina and Red Lake Bands of Ojibwe and the Dakota Oyate - presently existing as composite parts of the Red Lake, Turtle Mountain, White Earth Bands, and the Dakota Tribes of Minnesota and North Dakota. We acknowledge the people who resided here for generations and recognize that the spirit of the Ojibwe and Oyate people permeates this land. As a university community, we will continue to build upon our relations with the First Nations of the State of North Dakota - the Mandan, Hidatsa, and Arikara Nation, Sisseton-Wahpeton Oyate Nation, Spirit Lake Nation, Standing Rock Sioux Tribe, and Turtle Mountain Band of Chippewa Indians.

UND UNIVERSITY OF NORTH DAKOTA
COLLEGE OF NURSING & PROFESSIONAL DISCIPLINES
cnpd.UND.edu
430 Oxford Street Stop 9025
Grand Forks, ND 58202-9025
Phone: 701.777.4174
Fax: 701.777.4096

(ASPAN). Researcher-modified Theory of Planned Behavior questionnaire and Mindful Self Care Scale will be utilized for data collection.

Definitions of Study Variables

Variable	Definition
Attitudes:	Degree of favorability or unfavourability of overall evaluation of behavior in question by an individual (Ajzen, 1991). This will be operationalized as positive attitude or negative attitude to participate in mindful self-care . This will be measured on a 7-point Likert scale with higher scores reflecting positive attitude toward mindful self-care. Any negatively worded statement or with negatively worded statements will be recoded so that higher numbers always reflect positive attitude towards mindful self-care.
Subjective norms	Performing or not performing the behavior due to the perceived social pressure (Ajzen, 1991). This will be measured on a 7-point Likert scale with higher scores reflecting greater social pressure to engage in mindful self-care. Any negatively worded statement or with negatively worded endpoints will be recoded so that higher scores consistently reflect greater social pressure to participate in mindful self-care.
Perceived self-control	Performing a behavior with ease or difficulty (within a person's control) assuming that it reflects anticipated impediments and obstacles and past experience (Ajzen, 1991). This will be measured on a 7-point Likert scale with higher scores reflecting greater level of control to participate in mindful self-care. Any negatively worded statement or with negatively worded endpoints will be recoded so that high scores consistently reflect greater level of control to engage in mindful self-care.
Rural	Will be determined by the use of the Rural-Urban Commuting Area (RUCA) system (USDA, 2020). Zip codes will be used for RUCA designation (Onega et al., 2020).
Self-care	Being aware and taking care of one's physical and emotional needs including one's daily routines, relationships, and environment accordingly to maintain or advance desirable health and wellbeing (Cook-Cottone et al., 2016).
Mindful self-care	Addresses self-care and adds the component of mindful awareness. This is considered crucial for overall well-being and has been linked to positive physical and mental health outcomes, and emotional well-being. Regular and purposeful engagement in mindful self-care is viewed as a protective measure against the development of mental

Today, the University of North Dakota rests on the ancestral lands of the Pembina and Red Lake Bands of Ojibwe and the Dakota Oyate - presently existing as composite parts of the Red Lake, Turtle Mountain, White Earth Bands, and the Dakota Tribes of Minnesota and North Dakota. We acknowledge the people who resided here for generations and recognize that the spirit of the Ojibwe and Oyate people permeates this land. As a university community, we will continue to build upon our relations with the First Nations of the State of North Dakota - the Mandan, Hidatsa, and Arikara Nation, Sisseton-Wahpeton Oyate Nation, Spirit Lake Nation, Standing Rock Sioux Tribe, and Turtle Mountain Band of Chippewa Indians.

UND UNIVERSITY OF NORTH DAKOTA
COLLEGE OF NURSING & PROFESSIONAL DISCIPLINES
cnpd.UND.edu
430 Oxford Street Stop 9025
Grand Forks, ND 58202-9025
Phone: 701.777.4174
Fax: 701.777.4096

	health issues, burnout at work or school, and an enhancement of work and school performance.(Cook-Cottone et al., 2016).
Intention	Motivational factors that influence behavior, an indication of how hard and how much of an effort one is willing to put forth to engage in a behavior (Ajzen, 1991). This will be operationalized as the desire to engage or not engage in mindful self-care. This will be measured by calculating the mean scores of the three intention questions in the researcher modified Theory of Planned Behavior Questionnaire.
Planned behavior	An individual's intention to engage in a particular behavior at a predetermined place and time.
Perianesthesia nurse	Perianesthesia nurses are specially trained to provide top-notch care to patients both before and after surgery and are equipped to handle any complications that may arise from anesthesia (ASPAN.org). This will be operationalized as nurses who are members of the ASPAN organization and work at least part time.

References:

Ajzen, I. (1991). The Theory of Planned Behavior. Organizational Behavior and Human Decision Processes, 50(2), 179-211.

Cook-Cottone, C. P. & Guyker, W. (2016). The Mindful Self-Care Scale: Mindful self-care as a tool to promote physical, emotional, and cognitive well-being].

Francis, J., Eccles, M. P., Johnston, M. , Walker, A. E., Grimshaw, J. M., Foy, R., Kaner, E. F. S., Smith, L. & Bonetti, D. (2004). Constructing questionnaires based on the theory of planned behavior: A manual for health services researchers. Newcastle upon Tyne, UK: Centre for Health Services Research, University of Newcastle upon Tyne.

Martínez, N., Connelly, C. D., Pérez, A., & Calero, P. (2021). Self-care: A concept analysis. International journal of nursing sciences, 8(4), 418-425.

Onega, T., Weiss, J. E., Alford-Teaster, J., Goodrich, M., Eliassen, M. S., & Kim, S. J. (2020). Concordance of rural-urban self-identity and zip code-derived rural-urban commuting area (RUCA) designation. The Journal of Rural Health, 36(2), 274-280.

https://www.aspan.org/Home/Perianesthesia-Nurses-Are.html

Please contact me at brenda.sanya@und.edu. Thank you for your consideration to participate in this process.

Sincerely,

Today, the University of North Dakota rests on the ancestral lands of the Pembina and Red Lake Bands of Ojibwe and the Dakota Oyate - presently existing as composite parts of the Red Lake, Turtle Mountain, White Earth Bands, and the Dakota Tribes of Minnesota and North Dakota. We acknowledge the people who resided here for generations and recognize that the spirit of the Ojibwe and Oyate people permeates this land. As a university community, we will continue to build upon our relations with the First Nations of the State of North Dakota - the Mandan, Hidatsa, and Arikara Nation, Sisseton-Wahpeton Oyate Nation, Spirit Lake Nation, Standing Rock Sioux Tribe, and Turtle Mountain Band of Chippewa Indians.

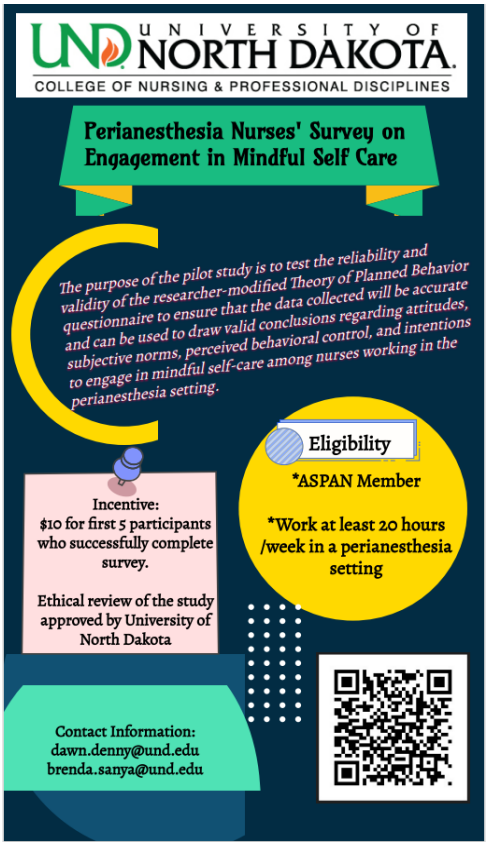
UND UNIVERSITY OF NORTH DAKOTA
COLLEGE OF NURSING & PROFESSIONAL DISCIPLINES
cnpd.UND.edu
430 Oxford Street Stop 9025
Grand Forks, ND 58202-9025
Phone: 701.777.4174
Fax: 701.777.4096

Brenda Sanya, MSN, RN, CPAN
PhD Candidate
College of Nursing & Professional Disciplines
University of North Dakota
430 Oxford Street Stop 9025
Grand Forks, ND 58202-9025
571-286-7246
Email: brenda.sanya@ndus.edu.

Today, the University of North Dakota rests on the ancestral lands of the Pembina and Red Lake Bands of Ojibwe and the Dakota Oyate - presently existing as composite parts of the Red Lake, Turtle Mountain, White Earth Bands, and the Dakota Tribes of Minnesota and North Dakota. We acknowledge the people who resided here for generations and recognize that the spirit of the Ojibwe and Oyate people permeates this land. As a university community, we will continue to build upon our relations with the First Nations of the State of North Dakota - the Mandan, Hidatsa, and Arikara Nation, Sisseton-Wahpeton Oyate Nation, Spirit Lake Nation, Standing Rock Sioux Tribe, and Turtle Mountain Band of Chippewa Indians.

Appendix G: Main Survey Participant Flyer

Pilot Survey Participant Flyer



Appendix H: Mindful Self Care Scale

Mindful Self-Care Scale

Cook-Cottone, 2016
Sample format with questions:
[Please Cite as: Cook-Cottone, C. P. & Guyker, W. (2016, manuscript in preparation).
The Mindful Self-Care Scale: Mindful self-care as a tool to promote physical, emotional, and cognitive well-being].

The Mindful Self-Care Scale- SHORT (MSCS, 2016) is a 33-item scale that measures the self-reported frequency of behaviors that measure self-care behavior. These scales are the result of an Exploratory Factor Analysis (EFA) of a large community sample. The subscales are positively correlated with body esteem and negative correlated with substance use and eating disordered behavior. Please check back for the published citation. Note: there are an additional six clinical questions and two general questions for a total of 42 items. (Note, the long-form has 84 questions and 10 subscales. It can be found on Dr. Catherine Cook-Cottone's faculty web page).

Self-care is defined as the daily process of being aware of and attending to one's basic physiological and emotional needs including the shaping of ones daily routine, relationships, and environment as needed to promote self-care. Mindful self-care addresses self-care and adds the component of mindful awareness.

Mindful self-care is seen as the foundational work required for physical and emotional well-being. Self-care is associated with positive physical health, emotional well-being, and mental health. Steady and intentional practice of mindful self-care is seen as protective by preventing the onset of mental health symptoms, job/school burnout, and improving work and school productivity.

This scale is intended to help individuals identify areas of strength and weakness in mindful self-care behavior as well as assess interventions that serve to improve self-care. The scale addresses 6 domains of self-care: physical care, supportive relationships, mindful awareness, self-compassion and purpose, mindful relaxation, and supportive structure. There are also six clinical items and three general items assessing the individual's general or more global practices of self-care.

Check the box that reflects the frequency of your behavior (how much or how often) within past week (7 days):

This past week, how many ***days*** did you do the following?	Never	Rarely	Sometimes	Often	Regularly
	0 days	1 day	2 to 3 days	3 to 5 days	6 to7 days
Example: I drank at least 6 to 8 cups of water	☐	☐	☐	☐	☐
Scoring:	1 Never	2 Rarely	3 Sometimes	4 Often	5 Regularly
If reverse-scored:	5 Never	4 Rarely	3 Sometimes	2 Often	1 Regularly

Contact information: Catherine Cook-Cottone, Ph.D. at cpcook@buffalo.edu

Mindful Self-Care Scale

Cook-Cottone, 2016

Sample format with questions:

[Please Cite as: Cook-Cottone, C. P. & Guyker, W. (2016, manuscript in preparation).
The Mindful Self-Care Scale: Mindful self-care as a tool to promote physical, emotional, and cognitive well-being].

The questions on the scale follow.

Physical Care (8 items)

Score	Item
1 2 3 4 5	I drank at least 6 to 8 cups of water
1 2 3 4 5	I ate a variety of nutritious foods (e.g., vegetables, protein, fruits, and grains)
1 2 3 4 5	I planned my meals and snacks
1 2 3 4 5	I exercised at least 30 to 60 minutes
1 2 3 4 5	I took part in sports, dance or other scheduled physical activities (e.g., sports teams, dance classes)
R 5 4 3 2 1	I did sedentary activities instead of exercising (e.g., watched tv, worked on the computer)-reversed score
1 2 3 4 5	I planned/scheduled my exercise for the day
1 2 3 4 5	I practiced yoga or another mind/body practice (e.g., Tae Kwon Do, Tai Chi)
	Total
	Average for Subscale = Total/# of items

Supportive Relationships (5 items)

Score	Item
1 2 3 4 5	I spent time with people who are good to me (e.g., support, encourage, and believe in me)
1 2 3 4 5	I felt supported by people in my life
1 2 3 4 5	I felt that I had someone who would listen to me if I became upset (e.g., friend, counselor, group)
1 2 3 4 5	I felt confident that people in my life would respect my choice if I said "no"
1 2 3 4 5	I scheduled/planned time to be with people who are special to me
	Total
	Average for Subscale = Total/# of items

Mindful Awareness (4 items)

Score	Item
1 2 3 4 5	I had a calm awareness of my thoughts
1 2 3 4 5	I had a calm awareness of my feelings
1 2 3 4 5	I had a calm awareness of my body
1 2 3 4 5	I carefully selected which of my thoughts and feelings I used to guide my actions
	Total
	Average for Subscale = Total/# of items

Mindful Self-Care Scale

Cook-Cottone, 2016
Sample format with questions:
[Please Cite as: Cook-Cottone, C. P. & Guyker, W. (2016, manuscript in preparation).
The Mindful Self-Care Scale: Mindful self-care as a tool to promote physical, emotional, and cognitive well-being].

Self-Compassion and Purpose (6 items)

Score	Item
1 2 3 4 5	I kindly acknowledged my own challenges and difficulties
1 2 3 4 5	I engaged in supportive and comforting self-talk (e.g., "My effort is valuable and meaningful")
1 2 3 4 5	I reminded myself that failure and challenge are part of the human experience
1 2 3 4 5	I gave myself permission to feel my feelings (e.g., allowed myself to cry)
1 2 3 4 5	I experienced meaning and/or a larger purpose in my *work/school* life (e.g., for a cause)
1 2 3 4 5	I experienced meaning and/or larger purpose in my *private/personal* life (e.g., for a cause)
	Total
	Average for Subscale = Total/# of items

Mindful Relaxation (6 items)

Score	Item
1 2 3 4 5	I did something intellectual (using my mind) to help me relax (e.g., read a book, wrote)
1 2 3 4 5	I did something interpersonal to relax (e.g., connected with friends)
1 2 3 4 5	I did something creative to relax (e.g., drew, played instrument, wrote creatively, sang, organized)
1 2 3 4 5	I listened to relax (e.g., to music, a podcast, radio show, rainforest sounds)
1 2 3 4 5	I sought out images to relax (e.g., art, film, window shopping, nature)
1 2 3 4 5	I sought out smells to relax (lotions, nature, candles/incense, smells of baking)
	Total
	Average for Subscale = Total/# of items

Supportive Structure (4 items)

Score	Item
1 2 3 4 5	I kept my work/schoolwork area organized to support my work/school tasks
1 2 3 4 5	I maintained a manageable schedule
1 2 3 4 5	I maintained balance between the demands of others and what is important to me
1 2 3 4 5	I maintained a comforting and pleasing living environment
	Total
	Average for Subscale = Total/# of items

General (3 items- not to be averaged)

Score	Item
1 2 3 4 5	I engaged in a variety of self-care strategies
1 2 3 4 5	I planned my self-care
1 2 3 4 5	I explored new ways to bring self-care into my life

Mindful Self-Care Scale

Cook-Cottone, 2016
Sample format with questions:
[Please Cite as: Cook-Cottone, C. P. & Guyker, W. (2016, manuscript in preparation).
The Mindful Self-Care Scale: Mindful self-care as a tool to promote physical, emotional, and cognitive well-being].

Total Score Summary
Be sure you have correctly scored your reversed-scored item.

Averaged Score	Scale
	Physical Care
	Supportive Relationships
	Mindful Awareness
	Self-compassion and Purpose
	Mindful Relaxation
	Supportive Structure

Shade in your average score for each scale below:

5						
4						
3						
2						
1						
Scale	Physical Care	Support Relation	Mindful Aware	Self-Comp Purpos	Mindful Relax	Support Structure

For a long version of the scale and a detailed description of the source scale see:
Cook-Cottone, C. P. (2015). *Mindfulness and yoga for embodied self-regulation: A primer for mental health professionals.* New York, NY: Springer Publishing.

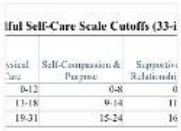
Re: Request for Permission to Use Mindful Self-Care Scale – Brief

You replied on Tue 10/10/2023 1:12 PM

This sender cpcook@buffalo.edu is from outside your organization. Block sender

Catherine Cook-Cottone <cpcook@buffalo.edu>
To: SANYA, BRENDA

Wed 2/1/2023 10:51 AM



lful Self-Care Scale Cutoffs (33-i

sical	Self-Compassion & Purpose	Supportive Relationshi
0-12	0-8	0
13-18	9-14	11
19-31	15-24	16

You have my permission to use (and translate is needed) the Mindful Self-Care Scale. You can find the three versions here
https://www.catherinecookcottone.com/research-and-teaching/mindful-self-care-scale/

In terms of research applications, the standard version is the one we recommend that you use in research (33 items). Or the 84 item scale for factor validation or factor analysis (EFA). If you intend to do a CFA- we require you to have a sufficient number of participants to do this- you should include at least 10 participants per item (which is about 330 items). Note, the subscales are not validated to be used independently. You do not have permission to use one or two scales or a variety of items. This would be a misrepresentation of our construct and would not be a valid assessment of mindful self-care or self-care.

You must describe the full construct of mindful self-care in your paper. Please read and cite as (this is open access and can be found on the journal's web page):

Cook-Cottone, C. P., & Guyker, W. M. (2018). The development and validation of the Mindful Self-Care Scale (MSCS): An assessment of practices that support positive embodiment. *Mindfulness, 9*(1), 161-175.

For practical purposes, the 33 item scale can be used for a shorter check in or introduction to Mindful Self-Care. The 84 item scale is really good for working with programs, courses, and trainings and offers a much more in depth clinical view.

Automatic feedback- we also have a web page set up at the University at Buffalo that has a self-assessment with feedback here:
http://ed.buffalo.edu/mindful-assessment.html

If you are developing an application or other mechanism that will produce revenue, we require that you donate to www.yogisinservice.org a not-for-profit that the creators of the MSCS work with as a means of giving back, regularly, throughout the duration of your use of the scale. We also encourage you to reach out to us if you are able to help fund ongoing research of the scale.

Also please find our normative cutoffs attached.

Please keep us posted. Best of luck in your work!

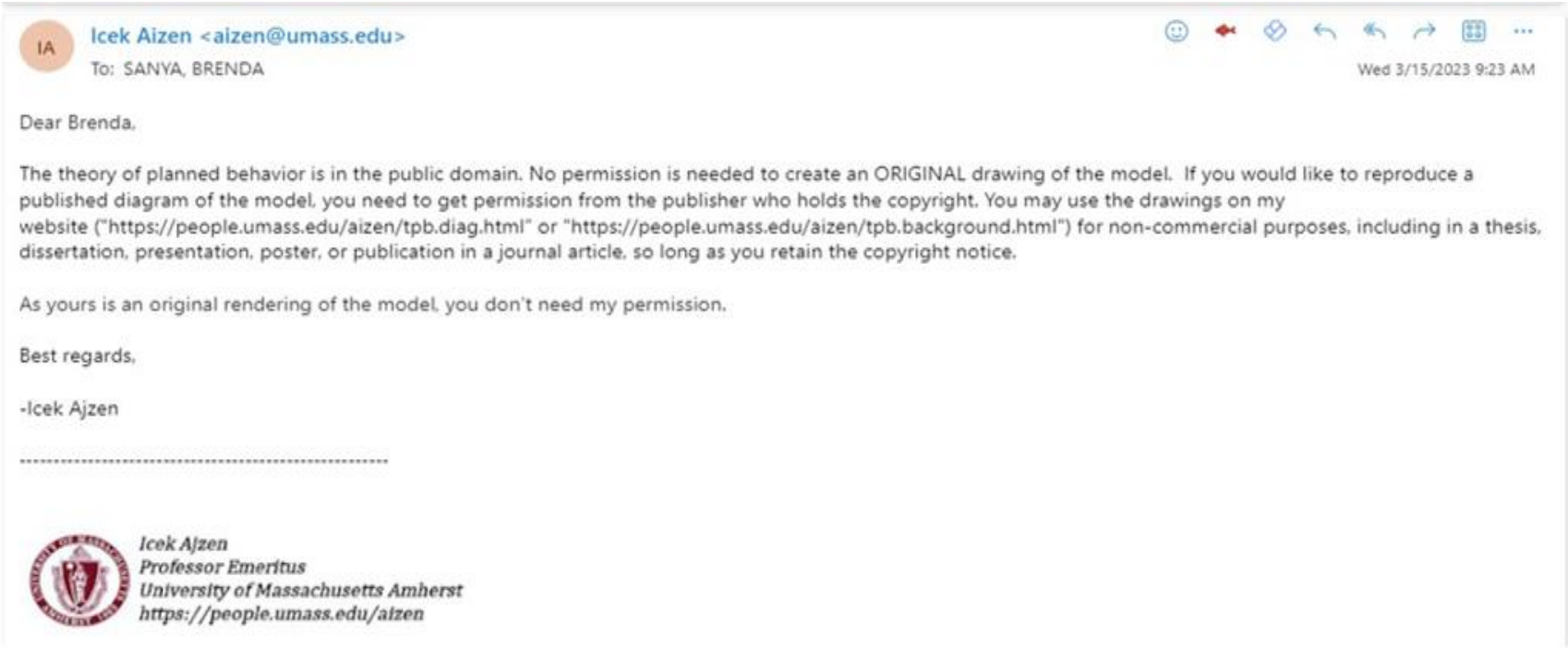
Catherine

Appendix I: Guide Questions to Theory of Planned Behavior Questionnaire Construction

Construct	Question	Scale
Intention	• I want to … • I expect to … • I intend to …	1. Strongly disagree (1) to Strongly agree (7) 2. Strongly disagree (1) to Strongly agree (7) 3. Strongly disagree (1) to Strongly agree (7)
Attitude	• Overall, I think … is	1. Unbeneficial/ beneficial (1) to (7) 2. Pleasant/ unpleasant (1) to (7) 3. Unnecessary practice/ necessary practice (1) to (7) 4. Worthwhile/ not worthwhile (1) to (7)
Subjective Norm	• I feel under social pressure to … • People who are important to me think I should NOT … • It is expected of me that I …	1. Strongly disagree (1) to Strongly agree (7) 2. Strongly disagree (1) to Strongly agree (7) 3. Strongly disagree (1) to Strongly agree (7)
PBC	• The decision to … is beyond my control • I have complete control to … • For me, … is	1. Strongly disagree (1) to Strongly agree (7) 2. Strongly disagree (1) to Strongly agree (7) 3. Easy/ Difficult (1) to (7)

Note: The highlighted section requires **reverse scoring**. The action and intended behavior under study is inserted in the three dots (…)

Permission for Use of the Theory of Planned Behavior Questionnaire



IA

Icek Aizen <aizen@umass.edu>

To: SANYA, BRENDA

Wed 3/15/2023 9:23 AM

Dear Brenda,

The theory of planned behavior is in the public domain. No permission is needed to create an ORIGINAL drawing of the model. If you would like to reproduce a published diagram of the model, you need to get permission from the publisher who holds the copyright. You may use the drawings on my website ("https://people.umass.edu/aizen/tpb.diag.html" or "https://people.umass.edu/aizen/tpb.background.html") for non-commercial purposes, including in a thesis, dissertation, presentation, poster, or publication in a journal article, so long as you retain the copyright notice.

As yours is an original rendering of the model, you don't need my permission.

Best regards,

-Icek Ajzen

Icek Ajzen
Professor Emeritus
University of Massachusetts Amherst
https://people.umass.edu/aizen

Appendix J: Modified Theory of Planned Behavior Questionnaire for Pilot Study

Please select the choice that most closely aligns with your opinion for each of the following questions. Some of the questions may seem similar, but they may have slight variations in their meaning. Your input is highly valued and appreciated

		Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
INT1	I want to engage in mindful self-care	1	2	3	4	5	6	7
SN1	I feel pressured to engage in mindful self-care	1	2	3	4	5	6	7
INT3	I intend to engage in mindful self-care	1	2	3	4	5	6	7
PBC1	Engaging in mindful self-care is beyond my ability (control)	1	2	3	4	5	6	7
SN2	*People I value think I should **NOT** engage in mindful self-care	7	6	5	4	3	2	1
PBC2	I am completely able to engage in mindful selfcare	1	2	3	4	5	6	7
INT2	I look forward to engaging in mindful self-care	1	2	3	4	5	6	7
SN3	I am expected to engage in mindful selfcare	1	2	3	4	5	6	7

Please select the choice that most closely aligns with your viewpoint

		Pleasant	Moderately Pleasant	Slightly Pleasant	Neither Pleasant nor Unpleasant	Slightly Unpleasant	Moderately Unpleasant	Unpleasant
ATT2	*Overall, I think engaging in mindful selfcare is	7	6	5	4	3	2	1

Please select the choice that most closely aligns with your viewpoint

		Easy	Moderately Easy	Slightly Easy	Neither Easy nor Difficult	Slightly Difficult	Moderately Difficult	Difficult

PBC3	*Overall, I think engaging in mindful selfcare is	7	6	5	4	3	2	1

Please select the choice that most closely aligns with your viewpoint

		Unbeneficial	Moderately Unbeneficial	Slightly Unbeneficial	Neither Beneficial nor Unbeneficial	Slightly Beneficial	Moderately Beneficial	Beneficial
ATT 1	Overall, I think engaging in mindful selfcare is	1	2	3	4	5	6	7

Please select the choice that most closely aligns with your viewpoint

		Unnecessary practice	Moderately Unnecessary practice	Slightly Unnecessary practice	Neither necessary nor Unnecessary practice	Slightly Necessary practice	Moderately Necessary practice	Necessary practice
ATT3	Overall, I think engaging in mindful selfcare is	1	2	3	4	5	6	7

Please select the choice that most closely aligns with your viewpoint

		Worthwhile	Moderately Worthwhile	Slightly Worthwhile	Neither Worthwhile nor Not worthwhile	Slightly Not Worthwhile	Moderately Not Worthwhile	Not Worthwhile
ATT 4	*Overall, I think engaging in mindful selfcare is	7	6	5	4	3	2	1

Note: Reversed Scored questions are marked with an * The questions were mixed up as recommended by the tool author. The questions above reflect modification of the Theory of Planned Behavior Questionnaire to reflect the suggestions of the experts. Questions were modified, however, the original meaning of the questions was not altered. Permission for use of the Theory of Planned Behavior was obtained from the author. See appendix F.

Appendix K: Demographic Questions

Demographic Questions for Mindful Self-Care Survey for Perianesthesia Nurses

Gender

	Male (1)	Female (2)	Non-binary (3)	Other (4)	Prefer not to say (5)
What is your gender	○	○	○	○	○

Age

	Less than 30 years (1)	30-39 years (2)	40-49 years (3)	50-59 years (4)	Greater than 60 years (5)
What is your age	○	○	○	○	○

Experience

	1-5 years (1)	6-10 years (2)	11-15 years (3)	16-20 years (4)	More than 20 years (5)
How much experience do you have in perianesthesia setting (Pre-op/PACU)?	○	○	○	○	○

Education

	Diploma (1)	Associate degree (2)	Bachelor's Degree (3)	Master's Degree (4)	Doctoral Degree (5)
What is your highest education level	○	○	○	○	○

Professional Role

	Staff Nurse (1)	Charge Nurse (2)	Nurse Manager or Supervisor (3)	Educator or Mentor (4)	Other (5)
What is your professional role	○	○	○	○	○

Q6 What is the **zip code** for your place of work? _____

Practice Setting

	Hospital PACU (1)	Ambulatory / Surgical Center (2)	Admission / Pre-operative Holding (3)	Pre-Anesthesia Clinic / Pre-Anesthesia Assessment (4)	Office (5)
Which one best describes your practice setting	○	○	○	○	○

Certification

	CPAN (1)	CAPA (2)	Other (3)
Which certification do you hold?	○	○	○

Appendix L: Modified Theory of Planned Behavior Questionnaire for the Main Study

Please select the choice that most closely aligns with your opinion for each of the following questions. Some of the questions may seem similar, but they may have slight variations in their meaning. Your input is highly valued and appreciated

		Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
INT1	I want to engage in mindful self-care	1	2	3	4	5	6	7
SN1	I feel pressured to engage in mindful self-care	1	2	3	4	5	6	7
INT3	I intend to engage in mindful self-care	1	2	3	4	5	6	7
SN2	*People I value think I should **NOT** engage in mindful self-care	7	6	5	4	3	2	1
PBC2	I am completely able to engage in mindful selfcare	1	2	3	4	5	6	7
INT2	I look forward to engaging in mindful self-care	1	2	3	4	5	6	7
SN3	I am expected to engage in mindful selfcare	1	2	3	4	5	6	7

Please select the choice that most closely aligns with your viewpoint

		Pleasant	Moderately Pleasant	Slightly Pleasant	Neither Pleasant nor Unpleasant	Slightly Unpleasant	Moderately Unpleasant	Unpleasant
ATT2	*Overall, I think engaging in mindful selfcare is	7	6	5	4	3	2	1

Please select the choice that most closely aligns with your viewpoint

		Easy	Moderately Easy	Slightly Easy	Neither Easy nor Difficult	Slightly Difficult	Moderately Difficult	Difficult
PBC3	*Overall, I think engaging in mindful selfcare is	7	6	5	4	3	2	1

Please select the choice that most closely aligns with your viewpoint

		Unbeneficial	Moderately Unbeneficial	Slightly Unbeneficial	Neither Beneficial nor Unbeneficial	Slightly Beneficial	Moderately Beneficial	Beneficial
ATT 1	Overall, I think engaging in mindful selfcare is	1	2	3	4	5	6	7

Please select the choice that most closely aligns with your viewpoint

		Unnecessary practice	Moderately Unnecessary practice	Slightly Unnecessary practice	Neither necessary nor Unnecessary practice	Slightly Necessary practice	Moderately Necessary practice	Necessary practice
ATT3	Overall, I think engaging in mindful selfcare is	1	2	3	4	5	6	7

Please select the choice that most closely aligns with your viewpoint

		Worthwhile	Moderately Worthwhile	Slightly Worthwhile	Neither Worthwhile nor Not worthwhile	Slightly Not Worthwhile	Moderately Not Worthwhile	Not Worthwhile
ATT 4	*Overall, I think engaging in mindful selfcare is	7	6	5	4	3	2	1

Note: Reversed Scored questions are marked with an * The questions were mixed up as recommended by the tool author. The questions above reflect modification of the Theory of Planned Behavior Questionnaire to reflect the suggestions of the experts and analysis of the pilot study. From the pilot testing feedback, Question PBC1 showed poor scores indicating that participants may have struggled with the question or had a difficult time interpreting it hence it was omitted from the main survey.

REFERENCES

Adimando A. (2018). Preventing and alleviating compassion fatigue through self-care: An educational workshop for nurses. *Journal of Holistic Nursing, 36*(4), 304–317. https://doi.org/10.1177/0898010117721581

Ajzen, I. (1985). From Intentions to Actions: A Theory of Planned Behavior. In J. Kuhl & J. Beckmann (Eds.), *Action Control. SSSP Springer Series in Social Psychology.* Springer., https://doi.org/10.1007/978-3-642-69746-3_2

Ajzen, I. (1988). *Attitudes, personality, and behavior.* Dorsey Press.

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T

Ajzen, I. (2006). Constructing a Theory of Planned Behavior questionnaire. 1-12. https://people.umass.edu/~aizen/pdf/Theory of Planned Behavior .measurement.pdf

Ajzen, I. (2012). The theory of planned behavior. In P. A. M. Van Lange, A. W. Kruglanski, & E. T. Higgins (Eds.), *Handbook of theories of social psychology* (pp. 438–459). Sage Publications Ltd. https://doi.org/10.4135/9781446249215.n22

Ajzen, I. (2020). The theory of planned behavior: Frequently asked questions. *Human Behavior and Emerging Technologies, 2*(4), 314–324. https://doi.org/10.1002/hbe2.195

Ajzen, I., & Driver, B. L. (1992). Application of the Theory of Planned Behavior to Leisure Choice. *Journal of Leisure Research, 24*(3), 207–224. https://doi.org/10.1080/00222216.1992.11969889

Ajzen, I., & Fishbein, M. (1977). Attitude-behavior relations: A theoretical analysis and review of empirical research. *Psychological Bulletin, 84,* 888–918. https://doi.org/10.1037/0033-2909.84.5.888

Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs, NJ : Prentice-Hall

Alexander, G. K., Rollins, K., Walker, D., Wong, L., & Pennings, J. (2015). Yoga for self-care and burnout prevention among nurses. *Workplace Health & Safety, 63*(10), 462–471. https://doi.org/10.1177/2165079915596102

Alexandre, N. M. C., & Coluci, M. Z. O. (2011). Content validity in the development and adaptation processes of measurement instruments. *Ciência & Saúde Coletiva*, *16*(7), 3061.

American Nurses Association. (2015). *Code of ethics for nurses*. American Nurses Publishing.

American Nurses Association. (2017). *Health Risk Appraisal* https://www.nursingworld.org/~4aeeeb/globalassets/practiceandpolicy/work-environment/health--safety/ana-healthriskappraisalsummary_2013-2016.pdf

American Nurses Association. (2022). *Free tools and apps to support the mental health and resilience of all nurses.* Nursingworld.com. https://www.nursingworld.org/practice-policy/work-environment/health-safety/disaster-preparedness/coronavirus/what-you-need-to-know/the-well-being-initiative/

Andrews, H., Tierney, S., & Seers, K. (2020). Needing permission: The experience of self-care and self-compassion in nursing: A constructivist grounded theory study. *International Journal of Nursing Studies*, *101*, 103436. https://doi.org/10.1016/j.ijnurstu.2019.103436

Angelis, A., Pancani, L., Steca, P., Colaceci, S., Giusti, A., Tibaldi, L., Alvaro, R., Ausili, D., & Vellone, E. (2017). Evaluating an explanatory model of nurses' intention to report adverse drug reactions in hospital settings. *Journal of Nursing Management, 25*(4), 307–317. https://doi.org/10.1111/jonm.12467

Arnetz, J. E., Goetz, C. M., Arnetz, B. B., & Arble, E. (2020). Nurse Reports of Stressful Situations during the COVID-19 Pandemic: Qualitative Analysis of Survey Responses. *International Journal of Environmental Research and Public Health*, *17*(21), 8126. https://doi.org/10.3390/ijerph17218126

Aschenbrenner, A. P., Hanson, L., Johnson, T. S., & Kelber, S. T. (2016). Nurses' own birth experiences influence labor support attitudes and behaviors. *Journal of Obstetric, Gynecologic, and Neonatal Nursing, 45*(4), 491501 https://doi.org/10.1016/j.jogn.2016.02.014

American Society of PeriAnesthesia Nurses (ASPAN) (n.d). Perianesthesia nurses; ASPAN Standards. https://www.aspan.org/Publications-Resources/ASPAN-Publications/ASPAN-Standards

Atkins, H. E., Campoli, M., Havens, T. R., Abraham, S. P., & Gillum, D. (2018). Self-care habits of nurses and the perception of their body image. *The Health Care Manager*, *37*(3), 211–219. https://doi.org/10.1097/HCM.0000000000000218

Avino, K. (2020). Mindfulness: A self-care strategy. *Alabama Nurse, 47*(2), 22–23.

Bautista, J. R., Lauria, P. A. S., Contreras, M. C. S., Maranion, M. M. G., Villanueva, H. H., Sumaguingsing, R. C., & Abeleda, R. D. (2020). Specific stressors relate to nurses' job satisfaction, perceived quality of care, and turnover intention. *International Journal of Nursing Practice*, *26*(1), e12774. https://doi.org/10.1111/ijn.12774

Bertani, L., Carone, M., Caricati, L., Demaria, S., Fantuzzi, S., Guarasci, A., & Pirazzoli, L. (2016). Using the Theory of Planned Behavior to explore hospital-based nurses' intention to use peripherally inserted central catheter (PICC): a survey study. *Acta bio-medica : Atenei Parmensis*, *87*(4-S), 23–29.Bigbee, J. L. (1993). The uniqueness of rural nursing. *The Nursing Clinics of North America*, *28*(1), 131–144. https://doi.org/10.1016/S0029-6465(22)02843-2

Biraghi, E., & Tortorano, A. M. (2010). Tobacco smoking habits among nursing students and the influence of family and peer smoking behavior. *Journal of Advanced Nursing*, *66*(1), 33–39. https://doi.org/10.1111/j.1365-2648.2009.05135.x

Blackburn, L. M., Thompson, K., Frankenfield, R., Harding, A., & Lindsey, A. (2020). The THRIVE© Program: Building oncology nurse resilience through self-care strategies. *Oncology Nursing Forum*, *47*(1), E25–E34. https://doi.org/10.1188/20.ONF.E25-E34

Blum C. A. (2014). Practicing self-care for nurses: A nursing program initiative. *OJIN: The Online Journal of Issues in Nursing*, 19(3), 3. http://dx.org/10.3912/OJIN.Vol19No03Man03

Bock, C., Heitland, I., Zimmermann, T., Winter, L., & Kahl, K. G. (2020). Secondary traumatic stress, mental state, and work ability in nurses—Results of a psychological risk assessment at a university hospital. *Frontiers in Psychiatry, 11*, 298. https://doi.org/10.3389/fpsyt.2020.00298

Bosnjak, M., Ajzen, I., & Schmidt, P. (2020). The Theory of Planned Behavior: Selected recent advances and applications. *Europe's Journal of Psychology*, *16*(3), 352–356. https://doi.org/10.5964/ejop.v16i3.3107

Botha, E., Gwin, T., & Purpora, C. (2015). The effectiveness of mindfulness-based programs in reducing stress experienced by nurses in adult hospital settings: a systematic review of quantitative evidence protocol. *JBI Database of Systematic Reviews and Implementation Reports, 13*(10), 21–29. https://doi.org/10.11124/jbisrir-2015-2380

Bratton,B. (2018).Self-Care for the Caregiver: What Are the Risks If We Don't Care for Ourselves?. *Journal of Pediatric Surgical Nursing* 7(1):p 3, 1/3 2018. | DOI: 10.1097/JPS.0000000000000163

Brommelsiek, M., & Peterson, J. A. (2022). Self-Care for Advanced Practice Nursing Students in Rural Primary Care. *The Journal of Nursing Education, 61*(4), 187–191. https://doi.org/10.3928/01484834-20220209-03

Brookes, E. (2021). The theory of planned behavior: Behavioral Intention. *Simply Psychology*. www.simplypsychology.org/theory-of-planned-behavior.html

Brouwer, K. R., Walmsley, L. A., Parrish, E. M., McCubbin, A. K., Welsh, J. D., Braido, C., & Okoli, C. (2021). Examining the associations between self-care practices and psychological distress among nursing students during the COVID-19 pandemic. *Nurse Education Today, 100*, 104864. https://doi.org/10.1016/j.nedt.2021.104864

Brown, L., Belgard, D., Washington, N., & Grueso, S. (2017). Operating room nurse residency and specialty educators: Paramount in the success of novice nurse retention. *Journal of Nursing Education and Practice, 8*(5), 20. https://doi.org/10.5430/jnep.v8n5p20

Brucker M. C. (2018). The importance of self-care for nurses. *Nursing for Women's Health, 22*(6), 439–440. https://doi.org/10.1016/j.nwh.2018.10.002

Burger, K. G., & Lockhart, J. S. (2017). Meditation's Effect on Attentional Efficiency, Stress, and Mindfulness Characteristics of Nursing Students. *The Journal of Nursing Education*, *56*(7), 430–434. https://doi.org/10.3928/01484834-20170619-08

Butts, J. B., & Rich, K. L. (2022). *Nursing ethics: Across the curriculum and into practice*. Jones & Bartlett Learning.

Calisi, Calder C. (2017). The effects of the relaxation response on nurses' level of anxiety, depression, well-being, work-related stress, and confidence to teach patients. *Journal of Holistic Nursing : official journal of the American Holistic Nurses' Association*, *35*(4), 318–327. https://doi.org/10.1177/0898010117719207

Card, E. B., Hyman, S. A., Wells, N., Shi, Y., Shotwell, M. S., & Weinger, M. B. (2019). Burnout and resiliency in perianesthesia nurses: Findings and recommendations from a national study of members of the American Society of PeriAnesthesia Nurses. *Journal of Perianesthesia Nursing : official journal of the American Society of PeriAnesthesia Nurses*, *34*(6), 1130–1145. https://doi.org/10.1016/j.jopan.2019.05.133

Chabot, G., Godin, G., & Gagnon, M. P. (2010). Determinants of the intention of elementary school nurses to adopt a redefined role in health promotion at school. *Implementation Science : IS*, *5*, 93. https://doi.org/10.1186/1748-5908-5-93

Che, C. C., Chong, M. C., & Hairi, N. N. (2018). What influences student nurses' intention to work with older people? A cross-sectional study. *International Journal of Nursing Studies*, *85*, 61-67. https://doi.org/10.1016/j.ijnurstu.2018.05.007

Chipu, M., & Downing, C. (2020). Professional nurses' facilitation of self-care in intensive care units: A concept analysis. *International Journal of Nursing Sciences*, *7*(4), 446–452. https://doi.org/10.1016/j.ijnss.2020.08.002

Cho, H., & Han, K. (2018). Associations Among Nursing Work Environment and Health-Promoting Behaviors of Nurses and Nursing Performance Quality: A Multilevel Modeling Approach. *Journal of Nursing Scholarship: an official publication of Sigma Theta Tau International Honor Society of Nursing*, *50*(4), 403–410. https://doi.org/10.1111/jnu.12390

Cho, H., & Steege, L. M. (2021). Nurse fatigue and nurse, patient safety, and organizational outcomes: A Systematic Review. *Western Journal of Nursing Research*, *43*(12), 1157–1168. https://doi.org/10.1177/0193945921990892

Choi, M., & Kim, J. (2015). Relationships between clinical decision-making patterns and self-efficacy and nursing professionalism in Korean pediatric nurses. *Journal of Pediatric Nursing*, *30*(6), e81–e88. https://doi.org/10.1016/j.pedn.2015.07.001

Cohen-Katz, J., Wiley, S. D., Capuano, T., Baker, D. M., & Shapiro, S. (2004). The effects of mindfulness-based stress reduction on nurse stress and burnout: a quantitative and qualitative study. *Holistic Nursing Practice, 18*(6), 302–308. https://doi.org/10.1097/00004650-200411000-00006

Cook-Cottone, C. P., & Guyker, W. M. (2017). The Development and Validation of the Mindful Self-Care Scale (MSCS): An Assessment of Practices that Support Positive Embodiment. Mindfulness, 1-15. https://catherinecookcottone.com/research-and-teaching/mindful-self-care-scale/

Costa, D. K., & Moss, M. (2018). The cost of caring: emotion, burnout, and psychological distress in critical care clinicians. *Annals of the American Thoracic Society, 15*(7), 787–790. https://doi.org/10.1513/AnnalsATS.201804-269PS

Côté, F., Gagnon, J., Houme, P. K., Abdeljelil, A. B., & Gagnon, M. P. (2012). Using the theory of planned behaviour to predict nurses' intention to integrate research evidence into clinical decision-making. *Journal of Advanced Nursing*, *68*(10), 2289–2298. https://doi.org/10.1111/j.1365-2648.2011.05922.x

Couser, G., Chesak, S., Cutshall, S., (August 14, 2020). Developing a Course to Promote Self-Care for Nurses to Address Burnout. *OJIN: The Online Journal of Issues in Nursing* Vol. 25, No. 3. https://doi.org/10.3912/OJIN.Vol25No03PPT55

Crane, P. J., & Ward, S. F. (2016). Self-healing and self-care for nurses. *AORN Journal*, *104*(5), 386–400. https://doi.org/10.1016/j.aorn.2016.09.007

Dall'Ora, C., Ball, J., Reinius, M., & Griffiths, P. (2020). Burnout in nursing: a theoretical review. *Human Resources for Health*, *18*(1), 41. https://doi.org/10.1186/s12960-020-00469-9

Davis, L. E., Ajzen, I., Saunders, J., & Williams, T. (2002). The decision of African American students to complete high school: An application of the theory of planned behavior. *Journal of Educational Psychology*, *94*(4), 810–819. https://doi.org/10.1037/0022-0663.94.4.810

Desroches, M. L., Howie, V. A., Wilson, N. J., & Lewis, P. (2022). Nurses' attitudes and emotions toward caring for adults with intellectual disability: An international replication study. *Journal of Nursing Scholarship : an official publication of Sigma Theta Tau International Honor Society of Nursing*, *54*(1), 117–124. https://doi.org/10.1111/jnu.12713

DiIorio C. (1997). Neuroscience nurses' intentions to care for persons with HIV/AIDS. *The Journal of Neuroscience Nursing : journal of the American Association of Neuroscience Nurses*, *29*(1), 50–55.

Ditching, N., Furatero, A. G., Iquiña, R. V., Sabulao, A. D., Supremo, J., & Oducado, R. M. (2020). Factors associated with nursing students' intention to report needlestick injuries: Applying the theory of planned behavior. *Nurse Media Journal of Nursing*, *10*(3), 234–243. https://doi.org/10.14710/nmjn.v10i3.31975

Edwards, H. E., Nash, R. E., Najman, J. M., Yates, P. M., Fentiman, B. J., Dewar, A., Walsh, A. M., McDowell, J. K., & Skerman, H. M. (2001). Determinants of nurses' intention to administer opioids for pain relief. *Nursing & Health Sciences, 3*(3), 149–159. https://doi.org/10.1046/j.1442-2018.2001.00080.x

Erkus, G., & Dinc, L. (2018). Turkish nurses' perceptions of professional values. *Journal of Professional Nursing : official journal of the American Association of Colleges of Nursing*, *34*(3), 226–232. https://doi.org/10.1016/j.profnurs.2017.07.011

Faul, F., Erdfelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods, 41*(4), 1149–1160. https://doi.org/10.3758/BRM.41.4.1149

Feize, L., & Faver, C. (2019). Teaching self-awareness: social work educators' endeavors and struggles, *Social Work Education*, 38:2, 159-176, DOI: 10.1080/02615479.2018.1523383

Ferreira, E. S., Souza, M. B., Souza, N. V. D. O., Tavares, K. F. A., & Pires, A. S. (2015). The importance of self-care for nursing professionals. *Ciênc Cuid Saúde*, *14*(1), 978-85. DOI: 10.4025/cienccuidsaude.v14i1.23360

Field, A. (2017). *Discovering Statistics Using IBM SPSS Statistics*: North American Edition (5th ed.). SAGE Publications.

Fielden, A., Northrop, P., Ortiz, L., & Rodriguez, H. (2018). Bridging the Gap: Increasing Critical Care Knowledge and Skills in PACU Nurse Residents. *Journal of PeriAnesthesia Nursing*, *33*(4), e15-e16. https://doi.org/10.1016/j.jopan.2018.06.038

Fishbein, M., & Ajzen, I. (2011). *Predicting and changing behavior: The reasoned action approach*. Psychology press.

Foli, K. J., Forster, A., Cheng, C., Zhang, L., & Chiu, Y. C. (2021). Voices from the COVID-19 frontline: Nurses' trauma and coping. *Journal of Advanced Nursing*, *77*(9), 3853–3866. https://doi.org/10.1111/jan.14988

Francis, J. J., Eccles, M. P., Johnston, M., Walker, A., Grimshaw, J., & Foy, R. (2004). A manual for health services researchers Constructing questionnaires based on the Theory of Planned Behavior. http://www.rebeqi.org/ViewFile.aspx?itemID=212

Gagnon, M. P., Cassista, J., Payne-Gagnon, J., & Martel, B. (2015). Applying the Theory of Planned Behavior to understand nurse intention to follow recommendations 138 related to a preventive clinical practice. *Journal of Research in Nursing*, *20*(7), 582–593. https://doi.org/10.1177/1744987115611715

Gaines, K. (2022, January 19). *Nursing Ranked as the Most Trusted Profession for 20th Year in a Row.* Nurse.org. https://nurse.org/articles/nursing-ranked-most-honest-profession/

Gantz, S. B. (1990). Self-care: Perspectives from six disciplines. *Holistic Nursing Practice*, *4*(2), 1–12. https://doi.org/10.1097/00004650-199002000-00004

Giannetta, N., Dionisi, S., Cassar, M., Trapani, J., Renzi, E., Di Simone, E., & Di Muzio, M. (2020). Measuring knowledge, attitudes and behavior of nurses in medication

management: cross-cultural comparisons in Italy and Malta. *European Review for Medical and Pharmacological Sciences*, *24*(9), 5167–5175. https://doi.org/10.26355/eurrev_202005_21212

Gould, L., Carpenter, H., Farmer, D. R., Holland, D., & Dawson, J. M. (2019). Healthy Nurse, Healthy Nation™ (HNHN): Background and first year results. *Applied Nursing Research: ANR, 49*, 64–69. https://doi.org/10.1016/j.apnr.2019.04.001

Grant, E. J. (2021). Investing in ourselves: Self-care boosts nurses personally and professionally. *American Nurse Journal*, *16*(12), 14. https://link.gale.com/apps/doc/A692227001/AONE?u=anon~3bb75c03&sid=googleScholar&xid=0e15266e

Green, A. A., & Kinchen, E. V. (2021). The Effects of Mindfulness Meditation on Stress and Burnout in Nurses. *Journal of Holistic Nursing : official journal of the American Holistic Nurses' Association*, *39*(4), 356–368. https://doi.org/10.1177/08980101211015818

Guo, J., Chen, J., Fu, J., Ge, X., Chen, M., & Liu, Y. (2016). Structural empowerment, job stress and burnout of nurses in China. *Applied Nursing Research, 31*, 41–45. https://doi.org/10.1016/j.apnr.2015.12.007

Habeeb, S. (2022). Importance of Professional Values in Nursing and Healthcare. *Journal of Practical & Professional Nursing,* 6: 033. DOI:10.24966/PPN-5681/100033

Haddad L.M., Annamaraju P., Toney-Butler T.J. (2022). *Nursing shortage*. Treasure Island (FL): StatPearls https://www.ncbi.nlm.nih.gov/books/NBK493175/

Haddad, L. M., & Geiger, R. A. (2018). Nursing Ethical Considerations. https://europepmc.org/article/nbk/nbk526054#free-full-text

Halm M. (2017). The Role of Mindfulness in Enhancing Self-Care for Nurses. *American Journal of Critical Care : an official publication, American Association of Critical-Care Nurses, 26*(4), 344–348. https://doi.org/10.4037/ajcc2017589

Hays, J. C. (1989). Florence Nightingale and the India sanitary reforms. *Public Health Nursing (Boston, Mass.), 6*(3), 152–154. https://doi.org/10.1111/j.1525-1446.1989.tb00589.x

Healthy Nurse Healthy Nation. (October 2021). Healthy nurse, healthy nation year four highlights: 2020-2021. *American Nurse Journal*. https://www.nursingworld.org/practice-policy/hnhn/

Herber, O. R., Atkins, L., Störk, S., & Wilm, S. (2018). Enhancing self-care adherence in patients with heart failure: a study protocol for developing a theory-based behavior change intervention using the COM-B behavior model (ACHIEVE study). *BMJ Open, 8*(9), e025907. https://doi.org/10.1136/bmjopen-2018-025907

Hofmeyer, A., Taylor, R., & Kennedy, K. (2020). Knowledge for nurses to better care for themselves so they can better care for others during the Covid-19 pandemic and beyond. *Nurse Education Today, 94*, 104503. https://doi.org/10.1016/j.nedt.2020.104503

Holt G. R. (2008). Making difficult ethical decisions in patient care during natural disasters and other mass casualty events. *Otolaryngology--Head and Neck Surgery : official journal of American Academy of Otolaryngology-Head and Neck Surgery, 139*(2), 181–186. https://doi.org/10.1016/j.otohns.2008.04.027

Hossain, F., & Clatty, A. (2021). Self-care strategies in response to nurses' moral injury during COVID-19 pandemic. *Nursing Ethics, 28*(1), 23–32. https://doi.org/10.1177/0969733020961825

Hotchkiss, J. T., & Cook-Cottone, C. P. (2019). Validation of the Mindful Self-Care Scale (MSCS) and development of the Brief-MSCS among hospice and healthcare professionals: a confirmatory factor analysis approach to validation. *Palliative & Supportive Care, 17*(6), 628–636. https://doi.org/10.1017/S1478951519000269 https://doi.org/10.17532/jhsci.2017.420

Hung, C. C., Chu, T. P., Lee, B. O., & Hsiao, C. C. (2016). Nurses' attitude and intention of medication administration error reporting. *Journal of Clinical Nursing, 25*(3-4), 445–453. https://doi.org/10.1111/jocn.13071

Iacono M. V. (2010). Nurses' self-care: a question of balance. *Journal of Perianesthesia Nursing : official journal of the American Society of PeriAnesthesia Nurses, 25*(3), 174–176. https://doi.org/10.1016/j.jopan.2010.03.007

Institute of Medicine (US) Committee on the Robert Wood Johnson Foundation Initiative on the Future of Nursing, (2011). *The Future of Nursing: Leading Change, Advancing Health*. National Academies Press (US).

Jager, J., Putnick, D. L., & Bornstein, M. H. (2017). II. More than just convenient: The scientific merits of homogeneous convenience samples. *Monographs of the Society for Research in Child Development, 82*(2), 13-30. https://doi.org/10.1111/mono.12296

Janeway D. (2020). The Role of Psychiatry in Treating Burnout Among Nurses During the Covid-19 Pandemic. *Journal of Radiology Nursing, 39*(3), 176–178. https://doi.org/10.1016/j.jradnu.2020.06.004

Jazaieri, H., Shapiro, S. (2017). Mindfulness and well-being. In: Robinson, M., Eid, M. (Eds.). The happy mind: *Cognitive contributions to well-being.* Springer, Cham. https://doi.org/10.1007/978-3-319-58763-9_3

Jones, S. (2018). Watson's theory of human caring: Effect on nurse perception of care environment, Gardner-Webb University: *Nursing Theses and Capstone Projects*. https://digitalcommons.gardner-webb.edu/nursing_etd/320

Kabat-Zinn, J. (1994, September). Catalyzing movement towards a more contemplative/sacred-appreciating/non-dualistic society. https://www.contemplativemind.org/admin/wp-content/uploads/kabat-zinn.pdf

Kabat-Zinn, J. (2003). Mindfulness-based interventions in context: Past, present, and future. *Clinical Psychology: Science and Practice, 10*(2), 144–156. https://doi.org/10.1093/clipsy.bpg016

Kabat-Zinn, J., Lipworth, L., & Burney, R. (1985). The clinical use of mindfulness meditation for the self-regulation of chronic pain. *Journal of Behavioral Medicine, 8*(2), 163–190. https://doi.org/10.1007/BF00845519

Kang H. (2013). The prevention and handling of the missing data. *Korean Journal of Anesthesiology, 64*(5), 402–406. https://doi.org/10.4097/kjae.2013.64.5.402

Kappen, T. H., van Klei, W. A., van Wolfswinkel, L., Kalkman, C. J., Vergouwe, Y., & Moons, K. G. M. (2018). Evaluating the impact of prediction models: lessons learned, challenges, and recommendations. *Diagnostic and Prognostic Research*, *2*, 11. https://doi.org/10.1186/s41512-018-0033-6

Kaye S. P. (2017). Nurses' Attitudes Toward Meaningful Use Technologies: An Integrative Review. *Computers, Informatics, Nursing : CIN*, *35*(5), 237–247. https://doi.org/10.1097/CIN.0000000000000310

Kimberlin, C. L., & Winterstein, A. G. (2008). Validity and reliability of measurement instruments used in research. *American Journal of Health-system Pharmacy : AJHP :*

official journal of the American Society of Health-System Pharmacists, *65*(23), 2276–2284. https://doi.org/10.2146/ajhp070364

Kramer D. (2018). Energetic Modalities as a Self-Care Technique to Reduce Stress in Nursing Students. *Journal of Holistic Nursing : official journal of the American Holistic Nurses' Association*, *36*(4), 366–373. https://doi.org/10.1177/0898010117745436

Lacasse, Y., Godbout, C., & Sériès, F. (2002). Health-related quality of life in obstructive sleep apnoea. *The European Respiratory Journal*, *19*(3), 499–503. https://doi.org/10.1183/09031936.02.00216902

Lee, J., & Kang, S. J. (2020). Factors influencing nurses' intention to care for patients with emerging infectious diseases: Application of the theory of planned behavior. *Nursing & Health Sciences*, *22*(1), 82–90. https://doi.org/10.1111/nhs.12652

Lewis, S., Willis, K., Bismark, M., & Smallwood, N. (2022). A time for self-care? Frontline health workers' strategies for managing mental health during the COVID-19 pandemic. *SSM. Mental Health*, *2*, 100053. https://doi.org/10.1016/j.ssmmh.2021.100053

Liang, J. C., & Wu, S. H. (2010). Nurses' motivations for Web-based learning and the role of Internet self-efficacy. *Innovations in Education and Teaching International*, 47:1, 25-37, DOI: 10.1080/14703290903525820

Liang, J. C., Wu, S. H., & Tsai, C. C. (2011). Nurses' Internet self-efficacy and attitudes toward web-based continuing learning. *Nurse Education Today*, *31*(8), 768–773. https://doi.org/10.1016/j.nedt.2010.11.021

Linton, M., & Koonmen, J. (2020). Self-care as an ethical obligation for nurses. *Nursing Ethics*,. [Advance online publication]. https://doi.org/10.1177/0969733020940371

Lubinska-Welch, I., Pearson, T., Comer, L., & Metcalfe, S. E. (2016). Nurses as Instruments of Healing: Self-Care Practices of Nurses in a Rural Hospital Setting. *Journal of Holistic Nursing: Official Journal of the American Holistic Nurses' Association*, *34*(3), 221–228. https://doi.org/10.1177/0898010115602994

Mackenzie, C. S., Poulin, P. A., & Seidman-Carlson, R. (2006). A brief mindfulness-based stress reduction intervention for nurses and nurse aides. *Applied Nursing Research*, *19*(2), 105-109. https://doi.org/10.1016/j.apnr.2005.08.002

Maharaj, S., Lees, T., & Lal, S. (2019). Prevalence and risk factors of depression, anxiety, and stress in a cohort of Australian nurses. *International Journal of Environmental Research and Public Health*, *16*(1), 61. https://doi.org/10.3390/ijerph16010061

Mamaril M. E. (2020). Perianesthesia Nurses Called to Practice in Extraordinary Times. *Journal of Perianesthesia Nursing : official journal of the American Society of PeriAnesthesia Nurses*, *35*(3), 241–242. https://doi.org/10.1016/j.jopan.2020.03.008

Martínez, N., Connelly, C. D., Pérez, A., & Calero, P. (2021). Self-care: A concept analysis. *International Journal of Nursing Sciences*, *8*(4), 418–425. https://doi.org/10.1016/j.ijnss.2021.08.007

McConville, J., McAleer, R., & Hahne, A. (2017). Mindfulness training for health profession students—the effect of mindfulness training on psychological well-being, learning and clinical performance of health professional students: a systematic review of randomized and non-randomized controlled trials. *Explore (New York, N.Y.)*, *13*(1), 26–45. https://doi.org/10.1016/j.explore.2016.10.002

Melnyk, B. M. (2020). Burnout, depression and suicide in nurses/clinicians and learners: An urgent call for action to enhance professional well-being and healthcare safety. *Worldviews on Evidence-Based Nursing, 17*(1), 2-5. https://doi.org/10.1111/wvn.12416

Mester, J. S. (2018). Rural nurse recruitment. *Nursing Management, 49*(12), 51–53. https://doi.org/10.1097/01.NUMA.0000544468.98484.b7

Mills, J., Wand, T., & Fraser, J. A. (2018). Exploring the meaning and practice of self-care among palliative care nurses and doctors: a qualitative study. *BMC Palliative Care, 17*(1), 63. https://doi.org/10.1186/s12904-018-0318-0

Millspaugh, J., Errico, C., Mortimer, S., Kowalski, M. O., Chiu, S., & Reifsnyder, C. (2021). Jin Shin Jyutsu® Self-Help Reduces Nurse Stress: A Randomized Controlled Study. *Journal of Holistic Nursing : official journal of the American Holistic Nurses' Association*, *39*(1), 4–15. https://doi.org/10.1177/0898010120938922

Momennasab, M., Ghanbari, M., & Rivaz, M. (2021). Improving nurses' knowledge, attitude, and performance in relation to ethical codes through group reflection strategy. *BMC Nursing*, *20*(1), 1-9. https://doi.org/10.1186/s12912-021-00749-2

Monroe, C., Loresto, F., Horton-Deutsch, S., Kleiner, C., Eron, K., Varney, R., & Grimm, S. (2021). The value of intentional self-care practices: The effects of mindfulness on improving job satisfaction, teamwork, and workplace environments. *Archives of Psychiatric Nursing*, *35*(2), 189–194. https://doi.org/10.1016/j.apnu.2020.10.003

Monroe, H. A. (2019). Nurses' professional values: influences of experience and ethics education. *Journal of Clinical Nursing, 28*(9-10), 2009-2019. https://doi.org/10.1111/jocn.14806

Nash, R., Edwards, H., & Nebauer, M. (1993). Effect of attitudes, subjective norms and perceived control on nurses' intention to assess patients' pain. *Journal of Advanced Nursing, 18*(6), 941–947. https://doi.org/10.1046/j.1365-2648.1993.18060941.x

Nguyen, T. D. (2020). Theory of Planned Behavior as a theoretical framework. file:///C:/Users/refle/Downloads/Theory%20of%20Planned%20Behavior%20(2).pdf

Nicholls, R., Perry, L., Duffield, C., Gallagher, R., & Pierce, H. (2017). Barriers and facilitators to healthy eating for nurses in the workplace: an integrative review. *Journal of Advanced Nursing, 73*(5), 1051-1065. https://doi.org/10.1111/jan.13185

Nulty, D. D. (2008). The adequacy of response rates to online and paper surveys: What can be done? *Assessment & Evaluation in Higher Education, 33*(3), 301–314. https://doi.org/10.1080/02602930701293231

Odom-Forren, J., Brady, J., Rayens, M. K., & Sloan, P. (2019). Perianesthesia Nurses' Knowledge and Promotion of Safe Use, Storage, and Disposal of Opioids. *Journal of Perianesthesia Nursing: official journal of the American Society of PeriAnesthesia Nurses*, *34*(6), 1156–1168. https://doi.org/10.1016/j.jopan.2019.04.005

Onega, T., Weiss, J. E., Alford-Teaster, J., Goodrich, M., Eliassen, M. S., & Kim, S. J. (2020). Concordance of Rural-Urban Self-identity and ZIP Code-Derived Rural-Urban Commuting Area (RUCA) Designation. *The Journal of Rural Health : official journal of the American Rural Health Association and the National Rural Health Care Association*, *36*(2), 274–280. https://doi.org/10.1111/jrh.12364

Park, B. H., & Chang, S. O. (2019). A phenomenographic approach to understanding the expertise of perioperative nurses. *AORN Journal*, *109*(5), 612–620. https://doi.org/10.1002/aorn.12663

Patton, L. J., Garcia, M., Young, V., Bradfield, C., Gosdin, A., Chen, P., Webb, T., & Tidwell, J. (2022). Exploring nurse beliefs and perceived readiness for system wide integration of evidence-based practice in a large pediatric health care system. *Journal of Pediatric Nursing*, *63*, 46–51. https://doi.org/10.1016/j.pedn.2021.12.018

Polit D. F. (2015). Assessing measurement in health: Beyond reliability and validity. *International Journal of Nursing Studies*, 52(11), 1746–1753. https://doi.org/10.1016/j.ijnurstu.2015.07.002

Polit, D. F., & Beck, C. T. (2010). Generalization in quantitative and qualitative research: Myths and strategies. *International Journal of Nursing Studies, 47*(11), 1451–1458. https://doi.org/10.1016/j.ijnurstu.2010.06.004

Polit, D. F., Beck, C. T., & Owen, S. V. (2007). Is the CVI an acceptable indicator of content validity? Appraisal and recommendations. *Research in Nursing & Health, 30*(4), 459–467. https://doi.org/10.1002/nur.20199

Polit, D.F. and Beck, C.T. (2017) *Nursing Research: Generating and Assessing Evidence for Nursing Practice* (10th Edition), Wolters Kluwer Health, Philadelphia. https://doi.org/10.1016/j.iccn.2015.01.005

Polit, D. F., & Beck, C. T. (2021). *Essentials of nursing research: Appraising evidence for nursing practice*. Wolters Kluwer.

Poorchangizi, B., Borhani, F., Abbaszadeh, A., Mirzaee, M., & Farokhzadian, J. (2019). The importance of professional values from nursing students' perspective. *BMC Nursing*, *18*, 26. https://doi.org/10.1186/s12912-019-0351-1

Poorchangizi, B., Borhani, F., Abbaszadeh, A., Mirzaee, M., & Farokhzadian, J. (2019b). Professional Values of Nurses and Nursing Students: a comparative study. *BMC Medical Education, 19*(1), 438. https://doi.org/10.1186/s12909-019-1878-2

Poorchangizi, B., Farokhzadian, J., Abbaszadeh, A., Mirzaee, M., & Borhani, F. (2017). The importance of professional values from clinical nurses' perspective in hospitals of a medical university in Iran. *BMC Medical Ethics*, *18*(1), 20. https://doi.org/10.1186/s12910-017-0178-9

Ravanipour, M., Ahmadian, A., Yazdanpanah, A., & Soltanian, A. R. (2015). Assessing the relationship between self-efficacy and clinical decision-making in hospital nurse. *Avicenna Journal of Nursing and Midwifery Care, 23*(4), 77-86. https://www.sid.ir/paper/92562/en

Rettig, A. E., Moore, K., Savona, E., & Scala, A. (2021). Take-a-Break Intervention: Improving oncology nurse wellness. *Clinical Journal of Oncology Nursing, 25*(2), 210–214. https://doi.org/10.1188/21.CJON.210-214

Rogers, J. W., Fleming, M., Tipton, J., Ward, A., Garey, K. W., & Pitman, E. P. (2017). Investigating inpatient medication administration using the theory of planned behavior. *American Journal of Health-system Pharmacy: AJHP*: official journal of the American Society of Health-System Pharmacists, 74(24), 2065–2070. https://doi.org/10.2146/ajhp160502

Ross, A., Bevans, M., Brooks, A. T., Gibbons, S., & Wallen, G. R. (2017). Nurses and health-promoting behaviors: Knowledge may not translate into self-care. *AORN Journal, 105*(3), 267–275. https://doi.org/10.1016/j.aorn.2016.12.018

Ross, A., Touchton-Leonard, K., Perez, A., Wehrlen, L., Kazmi, N., & Gibbons, S. (2019a). Factors that influence health-promoting self-care in Registered Nurses: Barriers and

facilitators. *Advances in Nursing Science, 42*(4), 358–373. https://doi.org/10.1097/ANS.0000000000000274

Ross, A., Yang, L., Wehrlen, L., Perez, A., Farmer, N., & Bevans, M. (2019b). Nurses and health-promoting self-care: Do we practice what we preach?. *Journal of Nursing Management*, *27*(3), 599–608. https://doi.org/10.1111/jonm.12718

Safdar, N., Abbo, L. M., Knobloch, M. J., & Seo, S. K. (2016). Research methods in healthcare epidemiology: Survey and qualitative research. *Infection Control and Hospital Epidemiology*, *37*(11), 1272–1277. https://doi.org/10.1017/ice.2016.171

Sauls, D. J. (2007). Nurses' attitudes toward provision of care and related health outcomes. *Nursing Research, 56*(2), 117-123. https://doi.org/10.1097/01.NNR.0000263972.54619.4a

Secginli, S., Nahcivan, N. O., Bahar, Z., Fernandez, R., & Lapkin, S. (2021). Nursing students' intention to report medication errors: Application of theory of planned behavior. *Nurse Educator, 46*(6), E169-E172. https://doi.org/10.1097/NNE.0000000000001105

Setia M. S. (2016). Methodology Series Module 3: Cross-sectional studies. *Indian Journal of Dermatology*, *61*(3), 261–264. https://doi.org/10.4103/0019-5154.182410

Shapiro, S. L., Brown, K. W., & Biegel, G. M. (2007). Teaching self-care to caregivers: Effects of mindfulness-based stress reduction on the mental health of therapists in training. *Training and Education in Professional Psychology*, *1*(2), 105–115. https://doi.org/10.1037/1931-3918.1.2.105

Shapiro, S., Siegel, R. & Neff, K.D. Paradoxes of Mindfulness. *Mindfulness* 9, 1693–1701 (2018). https://doi.org/10.1007/s12671-018-0957-5

Shmueli L. (2021). Predicting intention to receive COVID-19 vaccine among the general population using the health belief model and the theory of planned behavior model. *BMC Public Health*, *21*(1), 804. https://doi.org/10.1186/s12889-021-10816-7

Silva Júnior, E. J. D., Balsanelli, A. P., & Neves, V. R. (2020). Care of the self in the daily living of nurses: an integrative review. *Revista Brasileira de Enfermagem*, *73*(2), e20180668. https://doi.org/10.1590/0034-7167-2018-0668

Skovholt, T. M., Grier, T. L., & Hanson, M. R. (2001). Career counseling for longevity: Self-care and burnout prevention strategies for counselor resilience. *Journal of Career Development*, *27*(3), 167–176. https://doi.org/10.1023/A:1007830908587

Smith, J. G., Plover, C. M., McChesney, M. C., & Lake, E. T. (2019). Isolated, small, and large hospitals have fewer nursing resources than urban hospitals: Implications for rural health policy. *Public Health Nursing (Boston, Mass.)*, *36*(4), 469–477. https://doi.org/10.1111/phn.12612

Smith, S., Sim, J., & Halcomb, E. (2019). Nurses' experiences of working in rural hospitals: an integrative review. *Journal of Nursing Management*, *27*(3), 482–490. https://doi.org/10.1111/jonm.12716

Sofhauser, C. (2016). Intention in nursing practice. *Nursing Science Quarterly*, *29*(1), 31–34. https://doi.org/10.1177/0894318415614629

Steinberg, B. A., Klatt, M., & Duchemin, A. M. (2017). Feasibility of a mindfulness-based intervention for surgical intensive care unit personnel. *American Journal of Critical Care*, *26*(1), 10-18. https://doi.org/10.4037/ajcc2017444

Stoewen D. L. (2017). Dimensions of wellness: Change your habits, change your life. *The Canadian Veterinary Journal = La revue Veterinaire Canadienne, 58*(8), 861–862.

Streiner, D. L. (2003). Being inconsistent about consistency: When coefficient alpha does and does not matter. *Journal of Personality Assessment, 80*(3), 217-222. https://www.academia.edu/23451751/Being_Inconsistent_About_Consistency_When_Coefficient_Alpha_Does_and_Doesnt_Matter

Stucky, C. H., De Jong, M. J., Lowe, A. W., & Mathews, B. (2020). COVID-19: Initial perioperative and perianesthesia nursing response in a military medical center. *Journal of Perianesthesia Nursing : official journal of the American Society of PeriAnesthesia Nurses*, *35*(4), 353–356. https://doi.org/10.1016/j.jopan.2020.04.010

Sultana, A., Sharma, R., Hossain, M. M., Bhattacharya, S., & Purohit, N. (2020). Burnout among healthcare providers during COVID-19: Challenges and evidence-based interventions. *Indian Journal of Medical Ethics*, *V*(4), 1–6. https://doi.org/10.20529/IJME.2020.73

Terry, D. J., & O'Leary, J. E. (1995). The theory of planned behaviour: The effects of perceived behavioural control and self-efficacy. *British Journal of Social Psychology*, *34*(2), 199–220. https://doi.org/10.1111/j.2044-8309.1995.tb01058.x

Terwee, C. B., Bot, S. D., de Boer, M. R., van der Windt, D. A., Knol, D. L., Dekker, J., ... & de Vet, H. C. (2007). Quality criteria were proposed for measurement properties of health status questionnaires. *Journal of Clinical Epidemiology,* 60(1), 34-42.

Tierney M. (2021). Secure Your Mask First: The Importance of Self-Care. *Journal of the American Psychiatric Nurses Association*, *27*(4), 334–336. https://doi.org/10.1177/10783903211023732

Tola, M. D., Tafesa, F., & Siraneh, Y. (2020). Assessment of professionalism in nursing and factors associated among nurses working in Arsi zone public hospitals, Oromia, Ethiopia, 2018. *MedRxiv*. DOI:10.1101/2020.09.28.20202986

Trautman, D.E., Idzik, S., Hammersla, M., Rosseter, R., (May 31, 2018). Advancing scholarship through translational research: The role of PhD and DNP prepared nurses. *OJIN: The Online Journal of Issues in Nursing, 23*(2), Manuscript 2.

Vachon, M. L. (2016). Attachment, Empathy and compassion in the care of the bereaved. *Grief Matters*, 19(1), 20–25. https://search.informit.org/doi/10.3316/informit.104678476754164

van Teijlingen, E., & Hundley, V. (2002). The importance of pilot studies. *Nursing Standard (Royal College of Nursing (Great Britain) : 1987)*, *16*(40), 33–36. https://doi.org/10.7748/ns2002.06.16.40.33.c3214

Wan, Q., Li, Z., Zhou, W., & Shang, S. (2018). Effects of work environment and job characteristics on the turnover intention of experienced nurses: The mediating role of work engagement. *Journal of Advanced Nursing*, *74*(6), 1332-1341. https://doi.org/10.1111/jan.13528

Wang, X., & Cheng, Z. (2020). Cross-sectional studies: Strengths, weaknesses, and recommendations. *Chest*, 158(1S), S65–S71. https://doi.org/10.1016/j.chest.2020.03.012

Wei, H., Kifner, H., Dawes, M. E., Wei, T. L., & Boyd, J. M. (2020). Self-care strategies to combat burnout among pediatric critical care nurses and physicians. *Critical Care Nurse*, *40*(2), 44–53. https://doi.org/10.4037/ccn2020621

Wei, H., Roberts, P., Strickler, J., & Corbett, R. W. (2019). Nurse leaders' strategies to foster nurse resilience. *Journal of Nursing Management*, *27*(4), 681–687. https://doi.org/10.1111/jonm.12736

Wells-Federman C. L. (1996). Awakening the nurse healer within. *Holistic Nursing Practice*, *10*(2), 13–29. https://doi.org/10.1097/00004650-199601000-00004

Wilkinson, A., & Whitehead, L. (2009). Evolution of the concept of self-care and implications for nurses: a literature review. *International Journal of Nursing Studies*, *46*(8), 1143–1147. https://doi.org/10.1016/j.ijnurstu.2008.12.011

Williams, S. G., Fruh, S., Barinas, J. L., & Graves, R. J. (2022). Self-care in nurses. *Journal of Radiology Nursing*, *41*(1), 22–27. https://doi.org/10.1016/j.jradnu.2021.11.001

Wills, J., Hancock, C., & Nuttall, M. (2020). The health of the nursing workforce. A survey of National Nurse Associations. *International Nursing Review, 67*(2), 294-299. https://doi.org/10.1111/inr.12586

World Health Organization. (2020). Strengthening health research and evidence-based decision making. https://www.who.int/westernpacific/activities/strengthening-health-research-and-evidence-based-decision-making

Younas, A. (2017). Self-care behaviors and practices of nursing students: Review of literature. *Journal of Health Sciences*, *7*(3), 137-145. DOI:

Yuan, C. T., Nembhard, I. M., & Kane, G. C. (2020). The influence of peer beliefs on nurses' use of new health information technology: A social network analysis. *Social Science & Medicine, 255*, 113002. https://doi.org/10.1016/j.socscimed.2020.113002

Yun, G.W. and Trumbo, C.W. (2000). Comparative Response to a Survey Executed by Post, Email and Web Form. *Journal of Computer-Mediated Communication*, 6, 1-26. https://doi.org/10.1111/j.1083-6101.2000.tb00112.x

Zahed, K., Smith, A., McDonald, A. D., & Sasangohar, F. (2022). The effects of drowsiness detection technology and education on nurses' beliefs and attitudes toward drowsy driving. IISE *Transactions on Occupational Ergonomics and Human Factors*, *10*(2), 104–115. https://doi.org/10.1080/24725838.2022.2094502

Zeb, H., Arif, I., & Younas, A. (2022). Mindful self-care practice of nurses in acute care: A multisite cross-sectional survey. *Western Journal of Nursing Research*, *44*(6), 540–547. https://doi.org/10.1177/01939459211004591

Zhang, X. J., Song, Y., Jiang, T., Ding, N., & Shi, T. Y. (2020). Interventions to reduce burnout of physicians and nurses: An overview of systematic reviews and meta-analyses. *Medicine*, *99*(26), e20992. https://doi.org/10.1097/MD.0000000000020992