2020

Relationship Between Skepticism and Nursing Experiences When Treating Chronic Noncancer Pain Patients

Emily Jabour
Walden University

Walden University

College of Health Sciences

This is to certify that the doctoral dissertation by

Emily Jabour

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee
Dr. Cynthia Fletcher, Committee Chairperson, Nursing Faculty
Dr. Janice Long, Committee Member, Nursing Faculty
Dr. Anna Valdez, University Reviewer, Nursing Faculty

Chief Academic Officer and Provost
Sue Subocz, Ph.D.

Walden University
2020

Abstract

Relationship Between Skepticism and Nursing Experiences When Treating Chronic Noncancer Pain Patients

by

Emily Jabour

MSN, Walden University, 2015

BSN, University of Texas at Arlington, 2011

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Nursing Education

Walden University

April 2020

Abstract

Chronic pain is common, costly, challenging to manage, and affects patients' quality of life. High confidence is placed in the nurses caring these patients. Nurses displaying skepticism or doubt about patients' motives for seeking pain treatment contribute to the challenges of effective pain management. The purpose of this quantitative study was to determine if there was a relationship among the nurses' professional skepticism, level of compassion, and years of experience during the treatment of chronic noncancer pain patients in the acute care setting. The communications model of pain guided the understanding of factors influencing nursing treatment of this patient population. Data were collected through questionnaires and vignettes from 116 actively working registered nurses within the acute care setting. Spearman's correlational statistics was used to analyze the data to answer the research questions. The results indicated that the nurses' professional skepticism, level of compassion, hospital admission history, and years of experience did not account for variance in the nursing treatment of chronic noncancer pain patients in the acute care setting. However, the nurses' professional skepticism, level of compassion, and years of experience were significantly correlated. This study could be duplicated with changes made to the collection of hospital admission criteria and additional survey questions regarding treatment of pain patients. The results from this study have the potential for positive social change in the continued quest to examine the extent to which specific nursing variables affect pain management and treatment of chronic noncancer pain patients.

Relationship Between Skepticism and Nursing Experiences When Treating Chronic Noncancer Pain Patients

by

Emily Jabour

MSN, Walden University, 2015

BSN, University of Texas at Arlington, 2011

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Nursing Education

Walden University

April 2020

Dedication

This study is dedicated to my husband and best friend, Josh. Your love and laughter has kept me grounded. You have always been my number one supporter. I thank and love you from the bottom of my heart.

Acknowledgments

This challenging, but rewarding, achievement would not have been possible without the support from many people. My words will not be able to express the gratitude felt in my heart. I have been loved, encouraged, and inspired throughout this journey.

First I would like to thank my family. To my husband, Joshua, for your humor, unconditional love, and always believing in my abilities. We have grown so much together. My children, Jack and Mila, thank you for inspiring me. You both have been amazing while "mommy does her homework." I cannot wait to see all of your accomplishments. The three of you are a great source of joy in my life. To my Dad, for showing me that the sky was the limit and always pushing me to be the most I could be. My sister Kris, who stayed with me and listened every step of the way. To my sister Alicia, for always setting the achievement bar high. To my sister Pam, for always having an investment in my life. To my mother in law, Tracy, for the countless calls, dinners, and jokes. To my brother in law, Art, for lending his time and knowledge.

I would like to thank my dissertation Chair, Dr. Fletcher, for her patience, guidance, and encouragement during the completion of this dissertation. She has dedicated countless hours of her time to partner with me on this study. I am very grateful for her help and expertise. I would also like to thank my dissertation Committee, Dr. Long, for her valuable insight to my quantitative work. I am appreciative to both of you for your involvement in my educational journey.

Table of Contents

List of Tables

List of Figures

Chapter 1: Introduction to the Study

Introduction

Chronic pain is a persistent pain lasting more than three months with little to no resolving symptoms that affect patients' quality of life and activities of daily living (Dueñas, Ojeda, Salazar, Mico, & Failde, 2016; Treede et al., 2015). The Institute of Medicine (2012) reported the number of U.S. adults suffering from chronic pain at 100 million. Medical costs, treatment costs, and loss of productivity associated with chronic pain account for $560 to $635 billion annually (Dzau & Pizzo, 2014). The burden of chronic pain affects individuals, families, and personal and professional communities as the prevalence of chronic back pain grows in society (Clark, 2014). One large subset of chronic pain is chronic back pain. According to Shmagel, Foley, and Ibrahim (2016), chronic low back pain, specifically, impacts the economic and financial resources of the individual and society. Clark (2014) and Shmagel et al. (2016) described the individual and societal impacts as demonstrated through the number of years lived with disability, health costs to the patient, costs to treating facilities, opioid overdose rates, morbidity and mortality rates, and loss in production.

Despite evidence of its significant impact, patients suffering from the varieties of chronic pain are continually challenged in receiving effective pain management within the acute care setting (Chen, Tsoy, Upadhye, & Chan, 2018). Consistent with the Academy of Medical-Surgical Nurses (AMSN), priority should be given to pain management as a basic human right for every patient (AMSN, 2018). Effective management of chronic pain has the potential for positive social change by decreasing the

negative impact on individuals, families, and societies. In this chapter, I identify the background of the study, the specific problem, purpose, and research questions. I also discuss the theoretical foundation, conceptual framework, nature of the study, and, the significance of the study.

Background of the Study

Pain across a continuum of time becomes chronic pain, which is composed of physical, emotional, financial, and psychological aspects (Penney et al., 2016; Riva, 2014). Chronic musculoskeletal pain is one of the top five reasons that patients seek pain treatment (Penney et al., 2016). To best treat chronic pain, nurses and patients should collaborate to identify the appropriate interventions for the patient's individual pain needs (AMSNurses, 2018). Nurses need to place a high priority on pain control for their patients because inadequate pain control in the acute care setting is common (Kizza, Muliira, Kohi, & Nabirye, 2016). Low pain management knowledge and poor attitudes displayed contribute to the undertreatment of pain (Kizza, et al., 2016). The following background supports the need for research on identifying the relationship between the nurses' professional skepticism, level of compassion, and years of experience during the treatment of chronic noncancer pain patients.

Patients seeking treatment during times of illness and vulnerability place high confidence in the nurses caring for them (Buchman, Ho, & Illes, 2016; Dinc & Gastmans, 2013). Patients develop a fear of negative responses from clinicians when opioids are requested (Severino et al., 2018). Linton et al. (2017) emphasized the patients' feelings of being misunderstood, and the patients' request for clear and empathetic communication

with clinicians. Patients struggle to communicate the invisible and subjective aspects of their pain to clinicians (Buchman et al., 2016). Consequences to patients who suffer from unexplained disorders, such as chronic pain syndromes, are the beliefs of being stigmatized and being unheard in the communication realm of their treatment (Cohen et al., 2011).

Trust is a vital aspect of effective nurse-to-patient communication and relationships. The nurse's individual attitudes and beliefs influence the communication and treatment for pain (Prem et al., 2011). Nurses displaying skepticism or doubt about the patient's motives for seeking pain treatment contribute to the challenges of effective pain management (Dinc & Gastmans, 2013). In addition, underlying attitudes and skepticism of nurses interfere with the communication between the patient and the nurse and this can negatively affect patient care (Hall et al., 2018). Pellico, Gilliam, Lee, and Kerns (2014) provided the insights and experiences of registered nurses (RN) treating chronic pain patients in a clinic, noting that RNs would become skeptical about pain levels when they perceived the patient's behavior as abnormal or negative. Nursing skepticism should be eliminated or significantly reduced to support effective nurse to patient relationships (Pellico et al., 2014).

Professional skepticism is described both as a professional and a state of the individual. In other words, professional skepticism can be either a stable or temporary characteristic. Professional skepticism is multidimensional and comprised of six characteristics (Hurtt, 2010). The six characteristics are a "questioning mind, suspension of judgement, search for knowledge, interpersonal understanding, self-esteem, and

autonomy" (Hurtt, 2010, p. 151). It should be explored, through a nursing and theoretical perspective, how the phenomenon of skepticism effects clinical decision-making and communication. Looking through the theoretical framework lens of the communications model of pain (Hadjistavropoulos & Craig, 2002), skepticism may change the way information is encoded and decoded. The first three characteristics described by Hurtt encompass the elements of inquisition or probing to further evaluate and make a decision. Credibility, reliability, and trust of a source of information would relate to the multidimensional construct of skepticism.

Nursing organizations and advanced nursing programs of study emphasize patient advocacy. Patient advocacy embraces empathy, compassion, understanding, and protection (Choi, 2015; Dadzie, Aziato, & Aikins, 2017; Davoodvand, Abbaszadeh, & Ahmadi, 2016; Water, Ford, Spence, & Rasmussen, 2016). A theme identified within the literature surrounding nurses and health care providers who become patients is the change in compassion and empathy (Davoodvand et al., 2016; Pucino, 2014). Compassion increases in what is described as a transformative learning experience when nurses become patients (Pucino, 2014). Baker et al. (2017) linked clinician compassion with the validations of the chronic pain patient experience and noncompassion with invalidation of the chronic pain patient experience. Based on the nurses' personal history of hospitalization, the correlation remains to be identified between the nurses' personal pain experiences during the treatment of chronic noncancer pain patients.

Nurses' expertise has been shown to directly affect patients' quality of care (McHugh & Lake, 2010). The nurse's lack of knowledge has been shown to impact the

outcomes of chronic pain treatment (Prem et al., 2011). McHugh and Lake (2010) examined the quality of care on the general patient population and explored a comparison of the individual nurses' expertise against the nursing practice environment and their coworker's education and experience levels. The findings demonstrated a positive correlation between nursing expertise and quality of patient care. The nurses' years of experience was combined with the nurses' level of education to describe the nurses' expertise. McHugh and Lake did not specify the specific patient population and their findings did not clarify if the nurses' years of experience alone had a positive correlation on quality of care. As such, the correlation between nursing years of experience and the treatment of chronic pain patients is not yet known. Prem et al. (2011) recommended that an area to be further investigated is the relationship between nurses' personal beliefs and experiences and the treatment of chronic pain.

Nurses have the responsibility to provide relief and reduce suffering when treating patients with pain (Prem et al., 2011). It should be explored through a nursing and theoretical perspective, how the phenomenon of skepticism affects clinical decision making and communication. Studies were not identified that evaluated nurses' professional skepticism and its impact of treatment of patients with chronic noncancer pain in the acute care setting. As such, discussion of a potential correlation between nursing years of experience and the treatment of chronic noncancer pain patients in the acute care setting was not found in the literature. However, studies have shown the relationship between nurses being hospitalized and their increase in compassion when retuning to work. It is not specifically known how the nurses' level of compassion after

being hospitalized will influence their treatment of chronic noncancer pain patients in the acute care setting, this study will help to fill these gaps. The problem of the undertreatment of pain still exists, and uncontrolled pain in the health care setting remains high (Kheshti, Namazi, Mehrabi, and Firouzabdi, 2016; Wilson, 2014). There is a need to identify the potential influence of the nurses' professional skepticism, level of compassion, and years of experience during the treatment of chronic pain patients.

Problem Statement

Chronic pain has physical, social, and financial aspects that are burdensome to individuals, families, and society (Chen et al., 2018). Chronic pain is common, costly, and can be challenging to manage. The importance of the need for open communication surrounding chronic pain patients and their treatment among their care providers are stressed (Penney et al., 2016). Consequences of those who suffer from chronic pain syndromes include stigmatization and being unheard in the communication realm of their treatment (Cohen et al., 2011). Nurses need to place a high priority on pain control for their patients as inadequate pain control in the acute care setting is common (Kizza et al., 2016).

A nurse's lack in knowledge or experience of the assessment and treatment of pain and the nurse's personal experiences with chronic pain can all impact the outcomes of the patient's assessment and treatment of chronic back pain (Prem et al., 2011). Quality of patient care is contingent upon individual nursing characteristics, such as level of education and years of experience (McHugh & Lake, 2010). Nurses displaying skepticism or doubt about the patient's motives for seeking pain treatment contribute to

the challenges of effective pain management (Dinc & Gastmans, 2013). Although challenges exist, professional and educational standards in nursing encourage compassionate nursing care (Burnell, & Agan, 2013). Pain control in the acute care setting has the potential to be problematic when evaluating interventions provided by nurses (Schreiber et al., 2014).

Although the aforementioned literature regarding the challenges in the treatment of chronic noncancer pain patients illuminated important findings, I have found no research that collectively investigated nurses' professional skepticism, level of compassion, and years of nursing experience. Given such, further research is warranted that examines these variables that may contribute to the challenges of treating patients with chronic noncancer pain. This information may benefit patients in an effort to improve the quality of chronic pain management in the acute care setting. Identifying and addressing the relationship between these variables has the potential for improvement on factors that influence the pain management outcomes for chronic pain patients in the acute care setting. The results of the study have the potential to alert nurses to their personal factors that may influence their behavior towards patients with chronic pain. Improving the nurses' understanding about the factors that can improve the pain management outcomes in the acute care setting may result in positive outcomes for patients with pain.

Purpose of the Study

The purpose of this quantitative correlational study was to determine if a relationship existed among the nurses' professional skepticism, level of compassion, and

years of experience during the treatment of chronic noncancer pain patients in the acute care setting. This study used a quantitative correlational approach through multiple regressions to answer the research questions. Multiple regression was used to determine the best predictors among the influence of the nurses' professional skepticism, level of compassion, and years of experience during the treatment of chronic noncancer pain patients in the acute care setting.

Research Questions and Hypotheses

The following research questions guided this study:

Research Question 1: To what extent do the nurses' professional skepticism, level of compassion, and years of experience account for variance in the nursing treatment of chronic noncancer pain patients in the acute care setting?

$H_0$1: The combined variables (Multiple R^2) of the nurses' professional skepticism, level of compassion, and years of experience will not account for variance in the nursing treatment of chronic noncancer pain patients in the acute care setting.

H_a1: The combined variables (Multiple R^2) of the nurses' professional skepticism, level of compassion, and years of experience will account for variance in the nursing treatment of chronic noncancer pain patients in the acute care setting.

Research Question 2: To what extent does the nurses' years of experience account for variance in the nurses' professional skepticism?

$H_0$2: The variable of the nurses' years of experience will not account for variance in the nurses' professional skepticism.

H_a2: The variable of nurses' years of experience will account for variance in the nurses' professional skepticism.

Research Question 3: To what extent does the nurses' level of compassion account for variance in the nurses' professional skepticism?

H_03: The variable of the nurses' level of compassion will not account for variance in the nurses' professional skepticism.

H_a3: The variable of the nurses' level of compassion will account for variance in the nurses' professional skepticism.

Research Question 4: To what extent does the nurses' hospital admission history account for variance in the nurses' level of compassion when treating chronic noncancer pain patients?

H_04: The intermediate variable of the nurses' hospital admission history will not account for variance in the nurses' level of compassion when treating chronic noncancer pain patients.

H_a4: The intermediate variable of the nurses' hospital admission history will account for variance in the nurses' level of compassion when treating chronic noncancer pain patients.

Data for this study were collected through questionnaires and vignettes from nurses within the acute care setting. The vignettes were obtained within the validated questionnaire titled the Knowledge and Attitudes Survey Regarding Pain (KASRP), created by Ferrell and McCaffery (2014) and were used to identify the treatment of pain patients in the acute care setting. The Hurtt's Skepticism Scale (2010) was used to

identify the nurses' level of professional skepticism about a patient in chronic pain. The Compassion Competence Scale was used to identify the nurses' level of compassion (Lee & Seomun, 2016). The vignettes and scales were accompanied by a demographic questionnaire that contained questions about each nurses' experience and hospital admission history.

The predictor variables for Research Question 1 are the nurses' professional skepticism, level of compassion, and years of experience. The outcome variable for Research Question 1 is the nursing treatment of chronic noncancer pain patients. The predictor variables for Research Questions 2 and 3 are the nurses' level of compassion and the nurses' years of experience, respectively. The outcome variable for Research Questions 2 and 3 is the nurses' professional skepticism. The intermediate variable for Research Question 4 is the nurses' hospital admission history. The outcome variable for Research Question 4 is the nurses' level of compassion. The multiple regression analysis design is aligned with this study to estimate the linear relationship between the predictor and outcome variables (Anderson, Sweeney, Williams, Camm, & Cochran, 2014).

Theoretical Foundation

The communications model of pain (Hadjistavropoulos & Craig, 2002), was used to examine the relationship between the patient's self-report and observational measures. Hadjistavropoulos and Craig (2002) explained the complexity of pain assessment and the need to balance verbal and observational measures during the assessment and management of pain. Self-report is the verbal expression of subjective measures by the individual. Observational measures are the nonverbal, behavioral signs of the pain being

experienced without request or queries for a verbal explanation (Hadjistavropoulos & Craig, 2002). Self-report and observational measures offer a complimentary support of information in pain assessment. The communications model begins with the pain stimulus that is an internal experience (a) that is then encoded (b) through self-report and nonverbal communication by the individual experiencing the pain. Lastly, what is observed through self-report and nonverbal communication is decoded (c) and a varying assessment is made (Hadjistavropoulos & Craig, 2002). Hadjistavropoulos and Craig (2002) pointed out the potential for misinterpretation and bias during both encoding and decoding. Unconscious distortion of self-report and attitudes or biases of the decoders complicate the encoding and decoding transaction (Hadjistavropoulos & Craig, 2002). The communications model of pain relates to the study approach and research question through the investigation of nursing variables that may contribute to (c) decoding communication and varying nursing assessments. Viewing the variables of the nurses' professional skepticism, work experience, and level of compassion using the communications model theoretical framework of encoding and decoding may help to further understand the nursing treatment of chronic pain patients in the acute care setting. In Chapter 2, I provide a more detailed explanation of how the communications model of pain relates to this study.

Conceptual Framework

Schiavenato and Craig's (2010) model of pain as a social transaction proposes that pain assessments have three main parts: (a) contributing factors, (b) assessment process, and (c) intervening steps. Contributing factors to the pain assessment include

empathy and clinical knowledge. The assessment process includes the patient's display and expression of their pain experience in combination with clinical assessment and judgment. The intervening step comprises treatment or no treatment of the patient's pain. The cyclic process is contingent upon the effectiveness of the intervention provided and the patient's expression of pain experience (Schiavenato & Craig, 2010).

Nature of the Study

In this study, I used a quantitative regression analysis design to determine if there was a relationship among the nurses' professional skepticism, level of compassion, and years of nursing experience during the treatment of chronic noncancer pain patients in acute care. A combination of questionnaires and vignettes were used. To identify the treatment of pain patients in the acute care setting, vignettes within the validated questionnaire KASRP, created by Ferrell and McCaffery (2014), were used. The Hurtt's Skepticism Scale (2010) was used to identify the nurse'' level of professional skepticism about a patient in chronic pain. The Compassion Competence Scale was used to identify the nurses' level of compassion (Lee & Seomun, 2016). Data was collected through these questionnaires and vignettes from nurses within the acute care setting. The questionnaires and vignettes were accompanied by a demographic questionnaire that contained questions about the nurses' experience and hospital admission history.

The predictor variables for Research Question 1 were the nurses' professional skepticism, level of compassion, and years of experience. The outcome variable for Research Question 1 was the nursing treatment of chronic noncancer pain patients. The predictor variables for Research Questions 2 and 3 were the nurses' level of compassion

and the nurses' years of experience, respectively. The outcome variable for Research Questions 2 and 3 were the nurses' professional skepticism. The intermediate variable for Research Question 4 was the nurses' hospital admission history. The outcome variable for Research Question 4 was the nurses' level of compassion. The multiple regression analysis design was aligned with this study to estimate the linear relationship between the predictor and outcome variables (see Anderson et al., 2014).

Definitions

Definitions of key terms within this study are explained in this section to provide further clarification and reference.

Compassion: understanding the patient's difficulties or suffering; empathy (Lee, & Seomun, 2016).

Chronic pain: is a persistent pain lasting more than three months with little to no resolving symptoms for the patient affecting their quality of life and activities of daily living (Dueñas et al., 2016; Treede et al., 2015). Chronic pain within this study does not include oncological pain.

Nurses' years of experience: are the nurses' total years of work history as a nurse.

Personal pain history of the nurse: is the nurses' history of acute or chronic pain.

Professional skepticism: is a professional characteristic of the individual. Professional skepticism is described both as a professional and a state of the individual. Meaning, professional skepticism can be either a stable or temporary characteristic. Professional skepticism is multidimensional and comprised of six characteristics (Hurtt, 2010). The six characteristics are a "questioning mind, suspension of judgement, search

for knowledge, interpersonal understanding, self-esteem, and autonomy" (Hurtt, 2010, p. 151).

Assumptions

Based on the dual model lens offered by Hadjistavropoulos and Craig (2002) and Schiavenato and Craig (2010), the primary assumption of this study is that communication between the chronic pain patient and clinician is bidirectional, cyclical, and evolving contingent upon the encoding and decoding of the message from both parties. The nurse and the chronic pain patient both possess variables that cause varying assessment and interpretation of the communicated message between them. This study focused on the specific variables of the nurse during the treatment of chronic pain patients. These variables included the nurses' professional skepticism, level of compassion, and years of experience. An assumption of this study was that a relationship exists between the predictor (independent) variables and outcome (dependent) variables. An additional assumption was that providing nurses with further information on compassion, years of experience, and professional skepticism would help to improve nursing treatment of chronic noncancer pain patients in the acute care setting. Lastly, there was the assumption that the nurses completing the questionnaires did so honestly.

Scope and Delimitations

A quantitative correlative approach was appropriate for this study to determine if there was a relationship among the nurses' professional skepticism, level of compassion, and years of experience during the treatment of chronic noncancer pain patients in acute care. The scope of this study included providing questionnaires to nurses who fit the

inclusion criteria, which included being a registered nurse (a) with a minimum of one year of experience in the acute care setting, (b) who were actively working at the time of the study, (c) and who treated patients with chronic noncancer pain. Nurses with experience in oncological care were excluded from the study. Chronic pain patients were excluded from this study because the focus of this research was limited to the nursing variables that may contribute to the outcomes of chronic pain treatment. Specifically examined in this study were nursing variables, not patient variables, in the treatment of chronic noncancer pain patients in the acute care setting. Generalizability is limited to nurses treating chronic noncancer pain patients within the acute care setting.

Limitations

Similar to all studies, this study had limitations. One limitation of this study was that it focused specifically on nursing variables and no other variables that could account for variance in the nursing treatment of chronic noncancer pain patients in the acute care setting. A limitation to quantitative multiple regression analysis is that if a linear relationship is identified, it is not implied to be a causal relationship (Jeon, 2015). Purposive sampling was also a limitation. Purposive sampling limited the generalizations outside of the variables and elements included within this study (see Daniel, 2011).

Significance of the Study

Pain experience is subjective and multidimensional; treatment of chronic pain in the acute care setting remains a challenge (Chen et al., 2018; Peterson, Berggården, Schaller, & Larsson, 2018). Some practitioners have minimal education about treating chronic pain (Chen et al., 2018) and have skepticism about pain levels when they have

perceived the patients' behavior as negative (Pellico et al., 2014). Pain management is a basic human right and providing relief for the patient is a priority in care management by the nurse (AMSN, 2018). Professional skepticism, level of compassion, and work experience of the nurse are factors that may influence the treatment of patients with chronic pain. Recognizing that the patient is the authority expert for describing his or her pain experience should be at the forefront of nursing treatment of chronic pain patients (McCaffery, 1968). Professional skepticism and personal experiences should be eliminated during the pain treatment of chronic pain patients (Kheshti et al., 2016).

Significance to Theory

In this study, a dual model lens by Hadjistavropoulos and Craig (2002) and Schiavenato and Craig (2010) was applied to further examine the extent to which specific nursing variables affect pain management of chronic noncancer pain patients. With this approach, the focus was on nursing variables during the treatment of chronic pain patients; the data gathered from questionnaires within this study may contribute to theory building in this area. The data was analyzed using multiple regressions to understand the extent of correlation among the variables and to potentially identify additional areas for study.

Significance to Practice

This study is an original contribution to nursing and the management of chronic pain. The results of this study contribute to the body of knowledge by potentially identifying positive and/or negative relationships among the nurses' professional skepticism, level of compassion, and years of nursing experience during the treatment of

chronic noncancer pain patients in the acute care setting. There is the potential for improved pain outcomes and increased quality of life for chronic pain patients by examining variables that could affect pain management (see Brant et al., 2017). Nurses understanding the ways they might positively affect the multidimensional aspects of the patient with chronic pain increases the probability for improved quality of life away from frequent emergency room visits and hospitalizations (DeVore, Clontz, Ren, Cairns, & Beach, 2017). Utilization and dissemination of evidence-based research in the acute care setting may affect treatment outcomes through changes in the nurse to chronic pain patient interactions. Availability of research information allows for understanding, discussion, and identification of potential nursing variables that create challenges to chronic pain management. Specifically, how these variables can affect the quality of care and clinical outcomes. Impartial care should be delivered to any patient seeking help. Providing resources for nurses to identify their own variables opens the opportunity to improve patient care and increase patient satisfaction (DeVore et al., 2017; FitzGerald & Hurst, 2017).

Significance to Acute Care Facilities

The Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) is a publicly reported survey and data collection, measuring the hospital experience of patients (HCAHPS, 2019). The Centers for Medicare and Medicaid Services proposed a change to the pain questions with the HCAHPS survey. The focus has shifted from pain management to the communication about pain. HCAHPS survey results have a direct effect on the acute care facilities reputation and funding (Centers for

Medicare and Medicaid Services, 2017). There is an opportunity for positive social change during favorable pain management. There is also the opportunity for improvement towards positive social change if the facility has unfavorable pain management. The publicly reported survey data places a spotlight on those doing well and those that need to improve.

Significance to Social Change

This study has the potential for positive social change for three groups: (a) patients, (b) nurses, and (c) acute care facilities. Identifying the extent to which the nurses' professional skepticism, level of compassion, and their nursing experience account for variance in the treatment of chronic pain may help nurses to reflect on their behaviors to ensure that they are adhering to best practices for managing the patient's pain. Nurses adhering to the policies and best practices for pain management in the acute care settings will help to alleviate pain, increase comfort, and improve quality of life for the chronic pain population (Majid et al., 2011).

Summary and Transition

The focus of Chapter 1 was on the significant challenges to effective pain management that chronic noncancer pain patients experience in the acute care setting and the societal impacts of chronic pain. Despite evidence of its significant impact, patients suffering from chronic pain are continually challenged in receiving effective pain management within the acute care setting (Chen et al., 2018). The purpose of this quantitative study was to determine if there was a relationship among the nurses' professional skepticism, level of compassion, and years of experience during the

treatment of chronic noncancer pain patients in acute care. Nurses have the responsibility to provide relief and reduce suffering when treating patients with pain (Prem et al., 2011). A quantitative correlational approach through multiple regressions was used to answer the research questions. The methodology details are discussed further in Chapter 3.

Chapter 1 also included a description of the dual lens of both the theoretical framework and the conceptual framework. The motivation behind this study was the potential to identify areas specific to nursing that may improve the treatment of the chronic pain patient. This study will add to the existing body of research and potentially identify a relationship among these variables that may influence the pain management outcomes for chronic pain patients in the acute care setting. Effective management of chronic pain has the potential for positive social change by decreasing the negative impact on individuals, families, and societies. In Chapter 2, I identify the literature search strategy, theoretical foundation, conceptual framework, and the literature review related to the following key variables: chronic pain, skepticism, level of compassion, work experience of the nurse, and communication.

Chapter 2: Literature Review

Introduction

The purpose of this quantitative correlational study was to determine whether there was a relationship among the nurses' professional skepticism, level of compassion, and years of experience during the treatment of chronic noncancer pain patients in acute care. Identifying the relationship between these variables may improve the understanding of factors that may influence the pain management outcomes for chronic noncancer pain patients in the acute care setting. In this chapter, I identify the literature search strategy, theoretical foundation, conceptual framework, and the literature review related to the following key variables: chronic pain, skepticism, compassion, work experience of the nurse, and communication.

Literature Search Strategy

The following electronic databases within the Walden University Library were searched for supporting literature: EBSCO, PubMed, MEDLINE, ProQuest, and PsycINFO. I collaborated with a Walden University librarian to determine the best literature review strategy for this dissertation. I also used the Google Scholar search engine. Search terms used were *chronic pain, Chronic noncancer pain, non-malignant chronic pain, chronic low back pain, nursing skepticism*, *nursing bias, nursing and chronic pain, nursing skepticism, skepticism during treatment of chronic pain, communication barriers to chronic pain treatment, nurses as patients, nursing compassion,* and *chronic pain patient perspectives*. Publication dates range included inception to the year 2019. Parentheses around previously listed key search words and

Boolean search including *and* and *or* strategies were used to narrow down the great amount of articles available. In addition, I examined the reference lists of selected articles for further identification of supporting literature not originally captured in the database searches. Lastly, duplicate articles, concept articles, and books were removed from the literature search results. Ultimately, 84 articles pertinent to the concepts advised the study.

Theoretical Foundation

I used the communications model of pain (Hadjistavropoulos & Craig, 2002) to examine the relationship between the patient's self-report and observational measures. Hadjistavropoulos and Craig (2002) explained the complexity of pain assessment and the need to balance verbal and observational measures during the assessment and management of pain. Self-report is the verbal expression of subjective measures by the individual. Observational measures are the nonverbal, behavioral signs of the pain being experienced without request or queries for a verbal explanation (Hadjistavropoulos & Craig, 2002). Self-report and observational measures offer a complementary support of information in pain assessment. The communications model (see Figure 1) begins with the pain stimulus that is an internal experience (a) that is then encoded (b) through self-report and nonverbal communication by the individual experiencing the pain. Lastly, what is observed through self-report and nonverbal communication is decoded (c) and a varying assessment is made (Hadjistavropoulos & Craig, 2002).

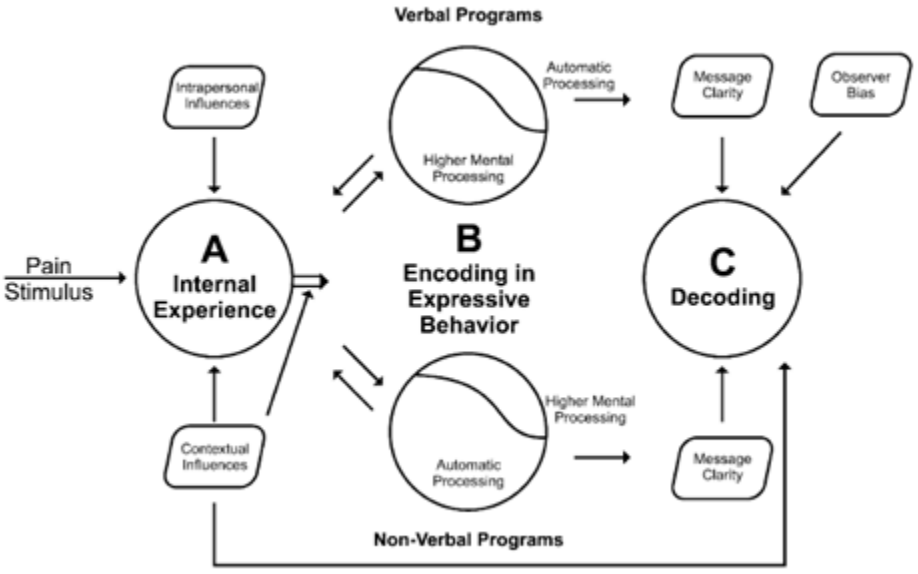


Figure 1. The communications model of pain. From "A Theoretical Framework for Understanding Self-Report and Observational Measures of Pain: A Communications Model," by T. Hadjistavropoulos and K. D. Craig, 2002, *Behaviour Research and Therapy Title of Journal, 40,* p. 40. Copyright 2002 by Copyright Clearance Center. Reprinted with permission (see Appendix A).

Step (a) involves a dynamic interplay of intrapersonal and contextual influences of the chronic pain patient. Changes in maturation, culture, social environments, fear of the pain being experienced, and pain variation across the continuum of the patient's life span are all developmental considerations during this initial step (Hadjistavropoulos & Craig, 2002). Encoding the pain message during Step (b) has historically consisted of the subjective, self-repot from the patient (Hadjistavropoulos & Craig, 2002). The standard definition of pain is "whatever the experiencing person says it is, existing whenever the experiencing person says it does" (McCaffery, 1968, p. 95). Complexities surround the

chronic pain experience continuum and the treatment of chronic pain. Given such, self-report alone cannot hold the expectations of capturing the entire multidimensional experience of chronic pain. Step (b) involves a verbal and nonverbal encoding expressive interplay (Hadjistavropoulos & Craig, 2002). Step (c) decoding involves the assumption of honesty from the patient during encoding from Step (b). The role of the observer from the perspective of this study is the nurse. Observer influences during decoding include interpersonal judgment, emotional distress from witnessing others in pain, misinterpretation, and personal bias. Nonmalignant chronic pain can involve absent or misaligned pathophysiological explanation that could result in an unknown origin for the pain experience. Lack of clinical evidence can cause observer misinterpretation. Steps (a) through (c) outline the potential for misinterpretation and bias during both encoding and decoding (Hadjistavropoulos & Craig, 2002).

Hadjistavropoulos and Craig (2002) described the many factors that influence the interpretation of encoding and decoding of the pain message. Unconscious distortion of self-report and attitudes or biases of the decoders complicate the encoding and decoding transaction (Hadjistavropoulos & Craig, 2002). Those with chronic pain may require interventions from others for pain reduction and improvement in quality of life. Patients provide nonverbal and verbal aspects of self-report of their chronic pain while nurses utilize observational and assessment strategies during the treatment of chronic pain (Hadjistavropoulos & Craig, 2002). Viewing the variables of the nurses' professional skepticism, work experience, and level of compassion using the communications model theoretical framework of encoding and decoding may help to further understand the

nursing treatment of chronic pain patients in the acute care setting. Figure 2 integrates the variables of the nurses' professional skepticism, work experience, and level of compassion in the communications model of pain.

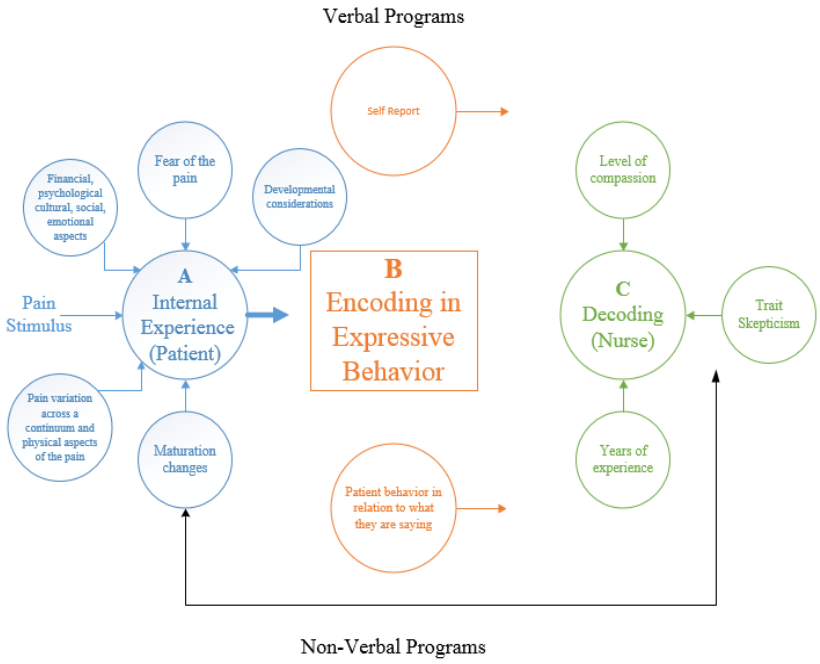


Figure 2. The communications model of pain (Hadjistavropoulos & Craig, 2002) with the integration of the variables of the nurses' professional skepticism, work experience, and level of compassion. From "A Theoretical Framework for Understanding Self-Report and Observational Measures of Pain: A Communications Model," by T. Hadjistavropoulos and K. D. Craig, 2002, *Behaviour Research and Therapy Title of Journal, 40,* p. 40. Copyright 2002 by Copyright Clearance Center. Reprinted with permission (see Appendix A).

Studies relating to Step A (internal experience) and Step B (encoding) were applied in studies with pediatric and older adults, and in studies evaluating the meaning of facial expressions, and observing or perceiving others in pain (Benromano, Pick,

Granovsky, & Defrin, 2017; Browne, Hadjistavropoulos, Prkachin, Ashraf, & Taati, 2019; Michaleff et al., 2017). Both verbal and behavioral aspects of pain communication were examined in those studies. Researchers examined the pain behavior across the age spectrum while also homing in on details, such as, intellectual disability, dementia, and individuals not able to fully communicate their pain verbally. Pain scales focusing on facial expressions and physiological responses are preferred supplements when self-report cannot be successfully obtained (Benromano et al., 2017). Browne et al. (2019) examined the facial expressions from both panoramic and profile views of 102 adults older than 65 years of age. Forty-eight of these participants had dementia and were severely limited in their ability to communicate verbally. No disadvantage was found between viewing facial expressions for pain from a panoramic or profile view of the patient (Browne et al., 2019). Age and developmentally appropriate pain scales should be utilized for infants, children, and adolescents with musculoskeletal pain to effectively assess pain within these groups (Michaleff et al., 2017). Those with intellectual disability require pain evaluation methods that do not necessitate the gold standard of verbal report (Michaleff et al., 2017; Williams, 2002). Acute pain facial expressions have differences from chronic pain facial expressions and the extent of these differences remained to be answered within Williams's (2002) study. Those experiencing the pain may not be able to accurately communicate or may fail to communicate the pain message based on internal or age-related factors. Internal and age-related factors include children with autism, developmental stages of pediatrics, or older adults with dementia.

Empathy, as it relates to the communication model of pain (Hadjistavropoulos & Craig, 2002), is also articulated in previous research that has expounded on actions taken by others when observing or perceiving others in pain (Goubert et. al., 2005). The following studies relate to Step (c), decoding, of the communications model of pain. Researchers examined empathy with the sensitivity variability of viewing others in pain (Courbalay, Deroche, Prigent, Chalabaev, & Amorim, 2015). Courbralay et. al, (2015) examined five prosocial personality professionals that would influence the judgement of emotional information when assessing for another's pain. Lastly, Prkachin, Kaseweter, and Browne (2015) presented third person pain within their research. For the third person pain process to exist, the observer must be able to perceive and comprehend the pain communication of the sufferer. Third person pain process is the understanding of the pain perception of the sufferer (Prkachin et al., 2015). Those observing others in pain may not accurately interpret or may fail to interpret the pain message based on internal factors.

Conceptual Framework

I used the pain assessment as a social transaction, (Schiavenato & Craig, 2010), to examine the assessment the nurse would make bases on the verbal and nonverbal display of the patient's pain. The conceptual model depicts pain as a social transaction. The model's pain assessment has three main components: contributing factors, assessment process, and intervening steps. Contributing factors to the pain assessment include empathy and clinical knowledge. The assessment process includes the patient's display and expression of his or her pain experience in combination with clinical assessment and judgment (Schiavenato & Craig, 2010). The intervening step comprises treatment or no

treatment of the patient's pain. The cyclic process is contingent upon the effectiveness of the intervention provided and the patient's expression of pain experience (Schiavenato & Craig, 2010).

Individuals may not be able to express their pain experience; however, they perceive the experience as real (Schiavenato &Craig, 2010). This study focused on the clinician portion of the conceptual model regarding assessment, judgement, and intervening steps. See Figure 3 regarding pain assessment as a transaction. The nurse would make an assessment based on the verbal and nonverbal display of the patient's pain. Viewing the variables of the nurses' professional skepticism, work experience, and level of compassion within the conceptual model may influence the dissonance or resonance of judgement made; thus, resulting in positive or negative treatment outcomes for the patient.

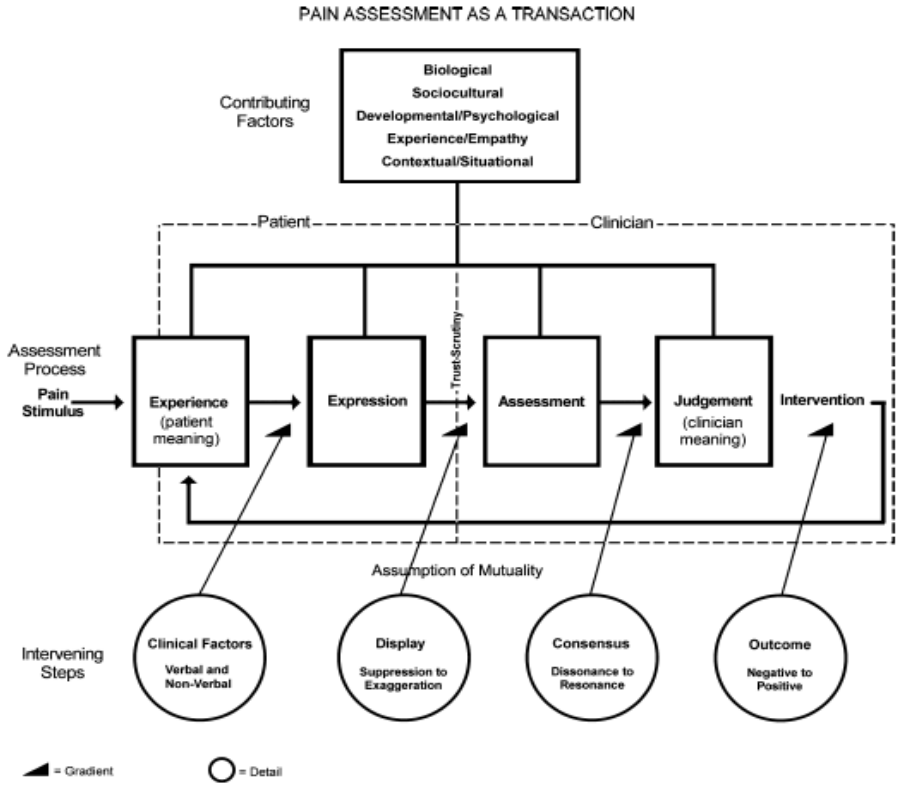


Figure 3. Pain assessment as a transaction, which begins with contributing factors followed by the assessment process, and, lastly, the intervening steps. From "Pain Assessment as a Social Transaction: Beyond the "Gold Standard," by M. Schiavenato and K. D. Craig, 2010. *Clinical Journal of Pain*, *26*(8), p. 672. Copyright 2010 by Copyright Clearance Center. Reprinted with permission (see Appendix B).

Literature Review: Key Variables

Chronic Pain

Chronic pain is a persistent pain lasting more than three months with little to no resolving symptoms that affect patients' quality of life and activities of daily living (Dueñas et al., 2016; Treede et al., 2015). The Institute of Medicine (2012) reported the number of U.S. adults suffering from chronic pain at 100 million. Medical costs, treatment costs, and loss of productivity associated with chronic pain account for $560 to $635 billion annually (Dzau & Pizzo, 2014). The burden of chronic pain affects individuals, families, and personal and professional communities as the prevalence of chronic back pain grows in society (Clark, 2014). According to Shmagel et al.(2016), chronic low back pain, specifically, impacts the economic and financial resources of the individual and society. Clark (2014) and Shmagel et al. (2016) described the individual and societal impacts as demonstrated through the number of years lived with disability, health costs to the patient, costs to treating facilities, opioid overdose rates, morbidity and mortality rates, and loss in production. Despite evidence of its significant impact, patients suffering from chronic pain are continually challenged in receiving effective pain management within the acute care setting (Chen et al., 2018).

Individuals with chronic pain form beliefs and assumptions related to their situation. These beliefs and assumptions include the cause of their chronic pain, the meaning for their chronic pain, assumptions towards themselves, and the assumptions that others have for their chronic pain (Penney et al., 2016). Patients being their own care managers contributed to their stress levels as each patient needed to be vigilant in their

care, understand the health care system, and keep communication channels open between providers (Penney et al., 2016). Patients were acknowledged as the communication bridge between the primary care providers and the complimentary alternative medicine providers (Penney et al., 2016).

Communication challenges identified by Penney et al. (2016) were limitations of visit time, inconsistencies of communication on therapies between the providers, and inconsistencies of communication between the providers and the patients. The assessment and treatment of chronic back pain by the nurse should specifically include bi-directional and open communication between the nurse and the patient, completing a pain assessment, administering prescribed analgesia, monitoring interventions, collaborating with a multidisciplinary team, and educating the patient (AMSN, 2018; Prem et al., 2011).

Significant findings were delivered regarding the nurse's individual attitudes and beliefs influencing the communication and treatment for pain (Prem et al., 2011). Respectful communication between the nurse and patient is considered an essential condition for the development of trust (Dinc & Gastmans, 2013). Although communication is essential to the success of patient-clinician relationships, patients continue to be challenged with feeling misunderstood (Linton et al., 2017). Pellico et al. (2014) conducted a study on the insights and experiences of registered nurses (RN) and health technicians (HTs) who care for chronic pain patients within the VA Connecticut Healthcare System. Education opportunities for RNs and HTs encompassing the treatment of chronic pain patients and empathetic communication approaches were

recommended in the study (Pellico et al., 2014). Training clinicians on empathy was shown to improve their communication abilities (Linton et al., 2017).

Nurses work to earn and build the trust of their patients to create a therapeutic relationship. Two factors that facilitate trust are the nurse's ability to be aware of the patient's unspoken needs and understand their suffering. Trust between the nurse and patient is a fragile phenomenon. There are factors that can cause distrusting relations. However, with effective communication the trusting relationship can be rebuilt (Dinc & Gastmans, 2013). Ineffective communication, conflicts of power between the nurse and patient, and the inability to understand the patient needs are factors that contribute to distrust (Dinc & Gastmans, 2013). Buchman et al. (2016) examined patient's fears of being accused of drug misuse, of being stigmatized, and of not being believed by their clinicians. Patient's identified that those clinicians who had doubts about their need for pain medications felt stigmatized and accused and the clinicians presented as untrustworthy (Buchman et al., 2016).

Patients struggle to communicate the invisible and subjective aspects of their pain to clinicians (Buchman et al., 2016). Patients fear negative responses from clinicians when opioids are requested (Severino et al., 2018) and underlying attitudes and skepticism of nurses influence the communication of patient care (Hall et al., 2018). Consequences of those who suffer from unexplained disorders, such as chronic pain syndromes, include stigmatization and being unheard in the communication realm of their treatment (Cohen et al., 2011). Linton et al. (2017) emphasized the pain patient's feeling

of misunderstanding and the request for clear and empathetic communication with clinicians. Communication is an integral part of effective treatment to chronic pain. The attitudes of caregivers toward chronic pain patients were examined within the emergency department. The providers who completed additional chronic pain training demonstrated more confidence in the practice setting, than those providers who did not participate in the additional chronic pain training (Chen et al., 2018). Chen et al. (2018), minimal training in treating chronic pain could be the reason behind providers' attitudes and contributed to the deficits in quality of care to these patients. Wilson (2014) and Kheshti et al. (2016) provided different views on factors affecting pain management provided by health care workers and nurses. The different views on factors included knowledge, attitude, and practice of health care workers during chronic pain management. The nurse's lack of knowledge has been shown to impact the outcomes of chronic pain treatment (Prem et al., 2011). Wilson and Kheshti et al. also shared that the problem of undertreatment of pain still exists in the health care setting. Along with being prevalent, chronic noncancer pain is also complex to treat (Volkow, & McLellan, 2016). The Joint Commission (2017) raised the 2018 hospital standards for pain assessment and management. The standards included promoting safe opioid use, involving patients in realistic treatment goals, and increasing patient safety with pain focused performance improvement initiatives. Consistent with the AMSN, priority should be given to pain management as a basic human right for every patient (AMSN, 2018). While there is a high positive response to evidence based practice (EBP) in pain management it has been noted that there is a low implementation rate for it. Therefore, a

positive attitude towards EBP does not equate to effective implementation (Arumugam, MacDermid, Walton, & Grewal, 2018).

Professional Skepticism

Professional skepticism is described both as a professional and a state of the individual. Meaning, professional skepticism can be either a stable or temporary characteristic. Professional skepticism is multidimensional and comprised of six characteristics (Hurtt, 2010). The six characteristics are a "questioning mind, suspension of judgement, search for knowledge, interpersonal understanding, self-esteem, and autonomy" (Hurtt, 2010, p. 151). There is a need to explore through a nursing and theoretical perspective, how the phenomenon of skepticism effects clinical decision making and communication. Looking through the theoretical framework lens of the communications model of pain (Hadjistavropoulos & Craig, 2002), skepticism may change the way information is encoded and decoded. Credibility, reliability, and trust of a source of information would relate to the multidimensional construct of skepticism (Hurtt, 2010). Ong-Flaherty, Banks, Doyle, and Sharifi (2016) argue that curiosity and skepticism combined with strong communication skills should help guide patient centered nursing practice.

The first three characteristics described by Hurtt (2010) of a questioning mind, suspension of judgement, and search for knowledge encompass the inquisition or probing to further evaluate and make a decision. McPeck (1981) linked critical thinking with reflective skepticism. Nurses must process and decipher a multitude of clinical and interpersonal information during the assessment and treatment of chronic pain.

Skepticism can be applied positively or negatively when making clinical decisions. Through questioning, suspense of judgement and the search for knowledge allows an opportunity to establish a consensus between clinical information, nonverbal, and verbal information coming from the patient during the assessment of chronic pain before the treatment plan has been decided.

The fourth characteristic described by Hurtt (2010) of interpersonal understanding focuses primarily on evidence, motivation, and integrity. It is important for the nurse to understand people so that he or she may be able to understand the differences of patients and their perceptions of their chronic pain (Hurtt, 2010). Successful interpersonal skills and clinical reasoning are linked to empathy, conflict resolution, effect communication skills, and emotional intelligence. Strong interpersonal skills contribute to collaboration within the nurse to patient relationship (McCloughen, & Foster, 2018). Skepticism within the nurse allows them to evaluate the patient's motivation for seeking help, any assumptions, and the verbal and nonverbal message provided. The combination of interpersonal skills and skepticism help the nurse to recognize any potential bias, motivations, or assumptions and attempt to gain a further understanding on any misleading information (Hurtt, 2010).

The ability of the nurse to rely on their own clinical reasoning and attempt to gain further understanding requires self-esteem. Self-esteem is the fifth characteristic described by Hurtt (2010). Similar to the fifth characteristic, of self-esteem, is the sixth characteristic of autonomy (Hurtt, 2010). Autonomy includes the nurse's professional courage to objectively evaluate within the chronic pain treatment setting to render

appropriate clinical reasoning or judgement (Hurtt, 2010). Victor-Chmil (2013) links the demonstration of competency through the ability of critical thinking, clinical reasoning, and clinical judgement. Each of these concepts, like that of self-esteem and autonomy, guide the nurse in evaluating the information available to make sound, evidenced-based judgements (Victor-Chmil, 2013).

Viewing chronic pain treatment as a bidirectional dialogue between the nurse and patient, as described in both the theoretical framework and conceptual model, gives way to an interpretative aspect in the clinical decision making process. The analysis of information received from an interpretive perspective of professional skepticism has the foundation of a questioning mind, suspension of judgement, search for knowledge, interpersonal understanding, self-esteem, and autonomy (Hurtt, 2010). Each of these involves experience, engagement with patient in the current situation, and synthesis clinical information. These former concepts work together to support the nurse's ability of clinical reasoning and clinical judgement during the treatment of chronic pain patients.

Level of Nurse Compassion

Nursing compassion is the understanding of the patient's difficulties or suffering; empathy (Lee & Seomun, 2016). Nursing compassion includes connecting and engaging within the patient's perspective (Jeffrey, 2016). The status of a nurse's health was shown to contribute to the quality of care and productivity in healthcare (Huang, Huang, Chueh, & Wu, 2016). Possessing the knowledge and experience of both a patient and a nurse demonstrated as a positive contribution to compassionate care (DeMarco, Picard, &

Agretelis, 2004). Much of the literature provides interviews and personal commentary of the healthcare provider's experience as a patient.

Personal pain history of the nurse is the nurse's history of acute or chronic pain. In addition to helping to manage the chronic pain of their patients, many nurses must navigate the management of their own chronic pain. In fact, 52% of the nursing population, which is the largest population of health care professionals in the United States, report chronic low back pain (CLBP) due to occupational factors and lifestyle factors. Low back pain in nurses affects their personal and professional lives, and many nurses reported not being satisfied with current pharmacological and nonpharmacological treatment options for CLBP (Budhrani-Shani, Berry, Arcari, Langevin, & Wayne, 2016). Psychosocial risk factors for nurses include an increase in the perception of pain symptoms. To effectively care for their patient population, nurses must be able to take care of their health and safety first (Tosunoz & Oztunc, 2017).

A theme identified within the literature surrounding nurses and health care providers who become patients is the change in compassion and empathy (Davoodvand et al., 2016; DeMarco et al., 2004; Edward, Giandinoto, & McFarland, 2017; Pucino, 2014). Cancer surviving nurses were found to have increased empathy and a new approach to patient centered care (Edward, et al., 2017). Compassion increases in what is described as a transformative learning experience when nurses become patients (Pucino, 2014). Baker et al. (2017), linked clinician compassion with the validations of the chronic pain patient experience and non-compassion with invalidation of the chronic pain patient experience. Therefore, there is a need to identify the extent to which the nurses' personal history of

hospitalization influences the relationship between their level of compassion and their treatment of chronic noncancer pain patients in the acute care setting.

Work Experience of the Nurse

The nurses' years of experience are the nurses' total years of work history as a nurse. In the study by Dodek et al. (2016) nurses with greater work experience reported higher levels of moral distress at work. In this study moral distress was described as the stress derived from the conflict of wanting to make an ethical course of action and being inhibited from taking that action (Dodek et al., 2016). McHugh and Lake (2010) examined the quality of care on the general patient population and explored a comparison of the individual nurses' expertise against the nursing practice environment and their coworker's education and experience levels. The findings demonstrated a positive correlation between nursing expertise and quality of patient care. The nurses' years of experience was combined with the nurses' level of education to describe the nurses' expertise. Nurses' expertise has been shown to directly affect patients' quality of care (McHugh & Lake, 2010). McHugh and Lake did not specify the specific patient population and their findings did not clarify if the nurses' years of experience alone had a positive correlation on quality of care. As such, the correlation between nursing years of experience and the treatment of chronic noncancer pain patients is not yet known.

Summary and Conclusions

The literature search strategy identified 84 articles relating to the key variables in this study. More detail on the dual lens was also provided. Placing the key variables within the dual lens of the theoretical framework and the conceptual model may influence

the dissonance or resonance of judgement made; thus, resulting in positive or negative treatment outcomes for the chronic pain patient. The analysis of information received from an interpretive perspective of professional skepticism has the foundation of a questioning mind, suspension of judgement, search for knowledge, interpersonal understanding, self-esteem, and autonomy (Hurtt, 2010).

Nurses must process and decipher a multitude of clinical and interpersonal information during the assessment and treatment of chronic pain. Skepticism can be applied positively or negatively when making clinical decisions. Viewing chronic pain treatment as a bidirectional dialogue between the nurse and patient, as described in both the theoretical framework and conceptual model, gives way to an interpretative aspect in the clinical decision making process. Nurses work to earn and build the trust of their patients to create a therapeutic relationship. Two factors that facilitate trust are the nurse's ability to be aware of the patient's unspoken needs and understand their suffering. Compassion increases in what is described as a transformative learning experience when nurses become patients (Pucino, 2014). The primary focus of this quantitative study was the nursing variables that are present during the treatment of chronic noncancer pain patients in the acute care setting. Specifically, how years of experience, compassion, and professional skepticism of the nurse influence chronic pain management and potentially lead to inconsistent chronic pain outcomes in the acute care setting.

In Chapter 3, I identify the research design, research rationale, methodology, population, data sources and analysis, and threats to validity.

Chapter 3: Research Method

Introduction

The purpose of this quantitative correlational study was to determine whether there was a relationship among the nurses' professional skepticism, level of compassion, and years of experience during the treatment of chronic noncancer pain patients in acute care. The quantitative study was a structured way to examine the potential influence that nursing related variables had on the treatment of chronic noncancer pain patients. Identifying the potential relationships among these variables may improve the understanding of factors that may influence the pain management outcome variances for chronic noncancer pain patients in the acute care setting. In this chapter, details are provided on the research design and methodology to include instrumentation, data analysis plan, and threats to validity.

Research Design and Rationale

The following research questions guided this study:

Research Question 1: To what extent do the nurses' professional skepticism, level of compassion, and years of experience account for variance in the nursing treatment of chronic noncancer pain patients in the acute care setting?

$H_0$1: The combined variables (Multiple R^2) of the nurses' professional skepticism, level of compassion, and years of experience will not account for variance in the nursing treatment of chronic noncancer pain patients in the acute care setting.

H_a1: The combined variables (Multiple R^2) of the nurses' professional skepticism, level of compassion, and years of experience will account for variance in the nursing treatment of chronic noncancer pain patients in the acute care setting.

Research Question 2: To what extent does the nurses' years of experience account for variance in the nurses' professional skepticism?

$H_0 2$: The variable of the nurses' years of experience will not account for variance in the nurses' professional skepticism.

$H_a 2$: The variable of nurses' years of experience will account for variance in the nurses' professional skepticism.

Research Question 3: To what extent does the nurses' level of compassion account for variance in the nurses' professional skepticism?

$H_0 3$: The variable of the nurses' level of compassion will not account for variance in the nurses' professional skepticism.

$H_a 3$: The variable of the nurses' level of compassion will account for variance in the nurses' professional skepticism.

Research Question 4: To what extent does the nurses' hospital admission history account for variance in the nurses' level of compassion when treating chronic noncancer pain patients?

$H_0 4$: The intermediate variable of the nurses' hospital admission history will not account for variance in the nurses' level of compassion when treating chronic noncancer pain patients.

H_a4: The intermediate variable of the nurses' hospital admission history will account for variance in the nurses' level of compassion when treating chronic noncancer pain patients.

Data for this study were collected through questionnaires and vignettes from nurses within the acute care setting. The vignettes were obtained within the validated questionnaire KASRP, created by Ferrell and McCaffery (2014) and were used to identify the treatment of pain patients in the acute care setting. The Hurtt's Skepticism Scale (2010) was used to identify the nurses' level of professional skepticism about a patient in chronic pain. The Compassion Competence Scale was used to identify the nurses' level of compassion (Lee & Seomun, 2016). The vignettes and scales were accompanied by a demographic questionnaire that will contain questions about each nurse's experience and hospital admission history.

The predictor variables for Research Question 1 were the nurses' professional skepticism, level of compassion, and years of experience. The outcome variable for Research Question 1 was the nursing treatment of chronic noncancer pain patients. The predictor variables for Research Questions 2 and 3 were the nurses' level of compassion and the nurses' years of experience, respectively. The outcome variable for Research Questions 2 and 3 was the nurses' professional skepticism. The intermediate variable for Research Question 4 was the nurses' hospital admission history. The outcome variable for Research Question 4 was the nurses' level of compassion. The multiple regression analysis design was aligned with this study to estimate the linear relationship between the predictor and outcome variables (Anderson et al., 2014).

The primary focus of this quantitative study was to assess three variables related to nursing that are present during the treatment of chronic noncancer pain patients in the acute care setting. Specifically, how nurses' years of experience, compassion, and professional skepticism influence chronic pain management and potentially lead to inconsistent chronic pain outcomes in the acute care setting. The goal of conducting multiple regression analysis was to discover if significant linear correlation existed among the selected variables. The purpose of this study was to understand the nursing related variables that may impact the treatment of chronic noncancer pain patients within the acute care setting.

I initially considered the qualitative research approach. However, identifying the relationship among the nursing related variables was the goal for this study. The qualitative interview approach would have provided participant perspective and feedback, but not the linear correlation analysis between the selected nursing variables. For this reason, the qualitative interviews would not have been a practical approach to this goal. Instead, the quantitative approach using multiple regressions was chosen as the best fit to answer the research questions and meet the purpose of this study. The quantitative method also provided an approach for potentially determining the influence of the chosen nursing variables during the treatment of chronic noncancer pain patients in the acute care study.

Nurses have the responsibility to provide relief and reduce suffering when treating patients with pain (Prem et al., 2011). However, the problem of the undertreatment of pain still exists, and uncontrolled pain in the health care setting remains high (Kheshti et

al., 2016; Wilson, 2014). Through gaining an understanding of the linear correlation significance among the selected variables may help nurses to reflect on their behaviors to ensure they are adhering to best practices for managing the patient's pain. Nurses adhering to the policies and best practices for pain management in the acute care settings will help to alleviate pain, increase comfort, and improve quality of life for the chronic pain population (Majid et al., 2011). There is a need to identify the potential influence of the nurses' professional skepticism, level of compassion, and years of experience during the treatment of chronic noncancer pain patients.

Methodology

I used multiple regression analysis as the quantitative research method. Objective measurements were emphasized through multiple regression analysis collected from questionnaires. Multiple independent, or predictor, variables were used to predict the value of the dependent, or outcome, variable. The multiple regression analysis design was aligned with this study to determine if a linear relationship between the predictor and outcome variables exist (Anderson et al., 2014). I calculated the sample size (N =127) based on power analysis using G*Power 3.1.

Population

The population for data sampling consisted of nurses with the experience of working in the acute care setting. The study focused on variables that influence the treatment of chronic noncancer pain patients. It was preferred that the nurses are actively involved in bedside care complete the questionnaires and vignettes versus those in an office setting role within the acute care setting. Oncological nurses were excluded from

the study. Target population size was determined by power analysis. Data was obtained from this suggested sample population of nurses via questionnaire on Survey Monkey. I recruited participants through the American Society for Pain Management Nursing (ASPMN), Walden University Participation Pool, and peer to peer recruitment through snowball sampling.

Sampling and Sampling Procedures

Quantitative research typically requires larger sample sizes than qualitative research. Non-probability purposive sampling and snowball sampling was used based on specific inclusion and exclusion criteria from the target population of acute care nurses. Participation in the study was ethically solicited from nurses that meet the specific population elements above to purposely satisfy the inclusion and exclusion criteria of the target population (see Daniel, 2011). The inclusion criteria included: (a) being a registered nurse, (b) having a minimum of 1 year of experience in the acute care setting and are currently working, and (c) treating patients with chronic noncancer pain. Oncology nurses were excluded from the sampling population. Using the following criteria in G*Power3.1 software for the significance of .05, power of .80, and a sample effect size of .30, it was estimated that a sample size of 127 was required to demonstrate a correlation between the three predictor variables of this study. The medium effect size was determined through an analysis of eight articles containing the three nursing related variables used in this study (see Table 1).

Table 1

Effect Sizes of Related Studies

Nursing related variables	*Author(s), date*	*Effect size (r^2)*
Skepticism	Han, Ahn, & Hwang, 2019	0.3
	Jin & Yi, 2019	0.15
Years of experience	Prewitt, 2018	0.42
	Jin & Yi, 2019	0.15
	Mazzella Ebstein, Sanzero Eller, Tan, Cherniss, Ruggiero, & Cimiotti, 2019	0.12
	Orique, Despins, Wakefield, Erdelez, & Vogelsmeier, 2019	0.3
Compassion	Prewitt, 2018	0.42
	Mathad, Rajesh, & Pradhan, 2017	0.3
	Lopes, Vannucchi, Demarzo, Cunha, & Nunes, 2019	0.06
	Hunt, Denieffe, & Gooney, 2019	0.3

Procedures

The scope of this study included providing questionnaires to nurses who fit the inclusion criteria: being a registered nurse having a minimum of one year of experience in the acute care setting, treating patients with chronic noncancer pain who is currently working, but excluded those nurses with experience in oncological care. Nursing participants meeting the research inclusion and exclusion criteria were invited to complete an online questionnaire via Survey Monkey. It was estimated that the

questionnaire will take 20 to 25 minutes to complete. The nursing participants could complete the questionnaire in the private location of their choosing. The nursing participants were provided with a consent form that discloses the confidentiality of data collected and the voluntary nature of participation. Participants had the opportunity to exit the questionnaire at any time they choose. The questionnaire was open for 90 days or until a minimum of 127 participants completed the survey. Final research results were available to be shared with the requesting nursing participants.

Recruitment

I recruited participants through the American Society for Pain Management Nursing (ASPMN), Walden University Participation Pool, and peer to peer recruitment through snowball sampling. I made contact via email with the President from ASPMN to discuss the purpose of this study and request permission for recruitment through the member listserve. The President of ASPMN identified that because I am a member of ASPMN, I was able to email the recruitment flyer to those members on the listserve (Appendix C). Currently, there are over 400 ASPMN members on the listserve. I sent the recruitment flyer to all members on the listserve. I also posted my recruitment flyer and link to Survey Monkey on the Walden Participation Pool site (see Appendix D).

Participation

The questionnaire on Survey Monkey began with the three eligibility questions (see Appendix E). If the participant did not meet inclusion criteria, they were not able to proceed with the survey and thanked for their time and participation. The participants that did meet inclusion criteria were advanced to the informed consent . The Informed consent

was provided to all participants in an electronic format at the beginning of the Questionnaire. The informed consent in fulfillment of Walden University dissertation was utilized. It contained consent information, risk, benefits, the purpose of the study, identified myself as the researcher, and provided my email for any additional information. Participants were informed that their decision to continue to the next page acknowledges their consent to participate in the study. The directions for the survey were next on the questionnaire (see Appendix F). The demographic questions preceded the directions for the survey (see Appendix G). The next sets of questions were Lee and Seomun's (2016) Compassion Competence Scale, which included 17 questions (see Appendix H). The next 30 questions were Hurtt's Skepticism Scale (2010; see Appendix I). The remaining four questions were the two vignettes from the KASRP, created by Ferrell and McCaffery (2014; seeAppendix J). No identifying information was collected from participants, i.e., names, date a birth, or place of work. This helped guarantee the anonymity of the participants. Participants had the opportunity to exit the questionnaire at any time they choose. The survey took between 20 to 25 minutes to complete. The questionnaire was open for 90 days or until a minimum of 127 participants completed the survey. Final research results were available to be shared with the requesting nursing participants.

Data Collection (Primary)

I am recruited participants through the ASPMN, Walden University Participation Pool, and peer to peer recruitment through snowball sampling. I sent the recruitment flyer to all members on the listserve. I also posted my recruitment flyer and link to Survey

Monkey on the Walden Participation Pool site (see Appendix D). I requested that participants share the link with qualifying peers. Survey Monkey offers a secure, web-based platform in which participants can take the survey at any time and in any private location of their choosing. The survey was anonymous, and participants had the opportunity to exit the questionnaire at any time they chose. Data was collected from a secure account that was password protected. Once data collection was completed, the data was transferred to SPSS and stored on a personal computer that was also password protected. Per dissertation requirements, the data will be kept for five-years post-graduation and then deleted from the device. This study does not require any follow up with participants.

Instrumentation and Operationalization of Constructs

Data for this study were collected through the following questionnaires and vignettes from nurses within the acute care setting. The questionnaires and vignettes were accompanied by a demographic questionnaire that contained questions about the nurses' experience and hospital admission history. The rationale for using the combined vignettes, scales, and demographic form as a combined questionnaire instrument in this study was to measure and evaluate all variables within the research questions. This evaluation of data could reveal statistical correlations within the specific population of nurses. Data analysis may further improve the treatment of chronic noncancer pain population.

The vignettes within the validated questionnaire KASRP, created by Ferrell and McCaffery (2014) were used to identify the treatment of pain patients in the acute care

setting. The KASRP, created by Ferrell and McCaffery (2014), has established internal consistency reliability of alpha r >.70 on items reflecting both knowledge and attitude domains. The plan to provide evidence of reliability and validity was test/retest and internal consistency. This scale has been previously used within the nursing population (Ferrell & McCaffery, 2014) (See Appendix K for permission from this developer to us this instrument).

The Hurtt's Skepticism Scale (2010) was used to identify the nurses' level of professional skepticism about a patient in chronic pain The Hurtt's Skepticism Scale (2010) was tested for validity using Cronbach's alpha to measure internal consistency. The result was 0.91, demonstrating evidence of instrument validity and stability. The plan to provide evidence of reliability and validity was test/retest and using Cronbach's alpha. This scale has been previously used within the auditing and research population. It represents the first scale created to test professional skepticism (Hurrt, 2010; see Appendix L for permission from this developer to us this instrument).

The Compassion Competence Scale was used to identify the nurses' level of compassion (Lee & Seomun, 2016). The Compassion Competence Scale, created by Lee and Seomun (2016), also used Cronbach's alpha for validity testing. The correlation coefficients were the following .96 (ECS), .87 (CLS), and .85 (IRI); Thus, demonstrating reliability. The plan to provide evidence of reliability and validity was testing on 660 nurses in the hospital setting and using Cronbach's alpha. This scale has been previously used within the nursing population. The scale includes eight items on communication, five items on sensitivity, and four items on insight to provide an comprehensive factor

analysis for compassion (Lee & Seomun, 2016; see Appendix M for permission from this developer to us this instrument).

Data Analysis Plan

The following research questions guided this study:

Research Question 1: To what extent do the nurses' professional skepticism, level of compassion, and years of experience account for variance in the nursing treatment of chronic noncancer pain patients in the acute care setting?

$H_0$1: The combined variables (Multiple R^2) of the nurses' professional skepticism, level of compassion, and years of experience will not account for variance in the nursing treatment of chronic noncancer pain patients in the acute care setting.

H_a1: The combined variables (Multiple R^2) of the nurses' professional skepticism, level of compassion, and years of experience will account for variance in the nursing treatment of chronic noncancer pain patients in the acute care setting.

Research Question 2: To what extent does the nurses' years of experience account for variance in the nurses' professional skepticism?

$H_0$2: The variable of the nurses' years of experience will not account for variance in the nurses' professional skepticism.

H_a2: The variable of nurses' years of experience will account for variance in the nurses' professional skepticism.

Research Question 3: To what extent does the nurses' level of compassion account for variance in the nurses' professional skepticism?

$H_0$3: The variable of the nurses' level of compassion will not account for variance in the nurses' professional skepticism.

H_a3: The variable of the nurses' level of compassion will account for variance in the nurses' professional skepticism.

Research Question 4: To what extent does the nurses' hospital admission history account for variance in the nurses' level of compassion when treating chronic noncancer pain patients?

$H_0$4: The intermediate variable of the nurses' hospital admission history will not account for variance in the nurses' level of compassion when treating chronic noncancer pain patients.

H_a4: The intermediate variable of the nurses' hospital admission history will account for variance in the nurses' level of compassion when treating chronic noncancer pain patients.

To examine hypothesis 1, regression analysis was conducted to measure the variance between the nurses' professional skepticism, level of compassion, and years of experience during the nursing treatment of chronic noncancer pain patients in the acute care setting.

To examine hypothesis 2, regression analysis was conducted to measure the linear relationship between the nurses' years of experience and the nurses' professional skepticism.

To examine hypothesis 3, regression analysis was conducted to measure the linear relationship between nurses' level of compassion account for variance in the nurses' professional skepticism.

To examine hypothesis 4, regression analysis was conducted to determine if the nurses' hospital admission history accounts for variance in the nurses' level of compassion when treating chronic noncancer pain patients.

Data for this study were collected through the following questionnaires and vignettes from nurses within the acute care setting. The vignettes within the validated questionnaire KASRP, created by Ferrell and McCaffery (2014) was used to identify the treatment of pain patients in the acute care setting. The Hurtt's Skepticism Scale (2010) was used to identify the nurses' level of professional skepticism about a patient in chronic pain. The Compassion Competence Scale was used to identify the nurse's level of compassion (Lee & Seomun, 2016). The questionnaires and vignettes were accompanied by a demographic questionnaire that contained questions about the nurses' experience and hospital admission history.

The predictor variables for research question one are the nurses' professional skepticism, level of compassion, and years of experience. The outcome variable for research question one is the nursing treatment of chronic noncancer pain patients. The predictor variables for research questions two and three are the nurses' level of compassion and the nurses' years of experience, respectively. The outcome variable for research questions two and three is the nurses' professional skepticism. The intermediate variable for research question four is the nurses' hospital admission history. The outcome

variable for research question four is the nurses' level of compassion. The multiple regression analysis design is aligned with this study to estimate the linear relationship between the predictor and outcome variables (Anderson et al., 2014).

Data Assumptions

Quantitative multiple regression analysis assumptions for this study include predictor and outcome variables are measured on a continuous scale. Between each predictor variable and the outcome variable, there will be a linear relationship collectively. Each variable will be normally distributed and more importantly, check that the residuals from the regression are normally distributed. If they are not, consideration to do a transformation to meet assumptions will be done. All variable should be measured without error. There is the assumption that the linear data will show homoscedasticity and will not show multicollinearity (Lund Research, 2018). The predictor variables for this study include the nurses' professional skepticism, level of compassion, and work experience. The outcome variable for this study includes the treatment of chronic pain patients. Another assumption for this study is that the variables measured in this study are equally distributed among the sample selected for this study (Laerd Statistics, 2015). All data was evaluated to determine that all assumptions were met. Should determining the significance of the data assumptions be violated Spearman's Correlation was used as an alternate.

Threats to Validity

External Validity

The expectation for participants to respond to the vignettes was from their own personal viewpoints as a professional nurse. It would have important for the purpose of this study to discover how the participants react as nurses to each vignette scenario. However, the discrepancy in what the participants actually do, versus how they feel they should answer the vignette scenarios, can be a threat to external validity (Hughes & Huby, 2012). Ability to repeat tests or replicate a study is another factor to external validity (Heale, & Twycross, 2015). Each of the selected instruments within the questionnaire has been replicated in multiple successful studies.

Internal Validity

The researcher must test the hypotheses and determine if the relationship is causal or confounding between the selected variables. Confounding variables could have an effect on the study outcome (Vetter, & Mascha, 2017). Any identified confounding variables will be described in chapter 4 to address internal validity. The plan for the survey was to be available for 90 days or until a minimum of 127 participants complete the survey. Since 127 participants were obtained prior to 90 days, this resulted in an increased limitation to the timeframe of the study.

The content within quantitative studies must be accurately measured or demonstrate validity (Heale, & Twycross, 2015). The consistency of participant measurements from an instrument is reliability (Heale, & Twycross, 2015). In an attempt to address and limit threats to internal validity, reliable and validated questionnaire tools

were chosen for this study. The following three instrument analyses demonstrated the appropriateness of each tool to help determine if a relationship existed between the selected nursing variables and treatment of chronic pain patients in the acute care setting.

The vignettes within the validated questionnaire KASRP, created by Ferrell and McCaffery (2014) were used to identify the treatment of pain patients in the acute care setting. The KASRP, created by Ferrell and McCaffery (2014), has established internal consistency reliability of alpha r >.70 on items reflecting both knowledge and attitude domains. The plan to provide evidence of reliability and validity was test/retest and internal consistency. This scale was reviewed by pain experts to provide content validity. Through comparing the scores of nurses at various levels of expertise, the construct validity of this scale was established. This scale has been previously used within the nursing population (Ferrell & McCaffery, 2014).

The Hurtt's Skepticism Scale (2010) was used to identify the nurses' level of professional skepticism about a patient in chronic pain. The Hurtt's Skepticism Scale (2010) was tested for validity using Cronbach's alpha to measure internal consistency. The result was 0.91, demonstrating evidence of instrument validity and stability. The plan to provide evidence of reliability and validity was test/retest and using Cronbach's alpha. The following items on the Hurtt's Skepticism Scale are reversed scored: 1, 10, 11, 16, 17, 19, 25, and 26. Subtract the score from 7 and use the reversed number in summing the total score. Scale scores can range from 30 to 180. Average previous participant scores have fallen within the 90 to 150 range and higher scores equate to greater skepticism. Therefore, items that will be reversed scored for this doctoral study are: 24, 33, 34, 29,

40, 42, 48, and 49. This scale has been previously used within the auditing and research population. It represents the first scale created to test professional skepticism (Hurrt, 2010).

The Compassion Competence Scale was used to identify the nurses' level of compassion (Lee & Seomun, 2016). The Compassion Competence Scale, created by Lee and Seomun (2016), also used Cronbach's alpha for validity testing. The correlation coefficients were the following .96 (ECS), .87 (CLS), and .85 (IRI); Thus, demonstrating reliability. The plan to provide evidence of reliability and validity was tested on 660 nurses in the hospital setting and using Cronbach's alpha. The total score for the Compassion Competence Scale is calculated as the mean of the scores for each question, each question ranges from 1 ('strongly disagree') to 5 ('strongly agree'); Five being a higher level of compassion and one being a lower level of compassion. This scale has been previously used within the nursing population (Lee & Seomun, 2016).

Construct Validity

Construct validity threats were minimized by using validated and reliable instruments. It was also addressed through reporting of effect size for any significant results. All results were reported in Chapter 4. TheKASRP, created by Ferrell and McCaffery (2014) was modified for use of only the vignettes to capture the intended pain treatment variable. Although Ferrell McCaffery provide permission to use the KASRP tool in whole or in part, modification to it can interfere with construct validity (Heale, & Twycross, 2015).

Ethical Procedures

The study procedures for participation, recruitment, risks, benefits, and data collection were provided fully to the Walden University Institutional Review Board (IRB). This study did not advance until all required approvals are obtained. No data was collected until IRB approval was obtained. IRB approval number for this study is 12-20-19-0426753. This IRB approval expires on December 19th, 2020. The nursing population that was identified to participate is not a vulnerable population. Minimal to no risks or hazards were present to participate in this study. Reducing the unnecessary burden on the study participants by determining the appropriate population size through power analysis was another ethical consideration. The smallest sample to satisfy this research objective and answer the research questions were chosen (Daniel, 2011).

The questionnaire on Survey Monkey began with the three eligibility questions. If the participant did not meet inclusion criteria, they were not able to proceed with the survey and thanked for their time and participation. The participants that did meet inclusion criteria were advanced to the informed consent. The Informed consent was provided to all participants in an electronic format at the beginning of the Questionnaire. The informed consent in fulfillment of Walden University dissertation was utilized. It contained consent information, risk, benefits, the purpose of the study, identified myself as the researcher, and provided my email for any additional information. Participants were informed that their decision to continue to the next page acknowledged their consent to participate in the study. Survey Monkey offered a secure, web-based platform in which participants could take the survey at any time and in any private location of their

choosing. The survey was anonymous, and participants had the opportunity to exit the questionnaire at any time they chose. The participants were also provided my contact information should they have requested any additional information or had questions.

Summary

This quantitative correlational study aimed for a minimum of 127 nurses working in the acute care setting to capture the needed population sample. A questionnaire comprised of validated scales, vignettes, and a demographic form was used to survey the nursing respondents. Validation and reliability of the scales and vignettes being utilized were reported. Multiple regression analysis was used to determine whether there was a relationship among the nurses' professional skepticism, level of compassion, and years of experience during the treatment of chronic noncancer pain patients in acute care.

Chapter 4: Results

The purpose of this quantitative correlational study was to determine if there was a relationship among the nurses' professional skepticism, level of compassion, and years of experience during the treatment of chronic noncancer pain patients in the acute care setting. A quantitative correlational approach through multiple regressions was used to answer the research questions. This research design was to determine the best predictors among the influence of the nurses' professional skepticism, level of compassion, and years of experience during the treatment of chronic noncancer pain patients in the acute care setting. Results from 116 nurses were used.

Research Question 1: To what extent do the nurses' professional skepticism, level of compassion, and years of experience account for variance in the nursing treatment of chronic noncancer pain patients in the acute care setting?

$H_0$1: The combined variables (Multiple R^2) of the nurses' professional skepticism, level of compassion, and years of experience will not account for variance in the nursing treatment of chronic noncancer pain patients in the acute care setting.

H_a1: The combined variables (Multiple R^2) of the nurses' professional skepticism, level of compassion, and years of experience will account for variance in the nursing treatment of chronic noncancer pain patients in the acute care setting.

Research Question 2: To what extent does the nurses' years of experience account for variance in the nurses' professional skepticism?

$H_0$2: The variable of the nurses' years of experience will not account for variance in the nurses' professional skepticism.

H_a2: The variable of nurses' years of experience will account for variance in the nurses' professional skepticism.

Research Question 3: To what extent does the nurses' level of compassion account for variance in the nurses' professional skepticism?

$H_0 3$: The variable of the nurses' level of compassion will not account for variance in the nurses' professional skepticism.

$H_a 3$: The variable of the nurses' level of compassion will account for variance in the nurses' professional skepticism.

Research Question 4: To what extent does the nurses' hospital admission history account for variance in the nurses' level of compassion when treating chronic noncancer pain patients?

$H_0 4$: The intermediate variable of the nurses' hospital admission history will not account for variance in the nurses' level of compassion when treating chronic noncancer pain patients.

$H_a 4$: The intermediate variable of the nurses' hospital admission history will account for variance in the nurses' level of compassion when treating chronic noncancer pain patients.

In Chapter 4, I describe the methods for data collection, verification of validity and reliability, and the results of this study. This description includes any discrepancies in the data collection methods, descriptive statistics of the characteristics for the sample, statistical assumptions, a review of the research questions and hypothesis tests, the

analyses of the research questions, and hypotheses testing. Lastly, I review the data analysis completed and a summary of the study findings.

Data Collection

Once IRB approval was received on December 20th, 2019, participants for this study were recruited through purposive and snowball sampling techniques. The data collection for my survey began on December 22nd, 2019, and concluded on January 8th, 2020. This was done via survey monkey. Participants did not receive any type of follow up due to the anonymous nature of the survey. Of the 186 respondents that participated in the survey, only 133 of these surveys were completed in its entirety after meeting the inclusion and exclusion criteria. This resulted in a 71.5% completion rate. The study recruitment flyer was emailed to all members on the listserve. Currently, there are over 400 ASPMN members on the listserve. The study recruitment flyer was also posted on the Walden Participation Pool site after permission was obtained. A meaningful response rate could not be obtained due to snowball sampling and the anonymous nature of the survey. Thirty-two of the responses were not included because the participants did not meet either the inclusion or the exclusion criteria.

The plan was for the survey to be posted for 90 days or until a minimum of 127 completed surveys were obtained. It only required 18 days to obtain 133 completed surveys. Both purposive and snowball sampling were used to obtain participants for this study. Snowball sampling was utilized to expand the potential participant field and increase participation. The snowball sampling technique allowed for participants to share the survey with friends or those who may have qualified for the survey. Purposive

sampling was used via the ASPMN listserve and Walden University's Participant Pool. There were no discrepancies in from the data collection plan presented in Chapter 3.

Verification of Validity and Reliability

Construct Validity

Construct validity threats were minimized by using validated and reliable instruments. It was addressed through reporting of effect size for any significant results. Only the vignettes from the KASRP, created by Ferrell and McCaffery (2014), were used to capture the intended pain treatment variable. Although Ferrell McCaffery provided permission to use the KASRP tool in whole or in part, modification to it can interfere with construct validity (Heale, & Twycross, 2015). The two vignettes from the KASRP were used to determine the treatment of pain in the hospital setting. The participants were asked to rate the pain of two patients and determine the amount of morphine to administer to the patients for their described pain in each vignette. The vast majority of participants correctly rated both patient's, Andrew and Robert, pain level at an 8 on a 0 to 10 scale. Ninety-three percent of participants rated Andrew's pain correctly "8," and 97.4% rated Robert's pain correctly "8" (see Table 2).

Table 2

Correct Pain Rating for Vignettes (N = 116)

Variable and category	*n*	%
Andrew vignette		
Incorrect Pain Rating	8	6.9
Correct Pain Rating (8)	108	93.1
Robert vignette		
Incorrect Pain Rating	3	2.6
Correct Pain Rating (8)	113	97.4

Due to the high percentage of accuracy on pain rating for both Andrew and Robert, this portion of the vignettes was not included for determining the treatment of pain in the acute care setting. Treatment of pain was determined on the correct dosage of morphine provided to Andrew and Robert. The correct dosage was then analyzed as the outcome variable for this study (see Table 3).

Table 3

Dosage Frequencies for Vignettes (N = 116)

Variable and category	*n*	%
Andrew vignette		
No Morphine	5	4.3
1 mg IV now	22	19.0
2 mg IV now	34	29.3
3 mg IV now	55	47.4
Robert vignette		
No Morphine	1	0.9
1 mg IV now	14	12.1
2 mg IV now	30	25.9
3 mg IV now	71	61.2

Content Validity

A quantitative research design provided a correlational approach to verify the content validity of the survey for alignment with the research questions. An instrument must accurately measure the intended variables to qualify as a valid measurement tool (Lund Research, 2018). The three tools used to compromise this survey were selected to align content validity, the selected nursing variables, and the research questions. Box plots were run to check for univariate outliers. Only univariate outliers were identified.

The univariate outliers decreased the sample size from $N = 133$ to $N = 116$. Mahalanobis distance was used to identify any multivariate outliers. No multivariate outliers were identified within the selected nursing variables. Data from the sample of $N = 116$ was utilized without alteration.

Reliability

The vignettes within the validated questionnaire KASRP, created by Ferrell and McCaffery (2014) was used to identify the treatment of pain patients in the acute care setting. The KASRP has established internal consistency reliability of alpha $\alpha > .70$ on items reflecting both knowledge and attitude domains. It was important to re-establish reliability since only the vignettes were used from the KASRP. The vignettes demonstrated the following level of internal consistency, as determined by a Cronbach alpha of $\alpha = .78$ (see Table 4).

The Compassion Competence Scale was used to identify the nurses' level of compassion (Lee & Seomun, 2016). The Compassion Competence Scale, created by Lee and Seomun (2016), also used Cronbach's alpha for validity testing. The correlation coefficients were the following .96 (ECS), .87 (CLS), and .85 (IRI); Thus, demonstrating reliability. Reliability was tested for the 17 items included in this scale post data collection using Cronbach's alpha and demonstrated an alpha of $\alpha = .91$ (see Table 4).

The Hurtt's Skepticism Scale (2010) was used to identify the nurses' level of professional skepticism about a patient in chronic pain The Hurtt's Skepticism Scale (2010) was tested for validity using Cronbach's alpha to measure internal consistency. The result was $\alpha = .91$, demonstrating evidence of instrument validity and stability.

Reliability was tested for the 30 items included in this scale post data collection using Cronbach's alpha and demonstrated an alpha of α = .75 (see Table 4).

Table 4

Descriptive Statistics for Summated Scale Scores (N = 116)

Score	Number of items	*M*	*SD*	Low	High	α
Compassion scale	17	4.50	0.38	3.53	5.00	.91
Skepticism scale	30	139.44	10.67	115.00	167.00	.75
Correct dosage	2	3.34	0.75	1.50	4.00	.78

Study Results

Descriptive Statistics

The data collected yielded 116 nursing participants that were actively working as registered nurses, had one year or more of experience working in the acute care setting, and were not an oncology nurse or working on an oncology unit. Table 4 displays the frequency counts for selected variables. Years of experience ranged from 1 to 55 years (*M* = 24.66, *SD* = 13.36). Seventy-two percent of the sample reported having been admitted to the hospital at least one time (*M* = 2.11, *SD* = 1.92; see Table 5).

Table 5

Frequency Counts for Selected Variables (N = 116)

Variable and category	*n*	%
Years of experience [a]		
1 – 10 years	22	19.0
11 – 20 years	24	20.7
21 – 30 years	27	23.2
31 – 40 years	30	25.9
41 – 50 years	12	10.3
51 – 55 years	1	0.9
Hospital admission		
Yes	84	72.4
No	32	27.6
Times admitted to the hospital [b]		
None	32	27.6
One	20	17.2
Two	21	18.1
Three	14	12.1
Four	14	12.1
Five to Seven	15	12.9

[a] *Experience: M = 24.66, SD = 13.36.*
[b] *Admissions:* M = *2.11,* SD = *1.92.*

Comparison of Sample to Population

The sample size, *N*=127, obtained in this study met the required sample population to demonstrate significance, based on power analysis using G*Power3.1. According to the Bureau of Labor Statistics, there are 2, 951, 960 employed registered nurse positions in the United States (2018). Within this population of registered nurses, 1,698,700 or 30.62% hold industry employment for general medical or surgical hospitals (Bureau of Labor Statistics, 2018). National nursing occupational sub-specialty specifics for general medical or surgical hospitals, such as non-oncology nurses, could not be

obtained. The sample represented in this study of $N = 116$ was small in comparison to the total population of registered nurses employed in the acute care or hospital setting.

Statistical Assumptions for Multiple Regression and Correlation

Quantitative multiple regression analysis assumptions for this study include predictor and outcome variables that were measured on continuous scales. Each predictor variable and the outcome variable were assessed to determine whether there were linear relationships collectively. Each variable was examined whether to be normally distributed and, more importantly, checked that the residuals from the regression were normally distributed. All variables should be measured without error. One assumption was that the linear data would demonstrate homoscedasticity and not show multicollinearity (Lund Research, 2018). The predictor variables for this study included the nurses' professional skepticism, level of compassion, and work experience. The outcome variable for this study was the treatment of chronic pain patients based on whether the nurse recommended the correct dosage of pain medicine. All data obtained for this study were evaluated to determine that the assumptions were met. Independence of errors (autocorrelation) was not deemed a problem due to the design of the study (each person only completed one survey), and the Durbin-Watson statistics were within normal limits. Research question 2 and research question 3 met the assumptions. Research question 1 and research question 4 assumptions were not met. Spearman's Correlation was used as an alternate when assumptions were violated.

Outliers, univariate normality, and multivariate normality. Each variable should be normally distributed (Lund Research, 2018). Box plots were run to check for

univariate outliers. Only univariate outliers were identified. The univariate outliers decreased the sample size from $N = 133$ to $N = 116$. Mahalanobis distance was used to identify any multivariate outliers. Mahalanobis distance is used to identify the distance between two points in multivariate distance and identify any outliers (Laerd Statistics, 2015). No multivariate outliers were identified within the selected nursing variables. Data from the sample of $N = 116$ was utilized without alteration.

Multicollinearity and homoscedasticity. Multicollinearity was not found based on the variance inflation factor (VIF) statistics. VIF is a regression estimation coefficient to measure multicollinearity (Lund Research, 2018). Regression assumption plots (residual histogram, residual P –P plots, a scatterplot of regression standardized residuals against the regression standardized predicted values) were created for both regression models and found that the homoscedasticity assumption was not adequately met. Research question 1 and research question 4 violated the assumption of homoscedasticity.

Statistical Analysis Findings by Research Question

Research Question 1: To what extent do the nurses' professional skepticism, level of compassion, and years of experience account for variance in the nursing treatment of chronic noncancer pain patients in the acute care setting?

Figure 4 displays the three regression assumption plots for this model. First, the frequency histogram of the regression residuals showed a marked negative skew. Second, the normal P-P plot of the regression standardized residuals ideally should have most of the data points clustering near the diagonal line, which was not the case. Third, the scatterplot of the regression standardized residuals against the regression standardized

predicted value did not display an equal scatter of points across the four quadrants. Taken together, the assumptions for multiple regression for this model were not met, so extreme interpretive caution is necessary (see Figure 4).

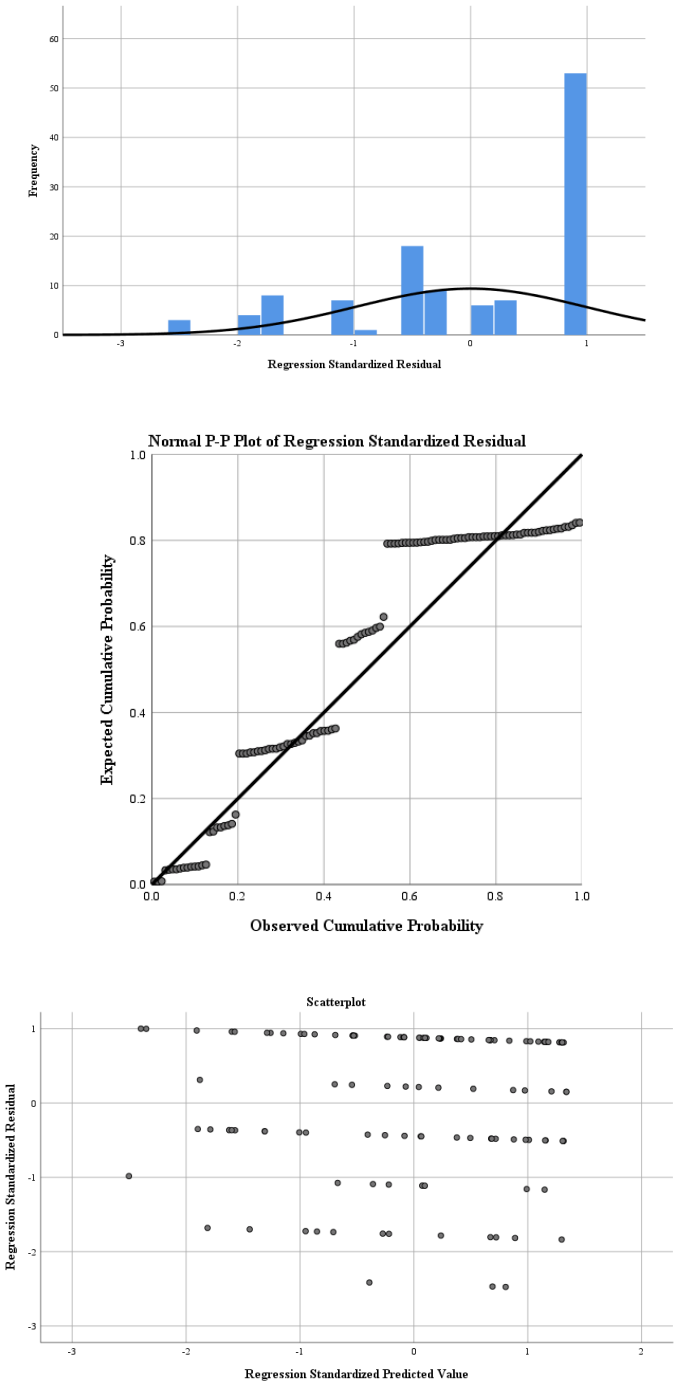


Figure 4. Regression Assumption Plots Supporting Table 6.

Table 6 displays the multiple regression model predicting nursing treatment of pain patients based on skepticism, compassion, and experience. The overall model was not significant (p = .96) and accounted for 0.3% of the variance in the dependent variable. Inspection of the beta weights found none of the three predictor variables to be significant at the p <.05 level. These findings provided support for the null hypothesis (see Table 6). The null hypothesis for research question one was: The combined variables (Multiple R^2) of the nurses' professional skepticism, level of compassion, and years of experience did not account for variance in the nursing treatment of chronic noncancer pain patients in the acute care setting.

Table 6

Multiple Regression Model Predicting Nursing Treatment of Pain Patients Based on Skepticism, Compassion and Experience (N = 116)

Source	*B*	*SE*	β	*t*	*p*	VIF
Intercept	2.90	1.13		2.57	.01	
Skepticism scale	0.00	0.01	.00	-0.01	.99	1.14
Compassion scale	0.10	0.19	.05	0.51	.61	1.10
Experience	0.00	0.01	.00	0.00	1.00	1.12

Note. Full Model: F (3, 112) = 0.10, p = .96. R^2 = .003.
Note. This table supports Research Question 1.

As stated above, the assumptions for multiple regression were not met; therefore, Spearman's correlation was run to determine whether the nurses' professional skepticism, level of compassion, and years of experience accounted for variance in the nursing treatment of chronic noncancer pain patients in the acute care setting. The variances between these predictor and outcome variables were not statistically significant, using the

α level of .05. The significance level was >.05; therefore, the null hypothesis was not rejected. Spearman's correlation coefficients for these are demonstrated in Table 7 (see Table 7).

Table 7

Spearman Correlation for the Correct Dosage Scale with Selected Variables (N = 116)

Variable	Correct Dosage Spearman r Value
Correct dosage scale	1.00
Compassion scale	.06
Skepticism scale	.02
Years of experience	.05
Times admitted	.00

*$p < .05$. **$p < .01$. ***$p < .005$.

Research Question 2: To what extent does the nurses' years of experience account for variance in the nurses' professional skepticism?

Spearman's Correlations were run to determine whether the nurses' years of experience account for variance in the nurses' professional skepticism. The variances between these predictor and outcome variables were statistically significant for the Spearman correlation ($r_s = .29$, $p < .005$). Therefore, the null hypothesis was rejected (see Table 8). The alternative hypothesis for research question two was: The variable of the

nurses' years of experience did account for variance in the nurses' professional skepticism.

Table 8

Spearman Correlation for the Skepticism Scale with Selected Variables (N = 116)

	Skepticism	
Variable	Spearman r Value	
Correct dosage scale	.02	
Compassion scale	.19	*
Skepticism scale	1.00	
Years of experience	.29	***
Times admitted	.19	*

*$p < .05$. **$p < .01$. ***$p < .005$.

Research Question 3: To what extent does the nurses' level of compassion account for variance in the nurses' professional skepticism?

Spearman's Correlations were run to determine whether the nurses' level of compassion would account for variance in the nurses' professional skepticism. The variances between these predictor and outcome variables were statistically significant for the Spearman correlation ($r_s = .19$, $p < .05$). Therefore, the null hypothesis was rejected (see Table 5 and Table 8). The alternative hypothesis for research question three was:

The variable of the nurses' level of compassion did account for variance in the nurses' professional skepticism.

Research Question 4: To what extent does the nurses' hospital admission history account for variance in the nurses' level of compassion when treating chronic noncancer pain patients?

Figure 5 displays the three regression assumption plots for this model. First, the frequency histogram of the regression residuals showed a marked negative skew. Second, the normal P-P plot of the regression standardized residuals ideally should have most of the data points clustering near the diagonal line, which was not the case. Third, the scatterplot of the regression standardized residuals against the regression standardized predicted value did not display an equal scattered of points across the four quadrants. Taken together, the assumptions for multiple regression for this model were not met, so extreme interpretive caution is necessary (see Figure 5).

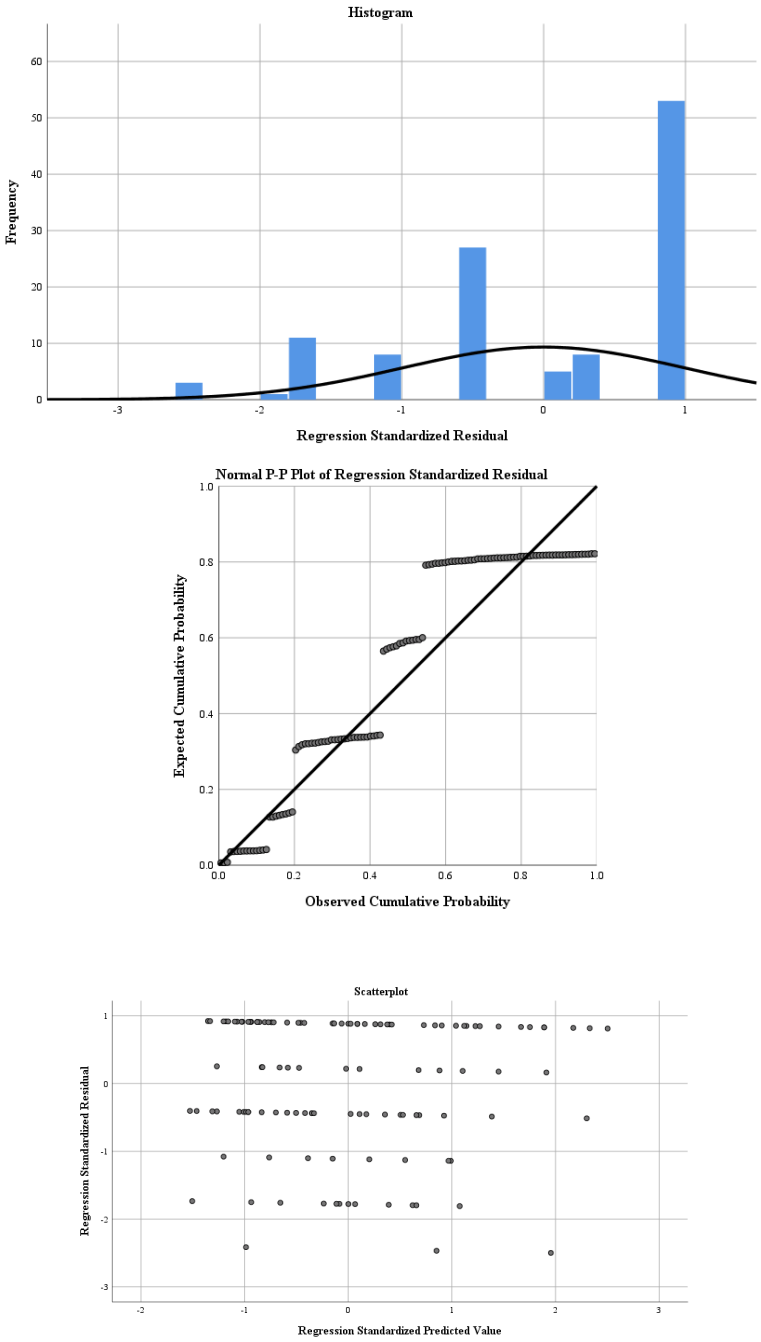


Figure 5. Regression Assumption Plots Supporting Table 9.

Table 9 displays the multiple regression model predicting nursing treatment of pain patients based on admission history and compassion. The overall model was not

significant (p = .95) and accounted for 0.1% of the variance in the dependent variable. Inspection of the beta weights found neither predictor variables to be significant at the p <.05 level. Taken together, these findings provided support to retain the null hypothesis (see Table 9). The null hypothesis for research question four was: The intermediate variable of the nurses' hospital admission history did not account for variance in the nurses' level of compassion when treating chronic noncancer pain patients.

Table 9

Multiple Regression Model Predicting Nursing Treatment of Pain Patients Based on Admission History and Compassion (N = 116)

Source	*B*	*SE*	β	*t*	*p*	VIF
Intercept	3.25	0.92		3.51	.001	
Times admitted	0.01	0.04	.03	0.28	.78	1.04
Skepticism scale	0.00	0.01	.01	0.07	.94	1.04

Note. Full Model: F (3, 112) = 0.05, p = .95. R^2 = .001.
Note. This table supports Research Question 2.

As stated above, the assumptions for multiple regression were not met. Therefore, Spearman's correlations were run to determine if the nurses' hospital admission history accounts for variance in the nurses' level of compassion when treating chronic noncancer pain patients. The variances between these predictor and outcome variables were not statistically significant, using the α level of .05. The significance level was >.05; therefore, the null hypothesis was not rejected (see Table 7).

Summary

One hundred and sixteen completed surveys were used after the univariate and the multivariate analysis was completed. Through the data collection and analysis of this study, it was found that the nurses' professional skepticism, level of compassion, hospital admission history and years of experience do not account for variance in the nursing treatment of chronic noncancer pain patients in the acute care setting. Therefore, the null hypothesis for research question 1 and research question 4, which both had the outcome variable of treatment to chronic pain patients in the acute care setting, was not rejected. Significant correlation also found between the variables of the nurses' professional skepticism, level of compassion, hospital admission history, and years of experience. Therefore, the null hypothesis for research question 2 and research question 3 was rejected. I describe the interpretation of the findings, limitations of the study, recommendations, implications, and final conclusions in Chapter 5.

Chapter 5: Discussion, Conclusions, and Recommendations

The purpose of this quantitative correlational study was to determine if there was a relationship among the nurses' professional skepticism, level of compassion, and years of experience during the treatment of chronic noncancer pain patients in the acute care setting. A quantitative correlational approach through multiple regressions was used to answer the research questions. This research design was to determine the best predictors among the influence of the nurses' professional skepticism, level of compassion, and years of experience during the treatment of chronic noncancer pain patients in the acute care setting. The results from this study demonstrated that the nurses' professional skepticism, level of compassion, hospital admission history, and years of experience do not account for significant variance in the nursing treatment of chronic noncancer pain patients in the acute care setting. However, significant correlation was found between the variables of the nurses' professional skepticism, level of compassion, and years of experience.

Interpretation of Findings

Comparison of Findings to Existing Literature

Patients suffering from chronic pain are continually challenged in receiving effective pain management within the acute care setting (Chen et al., 2018). Individuals with chronic pain form beliefs and assumptions related to their situation. These beliefs and assumptions include the assumptions that they believe others have about their chronic pain (Penney et al., 2016). Significant findings from the literature were delivered regarding the nurses' individual attitudes and beliefs influencing the communication and

treatment for pain (Prem et al., 2011). However, the results of this study did not demonstrate statistical significance between the combined variables of the nurses' professional skepticism, level of compassion, and years of experience accounting for variance in the nursing treatment of chronic noncancer pain patients in the acute care setting.

Skepticism may change the way information is encoded and decoded. Credibility, reliability, and trust of a source of information would relate to the multidimensional construct of skepticism (Hurtt, 2010). Ong-Flaherty et al. (2016) argued that curiosity and skepticism combined with strong communication skills should help guide patient centered nursing practice. Although this study found that both the nurses' years of experience and the nurses' level of compassion influenced the nurses' level of professional skepticism, there was no statistical significance found in the nurses' level of professional skepticism impacting the nursing treatment of chronic noncancer pain patients in the acute care setting. Nurses who were more experienced and nurses with higher level of compassion or empathy were more professionally skeptical. To be professionally skeptical means that the nurse had a questioning mind, they had suspension of judgement, objective and interpersonal understanding, and a search for knowledge, higher self-esteem, and autonomy (Hurtt, 2010).

A theme identified within the literature surrounding nurses and health care providers who become patients is the change in compassion and empathy (Davoodvand et al., 2016; DeMarco et al., 2004; Edward et al., 2017; Pucino, 2014). Nursing compassion includes connecting and engaging within the patient's perspective (Jeffrey, 2016).

Possessing the knowledge and experience of both a patient and a nurse demonstrated as a positive contribution to compassionate patient care (DeMarco et al., 2004). The identified themes described by DeMarco et al. (2004) align with the findings of this study that the nurses' level of compassion influenced the nurses' level of professional skepticism. Nurses who were more compassionate reported more skepticism within this study.

Compassionate care delivered by nurses can be linked as far back to Florence Nightingale (Archer, 2017). Bivins, Tierney, and Seers (2017), pointed out that compassionate care for nurses is exploring the perspective of others through understanding what is important to the other and acting selflessly. This explanation links to the definition of professional skepticism. To be professionally skeptical means that the nurse has a questioning mind, they have suspension of judgement, objective and interpersonal understanding, and a search for knowledge, higher self-esteem, and autonomy (Hurtt, 2010). These defined attributes combined with compassion help the nurse connect and understand their patients' unique circumstances. Nursing becomes a balance of addressing the fundamental, emotional, and clinical needs of a patient.

In the study by Dodek et al. (2016), nurses with greater work experience reported higher levels of moral distress at work. Moral distress was described as the stress derived from the conflict of wanting to make an ethical course of action and being inhibited from taking that action (Dodek et al., 2016). Statistical significance was not found within this study between the nurse's years of experience and the nursing treatment of chronic noncancer pain patients in the acute care setting. Greater work experience was previously reported to increase moral distress at work for nurses (Dodek et al., 2016). However, in

this study, I found that work experience of the nurse did not impact the nursing treatment of chronic noncancer pain patients in the acute care setting.

My McHugh and Lake (2010) examined the quality of care on the general patient population and explored a comparison of the individual nurses' expertise against the nursing practice environment and their coworker's education and experience levels. The findings demonstrated a positive correlation between nursing expertise and the quality of patient care. The nurses' years of experience were combined with the nurses' level of education to describe the nurses' expertise. Nurses' expertise has been shown to directly affect patients' quality of care (McHugh & Lake, 2010). McHugh and Lake did not specify the specific patient population and their findings did not clarify if the nurses' years of experience alone had a positive correlation on quality of care. This study examined nurses' years of experience and no influence was found between the nurses' years of experience and the nursing treatment of chronic noncancer pain patients in the acute care setting.

Theoretical Findings

For this study, I applied a dual model lens by Hadjistavropoulos and Craig (2002) and Schiavenato and Craig (2010). This approach focused on nursing variables during the treatment of patients' chronic pain, and the data gathered from questionnaires within this study will contribute to theory building in this area. The data were analyzed to understand the extent of correlation between the nursing variables and to potentially identify additional areas for study. Using the results from this study, I concluded that the nurses' professional skepticism, level of compassion, hospital admission history, and years of

experience do not impact the level of nursing treatment of chronic noncancer pain patients in the acute care setting. The dual model can still be applied to examine further the extent to which specific nursing variables influence the pain management of chronic pain patients.

Limitations of the Study

Similar to all studies, this study had limitations. The limitations initially recognized in Chapter 1 remain. The first limitation of this study was that it focused specifically on nursing variables and no other variables that could account for variance in the nursing treatment of chronic pain patients in the acute care setting. Another limitation of this study on quantitative multiple regression analysis was that if a linear relationship was identified, it is not implied to be a causal relationship (Jeon, 2015). The sampling techniques were also a limitation. Purposive and snowball sampling techniques limited the generalizations outside of the variables and elements included in this study (see Daniel, 2011). Lastly, this study focused only on the hospital or acute care setting.

Recommendations

Recommendations for this study are made to nursing research and chronic pain research. This study could be duplicated with changes to the hospital admission criteria, additional survey questions for the treatment of pain patients in the hospital or acute care setting, examining skepticism further, and including communication. Changes to the hospital admission criteria within the demographics portion of the survey could include reasons for admission (i.e., births, illness, or injuries). A theme identified within the literature surrounding nurses and health care providers who become patients was the

change in compassion and empathy (Davoodvand et al., 2016; DeMarco et al., 2004; Edward et al., 2017; Pucino, 2014). These studies included cancer surviving nurses and nurses admitted for disease processes.

This study contained two vignettes to cover the treatment of pain patients in the hospital. Increasing the survey questions on the treatment of pain patients in the hospital to cover additional areas of knowledge and attitude would contribute to the robustness of the study. Increasing the survey questions on the treatment of pain patients in the hospital may also provide additional information for correlations with nursing variables. This study was specific to the acute care or hospital setting. There is also the opportunity for additional exploration into additional patient care settings.

Future studies could examine which nursing variables affect clinical decision making and communication. Most of participants from this study correctly rated both patients', Andrew and Robert, pain level at an 8 on a 0 to 10 scale. Ninety-three percent of participants rated Andrew's pain correctly "8" and 97.4% rated Robert's pain correctly "8" (see Table 2). However, 47.4% of those nurses provided the answer of 3mg IV morphine now for Andrew, and 61.2% of those nurses provided the same answer for Robert (see Table 3). Continued research into clinical decision making and communication towards the chronic pain population has the potential to improve the treatment of these patients.

Lastly, communication was a common theme found in the literature surrounding chronic pain treatment and nursing care. This study did not include the variable of communication. Future studies could test for correlation of communication with the

nursing variables of skepticism, compassion, and years of experience. Future studies could also examine communication as a potential variable to account for variance when combined with specific nursing variables.

Implications

Positive Social Change

The results of this study have the potential for positive social change for three groups: patients, nurses, and acute care facilities. Pain management is a basic human right and providing relief for the patient is a priority in care management by the nurse (AMSN, 2018). Recognizing that the patient is the authority expert for describing his or her pain experience should be at the forefront of nursing treatment of chronic pain patients (McCaffery, 1968). The results of this study have shown that professional skepticism, level of compassion, admission history, and work experience of the nurse did not influence the treatment of patients with chronic pain. However, the updated information from this study has the potential for positive social change in the continued quest to examine the extent to which specific nursing variables affect pain management of chronic noncancer pain patients. Nurses adhering to the policies and best practices for pain management in the acute care settings will help to alleviate pain, increase comfort, and improve quality of life for the chronic pain population (Majid et al., 2011).

Significance to Practice

This study is an original contribution to nursing and the management of chronic pain. The results of this study will contribute to the body of knowledge by identifying no significance in the relationship among the nurses' professional skepticism, level of

compassion, and years of nursing experience during the treatment of chronic pain patients in the acute care setting. There is the potential for improved pain outcomes and increased quality of life for chronic pain patients by examining variables that could affect pain management (Brant et al., 2017). Nurses understanding of the ways they might positively affect the multidimensional aspects of the patient with chronic pain increases the probability of improved quality of life away from frequent ER visits and hospitalizations (DeVore, et al., 2017). Utilization and dissemination of evidence-based research in the acute care setting may affect treatment outcomes through changes in the nurse to chronic pain patient interactions. The availability of research information allows for understanding, discussion, and identification of potential nursing variables that create challenges to chronic noncancer pain management. Specifically, how these variables can affect the quality of care and clinical outcomes. Impartial care should be delivered to any patient seeking help. Providing resources for nurses to identify their own variables opens the opportunity to improve patient care and increase patient satisfaction (DeVore et al., 2017; FitzGerald, & Hurst, 2017).

Significance to Acute Care Facilities

The Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) is a publicly reported survey and data collection, measuring the hospital experience of patients (HCAHPS, 2019). The Centers for Medicare and Medicaid Services proposed a change to the pain questions with the HCAHPS survey. The focus has shifted from pain management to the communication about pain. HCAHPS survey results have a direct effect on the acute care facility's reputation and funding (Centers for

Medicare and Medicaid Services, 2017). There is an opportunity for positive social change during favorable pain management. There is also the opportunity for improvement towards positive social change if the facility has unfavorable pain management. The publicly reported survey data places a spotlight on those doing well and those that need to improve.

Conclusions

It is widely published that experience of pain is subjective and multidimensional; treatment of chronic pain in the acute care setting remains a challenge (Chen et al., 2018; Peterson et al., 2018). Although correlation has been established between the selected nursing variables, future studies are needed to further establish the nursing variables that account for variance in the treatment of chronic noncancer pain patients in the acute care setting or hospital. It is reported that 100 million U.S. adults suffer from chronic pain (Institute of Medicine, 2012) and medical costs, treatment costs, and loss of productivity associated with chronic pain account for $560 to $635 billion annually (Dzau & Pizzo, 2014). Further studies are needed to help reduce this burden on individuals, families, and personal and professional communities.

References

Academy of Medical-Surgical Nurses. (2018). Pain management. Retrieved from https://www.amsn.org/practice-resources/position-statements/archive/pain-management

Anderson, D. R., Sweeney, D. J., Williams, T. A., Camm, J. D., & Cochran, J. J. (2014). *Essentials of statistics for business and economics*. Stamford, CT: Cengage Learning.

Archer, M. (2017). The importance of compassion within health and social care. *British Journal of Healthcare Assistants, 11*(8), 392-398. doi.org/10.12968/bjha.2017.11.8.392

Arumugam, V., MacDermid, J. C., Walton, D., & Grewal, R. (2018). Attitudes, knowledge and behaviors related to evidence-based practice in health professionals involved in pain management. *International journal of evidence-based healthcare*, *16*(2), 107-118. doi:10.1097/XEB.0000000000000131

Baker, L. R., Martimianakis, M. A. T., Nasirzadeh, Y., Northup, E., Gold, K., Friesen, F., & Ng, S. L. (2018). Compassionate care in the age of evidence-based practice: A critical discourse analysis in the context of chronic pain care. *Academic Medicine*, *93*(12), 1841-1849. doi:10.1097/ACM.0000000000002373

Benromano, T., Pick, C. G., Granovsky, Y., & Defrin, R. (2017). Increased evoked potentials and behavioral indices in response to pain among individuals with intellectual disability. *Pain Medicine, 18*(9), 1715-1730. doi:10.1093/pm/pnw349

Bivins, R., Tierney, S., & Seers, K. (2017). Compassionate care: not easy, not free, not

only nurses. *BMJ Qual Saf, 17*(26), 1023–1026. doi:10.1136/bmjqs-2017-007005

Brant, J. M., Mohr, C., Coombs, N. C., Finn, S., & Wilmarth, E. (2017). Nurses' knowledge and attitudes about pain: Personal and professional characteristics and patient reported pain satisfaction. *Pain Management Nursing, 18*(4), 214-223. doi:10.1016/j.pmn.2017.04.003

Browne, M. E., Hadjistavropoulos, T., Prkachin, K., Ashraf, A., & Taati, B. (2019). Pain expressions in dementia: Validity of observers' pain judgments as a function of angle of observation. *Journal of Nonverbal Behavior*, *43*(3) 309-327-. doi:10.1007/s10919-019-00303-4

Buchman, D. Z., Ho, A., & Illes, J. (2016). You present like a drug addict: Patient and clinician perspectives on trust and trustworthiness in chronic pain management. *Pain Medicine, 17*(8), 1394-1406. doi:10.1093/pm/pnv083

Budhrani-Shani, P., Berry, D. L., Arcari, P., Langevin, H., & Wayne, P. M. (2016). Mind-body exercises for nurses with chronic low back pain: An evidence-based review. *Nursing Research and Practice, 2016*, 1-10. doi:10.1155/2016/9018036

Bureau of Labor Statistics. (2018). Occupational employment and wages, May 2018. Retrieved from https://www.bls.gov/oes/current/oes291141.htm

Burnell, L., & Agan, D. L. (2013). Compassionate care: Can it be defined and measured? The development of the Compassionate Care Assessment Tool. *International Journal of Caring Sciences, 6*(2), 180-187. doi:10.1177/1078345817716436

Centers for Medicare and Medicaid Services. (2017). HCAHPS: Patients' Perspectives of Care Survey. Retrieved from https://www.cms.gov/Medicare/Quality-Initiatives-

Patient-Assessment-Instruments/HospitalQualityInits/HospitalHCAHPS.html

Chen, E., Tsoy, D., Upadhye, S., & Chan, T. M. (2018). The acute care of chronic pain study: Perceptions of acute care providers on chronic pain, a social media-based investigation. *Cureus*, *10*(3), e2399. doi:10.7759/cureus.2399

Choi, P. P. (2015). Patient advocacy: the role of the nurse. *Nursing Standard (2014+)*, *29*(41), 52. doi:10.7748/ns.29.41.52.e9772

Clark, A. (2014). Legislative: Responding to the fatal opioid overdose epidemic: A call to nurses. *The Online Journal of Issues in Nursing*, *19*(3), e01. doi:10.3912/OJIN.Vol19No03LegCol01

Cohen, M., Quintner, J., Buchanan, D., Nielsen, M., & Guy, L. (2011). Stigmatization of patients with chronic pain: The extinction of empathy. *Pain Medicine*, *12*(11), 1637-1643. doi:10.1111/j.1526-4637.2011.01264.x

Courbalay, A., Deroche, T., Prigent, E., Chalabaev, A., & Amorim, M. A. (2015). Big five personality professionals contribute to prosocial responses to others' pain. *Personality and Individual Differences*, *78*, 94-99. doi:10.1016/j.paid.2015.01.038

Dadzie, G., Aziato, L., & Aikins, A. D. G. (2017). "We are the best to stand in for patients": A qualitative study on nurses' advocacy characteristics in Ghana. *BMC nursing*, *16*(1), 61. doi:10.1186/s12912-017-0259-6

Daniel, J. (2011). *Sampling essentials: Practical guidelines for making sampling choices*. Thousand Oaks, CA: Sage.

Davoodvand, S., Abbaszadeh, A., & Ahmadi, F. (2016). Patient advocacy from the

clinical nurses' viewpoint: a qualitative study. *Journal of Medical Ethics and History of Medicine, 9*. http://jmehm.tums.ac.ir/index.php/jmehm

DeMarco, R. F., Picard, C., & Agretelis, J. (2004, May). Nurse Experiences as Cancer Survivors: Part I--Personal. In *Oncology Nursing Forum, 31*(3), 523-530. doi:10.1188/04.ONF.523-530

DeVore, J., Clontz, A., Ren, D., Cairns, L., & Beach, M. (2017). Improving patient satisfaction with better pain management in hospitalized patients. *Journal for Nurse Practitioners, 13*(1), e23-e27. doi:10.1016/j.nurpra.2016.07.020

Dinc, L., & Gastmans, C. (2013). Trust in nurse–patient relationships: A literature review. *Nursing Ethics, 20*(5), 501-516. doi:10.1177/0969733012468463

Dodek, P. M., Wong, H., Norena, M., Ayas, N., Reynolds, S. C., Keenan, S. P., & Alden, L. (2016). Moral distress in intensive care unit professionals is associated with profession, age, and years of experience. *Journal of Critical Care, 31*(1), 178-182. doi:10.1016/j.jcrc.2015.10.011

Dueñas, M., Ojeda, B., Salazar, A., Mico, J. A., & Failde, I. (2016). A review of chronic pain impact on patients, their social environment and the health care system. *Journal of Pain Research, 9*, 457-467. doi:10.2147/JPR.S105892

Dzau, V. J., & Pizzo, P. A. (2014). Relieving pain in America: Insights from an Institute of Medicine committee. *Journal of American Medical Association, 312*(15), 1507-1508. doi:10.1001/jama.2014.12986

Edward, K. L., Giandinoto, J. A., & McFarland, J. (2017). Analysis of the experiences of nurses who return to nursing after cancer. *British Journal of Nursing, 26*(21),

1170-1175. doi:10.12968/bjon.2017.26.21.1170

Ferrell, B., & McCaffery, M. (1987). Nurses' knowledge and attitudes regarding pain. *Unpublished Manuscript*.

Ferrell, B., & McCaffery, M. (2014). Knowledge and attitudes survey regarding pain, revised 2014. Retrieved from http://prc.coh.org.

Goubert, L., Craig, K. D., Vervoort, T., Morley, S., Sullivan, M. J. L., Williams, de C.A.C., Cano, A., & Crombez, G. (2005). Facing others in pain: The effects of empathy. *Pain*, *118*(3), 285-288. doi:10.1016/j.pain.2005.10.025

Hadjistavropoulos, T., & Craig, K. D. (2002). A theoretical framework for understanding self-report and observational measures of pain: A communications model. *Behaviour Research and Therapy*, *40*(5), 551-570. doi:10.1016/S0005-7967(01)00072-9

Hall, H., Brosnan, C., Frawley, J., Wardle, J., Collins, M., & Leach, M. (2018). Nurses' communication regarding patients' use of complementary and alternative medicine. *Collegian*, *25*(3), 285-291. doi:10.1016/j.colegn.2017.09.001

Han, J. H., Ahn, E., & Hwang, J. M. (2019). Effects of critical thinking and communication skills on the problem-solving ability of dental hygiene students. *Journal of Dental Hygiene Science*, *19*(1), 31-38. doi:10.17135/jdhs.2019.19.1.31

Heale, R., & Twycross, A. (2015). Validity and reliability in quantitative studies. *Evidence-Based Nursing*, *18*(3), 66-67. doi:10.1136/eb-2015-102129

Hospital Consumer Assessment of Healthcare Providers and Systems. (2019). CAHPS

hospital survey home page. Retrieved from https://www.hcahpsonline.org/

Huang, C. C., Huang, Y. T., Chueh, P. J., & Wu, M. P. (2016). The laparoscopic approach is more preferred among nurses for benign gynecologic conditions than among nonmedical working women: a nationwide study in Taiwan. *Taiwanese Journal of Obstetrics and Gynecology, 55*(2), 229-234. doi:10.1016/j.tjog.2015.10.025

Hughes, R., & Huby, M. (2012). The construction and interpretation of vignettes in social research. *Social Work and Social Sciences Review, 11*(1), 36-51. doi:10.1921/swssr.v11i1.428

Hunt, P., Denieffe, S., & Gooney, M. (2019). Running on empathy: Relationship of empathy to compassion satisfaction and compassion fatigue in cancer healthcare professionals. *European Journal of Cancer Care*, e13124.doi:10.1111/ecc.13124

Hurtt, R. K. (2010). Development of a scale to measure professional skepticism. *Auditing: A Journal of Practice & Theory, 29*(1), 149-171. doi:10.2308/aud.2010.29.1.149

Institute of Medicine. (2012). Relieving pain in America: A blueprint for transforming prevention, care, education, and research. Retrieved from http://nationalacademies.org/hmd/Reports/2011/Relieving-Pain-in-America-A-Blueprint-for-Transforming-Prevention-Care-Education-Research/Press-Release.aspx

Jeffrey, D. (2016). Clarifying empathy: the first step to more humane clinical care. *Br J Gen Pract*, *66*(643), e143-e145. doi:10.3399/bjgp16X683761

Jeon, J. (2015). The strengths and limitations of the statistical modeling of complex social phenomenon: Focusing on SEM, path analysis, or multiple regression models. *Int. J. Soc. Behav. Educ. Econ. Bus. Ind. Eng*, *9*, 1559-1567. doi:10.1999.10/10001434

Jin, J., & Yi, Y. J. (2019). Patient safety competency and the new nursing care delivery model. *Journal of Nursing Management*. *27*(6), 1167-1175. doi:10.1111/jonm.12788

Kheshti, R., Namazi, S., Mehrabi, M., & Firouzabadi, D. (2016). Health care workers' knowledge, attitude, and practice about chronic pain management, Shiraz, Iran. *Anesthesiology and Pain Medicine*, *6*(4), e37270. doi:10.5812/aapm.37270

Kizza, I. B., Muliira, J. K., Kohi, T. W., & Nabirye, R. C. (2016). Nurses' knowledge of the principles of acute pain assessment in critically ill adult patients who are able to self-report. *International Journal of Africa Nursing Sciences*, *4*, 20-27. doi:10.1016/j.ijans.2016.02.001

Laerd Statistics. (2015). Multiple regression analysis using SPSS statistics. Statistical tutorials and software guides. Retrieved from https://statistics.laerd.com/

Lee, Y., & Seomun, G. (2016). Development and validation of an instrument to measure nurses' compassion competence. *Applied Nursing Research*, *30*, 76-82. doi:10.1016/j.apnr.2015.09.007

Linton, S. J., Flink, I. K., Nilsson, E., & Edlund, S. (2017). Can training in empathetic validation improve medical students' communication with patients suffering pain? A test of concept. *Pain Reports*, *2*(3), e600. doi:10.1097/PR9.0000000000000600

Lopes, S. A., Vannucchi, B. P., Demarzo, M., Cunha, Â. G. J., & Nunes, M. D. P. T. (2019). Effectiveness of a mindfulness-based intervention in the management of musculoskeletal pain in nursing workers. *Pain Management Nursing, 20*(1), 32-38. doi:10.1016/j.pmn.2018.02.065

Lund Research. (2018). Multiple Regression Analysis Using SPSS Statisics. Retrieved from https://statistics.laerd.com/spss-tutorials/multiple-regression-using-spss-statistics.php

McCaffery, M. (1968). *Nursing practice theories related to cognition, bodily pain, and man-environment interactions.* Los Angeles, CA: University of California at Los Angeles Print. Office.

McCloughen, A., & Foster, K. (2018). Nursing and pharmacy students' use of emotionally intelligent behaviours to manage challenging interpersonal situations with staff during clinical placement: A qualitative study. *Journal of Clinical Nursing*, *27*(13-14), 2699-2709. doi:10.1111/jocn.13865

McPeck, J. (1981). *Critical thinking and education.* New York: St. Martin's Press.

McHugh, M. D., & Lake, E. T. (2010). Understanding clinical expertise: Nurse education, experience, and the hospital context. *Research in Nursing & Health*, *33*(4), 276-287. doi:10.1002/nur.20388

Majid, S., Foo, S., Luyt, B., Zhang, X., Theng, Y. L., Chang, Y. K., & Mokhtar, I. A. (2011). Adopting evidence-based practice in clinical decision making: nurses' perceptions, knowledge, and barriers. *Journal of the Medical Library Association: JMLA*, *99*(3), 229-236. doi:10.3163/1536-5050.99.3.010

Mathad, M. D., Rajesh, S. K., & Pradhan, B. (2017). Spiritualwell-being and its relationship with mindfulness, self-compassion and satisfaction with life in baccalaureate nursing students: A correlation study. *Journal of Religion and Health*, 1-12. doi:10.4007/s10943-017-0532-8

Mazzella Ebstein, A. M., Sanzero Eller, L., Tan, K. S., Cherniss, C., Ruggiero, J. S., & Cimiotti, J. P. (2019). The relationships between coping, occupational stress, and emotional intelligence in newly hired oncology nurses. *Psycho-Oncology*, *28*(2), 278-283. doi:10.1002/pon.4937

Michaleff, Z. A., Kamper, S. J., Stinson, J. N., Hestbaek, L., Williams, C. M., Campbell, P., & Dunn, K. M. (2017). Measuring musculoskeletal pain in infants, children, and adolescents. *Journal of Orthopaedic & Sports Physical Therapy*, *47*(10), 712-730. doi:10.2519/jospt.2017.7469

Ong-Flaherty, D. N. P., Banks PhD, A., Doyle, M. S. N., & Sharifi, C. O. (2016). The meaning of evidence and nonmaleficence: cases from nursing. *Online Journal of Health Ethics*, *12*(2), 2. doi:10.18785/ojhe.1202.02

Orique, S. B., Despins, L., Wakefield, B. J., Erdelez, S., & Vogelsmeier, A. (2019). Perception of clinical deterioration cues among medical-surgical nurses. *Journal of Advanced Nursing*. doi:10.1111/jan.14038

Pellico, L. H., Gilliam, W. P., Lee, A. W., & Kerns, R. D. (2014). Hearing new voices: Registered nurses and health technicians experience caring for chronic pain patients in primary care clinics. *Open Nursing Journal*, *8*, 25-33. doi:10.2174/1874434601408010025

Penney, L. S., Ritenbaugh, C., Elder, C., Schneider, J., Deyo, R. A., & DeBar, L. L. (2016). Primary care physicians, acupuncture and chiropractic clinicians, and chronic pain patients: A qualitative analysis of communication and care coordination patterns. *BMC Complementary and Alternative Medicine, 16*(1), e30. doi:10.1186/s12906-016-1005-4

Peterson, A., Berggården, M., Schaller, A. S., & Larsson, B. (2018). Nurses' advocacy of clinical pain management in hospitals: A qualitative study. *Pain Management Nursing*. 20(2) 133-139. doi 10.1016/j.pmn.2018.09.003

Prem, V., Karvannan, H., Chakravarthy, R. D., Binukumar, B., Jaykumar, S., & Kumar, S. P. (2011). Attitudes and beliefs about chronic pain among nurses–biomedical or behavioral? A cross-sectional survey. *Indian Journal of Palliative Care, 17*(3), 227-234. doi:10.4103/0973-1075.92341

Prewitt, C. (2018). Compassion Fatigue and Trauma Nursing.doi:10.211.3/202871

Prkachin, K. M., Kaseweter, K. A., & Browne, M. E. (2015). Understanding the suffering of others: the sources and consequences of third-person pain. In *Pain, Emotion and Cognition.* In: Pickering G, Gibson S (eds) Pain, emotion and cognition. Springer, Cambridge. pp. 53-72. doi:10.1007/978-3-319-12033-1_4

Pucino, C. L. (2014). Transforming compassion: Examining the development of compassion in nursing who become patients. https://newprairiepress.org/

Ramirez-Maestre, C., & Esteve, R. (2014). The role of sex/gender in the experience of pain: Resilience, fear, and acceptance as central variables in the adjustment of men and women with chronic pain. *Journal of Pain, 15*(6), 608-618. Retrieved

from https://www.jpain.org/

Riley, W. T., Martin, C. A., Rivera, D. E., Hekler, E. B., Adams, M. A., Buman, M. P., & King, A. C. (2015). Development of a dynamic computational model of social cognitive theory. *Translational Behavioral Medicine, 6*(4), 483-495. doi:10.1007/s13142-015-0356-6

Riva, P., Wesselmann, E. D., Wirth, J. H., Carter-Sowell, A. R., & Williams, K. D. (2014). When pain does not heal: The common antecedents and consequences of chronic social and physical pain. *Basic and Applied Social Psychology*, *36*(4), 329-346. doi:10.1080/01973533.2014.917975

Severino, A. L., Shadfar, A., Hakimian, J. K., Crane, O., Singh, G., Heinzerling, K., & Walwyn, W. M. (2018). Pain therapy guided by purpose and perspective in light of the opioid epidemic. *Frontiers in Psychiatry*, *9*, e119. doi:10.3389/fpsyt.2018.00119

Schiavenato, M., & Craig, K. D. (2010). Pain assessment as a social transaction: Beyond the "gold standard". *Clinical Journal of Pain*, *26*(8), 667-676. doi:10.1097/AJP.0b013e3181e72507

Schreiber, J. A., Cantrell, D., Moe, K. A., Hench, J., McKinney, E., Lewis, C. P., & Brockopp, D. (2014). Improving knowledge, assessment, and attitudes related to pain management: Evaluation of an intervention. *Pain Management Nursing*, *15*(2), 474-481. doi:10.1016/j.pmn.2012.12.006

Shmagel, A., Foley, R., & Ibrahim, H. (2016). Epidemiology of chronic low back pain in US adults: Data from the 2009–2010 National Health and Nutrition Examination

Survey. *Arthritis Care & Research, 68*(11), 1688-1694. doi:10.1002/acr.22890

Stalpers, D., de Brouwer, B. J., Kaljouw, M. J., & Schuurmans, M. J. (2015). Associations between characteristics of the nurse work environment and five nurse-sensitive patient outcomes in hospitals: A systematic review of literature. *International Journal of Nursing Studies*, *52*(4), 817-835. doi:10.1016/j.ijnurstu.2015.01.005

The Joint Commission. (2017). *Perspectives.* Retrieved from https://www.jointcommission.org/assets/1/18/Joint_Commission_Enhances_Pain_Assessment_and_Management_Requirements_for_Accredited_Hospitals1.PDF

Treede, R. D., Rief, W., Barke, A., Aziz, Q., Bennett, M. I., Benoliel, R., & Giamberardino, M. A. (2015). A classification of chronic pain for ICD-11. *Pain, 156*(6), 1003. doi:10.1097/j.pain.0000000000000160

Tosunoz, I. K., & Oztunc, G. (2017). Low back pain in nurses. *International Journal*, *10*(3), 1728-1732. http://www.internationaljournalofcaringsciences.org/

Vetter, T. R., & Mascha, E. J. (2017). Bias, confounding, and interaction: Lions and tigers, and bears, oh my! *Anesthesia & Analgesia*, *125*(3), 1042-1048. doi:10.1213/ANE.0000000000002332

Victor-Chmil, J. (2013). Critical thinking versus clinical reasoning versus clinical judgment: Differential diagnosis. *Nurse Educator*, *38*(1), 34-36. doi:10.1097/NNE.0b013e318276dfbe

Volkow, N. D., & McLellan, A. T. (2016). Opioid abuse in chronic pain—misconceptions and mitigation strategies. *New England Journal of*

Medicine, *374*(13), 1253-1263. doi:10.1056/NEJMra1507771

Water, T., Ford, K., Spence, D., & Rasmussen, S. (2016). Patient advocacy by nurses–past, present and future. *Contemporary Nurse*, *52*(6), 696-709. doi:10.1080/10376178.2016.1235981

Williams, A. C. D. C. (2002). Facial expression of pain: An evolutionary account. *Behavioral and Brain Sciences*, *25*(4), 439-455. doi:10.1017/S0140525X02000080

Wilson, M. (2014). Integrating the concept of pain interference into pain management. *Pain Management Nursing*, *15*(2), 499-505. doi:10.1016/j.pmn.2011.06.004

Appendix A: Theoretical Framework for Understanding Self-Report and Observation Measures of Pain: A Communication Model Permission

ELSEVIER LICENSE
TERMS AND CONDITIONS

Sep 07, 2019

This Agreement between Walden University ("You") and Elsevier ("Elsevier") consists of your license details and the terms and conditions provided by Elsevier and Copyright Clearance Center.

License Number	4663841005370
License date	Sep 07, 2019
Licensed Content Publisher	Elsevier
Licensed Content Publication	Behaviour Research and Therapy
Licensed Content Title	A theoretical framework for understanding self-report and observational measures of pain: a communications model
Licensed Content Author	T Hadjistavropoulos,K.D Craig
Licensed Content Date	May 1, 2002
Licensed Content Volume	40
Licensed Content Issue	5
Licensed Content Pages	20
Start Page	551
End Page	570
Type of Use	reuse in a thesis/dissertation
Intended publisher of new work	other
Portion	full article
Circulation	2002
Format	electronic
Are you the author of this Elsevier article?	No
Will you be translating?	No
Title of your thesis/dissertation	Relationship between Skepticism and Nursing Experiences when Treating Chronic Pain Patients
Expected completion date	Jan 2020
Estimated size (number of pages)	100
Requestor Location	Walden University 7800 Crazy Horse Dr. Frisco Texas FRISCO, TX 75034 United States Attn: Walden University
Publisher Tax ID	98-0397604
Total	0.00 USD
Terms and Conditions	

Appendix B: Pain Assessment as a Social Transaction Permission

WOLTERS KLUWER HEALTH, INC. LICENSE TERMS AND CONDITIONS

Sep 07, 2019

This Agreement between Walden University ("You") and Wolters Kluwer Health, Inc. ("Wolters Kluwer Health, Inc.") consists of your license details and the terms and conditions provided by Wolters Kluwer Health, Inc. and Copyright Clearance Center.

License Number	4663840515877
License date	Sep 07, 2019
Licensed Content Publisher	Wolters Kluwer Health, Inc.
Licensed Content Publication	Clinical Journal of Pain, The
Licensed Content Title	Pain Assessment as a Social Transaction: Beyond the "Gold Standard"
Licensed Content Author	Martin Schiavenato and Kenneth Craig
Licensed Content Date	Oct 1, 2010
Licensed Content Volume	26
Licensed Content Issue	8
Type of Use	Dissertation/Thesis
Requestor type	Individual
STM publisher name	
Portion	Figures/table/illustration
Number of figures/tables/illustrations	1
Figures/tables/illustrations used	Figure 2. Pain assessment as a transaction
Author of this Wolters Kluwer article	No
Title of your thesis / dissertation	Relationship between Skepticism and Nursing Experiences when Treating Chronic Pain Patients
Expected completion date	Jan 2020
Estimated size(pages)	100
Requestor Location	Walden University 7800 Crazy Horse Dr. Frisco Texas FRISCO, TX 75034 United States Attn: Walden University
Publisher Tax ID	13-2932696
Total	0.00 USD
Terms and Conditions	

Appendix C: Permission to Use ASPMN Listserve

Request to use list serv

AQ

Ann Quinlan-Colwell <aqcl@earthlink.net>
Mon 10/14/2019 1:18 PM
Emily Jabour; 'St Marie, Barbara J' <barbara-stmarie@uiowa.edu>; 'Susan O'Conner-Von PhD' <ocon0025@umn.edu> +11 others

Good afternoon Emily,

I am very glad to share with you that the ASPMN Research Committee approved your request to use the list serve to locate participants for your doctoral research study. As an ASPMN member you can just post your information on the list serve.

The committee did have a few observations and comments which I share with you.

1. The belief of the committee is that your survey will potentially have a low response rate. This is related to the fact that your questionnaire is long.
2. As such you may want to consider adding incentives to motivate nurses to answer the surveys and/or have plan B to recruit nurses from other resources/settings.
3. Your dissertation committee should approve the study before you distributes any surveys in ASPMN listserv.
4. Bing as chair of the research committee encouraged our committee members to support you and complete the surveys.
5. We also hope that you will consider joining the ASPMN Research Committee.

Please let me know if you have any questions or concerns or if I can be of additional assistance.

Wishing you the best,
Ann

Ann Quinlan-Colwell, PhD, RN-BC DAAPM
President, American Society for Pain Management Nursing

Sent from my iPhone

Appendix D: Recruitment Flyer

Dear Prospective Participant,

My name is Emily Jabour. I am a student at Walden University. I am interested in learning more about factors that may influence the management of chronic noncancer pain patients in the acute care setting or hospital. You are invited to participate in this study if you are a registered nurse:

- Who have at least one year of experience in an acute care facility or hospital.
- Are currently working.
- Worked with patient with chronic non-cancer pain

The survey is voluntary and anonymous, therefore; your personal identifying information will not be included in the survey. The online survey will take about 20 to 25 minutes to complete.

If you are interested in learning more about the study, you may access the survey monkey link below. The site will provide you with a detailed description of the study, how you may participate, and your rights as a research participant.

https://www.surveymonkey.com/r/FD9P68Z

Thank you for your consideration,

Emily Jabour

Appendix E: Eligibility Questions

Relationship between Skepticism and Nursing Experiences when Treating Chronic Pain Patients

Eligibility Questions

The following 3 questions are related to your eligibility to participate in this survey.

* 1. Are you a registered nurse who is currently working?

- ◯ Yes
- ◯ No

* 2. Are you an oncology nurse or work on an oncology floor or unit?

- ◯ Yes
- ◯ No

* 3. Do you have a minimum of 1 year experience of working in acute care or hospital?

- ◯ Yes
- ◯ No

Appendix F: Questionnaire Directions

Directions:
Questions 1 - 3: Were the eligibility questions you have already completed.

Questions 4 - 6: Are demographic questions about yourself.

Questions 7 - 23: Are questions or statements about compassion. Read the following 17 items and select the response that applies to you for each item. There is no right or wrong answer. Respond to all items, but do not spend too much time thinking about your answers. You must check only one response from the five options (strongly agree, agree, neutral, disagree, or strongly disagree).

Questions 24 - 53: Are questions or statements about professional skepticism. Statements that people use to describe themselves are given below. Please circle the response that indicates how you generally feel. There are no right or wrong answers. Do not spend too much time on any one statement.

Strongly Disagree 1 2 3 4 5 6 Strongly Agree

Questions: 54 and 57
Two patient case studies are presented. For each patient, you are asked to make decisions about pain and medication.

Appendix G: Demographic Questions on Questionnaire

Relationship between Skepticism and Nursing Experiences when Treating Chronic Pain Patients

Demographic Questions and Main Survey Questions

* 4. How many years have you been a nurse?

* 5. Were you ever admitted to the hospital?

- ◯ Yes
- ◯ No

6. If yes, how many times?

Appendix H: 17 Questions of Lee and Seomun's (2016) Compassion Competence Scale

* 7. I can express my compassion toward patients through communication with them.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
○	○	○	○	○

8. I am aware of how to communicate with patients to encourage them.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
○	○	○	○	○

* 9. In conversation, I have a sense of humor to induce a good mood in patients.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
○	○	○	○	○

* 10. Patients express their concerns and difficulties about diseases to me.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
○	○	○	○	○

* 11. I try to support patients through nursing to help them overcome their problems.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
○	○	○	○	○

* 12. When communicating with patients, I respond to them with proper nonverbal presentation.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
○	○	○	○	○

* 13. I participate in education to develop interpersonal relationship skills with patients, colleagues, etc.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
○	○	○	○	○

* 14. I can provide the required emotional support to patients appropriately

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
○	○	○	○	○

* 16. I am careful in my speech and behaviors so as to avoid hurting my patient's feelings.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
○	○	○	○	○

* 16. I always pay attention to what patients say.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
○	○	○	○	○

* 17. I promptly respond to patients when they ask for attention.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
○	○	○	○	○

* 18. I am tolerant of others' opinions.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
○	○	○	○	○

* 19. I am well aware of changes in patients' emotional condition.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
○	○	○	○	○

* 20. I am intuitive about patients because of my diverse clinical experience.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
○	○	○	○	○

* 21. I offer customized care to patients by taking their characteristics into consideration.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
○	○	○	○	○

* 22. I look after patients without being influenced by personally challenging situations.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
○	○	○	○	○

* 23. I can empathize well.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
○	○	○	○	○

Appendix I: 30 Questions of the Hurtt's Skepticism Scale (2010)

* 24. I often accept other people's explanations without further thought.

Strongly Disagree 1	2	3	4	5	Strongly Agree 6
○	○	○	○	○	○

* 25. I feel good about myself.

Strongly Disagree 1	2	3	4	5	Strongly Agree 6
○	○	○	○	○	○

* 26. I wait to decide on issues until I can get more information.

Strongly Disagree 1	2	3	4	5	Strongly Agree 6
○	○	○	○	○	○

* 27. The prospect of learning excites me.

Strongly Disagree 1	2	3	4	5	Strongly Agree 6
○	○	○	○	○	○

* 28. I am interested in what causes people to behave the way that they do.

Strongly Disagree 1	2	3	4	5	Strongly Agree 6
○	○	○	○	○	○

* 29. I am confident of my abilities.

Strongly Disagree 1	2	3	4	5	Strongly Agree 6
○	○	○	○	○	○

* 30. I often reject statements unless I have proof that they are true.

Strongly Disagree 1	2	3	4	5	Strongly Agree 6
○	○	○	○	○	○

* 31. Discovering new information is fun.

Strongly Disagree 1	2	3	4	5	Strongly Agree 6
○	○	○	○	○	○

* 32. I take my time when making decisions.

Strongly Disagree 1	2	3	4	5	Strongly Agree 6
○	○	○	○	○	○

* 33. I tend to immediately accept what other people tell me.

Strongly Disagree 1	2	3	4	5	Strongly Agree 6
○	○	○	○	○	○

* 34. Other people's behavior does not interest me.

Strongly Disagree 1	2	3	4	5	Strongly Agree 6
○	○	○	○	○	○

* 35. I am self-assured.

Strongly Disagree 1	2	3	4	5	Strongly Agree 6
○	○	○	○	○	○

* 36. My friends tell me that I usually question things that I see or hear.

Strongly Disagree 1	2	3	4	5	Strongly Agree 6
○	○	○	○	○	○

* 37. I like to understand the reason for other people's behavior.

Strongly Disagree 1	2	3	4	5	Strongly Agree 6
○	○	○	○	○	○

* 38. I think that learning is exciting.

Strongly Disagree 1	2	3	4	5	Strongly Agree 6
○	○	○	○	○	○

* 39. I usually accept things I see, read, or hear at face value.

Strongly Disagree 1	2	3	4	5	Strongly Agree 6
○	○	○	○	○	○

* 41. I usually notice inconsistencies in explanations.

Strongly Disagree 1	2	3	4	5	Strongly Agree 6
○	○	○	○	○	○

* 42. Most often I agree with what the others in my group think.

Strongly Disagree 1	2	3	4	5	Strongly Agree 6
○	○	○	○	○	○

* 43. I dislike having to make decisions quickly.

Strongly Disagree 1	2	3	4	5	Strongly Agree 6
○	○	○	○	○	○

* 44. I have confidence in myself.

Strongly Disagree 1	2	3	4	5	Strongly Agree 6
○	○	○	○	○	○

* 45. I do not like to decide until I've looked at all of the readily available information.

Strongly Disagree 1	2	3	4	5	Strongly Agree 6
○	○	○	○	○	○

* 46. I like searching for knowledge.

Strongly Disagree 1	2	3	4	5	Strongly Agree 6
○	○	○	○	○	○

* 47. I frequently question things that I see or hear.

Strongly Disagree 1	2	3	4	5	Strongly Agree 6
○	○	○	○	○	○

* 48. It is easy for other people to convince me.

Strongly Disagree 1	2	3	4	5	Strongly Agree 6
○	○	○	○	○	○

* 49. I seldom consider why people behave in a certain way.

Strongly Disagree 1	2	3	4	5	Strongly Agree 6
○	○	○	○	○	○

* 50. I like to ensure that I've considered most available information before making a decision.

Strongly Disagree 1	2	3	4	5	Strongly Agree 6
○	○	○	○	○	○

* 51. I enjoy trying to determine if what I read or hear is true.

Strongly Disagree 1	2	3	4	5	Strongly Agree 6
○	○	○	○	○	○

* 52. I relish learning.

Strongly Disagree 1	2	3	4	5	Strongly Agree 6
○	○	○	○	○	○

* 53. The actions people take and the reasons for those actions are fascinating.

Strongly Disagree 1	2	3	4	5	Strongly Agree 6
○	○	○	○	○	○

Appendix J: The Two vignettes From the Knowledge and Attitudes Survey Regarding Pain (KASRP), Created by Ferrell and McCaffery (2014).

* 53. The actions people take and the reasons for those actions are fascinating.

Strongly Disagree 1	2	3	4	5	Strongly Agree 6
○	○	○	○	○	○

* 54. Patient A: Andrew is 25 years old and this is his first day following abdominal surgery. As you enter his room, he smiles at you and continues talking and joking with his visitor. Your assessment reveals the following information: BP = 120/80; HR = 80; R = 18; on a scale of 0 to 10 (0 = no pain/discomfort, 10 = worst pain/discomfort) he rates his pain as 8.

a. On the patient's record you must mark his pain on the scale below. Circle the number that represents your assessment of Andrew's pain.

- ○ 0
- ○ 1
- ○ 2
- ○ 3
- ○ 4
- ○ 5
- ○ 6
- ○ 7
- ○ 8
- ○ 9
- ○ 10

* 55. Patient A: Andrew is 25 years old and this is his first day following abdominal surgery. As you enter his room, he smiles at you and continues talking and joking with his visitor. Your assessment reveals the following information: BP = 120/80; HR = 80; R = 18; on a scale of 0 to 10 (0 = no pain/discomfort, 10 = worst pain/discomfort) he rates his pain as 8.

b. Your assessment, above, is made two hours after he received morphine 2 mg IV. Half hourly pain ratings following the injection ranged from 6 to 8 and he had no clinically significant respiratory depression, sedation, or other untoward side effects. He has identified 2/10 as an acceptable level of pain relief. His physician's order for analgesia is "morphine IV 1-3 mg q1h PRN pain relief." Check the action you will take at this time.

- ○ Administer no morphine at this time.
- ○ Administer morphine 1 mg IV now
- ○ Administer morphine 2 mg IV now
- ○ Administer morphine 3 mg IV now

* 56. Patient B: Robert is 25 years old and this is his first day following abdominal surgery. As you enter his room, he is lying quietly in bed and grimaces as he turns in bed. Your assessment reveals the following information: BP = 120/80; HR = 80; R = 18; on a scale of 0 to 10 (0 = no pain/discomfort, 10 = worst pain/discomfort) he rates his pain as 8.

a. On the patient's record you must mark his pain on the scale below. Circle the number that represents your assessment of Robert's pain:

- ◯ 0
- ◯ 1
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5
- ◯ 6
- ◯ 7
- ◯ 8
- ◯ 9
- ◯ 10

* 57. Patient B: Robert is 25 years old and this is his first day following abdominal surgery. As you enter his room, he is lying quietly in bed and grimaces as he turns in bed. Your assessment reveals the following information: BP = 120/80; HR = 80; R = 18; on a scale of 0 to 10 (0 = no pain/discomfort, 10 = worst pain/discomfort) he rates his pain as 8.

b. B. Your assessment, above, is made two hours after he received morphine 2 mg IV. Half hourly pain ratings following the injection ranged from 6 to 8 and he had no clinically significant respiratory depression, sedation, or other untoward side effects. He has identified 2/10 as an acceptable level of pain relief. His physician's order for analgesia is "morphine IV 1- 3 mg q1h PRN pain relief." Check the action you will take at this time:

- ◯ Administer no morphine at this time.
- ◯ Administer morphine 1 mg IV now
- ◯ Administer morphine 2 mg IV now
- ◯ Administer morphine 3 mg IV now

Appendix K: Knowledge and Attitudes Survey Regarding Pain Permission

City of Hope

July 2014

The "Knowledge and Attitudes Survey Regarding Pain" tool can be used to assess nurses and other professionals in your setting and as a pre and post test evaluation measure for educational programs. The tool was developed in 1987 and has been used extensively from 1987 - present. The tool has been revised over the years to reflect changes in pain management practice.

Regarding issues of reliability and validity: This tool has been developed over several years. Content validity has been established by review of pain experts. The content of the tool is derived from current standards of pain management such as the American Pain Society, the World Health Organization, and the National Comprehensive Cancer Network Pain Guidelines. Construct validity has been established by comparing scores of nurses at various levels of expertise such as students, new graduates, oncology nurses, graduate students, and senior pain experts. The tool was identified as discriminating between levels of expertise. Test-retest reliability was established ($r>.80$) by repeat testing in a continuing education class of staff nurses ($N=60$). Internal consistency reliability was established (alpha $r>.70$) with items reflecting both knowledge and attitude domains.

Regarding analysis of data: We have found that it is most helpful to avoid distinguishing items as measuring either knowledge or attitudes. Many items such as one measuring the incidence of addiction really measures both knowledge of addiction and attitude about addiction. Therefore, we have found the most benefit to be gained from analyzing the data in terms of the percentage of complete scores as well as in analyzing individual items. For example, we have found it very helpful to isolate those items with the least number of correct responses and those items with the best scores to guide your educational needs.

Enclosed for your use is a copy of our instrument and an answer key. You may use and duplicate the tool for any purpose you desire in whole or in part. References to some of our studies which have included this tool or similar versions are included below. We have received hundreds of requests for the tool and additional use of the tool can be found in other published literature. We also acknowledge the assistance of several of our pain colleagues including Judy Paice, Chris Pasero, and Nessa Coyle in the revisions over the years. If using or publishing the tool results please cite the reference as **"Knowledge and Attitudes Survey Regarding Pain" developed by Betty Ferrell, RN, PhD, FAAN and Margo McCaffery, RN, MS, FAAN, (http://prc.coh.org), revised 2014.**

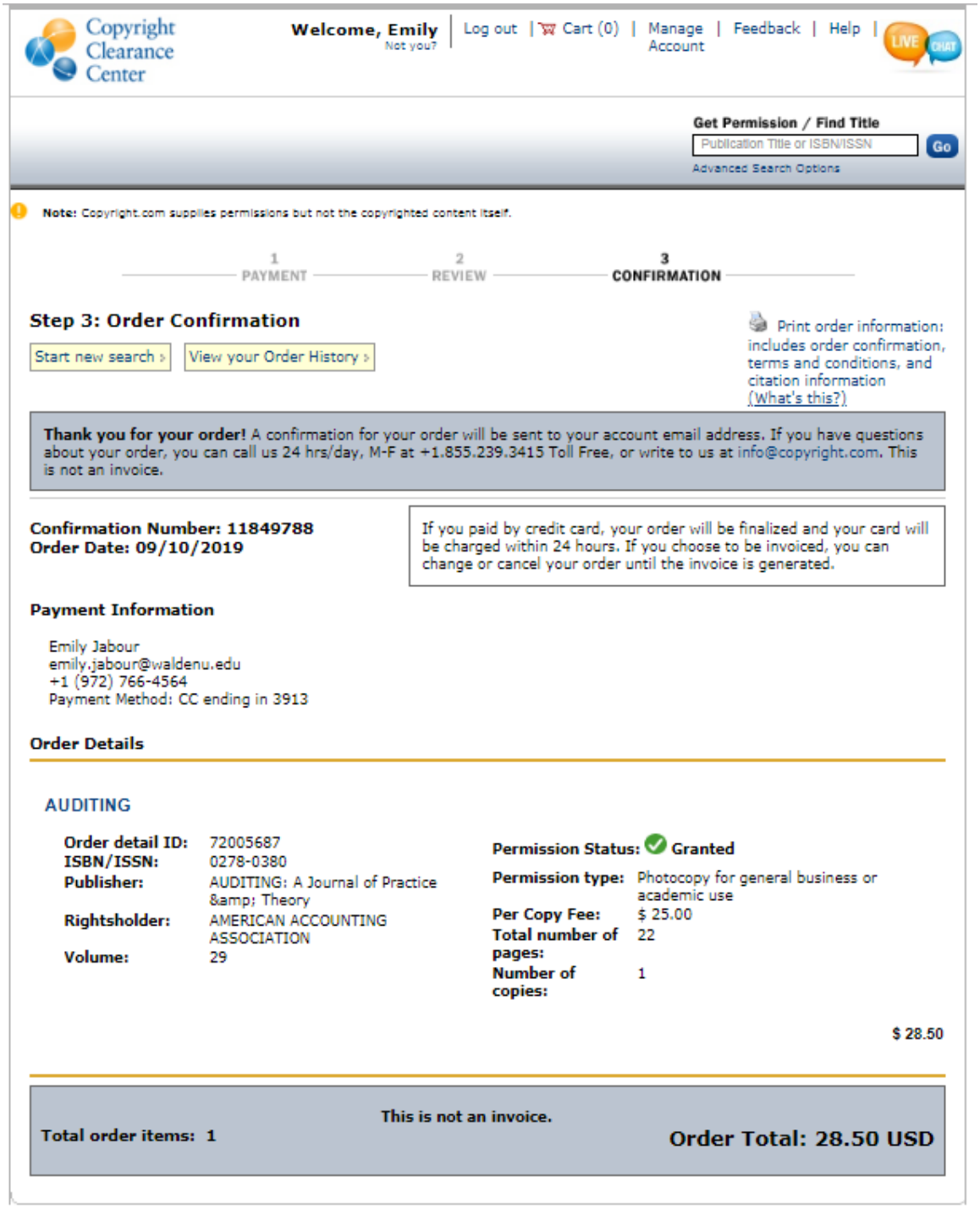
We hope that our tool will be a useful aid in your efforts to improve pain management in your setting.

Sincerely,

Betty R. Ferrell, RN, PhD, FAAN
Research Scientist

Margo McCaffery, RN, MS, FAAN
Lecturer and Consultant

Appendix L: Hurtt's Skepticism Scale Permission



Copyright Clearance Center

Welcome, Emily
Not you?

Log out | Cart (0) | Manage Account | Feedback | Help |

Get Permission / Find Title
Publication Title or ISBN/ISSN
Go
Advanced Search Options

Note: Copyright.com supplies permissions but not the copyrighted content itself.

1 PAYMENT — 2 REVIEW — 3 CONFIRMATION

Step 3: Order Confirmation

Start new search › | View your Order History ›

Print order information: includes order confirmation, terms and conditions, and citation information (What's this?)

Thank you for your order! A confirmation for your order will be sent to your account email address. If you have questions about your order, you can call us 24 hrs/day, M-F at +1.855.239.3415 Toll Free, or write to us at info@copyright.com. This is not an invoice.

Confirmation Number: 11849788
Order Date: 09/10/2019

If you paid by credit card, your order will be finalized and your card will be charged within 24 hours. If you choose to be invoiced, you can change or cancel your order until the invoice is generated.

Payment Information

Emily Jabour
emily.jabour@waldenu.edu
+1 (972) 766-4564
Payment Method: CC ending in 3913

Order Details

AUDITING

Order detail ID:	72005687	**Permission Status:**	**Granted**
ISBN/ISSN:	0278-0380	**Permission type:**	Photocopy for general business or academic use
Publisher:	AUDITING: A Journal of Practice & Theory	**Per Copy Fee:**	$ 25.00
Rightsholder:	AMERICAN ACCOUNTING ASSOCIATION	**Total number of pages:**	22
Volume:	29	**Number of copies:**	1

$ 28.50

Total order items: 1

This is not an invoice.

Order Total: 28.50 USD

Appendix M: Compassion Competence Scale Permission

ELSEVIER LICENSE
TERMS AND CONDITIONS

Sep 07, 2019

This Agreement between Walden University ("You") and Elsevier ("Elsevier") consists of your license details and the terms and conditions provided by Elsevier and Copyright Clearance Center.

License Number	4663831392243
License date	Sep 07, 2019
Licensed Content Publisher	Elsevier
Licensed Content Publication	Applied Nursing Research
Licensed Content Title	Development and validation of an instrument to measure nurses' compassion competence
Licensed Content Author	Youngjin Lee,GyeongAe Seomun
Licensed Content Date	May 1, 2016
Licensed Content Volume	30
Licensed Content Issue	n/a
Licensed Content Pages	7
Start Page	76
End Page	82
Type of Use	reuse in a thesis/dissertation
Portion	full article
Circulation	2016
Format	electronic
Are you the author of this Elsevier article?	No
Will you be translating?	No
Title of your thesis/dissertation	Relationship between Skepticism and Nursing Experiences when Treating Chronic Pain Patients
Expected completion date	Jan 2020
Estimated size (number of pages)	100
Requestor Location	Walden University 7800 Crazy Horse Dr. Frisco Texas FRISCO, TX 75034 United States Attn: Walden University
Publisher Tax ID	98-0397604
Total	0.00 USD
Terms and Conditions	