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Examining the Effect of Substance Use Training on Registered Nurses' Competency and Self-Efficacy

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Walden University
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Abstract

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MA, Webster University, 2009

BS, University of North Florida, 2002

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

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Abstract

Substance abuse and addiction among nurses remains a problem and can have lasting and sometimes fatal effects on patients. The purpose of this quantitative, quasi-experimental study is to examine the effect of substance use training on RNs' post training competency about substance use impairment and level of self-efficacy to deal with impaired colleagues. Bandura's self-efficacy theory (SET) which originated from Bandura's social cognitive theory provided the theoretical foundation. Data were collected from a convenience sample of 118 registered nurses using the Perceived Competency with Impaired Nurses survey, the Methods for Dealing with Nurse Impairment Questionnaire (MDNIQ) and a demographic questionnaire. The Wilcoxon Signed Ranks Test was used to answer the research questions and test the hypotheses. Resultantly, findings concluded that there was significant difference between pre and posttest scores relative to RNs' competency and self-efficacy about drug impairment after substance use training. This study promotes positive social change by increasing the awareness of the importance of substance abuse education for all registered nurses, thus empowering registered nurses to identify and intervene on drug-impaired colleagues while endorsing public safety of patients.

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Dedication

To my precious son, Johnathan and my loving mother, Maggie that was with me when this journey began but passed on before the completion of this study, you both gave me the strength and determination to never quit. Also, to my daughters, Jessica and Jamila I love you both to the moon and back!

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My love and gratitude to my husband, James, for his unselfish support and steadfast encouragement to complete this study. And to my son, James Jr., who has been my inspiration, as I hurdle all the obstacles in the completion of this research work.

Last but always first in my heart, my savior Jesus Christ because I can do all things thru Christ who strengthens me (Phil 4:13)

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Chapter 1: Introduction to the Study

The ability to identify drug-impaired nurses quickly is important to maintain patient safety and assist the nurse in getting the appropriate treatment (Strobbe & Crowley, 2017). Some early identifiers of impairment are the change in behaviors such as tardiness, and mood changes (Banja, 2014). Registered nurses (RN) often lack the training in substance use impairment to identify the signs and symptoms of drug impairment which can affect their ability to intervene on impaired colleagues and reduce risks to the patient (Leff, 2014). The paucity of education and training in recognizing signs of impairment often begins in nursing school and continues to the workplace with inconsistent policies and procedures (McCulloh, Nemeth, Sommers, and Newman, 2015). Therefore, registered nurses with substance use problems are left untreated which can lead to, (a) loss of employment, (b) disciplinary actions, and (c) criminal charges (Kunyk, 2015). The impact on interpersonal relationships and workplace performance are higher with drug use at high dosages and with prolonged use (Poudel, Sharma, Guatam, & Poudel, 2016). Puskar, Mitchell, Kane, Hagle, & Talcott, (2014) argued a link between substance use training and the RN's ability to identify and intervene on behalf of an impaired co-worker. As training may help decrease these risks, the relationship warrants additional study.

Previous researchers revealed that substance use impairment in nurses' dates back to the Florence Nightingale era (Cook & Webb, 2002). However, RNs and other staff members do not consistently report suspected impaired nurses (Dumitrascu et al., 2014; Monroe & Kenaga, 2011). Dumitrascu et al. (2014) suggested multiple reasons exist for why nurses do not report fellow nurses when suspecting substance use impairment including (a) an inability to recognize symptoms of impairment, (b) fear of repercussion, and (c) ignorance about substance abuse and

addiction. Subsequently, one in every 10 nurses may be drug impaired or in recovery from drug abuse or dependence, a number that is similar to the general population (Abramowitz, 2014).

According to the national survey by Substance Abuse and Mental Health Services Administration (SAMHSA, 2014) the impact of drug use cost Americans $600 billion each year. Drug use that includes prescription drug misuse affects 27.4 million Americans. Substance use impairment among registered nurses is a part of the problem for more than 100 years. (Miller, Kanai, Kebritchi, Grendel, & Howard, 2015; Monroe, Kenanga, Dietrich, Carter, & Cowan, 2013). Current estimates place rates of substance misuse, abuse, and addiction as high as 20% of the 2.66 million practicing RNs (Monroe & Kenaga, 2011). This survey means as many as 399,000 of the 2.66 million RNs in the United States are dependent on drugs and or alcohol, according to the National Council State Board of Nursing, ([NCBSN]), 2017; U.S. Bureau of Labor Statistics [USBL], 2014).

Specialized training for RNs may affect their ability to recognize signs of impairment and reporting peers. Previous research with physicians and medical students reported a 58% chance of reporting an impaired colleague (Dyrbye, West, Satele, Boone, Sloan, & Shanafelt, 2015). Also, research indicated that substance use impairment training had helped health-care professionals' attitudes and behaviors concerning patients with addiction symptoms (Hendrix, Sabritt, McDaniel, & Field. 1987; Iqbal, McCambridge, Edgar, Young, & Shorter, 2015). The question remains as to whether substance use training will affect RNs' knowledge and self-efficacy about recognizing signs and symptoms of impairment and the ability to report impaired colleagues. The extent to which substance abuse training for RNs will influence their knowledge

and self-efficacy about impairment in the workplace and ability to intervene may have profound implication for social change, which is part of this research study.

The implication for positive social change includes knowledge useful for nurse leaders and educators searching for a direction to address workplace impairment. There are no reliable statistics on diversion rates by healthcare professionals according to the Center for Disease Control (CDC) (2014) because of the lack of diversions programs and the culture of silence that exists. The CDC recommended that healthcare facilities have strict security measures in place to detect and intervene on impairment and diversion of medications by nurses. However, the CDC determined gaps in the detection and prevention by healthcare facilities, that may compromise patient care and safety: therefore, a need exists for additional resources.

Other researchers addressed the symptoms and impact of workplace drug impairment (Burton, 2014; Kinkle, 2015; Miller et al., 2015; Starr, 2015). Others examined the impact of training programs in substance abuse (Broyles, Gordon, Rodriguez, Hanusa, Kengor, & Kraemer, 2013; Cadiz et al., 2015) both of whom will be discussed in Chapter 2. In this chapter, the goal is to review the negative factors surrounding RNs regarding their inability to identify and intervene in workplace drug impairment symptoms in colleagues and the paucity of substance use training available to them.

Background

Drug abuse in healthcare professionals is a serious social and health problem similar to the general population of which one in every ten persons abuse drugs (Abramowitz, 2014, Bennett & O'Donovan, 2001). However, there are distinct stressors and predispositions with physicians and nurses misuse of a prescription drug at a higher rate because of accessibility in

the workplace (Dumitrascu et al., 2014; Frone, 2013). For more than a century, dating back to the Florence Nightingale era research and statistics has been conducted about substance abuse and addiction among RNs (Miller et al., 2015; Monroe et al., 2013). Some of the studies suggested that impaired RNs may cause unnecessary harm or even death to patients (Kunyk & Austin, 2011) and may divert medications from their place of employment and patients (Kinkle, 2015).

In the early 1980s, state nursing boards begin to develop "alternative to discipline" programs in response to a large number of complaints reported about nurses with substance abuse and mental health issues (Mallia, 2015). Healthcare providers need to train nurses to identify substance use impairment symptoms among peers (Kinkle, 2015; Luck & Hedrick, 2004).

Although all 50 states implemented mandatory reporting laws for RNs reporting colleagues and physicians, the underreporting of nurses working while impaired persists according to Starr (2016) and by surveying five different states (Washington, Oregon, Nebraska, Delaware, and Virginia), In 2016, Starr concluded that nurses must know the law and act responsibly when observing unsafe practice because of drug impairment regardless of the professional license, RN, or licensed practical nurse (LPN). Starr concluded that nurses must possess and be aware of the civil immunity and penalties associated with failing to report and filing a false report.

Other researchers supported the relationship between mandatory reporting of colleagues and risk factors for substance use similar to RNs. Dumitrascu et al. (2014) surveyed data on physicians and medical student's substance use from the National Institutes of Health Library

and the National Library of Medicine. The institutions found a list of risk factors such as (a) burnout, (b) access to controlled medications, and (c) self-treatment with medicating drugs along with a variety of reasons why physicians hesitate to report each other when impairment is a problem similar to findings by other researchers (Cares, Pace, Denious, & Crane, 2015). According to Dumitrascu et al., current data on this topic remains limited; however, Dumitrascu et al. concluded a need exists for early intervention and rehabilitation for impaired physicians to improve patient outcomes. Kinkle (2015) concluded that early intervention protects patients and results in better outcomes for impaired nurses at a 70% success rate of returning to fulltime nursing practice after treatment and higher retention rates in the nursing profession because of early intervention. Kinkle discussed occupational hazards that nurses face that include (a) death and dying of patients, (b) long hours with high patient-to-nurse ratios and (c) the lack of education about substance abuse. The awareness of impairment symptoms is the initial step in workplace intervention for impaired nurses according to Kinkle.

Addicted nurses in recovery were studied, and five themes were identified, to include (a) fear, or shame, (b) poor coping skills, (c) denial, and (c) a desire to control their environments (Cares et al., 2015). Also, the overall theme noted as being significant was the nurses' feelings of being judged and misperceived by peers because of their addiction issues (Burton, 2014). Addiction in RNs poses serious concerns for the nursing profession: substance use education needs to be implemented into nursing schools' curriculum and in nurse's workplace settings (Burton, 2014). In 2015, Kunyk reported that nurse administrators needed to gain increased insight into substance dependence as a disease, which could lead to increased empathy toward addicted professionals to effect positive change in the workplace.

The effectiveness of a three-phase pilot training program, screening, brief interventions, and referral to treatment (SBIRT) designed for RNs help to change their knowledge about alcohol screening, brief intervention, and referral to treatment for patients. (Broyles et al., 2013). There was a significant difference in the RNs who completed the training with an increase in competence and performance when addressing alcohol-related care tasks for patients.

However, information about evidence-based training for nurses for the assessment of alleged, impaired nurses in the workplace is sparse (Cadiz, Truxillo, & O'Neill, 2015). Cadiz et al. (2015) found that nurses could benefit from evidence-based training that includes a tool to help identify risky behaviors related to an impairment that could cause patient harm. Few studies exist that address the effect of training on nurse's knowledge and skills about substance use and addiction in nursing (Bellefonte, 2009; Burton, 2014; Grube, Piliavin, & Turner, 2012). This research may fill the gap by focusing on the effect of training on registered nurse's knowledge about how to identify and intervene in an impaired nurse.

Substance abuse among nurses is an (a) breach of professional ethics, (b) places patients at risk, and (c) can affect the reputations of the facilities where nurses work (Kunyk, 2015). Given that, the pressing social and health problem of substance use and addiction in nurses is very similar to the general population; this finding suggests an ongoing need to explore the effect of substance use training on RNs' competency and self-efficacy on impairment symptoms and intervention.

Problem Statement

A problem exists with an RN's inability to identify colleagues impaired by drugs. Substance abuse and addiction among nurses remain a problem and with a history of over 100

years (Miller et al., 2015; Monroe et al., 2013). Nurses who abuse substances pose negative and far-reaching effects for the nursing profession and the patients who depend on the nurses for competent and safe treatment (NCSBN, 2017). Notably, nurses working while impaired may cause unnecessary harm or even death to patients (Kunyk & Austin, 2011) and RNs may divert medications from their place of employment and patients (Kinkle, 2015). Educational training efforts for nurses are either nonexistence or inadequate in nursing schools and the workplace for addressing how to deal with impaired colleagues (Hensel, Middleton, & Engs, 2014). The problem is that healthcare facilities fail to implement substance use training in the effort to increase nurses' knowledge of impairment symptoms and self-efficacy to intervene on an impaired colleague.

According to previous studies research on practicing nurses and addiction focus mostly on the rates of substance use identification, intervention, treatment, re-entry, and the legal ramifications for nurses (Bettinardi-Angres, Pickett, & Patrick, 2012, Cook, 2013; Crowley, 2014; Miller et al., 2015; Nutty, 2014; NCBSN, 2011; U.S. Bureau of Labor Statistics [USBL], 2013) and the distinct stressors and risk factors of nurses and physicians (Dumitrascu et al, 2014; Kinkle, 2015). Although all states and territories have enacted a federal Nurse Practice Act (NPA) and mandatory reporting laws to address when a nursing colleague or subordinate is suspected of having a form of substance use disorder (NCBSN, 2017). The underreporting of nurses working while under the influence persists (Starr, 2015). Dumitrascu et al., (2014) suggested multiple reasons exist for nurses who do not report fellow nurses when substance use impairment is suspect, to include (a) an inability to recognize symptoms of impairment, (b) fear of repercussion, and (c) ignorance about substance abuse and addiction. However, a gap remains

in the literature addressing how training would influence the problem of the lack of knowledge and self-efficacy about substance use impairment in the nursing field. The research problem this study aims to examine is the effect of substance use training on competency and self-efficacy among RNs to deal with impaired colleagues.

Purpose

The purpose of this quantitative, quasi-experimental study was to examine the effect of substance use training on RNs' post-training competency about substance use impairment and level of self-efficacy to deal with impaired colleagues. Health care professionals lack skills to intervene with an impaired colleague (Cadiz et al., 2015). The knowledge to recognize the signs and symptoms of impairment can foster more confidence to intervene on an impaired colleague (Puskar et al., 2013). The NCBSN recommended that nurses educate themselves about the behavior changes, physical signs, and signals of impairment, which will help not only their colleagues with substance use issues but also protect patients (NCBSN, 2017). The independent variable (IV) for this study was the substance use training course specifically designed for nurses. The dependent variable (DV) was the results of the posttest knowledge scores from the RNs.

Research Question

RQ1: To what extent is there a difference between pre and posttest scores in nurses' competency about drug impairment after substance use training?

H_0: There is no significant difference between pre and posttest scores in nurses' competency about drug impairment after substance use training.

H_1: There is a significant difference between pre and posttest scores in nurses' competency about drug impairment after substance use training.

RQ2: To what extent is there an increase between RNs' pre and posttest scores in self-efficacy to deal with an impaired colleague after substance use training?

H_0: There is no significant increase between RNs' pre and posttest scores in self-efficacy to deal with an impaired colleague after substance use training.

H_2: There is a significant increase between RNs' pre and posttest scores in self-efficacy to deal with an impaired colleague among after substance use training.

Framework

The theoretical framework for this study was Bandura's self-efficacy theory (Bandura, 1982). Bandura's self-efficacy theory postulates the belief that one can change specific behaviors by completing a given task or activity related to that competency (Bandura, 1977, 1986, 1977; Lockwood & Wohl, 2012). This theory includes broad use in health behavior change, and, more specifically with evidence-based nursing practices (Gloudemans, Schalk, & Reynaert, 2013; Winslow, Kulbolk, DeGuzman, & Jackson, 2014). SET provides a conceptual framework for the nursing profession used to explain and understand everyday events in addition to guide the (a) assessment, (b) intervention, and (c) evaluation of nursing care (Nursing Theories, 2011). Also, the self-efficacy theory is appropriate for studies exploring substance use knowledge (Franckowiak, 2015; Wiens & Walker, 2015).

In the context of this study, it is important to understand how all three factors that influence self-efficacy can affect substance use intervention behaviors (Bandura, 1977). Past studies addressed these factors of the ability to recognize and respond to drug-related issues

(Broyles et al., 2013), environment in regarding the code of silence when reporting wrongdoing (Cleary & Doyle, 2016), and personal cognitive factors with nurses when examining beliefs and attitudes (Torren & Wagner, 2010). All researchers support the theory that one has the power to produce the desired effect by completing a given task or activity related to that competency (Bandura, 1977).

In addition, the self-efficacy framework helped to guide the researcher to explain the meaning, nature, and challenges about the problematic behavior with nurse's lack of knowledge about substance use and addiction with impaired peers. Previous studies between self-efficacy and nursing behaviors measured this relationship, which served as a catalyst to predict future behaviors (Chang, Wang, Li, & Liu, 2011; Lee & Ko, 2010).

Nature of the Study: Quantitative

The nature of this study was a quantitative study with a pretest-posttest, quasi-experimental design. This design will address the need to study the effect of training on posttest scores in a setting in which the control features including random assignment of true experimental designs cannot be achieved nor is feasible. RNs from similar medical settings will be administered a pretest before the substance use training followed by a posttest. The pretest and posttest scores will be examined to see if significant differences exist because of the substance use training. The independent variable (IV) for this study will be the substance use training course specifically designed for nurses. The dependent variable (DV) will be the results of the posttest scores from the RNs. This method was appropriate because an intact group will be observed for changes from the pretest-to posttest (Sukamolsom, 2007). The primary data was collected from RNs to determine the impact of substance abuse training on post-training

competency and self-efficacy if any. Moreover, the data was gathered directly from RNs through the completion of a knowledge and self-efficacy assessment by each participant.

Definitions

Alternative to Discipline (ATD) program: State Boards of Nursing offers the nurses a non-disciplinary alternative to discipline programs for substance use disorders. Each program has specific rules and procedures for entry into their program. The ATD programs offer swifter identification of impaired nurses and treatment referrals while retaining licensure (NCSBN, 2017).

Impaired Practice: Functional poorly or with diminished competence, as evident in changes in work habits, job performance, appearance, or other behaviors that may occur in any setting (ANA, 2016).

Registered Nurse (RN): NCBSN (2017) refers this term to an individual who has graduated from a state-approved school of nursing, passed the NCLEX-RN Examination and is licensed by a state board of nursing to provide patient care.

Substance use: Substance use disorder (SUD): According to the *Diagnostic and Statistics Manual of Mental Disorders (DSM-5),* (American Medical Association [AMA], 2013) diagnosis is based on the (a) evidence of impaired control, (b) social impairment, risky use, and (c) pharmacological criteria.

Self-efficacy: an individual's belief in their ability to perform certain behaviors required to manage specific situations. Self-efficacy beliefs influence a person's thoughts, attitudes, and behavior (Bandura, 1977).

Assumptions

Americans rate nurses as the most trusted profession with the highest ethical and honesty standards for the last 15 years (Riffkin, 2014; Rosa, 2016). In addition, RNs often provide care to patients with substance abuse issues (Iqbal et al., 2015). Therefore, the first assumption of this study was that registered nurses view substance abuse in their colleagues in a different manner than patients. Nurses' perception of their patients with substance use issues promotes intervention whereas with colleagues the opposite usually occurs. This assumption was valid for this study due to the tendency for RNs to intervene on patients thought to be impaired or addictive to drugs with minimum hesitation (Iqbal et al., 2015). Another assumption based on the instructions that will be given is that RNs would know how to answer the questions listed on the assessment tools. It was also an assumption that the registered nurses will believe substance abuse has a negative effect on their colleagues and that they exhibit a desire to help them change. These assumptions are necessary as I seek to assess the outcome of the study based on the theoretical model of self-efficacy that postulates the belief that one has the ability to change specific behaviors by completing a given task or activity related to that competency (Bandura, 1977; Lockwood & Wohl, 2012).

Scope and Delimitations

The scope of this study was to understand knowledge and self-efficacy change in a select group of registered nurses after substance abuse training. Several factors will delimit this study. First, this study framework focused on registered nurses, not (LPNs) or advanced nursing practitioners (ARNPs). Because of this; I chose to focus on the largest group of licensed nurses in most healthcare facilities. Second, the study delimited to substance use training and excluding

any other mental health training because nurses are more likely to be disciplined due to drug use to include diverting drugs than any other mental health disorder (Borns, 2014). The generalizability potential of this study has a limitation because of the use of only licensed registered nurses in currently working in health care in a geographic location instead of LPN and ARNP in multiple states.

Limitations

Several limitations were present in this study. First, the pretest-posttest, quasi-experimental design posed a limitation because the possibility of pretesting influence on the results due to having no baseline measurement against control groups that remained completely untreated (Campbell & Stanley, 2015). Second, the study sample characteristics, as the study will be conducted at one medical facility setting with only RN's that which are predominantly white and female, therefore the findings may not be generalized to other settings with more diverse samples that include nurses of other races and sex (Shieh, 2013). Therefore, to mitigate this limitation, I will make an effort to recruit a more diverse sample of RNs. Third, there was no control group, and thus a strong causation connection between substance abuse training and changes in knowledge and self-efficacy to intervene may not be made. To address this limitation, the study will include the recommendation of having a control group in future research. Additional confounding factors challenging the assessment of the findings may include the age, career length, and previous substance abuse training of the registered nurses. Reasonable measures can be taken to address these confounding factors by matching participants in pairs with the same confounding characteristics pre-study. Once the study is completed, stratification or strata which is dividing the RNs into subgroups according to the levels of the potential

confounding factor, in this study age, career length, and previous substance abuse training can be completed (Laerd Dissertation, 2017).

Significance

The research findings may fill the gap by focusing on the effect of substance use training on registered nurse's knowledge to identify and intervene on an impaired colleague. This research has the potential to assist healthcare administrators within organizations in creating substance abuse evidence-based training for nurses. In addition, this study could be highly valuable to healthcare professionals monitoring programs to assist them in the development of training for nurse supervisors who monitor recovering nurses in the workplace. The NCSBN (2011) recommends that healthcare employers provide in-service training for supervisors monitoring nurses with substance use disorder. In a review of literature, Serra et al. (2007) concluded that most employer's fitness for duty assessment lacks substance use tools despite the importance.

In addition, this proposed study has the potential to help increase the importance of recognizing the signs and symptoms of impairment in the workplace to protect patients from unsafe or negligent practice (Wild Iris Medical Education (n.d.)). The implication for positive social change includes knowledge useful for nurse leaders and educators searching for a direction to address workplace impairment. Healthcare facilities could use the results of this study to re-evaluate workplace policies on mandatory training for healthcare professionals. The (CDC) recommended that healthcare facilities have strict security measures in place to detect and intervene on impairment and diversion of medications by nurses (CDC, 2014; Mayo Clinic, 2014). However, the CDC has determined that there are gaps in the detection and prevention by

healthcare facilities (CDC, 2014) that may compromise patient care and safety. Therefore, this study could benefit from developing these measures.

Summary

In this chapter, I presented a discussion about drug abuse in healthcare professionals, specifically nurses, which may cause unnecessary harm or even death to patients (Kunyk & Austin, 2011). I discussed the background of the problem and the concepts of drug abuse in the nursing profession. I also introduced the purpose, theoretical framework, and background of this research study. Also, I provided an overview of the research questions and hypotheses, the nature of the study, definitions, assumptions, limitations, and delimitations. This study has the potential to further the research on substance use training and self-efficacy effect on RNs to recognize and intervene on impaired colleagues. Chapter 2 will include the previous research completed on nurses and substance use impairment.

Chapter 2: Literature Review

Introduction

The purpose of this study was to examine the effect of substance use training on RNs' post training competency and the level of self-efficacy to deal with an impaired colleague. Unfortunately, substance abuse impairment is not often identified in the workplace until addiction behaviors threaten the safety of the nurse and patients (Bryson & Hamza, 2011; Dunn, 2005; Higgins-Roche, 2007). In this chapter, I provided a better understanding of the issue of substance abuse impairment in the healthcare profession. In addition, Chapter 2 includes a detailed discussion of the current situation of RNs and substance abuse impairment in the workplace. The review of literature in Chapter 2 reveals the impact of impaired healthcare professionals including nurses in the workplace that potentially places patients, colleagues, and professionals themselves at risk for injury or death. A review of the literature indicated a gap in research on the effect of substance use training on RNs' ability to identify and intervene on an impaired colleague.

This literature review begins with an exploration of the theoretical background of the study originating in Bandura's (1982) self-efficacy theory (SET). This section will detail how the theory of self-efficacy will be used to examine the impact of training on RNs' competency and self-efficacy. It also includes a summary of findings of the use of the self-efficacy theory in previous studies related to nursing and the benefits of use in the current study to address RNs who engage in substance use training to deal with an impaired colleague. The remaining chapter is divided into sections, which include (a) history of substance use impairment in healthcare professionals, (b) risk factors associated with substance use for healthcare professionals, (c)

barriers to reporting of a substance-impaired colleague in healthcare professionals, and (d) influence of training on healthcare professionals' competency and self-efficacy. Each of these sections will include literature specifically focused on RNs. Finally, the chapter concluded with a summary of findings of the use of the self-efficacy theory in previous studies related to nursing and the benefits of use in the current study to address RNs who engage in substance use training to deal with an impaired colleague.

Literature Search Strategy

To complete this comprehensive review, multiple Walden University Library databases (PsycINFO, PsycArticles, PsycTest, ProQuest Health, and SOCIndex) are used to search for research articles within the last five years (2013-2018) for this study. Additional seminal empirical articles are included not in the parameter due to the influential effect on the body of research. The search criteria include RNs' training and substance use competence along with self-efficacy to intervene on impaired colleagues. Section two contains general and specialized reviews of the literature. Approximately 110 full-text articles and abstracts were found and reviewed containing the keywords: *substance use disorder, self-efficacy, impaired health professional practice, alternative to discipline programs, nurses' addiction, registered nurses' knowledge, and competency*. The general literature review primary focuses on addiction and healthcare professionals, barriers to reporting an impaired colleague and consequences. This abstract is a specialized literature review, which primarily focuses on nurses and addiction, underreporting of impaired colleagues, barriers to reporting, and the lack of substance use training.

Theoretical Foundation

The theoretical framework for this study was based on Bandura's (SET) which originated from Alberta Bandura's social cognitive theory (1977). Bandura's SET concluded that a person can change specific behaviors by completing a specific task or activity related to that competency (Bandura, 1977, 1986, 1997). This framework will provide the structure of support for the study design, selection of variables, and the interpretation of findings in this study.

SET has been applied and used as a guide to assess the impact of workplace training on behaviors, competency and, self-efficacy (Betoret & Artiga, 2010; Cherian & Jacob, 2013; Lockwood & Wohl, 2012; Iroegbu, 2015). It is a useful framework to understand how behavioral characteristics guide individual actions. Bandura (1977) found that this could be applied to many different areas and tasks relating to training. In addition, Lockwood & Wohl (2012) utilized SET to establish the impact of a wellness-training course. Moreover, Cherian & Jacob (2013) used SET to identify the impact of training framing on the motivation and self-efficacy of employees. They all specifically used Bandura's theory that self-efficacy and behavior interact to influence future behavior (Bandura, 1977).

SET has provided a theoretical framework when exploring perceived self-efficacy and RNs' competency in a number of studies. For example, Gloudemans, Schalk and Reynaert, (2013) explored the relationship between nurses with bachelor's degrees and their level of critical thinking skills and self-efficacy. Another study applied one aspect of self-efficacy acting as a catalyst to move or preclude knowledge and goal setting when examining self-efficacy and academic performance behaviors in RNs (Winslow et al., 2014). Similarly, Tran et al. (2008) investigated the impact of an education program on nurses' competency and knowledge to

identify patients with alcohol and substance misuse. Additionally, the approach is one that the nursing profession uses to explain and understand everyday events to guide the assessment, intervention, and evaluation of nursing care (Nursing Theories, 2011).

According to Bandura (2005), learning or competency is based on both cognition and observation. Also, Bandura recognized that self-efficacy is formed based on information derived from different sources (1986; 1997). SET is a useful framework to understand how behavioral characteristics guide individual actions in the workplace. For example, the SET framework was used when evaluating the impact of a training course on healthcare professionals' self-efficacy on engaging fathers in the child protection process (Scourfield et al., 2012). In addition, Ma, Wallace, Qiu, Komsala-Anderson, and Battle, (2018) addressed the impact of breastfeeding training on nurses and other healthcare professionals using the Breastfeeding Support Self-Efficacy Scale.

SET is appropriate for studies exploring substance use competency and training. Several studies have used SET to explore the impact of training. For example, Franckowiak & Glick (2015) examined the relationship between self-efficacy and treatment outcomes for opiate-dependent clients on medication-assisted treatment. Another study examined whether informing individuals with a mild to moderate alcohol diagnosis that they have a chronic brain disease would influence their perceptions of addiction-related agency training as well as their feelings of shame and stigma (Wiens & Walker, 2015).

Bandura's self-efficacy theory lends support for the influence of substance abuse training to improve the competency and self-efficacy of RNs' ability to deal with an impaired colleague (Bandura, 1977). In the current study, the knowledge RNs gain through participation in the

substance abuse training is hypothesized to influence RNs' competency and self-efficacy to intervene on an impaired colleague. The current study is similar to the study conducted by Tran et al. (2009). They investigated the impact of an education program on nurses' competency and knowledge to identify patients with alcohol and substance misuse, whereas in this study the self-efficacy and competency survey will be administered to RNs on their ability to recognize impairment in their colleagues. Specifically, SET will provide a theoretical basis for assessing how training may affect the RNs' knowledge and self-efficacy about substance use impairment in the nursing field in the current study.

History of Substance Use Impairment in Healthcare Professionals

Drug abuse in healthcare professionals is a serious social and health problem, which has existed for hundreds of years (Merlo & Gold, 2008). In addition, several studies suggest that healthcare professionals have a proclivity for substance abuse and misuse for various reasons (Braillon, 2014; Earley & Finver, 2013; Merlo, Cummings, & Cottler, 2014). According to Braillon (2014), healthcare organizations that fail to implement random drug testing on healthcare professionals with access to drugs increases the proclivity for substance use and misuse. Moreover, Merlo et al. (2013) addressed the accessibility to prescription drugs, stress/anxiety in working with patients along with depression in healthcare professionals that can increase the use and misuse of drugs. Earley and Finley (2013) reported that healthcare professionals with access to drugs used them to sleep better and cope with depression symptoms. Research dating back to 2001 showed that doctors have significantly higher rates of mental health problems than the general population including alcohol and drug addictions (Bennett & O'Donovan, 2001). According to the Department of Health and Human Services (2011), alcohol

is the most abused drug by healthcare professionals followed by opiates, cocaine, and stimulants. Several studies concluded that the problem is very similar to the general population of which is 10 to 15% of healthcare professionals' abuse drugs and alcohol. Also, this could place the public at increased risk for harm due to medical errors (Abramowitz, 2014; Kenna & Lewis, 2008; Kunyk, 2015, & Merlo et al., 2014). One group of researchers contended that rates of substance use disorders are higher for healthcare professionals than the general public (Brooks, Chalder & Gerada, 2011). Other researchers reported addictive disease in healthcare professionals, when compared with the public, is typically advanced before identification and intervention occur (Berge, Seppala, & Schipper, 2009).

Research on substance abuse and addiction among healthcare professionals, specifically nursing, dates back 150 years to the Florence Nightingale era in the 19th century (Miller et al., 2015; Monroe et al., 2013). In recent decades, research on the prevalence of drug use in RNs has been challenging due to underreporting, fear of repercussion, and underestimating of substance use (Kunyk, 2015; West, 2003). The American Nurses Association (2016) estimated that 6-8% percent of RNs have substance abuse issues (West, 2003; Wilson & Compton, 2009). However, Monroe and Kenaga (2011) estimated that the percentage of nurses with addiction problems is greater than 20% of the nurse population. Multiple studies confirmed that substance abuse in nursing began in nursing schools and 14% of nursing students reported that alcohol impeded their school and social activities (Nair, Nemeth, Williams, Somers, & Newman, 2015; Patrick, 2010).

Several studies examined the negative consequences of nurses working while impaired (CMS, 2014, Kunyk, 2015; New, 2015; Pilgrim, Dorward, & Drummer, 2016; Schaefer & Perz,

2014). A similar theme emerged in the past studies concerning impairment that is supported by drug diversion from the workplace. According to New (2015), the consequences include patients may be harmed by an impaired provider when they are denied pain medications or by blood-borne pathogens transmitted to patients through tampering and substitution of medications or diversion. Over the past decade, nearly 30,000 potentially exposed patients and 100 documented infections have occurred because of healthcare professionals' drug use and diversion (Schaefer & Perz, 2014). Drug diversion by healthcare professionals poses a significant risk to patient safety and peers directly or indirectly (Schaefer & Perz, 2014). Additional consequences of an impaired nurse in the workplace are the threat for civil and regulatory liability of facilities that could result in the closure and negative public exposure (CMS, 2014). Finally, Pilgrim, Dorward, & Drummer (2016) investigated the drug-caused deaths in Australia due to impairment of healthcare professionals including nurses in the workplace. They reported 404 drug-caused deaths in healthcare professionals from 2003 to 2013, an average of 37 deaths per year. Although studies have addressed the consequences of substance use impairment in nursing, there is a gap in the literature addressing the effect of substance use training on RNs' competency and self-efficacy to deal with an impaired colleague.

Risk Factors Associated with Substance Use for Healthcare Professionals

Healthcare professionals are considered as having a higher risk for substance use impairment in the workplace because of drugs used for patients to provide comfort and care at their availability along with other risk factors (Department of Health and Human Services, 2011). The exposure and accessibility to drugs increased healthcare professionals' risk of substance use disorders and considered a unique risk factor (Cadiz, O'Neill, Butell, Epeneter, &

Basin, 2012). Other risk factors related to substance use impairment in healthcare professionals have also been identified. For example, stress due to rotating shifts, excessive overtime, and critical care work contribute to the risk of addiction in healthcare professionals (Dabro & Malliarakis, 2012; Braquehais et al., 2014). All concluded that social influences increase the use of drug use by healthcare professionals. Also, the lack of substance use training is one of the most overlooked risk factors that increase the risk for abuse of drugs and alcohol by healthcare professionals because of the inability to self-detect and seek help (Barral, Eiroa-Orosa, Navarro-Marfisis, Roncero, & Casas, 2014). Darbro (2005) interviewed nurses that identified a lack of education about substance use and culture of mistreatment as reasons why nurses conceal their drug use, thereby compromising patient safety. Previous studies have identified risk factors for many healthcare professionals. However, there are limited, current studies that focus specifically on RNs and their risk factors for substance use.

Barriers to Reporting of a Substance-Impaired Healthcare Colleague

According to the American Nursing Association (ANA), it is the responsibility of nurses to be aware and take appropriate actions when impaired practice or actions that place patient's safety in jeopardy (2016). Therefore, the failure to report an impaired healthcare professional can be a result of several factors (Dumitrascu et al., 2014). The factors leading to the failure to report an impaired colleague in the workplace are (a) an inability to recognize symptoms of impairment, (b) fear of repercussion, and (c) ignorance about substance abuse and addiction or lack of training (Dumitrascu et al., 2014; McCulloh, Nemeth, Sommers, & Newman, 2015).

The inability to recognize symptoms of drug impairment is one of the main reasons' healthcare professionals do not report their colleagues. Few empirical studies have examined the

issue of recognizing signs of potentially impairing illnesses in peers. Roberts, Warner, Rogers, Horwitz, & Redgrave (2005) concluded there is a higher obligation to protect the confidentiality of an impaired colleague than to acknowledge drug impairment. In a more recent study, Blair, Kable, Courtney-Pratt, & Doran (2015) discussed the importance of recognizing behaviors and cues when responding to unsafe practices in a colleague. For example, unsafe practices involve the violation of nursing standards of practice that can occur on a continuum range from slight to major deviation such as rendering improper care to a patient (Blair et al., 2015; Wysocki, 2017). The most commonly reported cues were changes in emotional or physical conditions and excessive absenteeism/tardiness (Banja, 2014). A survey of nurses examined barriers to early identification of impaired colleagues in the workplace, reported that the nurses' use of drugs or alcohol could have been identified earlier if their colleagues had known what to look for (Cares et al., 2015). Dittman (2015) concluded that nurse leaders in the educational and practice settings must be able to recognize impairment symptoms to assure a safe practice environment.

The fear of repercussion is another known barrier to reporting an impaired colleague. Healthcare professionals fear retaliation and possible career damage if they report an alleged impaired colleague (Bettinardi-Angres, Pickett, & Patrick, 2012; Dumitrascu et al. 2014; Worley; 2017). Dumitrascu et al. (2014) conducted a review of literature about substance use among healthcare professionals and concluded that the fear of damaging their career is one of the main reasons for not reporting an impaired colleague. Bettinardi-Angres et al., 2012 who investigated the practices of confronting and reporting an impaired colleague supported these findings. Participants cited the fear of losing their license as a barrier.

Moreover, RNs often abide by the "conspiracy of silence" because of the concern of being sued for reporting an impaired colleague, preserving the image of the professional, and the fear of punishment by their regulatory board (LaGuire, 2014; Monroe et al., 2013; Worley, 2017). In addition, nurses may fear being involved in a publicized case of retaliation against nurses who reported their colleagues (Burman & Dunphy, 2015). Dumitrascu et al. (2014) suggested that professional training should include discussion-surrounding support for healthcare professionals who report their impaired colleagues to dispel the fear of repercussion.

The ignorance about substance use addiction due to a lack of training is a barrier to reporting an impaired colleague. Healthcare professionals reported having limited substance use education during their professional training, which contributes to their reluctance to report a colleague (Kunyk, 2015). Like other healthcare professionals, this lack of substance use education in both colleges of nursing and the workplace jeopardizes nurses' abilities to report an impaired colleague (Worley, 2017). Though workplace referrals make up 60% of the referrals of impaired nurses, a lack of substance use education remains an issue according to Washington Health Professional Services (2016). Dittman (2015) concluded that addiction problems in nursing reflect a definite need for training in substance use. Both Burman & Dunphy (2011) and Cadiz et al., (2012) confirmed that a lack of substance use education contributes to nurses' inability to recognize impairment symptoms in their colleagues. Also, Cares et al. (2015) concluded that substance use training should be a part of nurses' professional training to help protect patients from impaired nurses. The National Council of State Boards of Nursing (NCSBN) has advocated for increased substance use disorders education in the nursing community (2011) to address the impact of substance use impairment on the professional and the

threat to patient safety (Dumitrascu et al., 2014). There is a litany of research on nurses with substance use disorder but minimum studies addressing specific barriers to reporting an impaired nurse.

Influence of Training on Nurses' Competency and Self-Efficacy

Nurses' competency and self-efficacy have been examined in various areas of clinical nursing skills. These areas of practice included new approaches to clinical skills training and clinical reasoning. These studies consistently revealed that training has a positive influence on nurses' competency and self-efficacy regardless of the topic matter however not always (Franklin, Gubrud-Howe, Sideras, & Lee, 2015; Hsh, Chang, & Hsieh, 2015; Kim & Suh, 2018). One such study examined the influence of training on nurses' competency and self-efficacy on simulation preparation (expert modeling, voice-over power point, reading assignments). Following five weeks of training, competence and self-efficacy were measured and compared with baseline scores. Two of the three simulation preparation methods resulted in no greater self-efficacy in active learning strategies (Franklin et al., 2015).

Some of the literature suggests an increase in competency and self-efficacy after training however not always both. For example, Hsu, Chang, & Hsieh (2015) measured the competency and self-efficacy of nurses' pre and post-discharge planning training. Both groups of nurses who participated in the training improved their communication competency during this study, the experimental group by 10% and the control group by 6.0%. There was a significant difference between experimental and control groups in communication competency. However, no significant difference was found in the nurses' communication self-efficacy. Overall, the link between training and increased competency and self-efficacy has been confirmed by some past

studies. However, according to Clark (2015), there remains a gap in the literature addressing the influence of substance use training on nurses' competency and self-efficacy to address impaired colleagues.

Influence of Substance Use Training on Nurses' Competency and Self-Efficacy

It has been established that training influences nurses' competency and self-efficacy to care for patients with substance use and behavioral disorders (Boulton & Nosek, 2014; Finnell et al., 2018; Oermann, 2018; Savage, Dyehouse & Marcus, 2014; Rao, Ambekar, Agrawal, Pawar, Mishra, & Khandelwai, 2016). There is a large volume of studies dating back more than 30 years ago on this subject (Boulton & Nosek, 2014). These researchers all support nurses and other healthcare professionals knowing how to screen patients for substance use to provide improved care (Finnell et al., 2018; Oermann, 2018). Subsequently, nurse educators and the Substance Abuse and Mental Health Services Administration (SAMSHA), endorsed integrating substance use content in nursing curriculum to help recognize patients with substance use disorders (Finnell et al., 2018).

Research indicates that there are several studies on the influence of substance use educational trainings for patient care related to competency post-training (Barral, Eiroa-Orosa, Navarro-Marfisis, Roncero, & Casas, 2014; Broyles et al., 2013; Knopf-Amelung et al., 2018; Puskar et al.,2014, Talcott, 2014; Rao et al., 2016; Smothers et al., 2018). In one study, nurse educators engaged in Screening, Brief, Intervention, and Referral to Treatment (SBIRT) substance use training to increase their knowledge and competency to screen patients successfully for substance use. Nurse educators responded favorably and reported increase competence to apply SBIRT in clinical settings after the training (Puskar et al., 2014). In a study

specifically focusing on the influence of substance abuse training on nurses' competency while working in inpatient settings, there was a significant increase in competency in nurses' abilities to address unhealthy alcohol use in their patients (Broyles et al., 2013). Another study examined five-day training on substance use concerning opioid substitution. In this study, nurses showed improvement in knowledge and attitude toward patients with intravenous (IV) drug use (Rao et al., 2016; Ravindra et al., 2016). A statistically significant correlation in one study was found between training and knowledge in the field of addictions and experience in the management of patients (Barral et al., 2014). A recent study examined the impact of substance use educational training intervention on perceived competency post training. A significant increase was found in competency related to the nurses' knowledge, self-confidence communication and, attitudes in caring for patients with substance use disorder (Russell, Ojeda, & Ames, 2017). All the studies yielded valid results that substance use training increased competency in nurses when dealing with impaired patients.

Recognizing the role nurses have in providing care to patients with substance use disorders, there is a need for training in nursing school (Smothers et al., 2018). RNs' with substance use orders typically start before or while in nursing schools (Boulton and O'Connell, 2017a). However, according to Knopf-Amelung et al. (2018), most nursing programs lack a substance use curriculum that addresses how to recognize and deal with impairment in colleagues. They evaluated three didactic instructional methods (in person, asynchronous narrated slides and interactive online) for the substance use training which were all effective for increasing competency in nursing students. Similarly, the authors reviewed literature databases for substance use disorders education in nursing schools. They concluded that teaching nursing

students about substance use disorders produced a positive impact on nursing students' knowledge. Subsequently, results demonstrated a need to increase faculty knowledge and competency about substance use to teach nursing students how to assist patients with substance use disorder (Knopf-Amelung et al., 2018).

There were numerous studies published on how training influences nurses' and nursing students' competency and self-efficacy to care for patients with substance use and disorders (Broyles et al., 2013; Coleman et al., 1997; Knopf-Amelung, 2018; Puskar et al., 2014; Rao et al., 2016; Smothers et al., 2018; Hodgson, Atherton, Stanton, Toriello, Borst, Winter, and Moran, (2016). However, there are a limited number of studies to date that have addressed the influence of substance use training on nurses' competency and self-efficacy to address impairment in colleagues. One of these studies evaluated the effectiveness of an educational intervention about nursing impairment (Cadiz et al., 2012). Intervention training was implemented and evaluated at one School of Nursing (Cadiz et al., 2012). The results indicated that nursing students' knowledge and self-efficacy increased significantly after the training (Cadiz et al., 2012). A second more recent study examined the influence of an online course on nurses' knowledge about substance use disorder (Zickafoose, 2017). The results suggested that the online course was an effective means to increase substance use knowledge according to Zickafoose (2017). Although numerous studies have been conducted on how training influences nurses' competency and self-efficacy to care for patients with a substance use disorder, there remains a gap addressing the influence of substance use training on nurses' competency and self-efficacy to address impaired colleagues.

Literature Review of Key Constructs

This section will review the key constructs measured by two instruments. The RNs Perceived Competency instrument that involves measuring self-confidence, communication, attitudes, and knowledge. The definition of competency varies by profession and country (Piji-Zieber, Barton, Konkin, Awosoga, & Caine, 2014). For example, in the English language, competence and competency are often interchangeably used which adds to the lack of clarity (Khan & Ramachandran, 2012). The learner (Acme, 2011) knows competency as knowledge put into action. Competence is a holistic term that refers to a person's overall capacity or the ability to do something successfully (Piji-Zieber et al., 2014). In addition, competency represents the integration of knowledge, skills, values, and attitudes (Carraccio, Wolfsthal, Englander, Ferentz, Martin, 2002; Eraut, 1994; Frank et al., 2010). Khan and Ramachandran (2012) recommended that in medical education literature, "The term 'competency' should strictly be used for the 'skill' itself while competence is the ability to perform that skill and the attribute of the performer (p. 920)."

One key indicator that is measured for the perceived competency of nurses in the current study is self-confidence. Self-confidence is defined as confidence in oneself and one's powers and abilities (Merriam-Webster, 2011). In the current study, nurses will be asked to rate themselves on "feeling confident to care for colleagues and believe recovery from substance use disorders is possible." Past studies measured the self-confidence in healthcare professionals reflecting congruence in the findings that with substance use education self-confidence increases (Chan & Matter, 2013; Kane et al., 2016; Landschool, Portzky, & Herringer, 2017; Russell et al, 2017). Russell et al., 2017 examined the effects of an educational intervention on the perceived

competency of 57 nurses who cared for patients with substance use disorders. They found that significant increase in self-confidence post-intervention. Another study by Chan and Matter (2013) found a significant increase in self-confidence after conducting a study to measure 114 nurse's self-confidence when performing the conscious level assessment using the Glasgow Coma Scale (GCS). Landschool, Portzky, & Herringen (2017) assessed confidence in healthcare professionals from 39 emergencies and 38 psychiatric departments. They collected the data with structured self-report questionnaires assessed regarding suicidal behavior management, and attitudes. Data analyzed through a Solomon four-group design, with random assignment to the different conditions. Baseline scores for knowledge and provider confidence were high.

A second key indicator that is measured for the perceived competency of nurses in the current study is communication. Communication is defined as a process by which information is exchanged between individuals through a common system of symbols, signs, or behavior (Merriam-Webster, 2011). Several studies concluded that effective communication is critical for healthcare professionals (Kesseler et al., 2015; Leonard, 2017; Blom, Peterson, Hagell, & Westergren, 2015). According to Kesseler et al., (2015), communication errors are marred by poor communication and deficiency in standardized processes with healthcare professionals. They evaluated the 5C's standardized model (contact, communicate, core question, collaborate, and closed the loop) training with medical students (Kesseler et al., 2015). They found that medical students had a significant increase in their skills post training to communicate patient information more accurately, speak more clearly and identify the core clinical needs of patients. In another study, the need for effective communication between healthcare professionals was also addressed. The authors stressed the importance of effective oral communication and

evaluated the use of the SBAR model (situation, background, assessment, and recommendation) to avoid unclear communication between health care professionals and in turn enhance patient safety (Blom, Peterson, Hagell, & Westergren, 2015). The structured model for oral communication was used by healthcare professionals to report patients' conditions. They concluded communication using the SBAR model took additional time, however, resulted in significant improvement in communication with fewer deficiencies. Also, Leonard (2017) explored ways to manage healthcare professionals and patients' communications. Similarly, to the other studies, he concluded that effective communication between healthcare professionals and patients improved clinical outcomes. Consequently, ensuring that healthcare professionals have effective communication skills is vital to the patients' overall wellbeing (Leonard, 2017).

A third key indicator that is measured for the perceived competency of nurses in the current study is attitudes. Attitude is defined as an enduring and general evaluation or cognitive schema relating to an object, person, group, issue, or concept (Nugent, 2013a). Research indicates that the attitudes of healthcare professionals can impact their responses to both impaired colleagues and patients (Boulton & Nosek, 2014; Boulton & O'Connell, 2017; Puskar et al., 2013; Vadlamudi, Adams, Hogan, Wu, & Wahid, 2008). Substance use education and training have been found to promote a positive attitude in nurses towards impaired colleagues and patients (Boulton & Nosek, 2014; Puskar et al., 2013; Vadlamudi et al., 2008). One study evaluated the effect of an educational intervention on nurses' attitudes regarding patients who abuse alcohol (Vadlamudi et al., 2008). They concluded there was a significant positive change in the nurses' attitudes along with beliefs and levels of confidence. Very similar results were found in a study evaluating healthcare professionals' attitudes toward patients after education

and training (Puskar et al., 2013). Following training, perceived attitudes toward patients who abused alcohol improved, however less significant improvement was found for attitudes related to drug use (Puskar et al., 2013). However, not all studies addressed the impact of training on attitudes but rather explored the work setting on healthcare professionals' attitudes with impaired patients. The sample comprised of physicians, nurses and allied healthcare professionals working in the accident and emergency room, surgical and psychiatry departments. They found there were significant differences in staff settings and the impact on attitudes with substance-impaired patients. Healthcare professionals working in addiction and psychiatry settings had more of a positive attitude toward substance-impaired patients than those working in accident and emergency departments. They suggested that training in substance use would help to foster positive attitudes toward impaired colleagues and patients (Iqbal et al., 2015).

The final key indicator that is measured for the perceived competency of nurses in the current study is knowledge. Knowledge is defined as an awareness of the existence of something; information and understanding of a specific topic of the world in general which is usually acquired by experience or learning (Nugent, 2013). Knowledge has been measured in various studies on substance use, interventions, and healthcare professionals. In one study, a higher baseline of knowledge about substance use after a two-day workshop for nurses was given. The authors noted that the nurses demonstrated a decrease in permissiveness for substance use impairing conditions and an increase in the efficacy of treatment and the ability to communicate with patients (Hagemaster, Handely, Plumlee, Sullivan, & Stanley, 1993). More recently, medical education has been shown to increase knowledge about substance use has been recognized to be an essential part of the curriculum in psychiatry and general medicine (Barral et al., 2015). For example, the knowledge and beliefs about harm reduction policies in substance use

were assessed among medical residents (Barral et al., 2015). They concluded that medical residents working with patients with substance use issues tended to give more importance to training and knowledge and to have a better perception of the training already received, compared with residents without this contact (Barral et al., 2015).

Summary

This chapter provided a review of the literature related to the effect of substance use training on RNs' competency and self-efficacy to deal with an impaired colleague. The review provided a better understanding about substance abuse impairment in the healthcare profession more specifically regarding nurses and the threats to patient safety (Bryson and Hamza, 2011; Dunn, 2005; Higgins-Roche, 2007). The literature review began with an exploration of Bandura's (1982) self-efficacy theory and how it will be used to examine the impact of training on RNs' competency and self-efficacy. The chapter then described the negative impact of impaired nurses in the workplace that potentially places patients, colleagues, and professionals themselves at risk for injury or death (CMS, 2014, Kunyk, 2015; New, 2015; Schaefer & Perz, 2014). The review identified the risk factors including the most overlooked ones that predispose nurses to substance use disorders (Barral et al., 2014; Braquehais et al., 2014; Darbro & Malliarakis, 2012; Department of Health and Human Services, 2011; Dittmann, 2015; McHugh, Papastrat, & Ashton, 2011). In addition, the chapter detailed several factors as to why there is a failure to report an impaired colleague by other healthcare professionals (Dumitrascu et al., 2014; McCulloh, Nemeth, Sommers, & Newman, 2015; Worley; 2017). An overview of the limited number of studies to date that have addressed the influence of substance use training on nurses' competency and self-efficacy to address impairment in colleagues was presented (Cadiz et al., 2012, Zickafoose, 2017). Finally, the key constructs for the study were reviewed (self-

confidence, communication, attitudes, and knowledge) was completed (Chan & Matter, 2013; Kane et al., 2016; Russell et al., 2017). After reviewing all the related literature, it was evident that a gap exists. As a result, this current study will examine the effect of substance use training on RNs' post-training competency and self-efficacy to deal with an impaired colleague.

Chapter 3 identifies the research design and methodology used to test the hypothesis in this study. This study will utilize a classic quasi-experimental design known as single-group pretest/posttest design to examine the changes in self-efficacy and competency in RNs. Chapter 4 will provide a detailed depiction of the study results, and Chapter 5 will provide conclusions, and implications in addition to plausible recommendations.

Chapter 3: Methodology

Introduction

An extensive amount of research on substance use disorders in nursing focusing on identification, intervention, treatment, re-entry, and legal ramifications has been disseminated but there remains a lack when addressing substance use training interventions for registered nurses (Boulton & O'Connell, 2017; Camacho-Rodriguez & Gonzalez-Ruiz, 2015; Crowley, 2014; Ivey, 2015; Lovi & Barr, 2009; Miller, 2015; Strobbe & Crowley, 2017; Thomas & Siela, 2011; Worley, 2017). The purpose of this quantitative study was to identify the extent to which substance use training changes the competency about substance use and self-efficacy to deal with an impaired colleague with RNs. The information obtained from this study will provide a better understanding of the effect of substance use training on competency and self-efficacy of RNs' post-training. Researchers have suggested that the lack of training affects knowledge and self-efficacy both of which are needed to intervene on an impaired colleague (Cadiz et al., 2012) and of that these may improve with training (Hensel et al., 2013).

In this chapter, I present a rationale for using a quantitative, quasi-experimental single-group pretest/posttest design and its connection to the research questions. I discuss time and resource constraints with the design choice. I also describe how the design choice is consistent with the research designs used in the past to advance knowledge in the nursing profession. I discuss the intervention and define the target population, sample size, and sampling procedures. I provide an overview of the recruiting procedures and describe the data collection process that includes any debrief or follow-up procedures. I discuss the instrument and the appropriateness of use in the current study along with past-published reliability and validity. The training material

developer information will be addressed along with the data analysis plan, threats to validity and ethical procedures.

Research Design and Rationale

The research design is quasi-experimental. However, quasi-experimental research designs have several variations. The variations are classified by whether there are one or more groups of participants. A second criterion is how often the measurements are taken. In the proposed study, there will be one group of participants. Measurements will be taken twice, before and after the treatment. Therefore, the quasi-experimental design was a single-group pretest/posttest design (Jackson, 2011). The design is most appropriate to test the research study hypotheses, to provide answers about causal relations, which is often used in nursing research (Black, 1999: Burns & Grove, 2009; Creswell, 2014; Frankfort-Nachmias, & Nachmias, 2008; Kraska, 2010). This design was used to determine the effect of substance abuse training, entitled: Recognizing Impairment in the Workplace, the independent variable will have on RNs' competence and self-efficacy, which are the two dependent variables. A post-test was given preceding the substance use training to determine if exposure to training leads to improvement and to understand the effect of substance abuse training on RNs' competence and self-efficacy when dealing with impaired colleagues, The post-test helped to determine if there is an improvement or a decrement in either or both dependent variables when compared to the pretest. Therefore, to determine the potential effect if any before and after substance use training on RNs' competence and self-efficacy, it is logical to use a quantitative methodological approach in this study rather than a qualitative method.

Convenience sampling rather than random sampling was used to select participants for the study. The convenience sampling approach is a nonprobability sampling method where participants are easy to access by the researcher (Creswell, 2014). The convenience sample was selected because of the proximity and accessibility to the RNs at one location. Therefore, time and resource constraints were at a minimum because data collection can be facilitated in a short time.

The quantitative, quasi-experimental design was used in previous research to advance knowledge in the discipline of evaluating competence and self-efficacy (Boulton & Nosek, 2014; Dewey, Toogood, Hastings, & Nash, 2006; Hernandez-Padilla, Suthers, Fernandez-Sola, & Granero-Molina, 2014; Orak et al., 2016; Sirpa et al., 2017). Researcher in nursing often used a quasi-experimental design with a pre/posttest to advance knowledge in the discipline (Cadiz et al., 2012; Grugetti et al., 2014; Rasool & Rawaaf, 2008; Sotos et al., 2015). This quantitative, quasi-experimental research study will contribute to an expanding understanding of RNs' experience as it relates to substance use training and RNs' competence and self-efficacy.

Methodology

Population

For this study, the target population was all licensed RNs in the state of Florida. The sample of 180 RNs came from a total available population of 450 RNs employed at various full service, acute care medical facilities in West Florida. The sample of a180 RNs was recruited through the Florida Nurses Association (FNA) west central regional office. Participation in the research study was entirely voluntary, and no compensation was awarded to the participants upon completion.

Sampling and Sampling Procedures

The convenience sample is a nonprobability method and most often used to measure relationships among variables (Frankfort-Nachimas et al., 2014). I examined the effectiveness of a training program on RNs' competency and self-efficacy. Therefore, a convenience sample of RNs was used. The 180 RNs was a convenient sample of both males and females. The two criteria for inclusion was that the RNs must be currently employed at a medical facility full time and registered for the two-hour substance abuse training; exclusion criteria applied to RNs not enrolled in the training and non-employees. To get the minimum sample size, Howell (2013) recommended the use of an alpha of .05 and power of 80. For the current study, a priori power analysis was conducted with G*Power 3.1 (Faul, Erdfelder, Lang, & Buchner, 2007). G*Power uses an analysis-by-design approach for determining the required sample size. To use the software, specific parameters must be entered. The first input parameter is the number of tails. A two-tailed test will require a larger sample size than a one-tailed test. The first hypothesis is two-tailed (non-directional). The second hypothesis is one-tailed (directional). Since larger sample size is required for a two-tailed test, the corresponding input parameters will be reported.

The second required parameter is the effect size. Effect size is a standardized way of quantifying a difference (d). Effect sizes are categorized as small (d_z = .20), medium (d_z = .50), or large (d_z = .80) (Cohen, 1977). The "z" stands for the standard deviation of the difference (d).

The third required parameter is the alpha level. The alpha level refers to the value at which the null hypothesis will be rejected assuming that the null hypothesis is true (Brace, Kemp, and Snelgar, 2013). In social sciences and for the proposed study, the alpha level is $p <$ .05.

The fourth required parameter to enter is the power level. Power level refers to the degree of confidence one can have in the study (Brace, Kemp, and Snelgar, 2013). A power level of .95 was selected for the current study. Thus, for a two-tailed test, a medium effect size (d_z = .50), an alpha level of .05, a power level of .95, a sample size of 54 will be required.

Procedures for Recruitment and Participation

Participants were recruited through a nursing organization west central region office. The West Central Region Director was provided the information concerning the study and a formal request to conduct the study during the scheduled substance abuse training at a designated auditorium. Once approval and permission are granted, the West Central Region Director was asked to post the research study information on the nursing organization's website. The RNs interested in participating during the substance abuse training was provided another link on the website board that provides a registration form and a confidentiality statement detailing how the study participant's rights would protected. A letter of support and permission was included from the nursing organization scheduled trainer for submission to Walden's Institutional Review Board (IRB). Both informed consent form and demographic questions to assess gender, age group, ethnicity, career years, present nursing position, highest educational degree and previous experience with an impaired colleague was included at the beginning of the pretest and collected the day of the training.

Data Collection

Study participants were invited to participate in the study during the online registration process for the two-hour substance use training. The scheduled training was held in a designated auditorium at no cost to attendees. The data collection begins with a formal introduction that includes a) the purpose of the study, b) explanation of the statement of confidentiality, and c) criteria for participation.

Demographic information was collected on all participants, which includes gender, age group, ethnicity, career years, present nursing position, highest educational degree and any experience with impaired colleagues. A pretest/posttest design was used. Before the training and post-training, all registered attendees were invited to complete the pretest/posttests. The estimated timeframe was 7 to 10 minutes to complete each. Participants were informed that they might withdraw at any time during the pre or posttests, without consequences.

Study participants exited the study with a short debrief. They were given an informative explanation of the rationale for the design of the study and the methods used in a written handout. Study participants were encouraged to ask questions, and an asked not to disclose research procedures or hypotheses, to anyone who might participate in this study in the future as this could affect the results of the study. All study participants were given the researcher contact information to request a copy of the final report (summary of findings) or to address any further questions or concerns about the study or participants' rights as a research subject. Also, study participants were given contact information for local mental health professionals if they are feeling upset after having completed the study or find that some questions or aspects of the study

triggered distress. Lastly, study participants were provided with a list of references for further reading on impaired nurses in the workplace, and there was no follow-up required.

Intervention

The two-hour substance use training entitled, Recognizing Impairment in the Workplace training served as the independent variable for this study. This training was planned and implemented by a nursing organization. The objectives for the training were; a) outline the epidemiology and scope of impairment in the healthcare workplace, b) discuss unique risk factors for substance abuse in nurses, c) identify the signs of impairment in the nursing workplace, d) analyze the process and legal obligations involved in reporting an instance of impairment in the workplace, and d) describe treatment programs available for impaired nurses in the workplace. To complete the two-hour training, an individual must be licensed as an RN in the state of Florida. The researcher did not conduct the training. Therefore, the bias was not introduced into the study (East, 2016). The trainer was a registered nurse educated in advance practice and had experience in establishing staff education and facilitating clinical training in various areas applicable to the service area. The trainer used the instructor-led method where the training attendees are presented segments of information, asked questions frequently, and provided periodic, verbal summaries of the training information.

Instrumentation and Operationalization of Constructs

A review of the literature did not produce a single valid and reliable instrument that aimed at measuring the perceived competency and self-efficacy of RNs addressing impairment among colleagues. Therefore, two, valid instruments were used in the current study. These two instruments are the Perceived Competency with Impaired Nurses survey (Appendix C) and the

Method for Dealing with Nurse Impairment questionnaire (Appendix D). The pretest survey to be used in this study contains all three sections. Section one will contain demographic questions developed by the researcher which will include gender, age group, ethnicity, career years, present nursing position, highest educational degree and previous experience with an impaired colleague. Section two contained statements from the Perceived Competency with Impaired Nurses Survey to address research question 1. Section 3 will address Question two with the use of the Methods for Dealing with Nurse Impairment Questionnaire (MDNIQ). The post-test survey contained only sections two and three. The pre and post-test surveys was coded so that results could be compared for individual participants.

Perceived Competency with Impaired Nurses Survey

As stated, two instruments were combined as one survey instrument for this study. The first of the two is the Perceived Competency with Impaired Nurses Survey.

In 2014, a planning committee consisting of clinical educators, nurse planners, a board-certified physician, licensed clinical social worker and psychiatric nurse practitioner developed the survey questions to measure nurses' perceived competency when caring for patients with substance use disorders (Russell, Ojeda, and Ames, 2017). According to Russell et al. (2017), the survey questions were based on an original survey that contained four statements found to be effective in generating positive mental health outcomes in a previous study (Lakeman, 2010). The competencies were translated into statements that could be measured representing behavioral and effective terms to create the survey that assessed participant's responses (Russell et al., 2017). The four statements are 1) to feel confident to care for them and believe recovery is possible, 2) make the approach with a positive, nonjudgmental attitude, 3) know what questions

to ask if I suspect drug or alcohol use, and 4) refer them to resources in the community and motivate them to seek help.

Creswell (2018) describes validity as how well a test measures what it is intended to measure. In the previous study with 57 nurses, 21 educators assessed content validity with the perceived competency survey. Cronbach's alpha was used to test the internal consistency reliability of the survey items. The level of statistical significance was set at alpha = .05. Internal consistency reliability for the preclass was = .654 which was acceptable due to the small number of scale items (n=4). They reviewed and provided feedback on the relevance and representation of competency among RNs and caring for patients with substance use disorders (Russell et al., 2017). A statistically significant difference increase was found in competency related to self-confidence, communication, attitudes, and knowledge about resources available for impaired patients. The adapted survey consisted of four items, with a 5-point Likert scale with response options ranging from - 1= (strongly disagree) to 5= (strongly agree), with a higher score, indicating greater competency.

Methods for Dealing with Nurse Impairment Questionnaire (MDNIQ)

The second instrument combined in this study was the Methods for Dealing with Nurse Impairment Questionnaire (MDNIQ). Lachiotte and Alexander (1990) developed the questions. Permission from the developer was requested, and permission letter is included in the appendix. This instrument has nine questions and utilizes a four-point scale with responses ranging from 1 (strongly agree) to 4 (strongly disagree). The three subscales are 1) avoidance for questions 4, 8, 11), legal for questions 6,9,10 and assistance for questions 5, 7,9,12. The reliability analysis revealed coefficient alphas of .61 (avoidance), .52 (legal), .59 (assistance). Lachiotte and

Alexander (1990) conducted a factor analysis of the MDNIQ questionnaire when addressing nurse's attitudes toward nursing impairment with a small sample therefore further research is warranted. They found that those whose attitude reflected the moral weakness perspective took the avoidance approach when dealing with nursing impairment. Whereas, those who viewed nursing impairment as a treatable disease preferred an assistance approach.

Data Analysis Plan

Data collected for this study was entered in SPSS 24.0. Before analysis, data cleaning and screening for any missing data, accuracy and missing outliers was completed (Frankfort-Nachimas & Nachimas, 2008). SPSS was used to complete the data cleaning to identify any data out of range, logically inconsistent or have extreme values. Data cleaning also addressed any missing data that may pose problems if the significant proportion to the total is more than ten percent. A suitable value (neutral or imputed) was assigned or was discarded methodically by case wise or pairwise deletion to minimize missing data adverse effects. (Frankfort-Nachimas & Nachimas, 2008). The independent variable was substance abuse training, entitled, Recognizing Impairment in the Workplace. The dependent variables were the effect on RNs' competence and self-efficacy. The research questions and hypotheses tested were:

RQ1: To what extent is there a difference between pre and posttest scores in nurses' competency about drug impairment after substance use training?

H_0: There is no significant difference between pre and posttest scores in nurses' competency about drug impairment after substance use training.

H_1: There is a significant difference between pre and posttest scores in nurses' competency about drug impairment after substance use training.

RQ2: To what extent is there an increase between RNs' pre and posttest scores in self-efficacy to deal with an impaired colleague after substance use training?

H_0: There is no significant increase between RNs' pre and posttest scores in self-efficacy to deal with an impaired colleague after substance use training.

H_2: There is a significant increase between RNs' pre and posttest scores in self-efficacy to deal with an impaired colleague among after substance use training.

As a part of the analysis plan, descriptive statistics was used to summarize and organize the data collected. Furthermore, inferential statistics was used to interpret any data patterns (Frankfort-Nachimas & Nachimas, 2008). Also, a frequency distribution graph was generated to display the frequency of occurrence for each possible outcome of the repeated surveys. Afterward, to interpret and understand the mean differences between the two sets of observations, it was planned to use a paired samples *t* test. However, the data did not meet the normality assumption, therefore the Wilcoxon Signed Ranks Test was utilized to answer the research questions and test the hypotheses rather than the paired samples t-test.

Research Question #1/Hypothesis #1 was tested with the Wilcoxon Signed Ranks test. The independent variable was the substance use training. The dependent variable was the change in scores in nurses' competency about drug impairment. Research Question #2/Hypothesis #2 was tested also with the Wilcoxon Signed Ranks Test. The independent variable was the substance use training. The dependent variable was the change in scores in nurses' scores in self-efficacy to deal with an impaired colleague.

In other words, the Wilcoxon Signed Ranks Test helped to determine if there is any significant statistical difference in the mean differences between the RNs' competence and self-

efficacy pre and posttest survey results. An ANOVA test was conducted to compare quantitative variables within-subjects. The within-subjects ANOVA was used for related groups and is an extension of the *t* test (Laerd Dissertation [Statistics], 2017).

There were three assumptions of the dependent samples t-test. The data must be on an interval or ratio scale of measurement. The data must be matched on some level. The dependent variable, which consists of the difference scores, must be normally distributed. However, the data had extreme violations of the normality assumption, therefore the Wilcoxon Signed Ranks Test was used.

Threats to Validity

External Validity

External validity refers to how well research results or findings generalize to the overall population across settings, locations and times (Gliner, Morgan, Leech, & Nancy, 2011). A testing effect known as multiple-treatment interference affects external validity in quasi-experiment design studies (Johnson & Christensen, 2017). However, the RNs in the current quasi-experiment design study received only one training; therefore, this type of threat will be minimized. Another threat to external validity is the unclear specificity of variables, which affects the outcome of the general population (Johnson & Christensen, 2017). I addressed this risk by using a combination of two instruments that were valid measures of the two independent variables in the current study.

Internal Validity

Controlling threats to internal validity increases confidence in the ability to claim that a relationship exists between the independent and dependent variables (Johnson and Christensen,

2017). I addressed these threats in the current quasi-experimental study. First, the threat of maturation was addressed by giving the posttest to the RNs directly after the training ended. Secondly, the threat of instrumentation was reduced by giving participants identical pre-and posttest along with identical instructions and procedures. The repeated testing threat was addressed by giving no exposure of test answers to the participants between administering the pre-and posttest. Finally, the mortality/attrition threat occurs when participants drop out of the study before the completion, which can increase the risk of internal validity. In the current study, a collection of data occurred directly after the training to reduce the risk of RNs' attrition.

Ethical Procedures

To address ethical concerns in the current research study, Walden University's IRB approval was obtained. In addition, written permission to gain access to participants was obtained from the nursing organization and included in Appendix A. Once permission was granted, the research study information, registration, consent form and confidentiality statement detailing how study participant's rights are protected was posted on the nursing organization website two weeks before the training. RNs was informed that participation is voluntary, and they may decline to participate at any point during the study. The pre-and posttests were coded to ensure anonymity.

Data dissemination and collection was kept confidential. Only the researcher had access to the data to protect confidentiality. Data collected was stored in an organized and secure manner with only researcher access. Also, data was coded, and identifiers were stored in a different location. Finally, once the research was completed, data collected will be stored in a locked safe for a minimum of 5 years and then shredded.

Summary

The purpose of this quantitative, quasi-experimental study was to examine the effect of substance use training on RNs' post-training competency and level of self-efficacy. The method chapter addressed the research questions and the methodology research design. There were two research questions in this study. The first question examines the effect of substance use training on RNs' competency about drug impairment in the workplace. The second question examined the effect substance use training has on RNs' self-efficacy to deal with an impaired colleague. The sample population is 180 RNs of both males and females employed at a designated auditorium. The MDNIQ and Perceived Competency with Impaired Nurses were the two instruments used to collect the quantitative data in the current research study. Before the training and after the training, all participants were invited to complete the two assessment tools. Statistical assumptions about the relationship between variables are analyzed. Ethical concerns and steps were taken to protect confidentiality and anonymity were discussed. Finally, Chapter 4 included a discussion about data collection analysis, and findings for the current research study.

Chapter 4: Results

Introduction

The purpose of this quantitative, quasi-experimental study was to examine the effect of substance use training on RNs' post-training competency about substance use impairment and level of self-efficacy to deal with impaired colleagues. Health care professionals lack skills to intervene with an impaired colleague (Cadiz et al., 2015). The knowledge to recognize the signs and symptoms of impairment can foster more confidence to intervene on an impaired colleague (Puskar et al., 2013). The National Council State Board of Nursing (NCBSN) recommended that nurses educate themselves about the behavior changes, physical signs, and signals of impairment, which will help not only their colleagues with substance use issues but also protect patients (NCBSN, 2017). The independent variable (IV) for this study was the substance use training course specifically designed for nurses. The dependent variable (DV) was the results of the posttest knowledge scores from the RNs.

Two research questions and related hypotheses guided this study. They were as follows:

RQ1: To what extent is there a difference between pre and posttest scores in nurses' competency about drug impairment after substance use training?

H_0: There is no significant difference between pre and posttest scores in nurses' competency about drug impairment after substance use training.

H_1: There is a significant difference between pre and posttest scores in nurses' competency about drug impairment after substance use training.

RQ2: To what extent is there an increase between RNs' pre and posttest scores in self-efficacy to deal with an impaired colleague after substance use training?

H_0: There is no significant increase between RNs' pre and posttest scores in self-efficacy to deal with an impaired colleague after substance use training.

H_2: There is a significant increase between RNs' pre and posttest scores in self-efficacy to deal with an impaired colleague among after substance use training.

Chapter 4 is organized by a discussion of the sample demographics, reliability analysis, descriptive statistics, data screening, research questions/hypotheses testing, and a summary. Data were collected through paper surveys and then manually entered into SPSS 23 for windows for analysis. The following provides a discussion of the sample demographics.

Sample Demographics

The sample consisted of 118 registered nurses (RNs) recruited through the Florida Nurses Association (FNA) west central regional office. Most nurses 83.1% (n = 98) were females, whereas 16.9% (n = 20) were males. Participants ranged from ages 27 to 86 years (M = 49.06, SD = 11.74) with a median age of 49.00. Regarding ethnicity, 58.5% of respondents (n = 69) were white, 16.1% (n = 19) were black or African Americans, and 11.0% (n = 13) were Asians or Pacific Islanders. Ethnicity is presented in Table 1.

Table 1

Ethnicity

Ethnicity	*n*	*%*	*Valid %*
Asian/or Pacific Islander	13	11.0	11.3
Black or African American	19	16.1	16.5
Hispanic or Latino	11	9.3	9.6
Other (Jamaican)	1	0.8	0.9
Other (Not Specified)	2	1.7	1.7
White	69	58.5	60.0
Total	115	97.5	100.0
Not Answered	3	2.5	
Total	118	100.0	

Less than 10% of the sample (9.3%, *n* = 11) were employed 1 to 4 years as a registered nurse. Approximately 23% (*n* = 27) were employed 5 to 10 years. However, 45.8% (*n* = 54) were employed more than 20 years. Years employed as a registered nurse are presented in Table 2.

Table 2

Years Employed as a Registered Nurse

Years Employed	*n*	*%*	*Valid %*	*Cumulative %*
1 to 4 years	11	9.3	9.4	9.4
5 to 10 years	27	22.9	23.1	32.5
11 to 15 years	10	8.5	8.5	41.0
16 to 20 years	15	12.7	12.8	53.8
More than 20 years	54	45.8	46.2	100.0
Total	117	99.2	100.0	
tNot Answered	1	0.8		
Total	118	100.0		

Regarding present nursing position, 54.2% (*n* = 64) of respondents were in nursing management; 20.3% (*n* = 24) were in nursing administration; and 5.9% (*n* = 7) were staff in

occupational health. This represented 80.4% of the sample. Less frequent positions consisted of staff in a Nursing Education Program (2.5%, *n* = 3) retired staff (2.5%, *n* = 3) and lab supervisors (1.7%, *n* = 2). See Table 3.

Table 3

Present Nursing Position

Nursing Position	*n*	%
Administration in Nursing Education Program	1	0.8
Nursing administration (e.g. director of nursing, nursing, supervisor, etc.)	24	20.3
Nursing Management (e.g. staff nurse, nurse manager, unit coordinator, etc.)	64	54.2
Other: APRN	1	0.8
Other: Indep. Consultant	1	0.8
Other: Lab Supervisor	2	1.7
Other: N/A	1	0.8
Other: Nursing Professor	1	0.8
Other: Nursing Program Director Education	1	0.8
Other: Practice Manager	1	0.8
Other: Professor; Faculty	1	0.8
Other: Quality Mgr.	1	0.8
Other: Resource RN	1	0.8
Other: Retired	3	2.5
Other: Staff Development	1	0.8
Other: Staff in OR	1	0.8
Other: Staff RN Advent Health	1	0.8
Other: Work Comp Case Manager	1	0.8
Other: Workers Comp	1	0.8
Staff in Nursing Education Program	3	2.5
Staff in Occupational Health	7	5.9
Total	118	100.0

Regarding highest educational degree, 48.3% (n = 57) had baccalaureates in nursing. However, 32.2% (n = 38) had master's degrees in nursing; and 5.9% (n = 7) had doctorates in nursing. Highest educational degree is presented in Table 4.

Table 4

Highest Educational Degree

Educational Degree	*n*	*%*	*Cumulative %*
Associate degree	16	13.6	13.6
Bachelor's degree in nursing	57	48.3	61.9
Master's degree in nursing	38	32.2	94.1
Doctorate in nursing	7	5.9	100.0
Total	118	100.0	

Most respondents 71.2% (n = 84) indicated that they had experience with a substance use impaired nurse/colleague, whereas 28.8% (n = 34) did not.

Instrument Reliability for Sample

Two instruments were used in the study. The two instruments were combined as one survey instrument for this study. The first of the two is the Perceived Competency with Impaired Nurses Survey (PCINS). It measures nurses' perceived competency when caring for patients with substance use disorders (Russell, Ojeda, & Ames, 2017). The internal consistency of perceived competency before the class was .695, which was slightly higher than the value reported in the literature (α = .654), (Russell et al., 2017). After the substance use training, the reliability coefficient for perceived competency increased to .823.

The second instrument was the Method for Dealing with Nurse Impairment Questionnaire (MDNIQ). It measures the level of self-efficacy to deal with impaired colleagues

(LachiotteAlexander, 1990). The internal consistency of the self-efficacy pre-test items was 168. The internal consistency of the posttest items for self-efficacy was .457. An inter-item analysis was conducted on the items. Items #2, 4, and 9 had negative corrected item-total correlations. This suggested that the items should be reverse scored on both the pretest and the posttest. After reverse scoring the three items, the reliability for self-efficacy on the pretest was .776. The reliability for self-efficacy on the posttest was .828, which was higher than the value reported in previous literature (α = .573) based on the average internal consistency reported for the three subscales (Lachiotte & Alexander, 1990). Reliability coefficients are presented in Table 5.

Table 5

Reliability Coefficients

Variable	*N* of Items	Cronbach's alpha	Value Reported in Literature
Perceived Competency/Pretest	4	.695	.654 (Russell et al., 2017)
Perceived Competency/Posttest	4	.823	
Self-Efficacy/Pretest	9	.168	.573 (Lachiotte & Alexander, 1990)
Self-Efficacy/Pretest	9	.776*	
Self-Efficacy/Posttest	9	.475	
Self-Efficacy/Posttest	9	.828*	

**Note*: Reliability coefficients were computed after inter-item analysis and recoding of data.

Descriptive Statistics and Data Screening

Pretest scores for perceived competency ranged from 1.00 to 3.25 (M = 1.48, SD = 0.46). Posttest scores for perceived competency ranged from 1.00 to 4.00 (M = 1.17, SD = 0.39). Pretest scores for self-efficacy ranged from 2.00 to 4.00 (M = 3.06, SD = 0.39). Posttest scores

for self-efficacy ranged from 2.00 to 4.00 (M = 3.35, SD = 0.42). Descriptive statistics are summarized in Table 6.

Table 6

Descriptive Statistics

Variable	*Minimum*	*Maximum*	*Median*	*M*	*SD*
Perceived Competency Pretest	1.00	3.25	1.50	1.48	0.46
Perceived Competency Posttest	1.00	4.00	1.00	1.17	0.39
Self-Efficacy Pretest	2.00	4.00	3.06	3.16	0.39
Self-Efficacy Posttest	2.00	4.00	3.33	3.35	0.42

The data were screened for normality with the Shapiro-Wilk Test of Normality and also with histograms. When $p < .05$, this signifies that the distributions are not normal. The distributions were not normally distributed for any of the variables of interest. Results of the Shapiro-Wilk Test of Normality are presented in Table 7.

Table 7

Shapiro-Wilk Test of Normality Results

	Shapiro-Wilk		
Variable	Statistic	*df*	*p*
Perceived Competency Pretest	.879	118	.000
Perceived Competency Posttest	.499	118	.000
Self-Efficacy Pretest	.956	118	.001
Self-Efficacy Posttest	.958	118	.001

The data were also screened for normality with histograms. The tail of the distribution for the perceived competency pretest pointed primarily to the right. Therefore, it had a significant positive skew based on the Shapiro-Wilk Test of Normality, $p < .001$. The histogram of perceived competency pretest scores is illustrated in Figure 1.

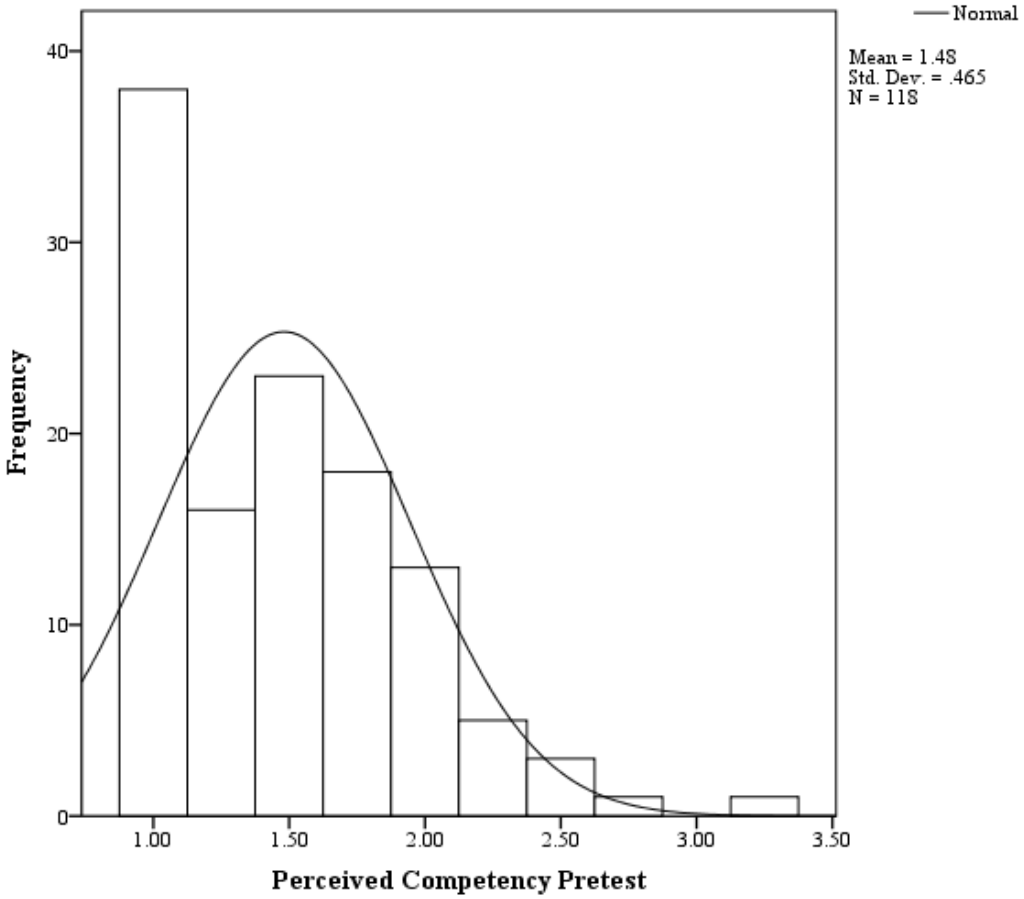

Figure 1. Histogram of perceived competency pretest scores

The data were also screened for the presence of statistical outliers with stem and leaf plots and box and whisker plots. A box and whisker plot is a graphical illustration that divides a distribution into four quartiles. A statistical outlier is defined as any point beyond the whiskers in the plot. The median is represented by the horizontal line within the box. The median for perceived competency pretest scores was 1.50. One statistical outlier was observed (≥ 3.25). The

value of 20 in the figure refers to the twentieth case in the dataset. A statistical outlier is defined mathematically when it falls below 1.5 times the interquartile range (IQR) or above 1.5 times the interquartile range. The interquartile range is the difference between the first and the third quartile. The IQR for perceived competency pretest scores was 0.75. The box and whisker plot for perceived competency pretest scores is presented in Figure 2.

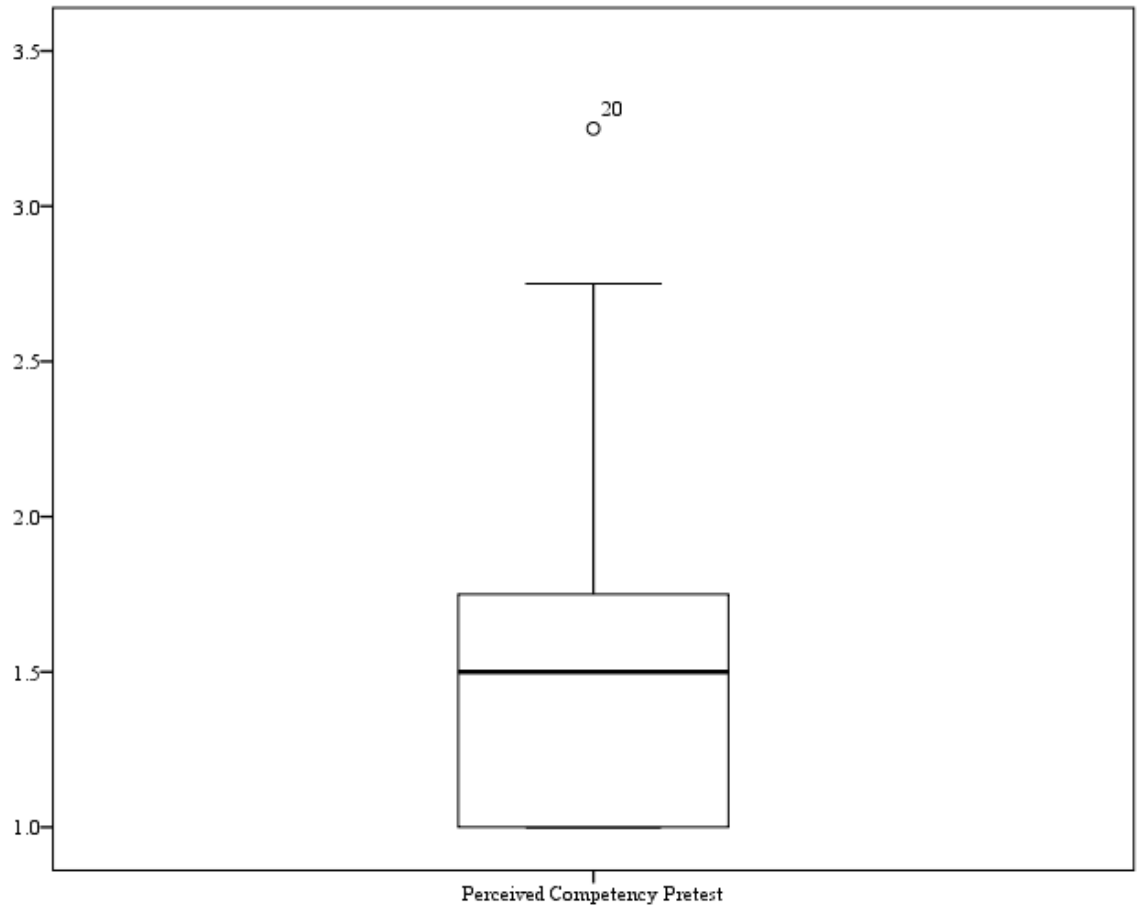

Figure 2. Box and Whisker Plot for perceived competency pretest scores

The tail of the distribution for the perceived competency posttest pointed primarily to the right. Therefore, it had a significant positive skew based on the Shapiro-Wilk Test of Normality, $p < .001$. The skew appeared to be more extreme than the distribution for the pretest scores. The histogram of perceived competency posttest scores is illustrated in Figure 3.

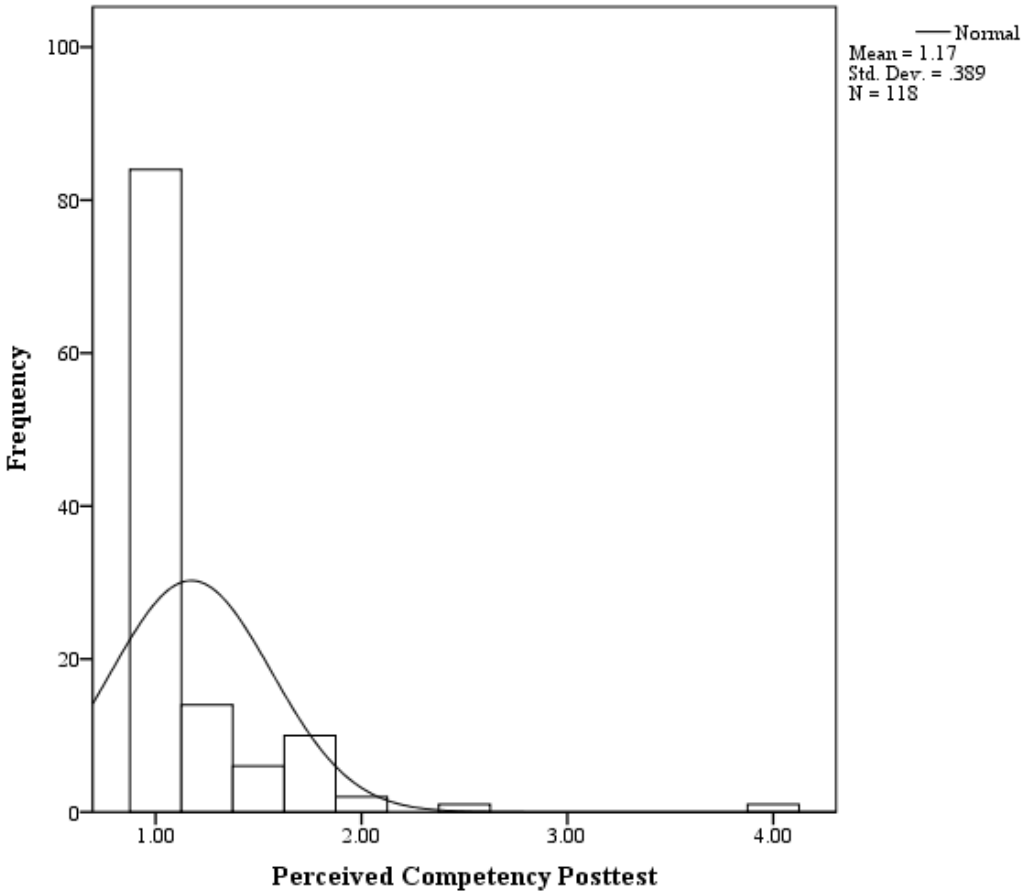

Figure 3. Histogram of perceived competency posttest scores

There were 14 statistical outliers (≥ 1.75) for perceived competency posttest scores. The IQR was 0.25. The median was 1.00. A box and whisker plot for perceived competency posttest scores is presented in Figure 4.

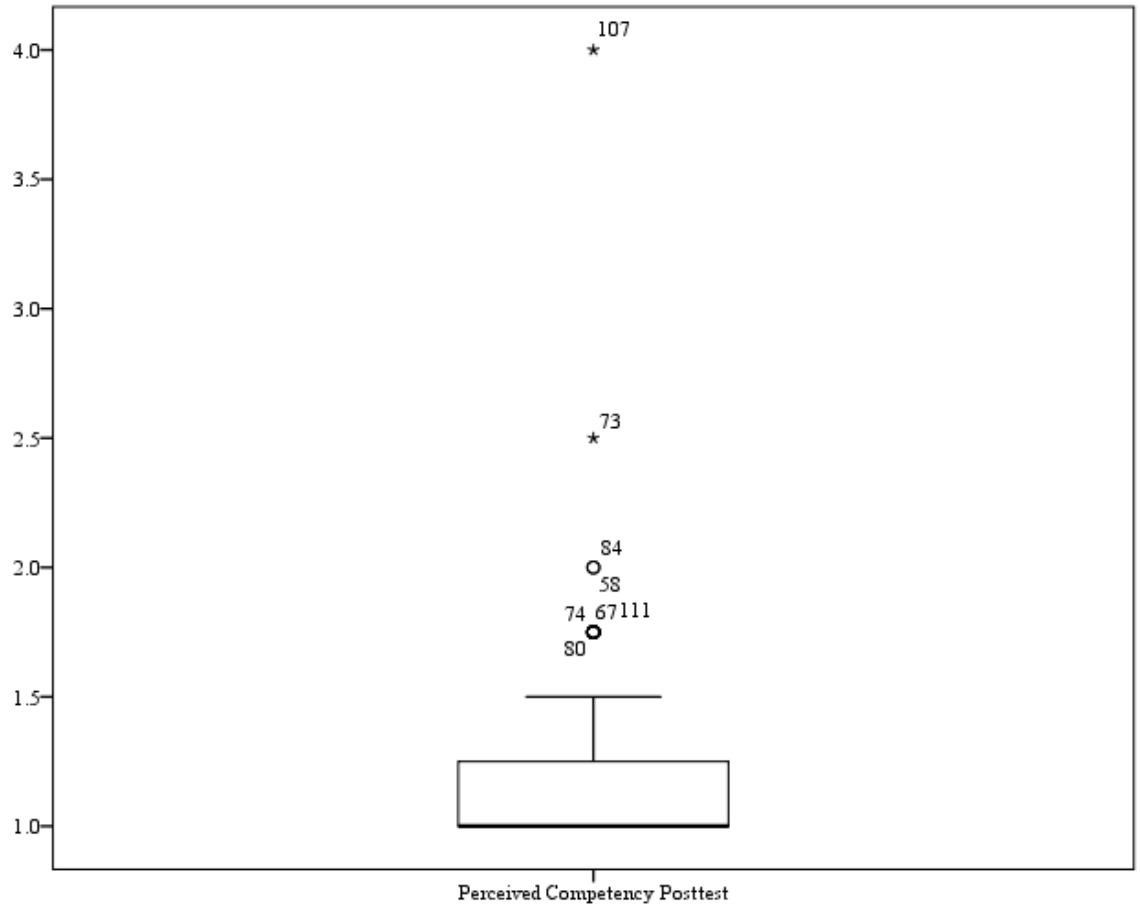

Figure 4. Box and Whisker Plot for perceived competency posttest scores

Based on the Shapiro-Wilk Test of Normality, the distribution for self-efficacy pretest scores had a significant positive skew, $p = .001$. However, the histogram of self-efficacy pretest scores appeared to be normal. See Figure 5.

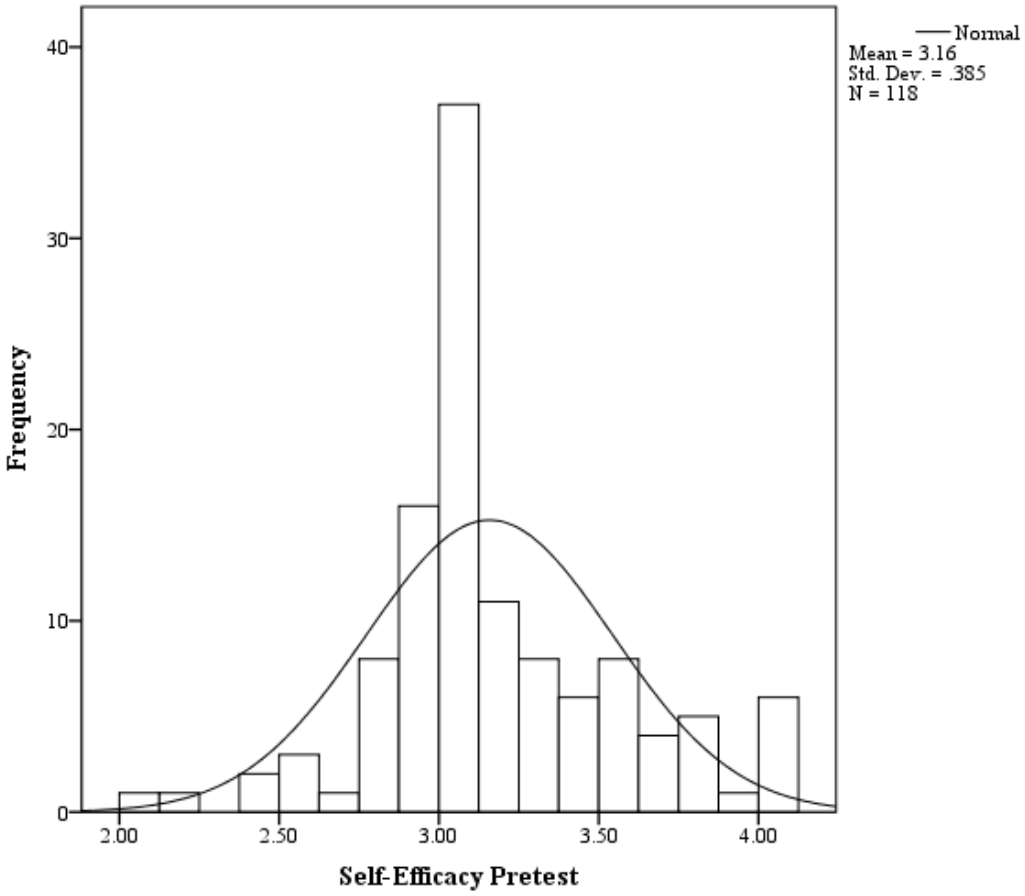

Figure 5. Histogram of self-efficacy pretest scores

There was one statistical outlier (≤ 2.00) for self-efficacy pretest scores. The IQR was 0.56. The median was 3.06. A box and whisker plot for self-efficacy pretest scores is presented in Figure 6.

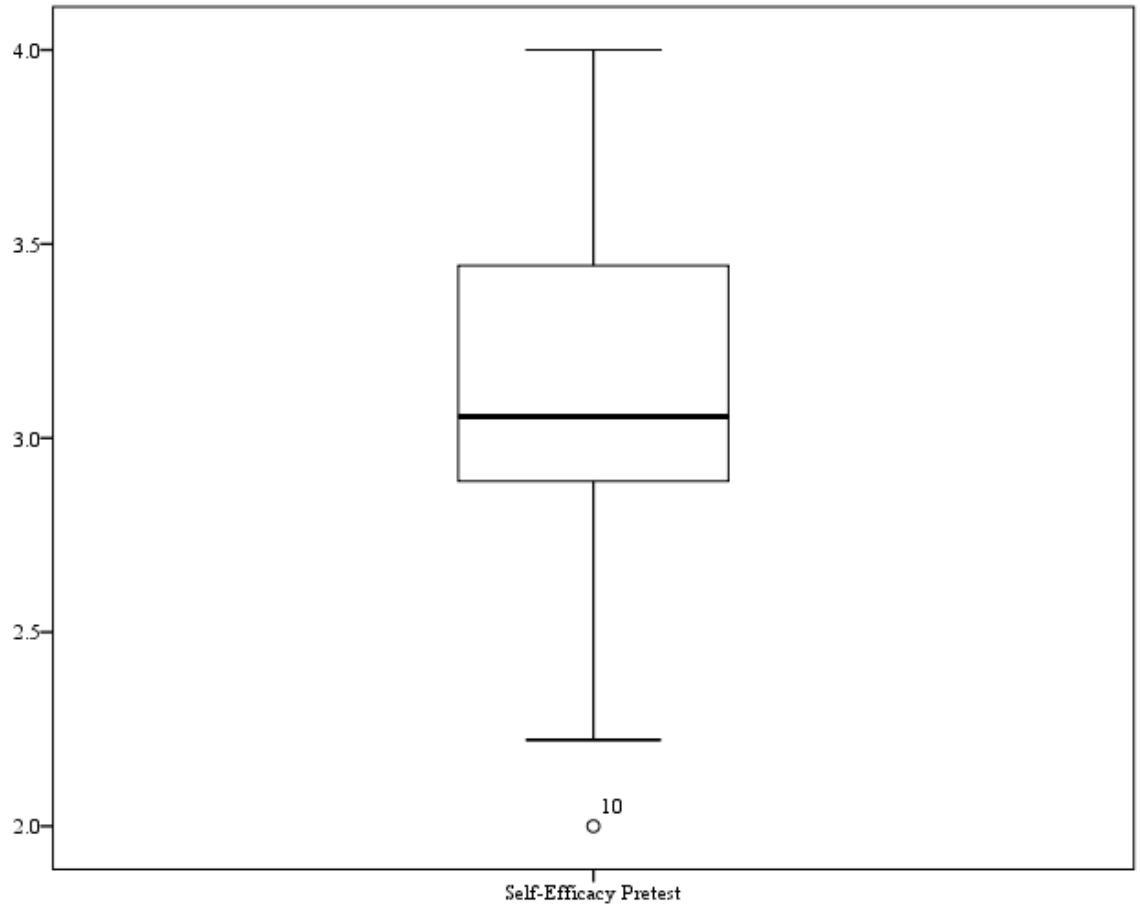

Figure 6. Box and Whisker Plot for self-efficacy pretest scores

The tail of the distribution for the self-efficacy posttest pointed primarily to the left. Therefore, it had a significant positive skew based on the Shapiro-Wilk Test of Normality, p = .001. The histogram of self-efficacy posttest scores is illustrated in Figure 7.

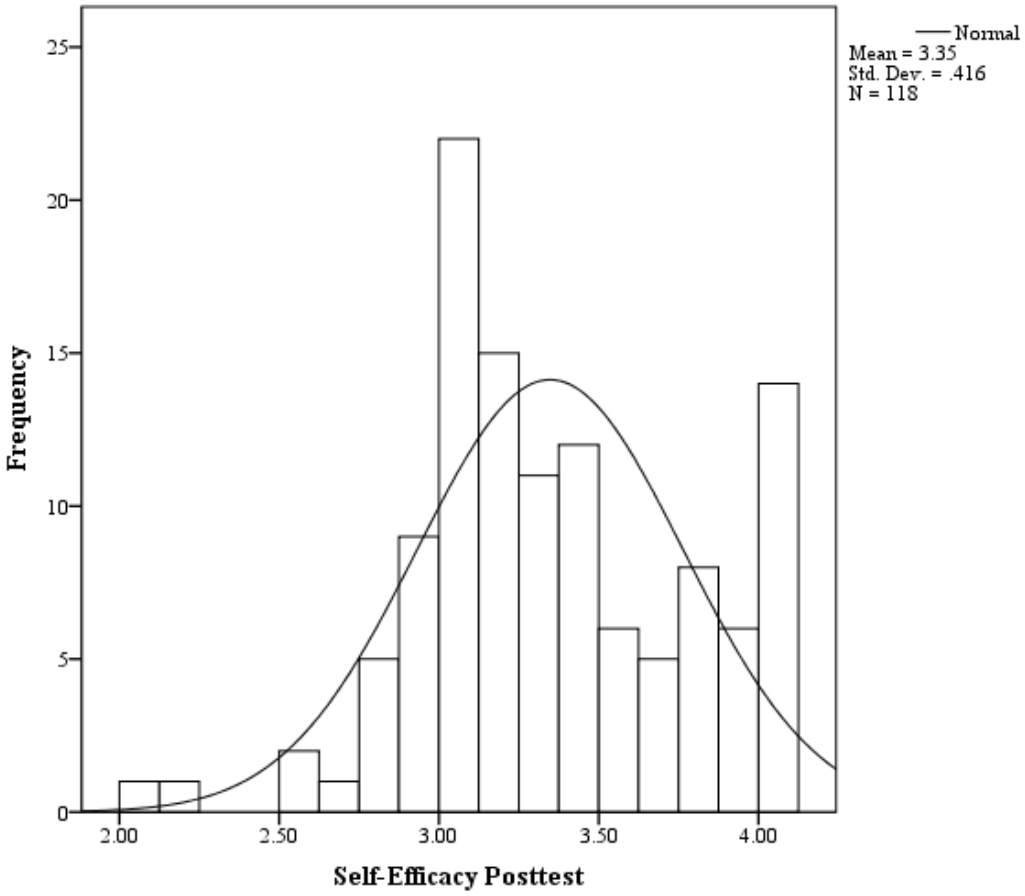

Figure 7. Histogram of self-efficacy posttest scores

There were two statistical outliers (≤ 2.22) for self-efficacy posttest scores. The IQR was 0.56. The median was 3.33. A box and whisker plot for self-efficacy posttest scores is presented in Figure 8.

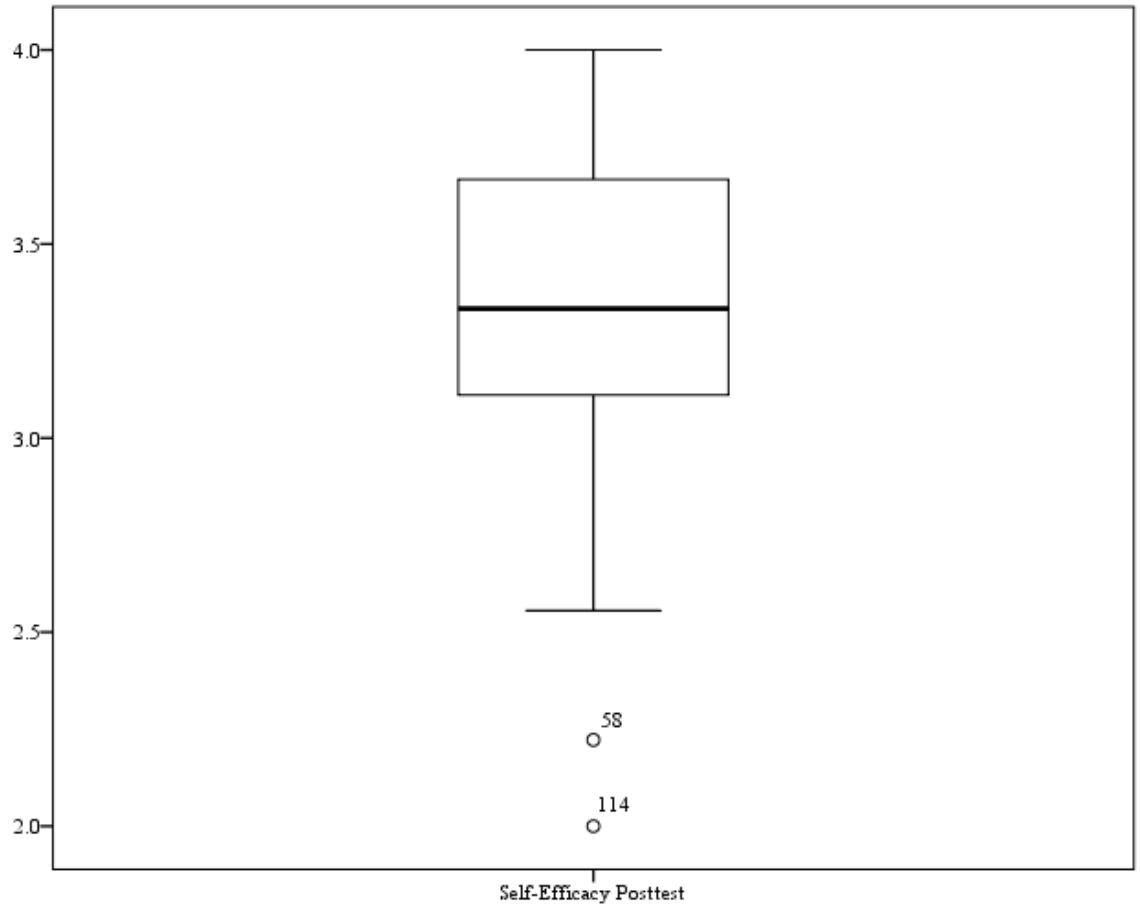

Figure 8. Box and Whisker Plot for self-efficacy posttest scores

Since the data did not meet the normality assumption, the Wilcoxon Signed Ranks Test was utilized to answer the research questions and test the hypotheses rather than the paired samples t-test.

Research Question and Hypothesis Testing

With the Wilcoxon Signed Ranks Test, difference scores that are below zero mean that the pretest scores are higher than the posttest scores. In other words, when the negative ranks exceed the positive ranks, the pretest scores are higher than the posttest scores. Difference scores above zero mean that the posttest scores are higher than the pretest scores. In other words, when

the positive ranks exceed the negative ranks, this means that the posttest scores are higher than the pretest scores. The rank statistics for the analyses are presented in Table 8.

Table 8

Rank Statistics for Research Questions and Hypotheses

Variable		*N*	Mean Rank	Sum of Ranks
Competency Posttest	Negative Ranks	69[a]	37.85	2611.50
Competency Pretest	Positive Ranks	6[b]	39.75	238.50
	Ties	43[c]		
	Total	118		
Self-Efficacy Posttest	Negative Ranks	26[d]	33.08	860.00
Self-Efficacy Pretest	Positive Ranks	72[e]	55.43	3991.00
	Ties	20[f]		
	Total	118		

a. Competency Posttest < Competency Pretest

b. Competency Posttest > Competency Pretest

c. Competency Posttest = Competency Pretest

d. Self-Efficacy Posttest < Self-Efficacy Pretest

e. Self-Efficacy Posttest > Self-Efficacy Pretest

f. Self-Efficacy Posttest = Self-Efficacy Pretest

Research Question One/Hypothesis One

To what extent is there a difference between pre and posttest scores in nurses' competency about drug impairment after substance use training? A Wilcoxon Signed Ranks Test indicated that pretest scores ($M = 1.48$, $SD = 0.46$) in nurses' competency about drug impairment after substance abuse training were significantly higher than posttest scores ($M = 1.17$, $SD = 0.39$) in nurses' competency about drug impairment after substance use training, $Z = -6.33$, $p < .001$, two-tailed. Lower scores were an indicator of increased competency due to the nominal values assigned to the survey answers (agree-1, neutral-2, disagree-3, strongly agree-4). Therefore, the null hypothesis was rejected. A post-hoc power analysis was conducted on the data with G*Power 3.1. Cohen's $d = .72$ for the input parameters. This is a medium effect size.

See Figure 9

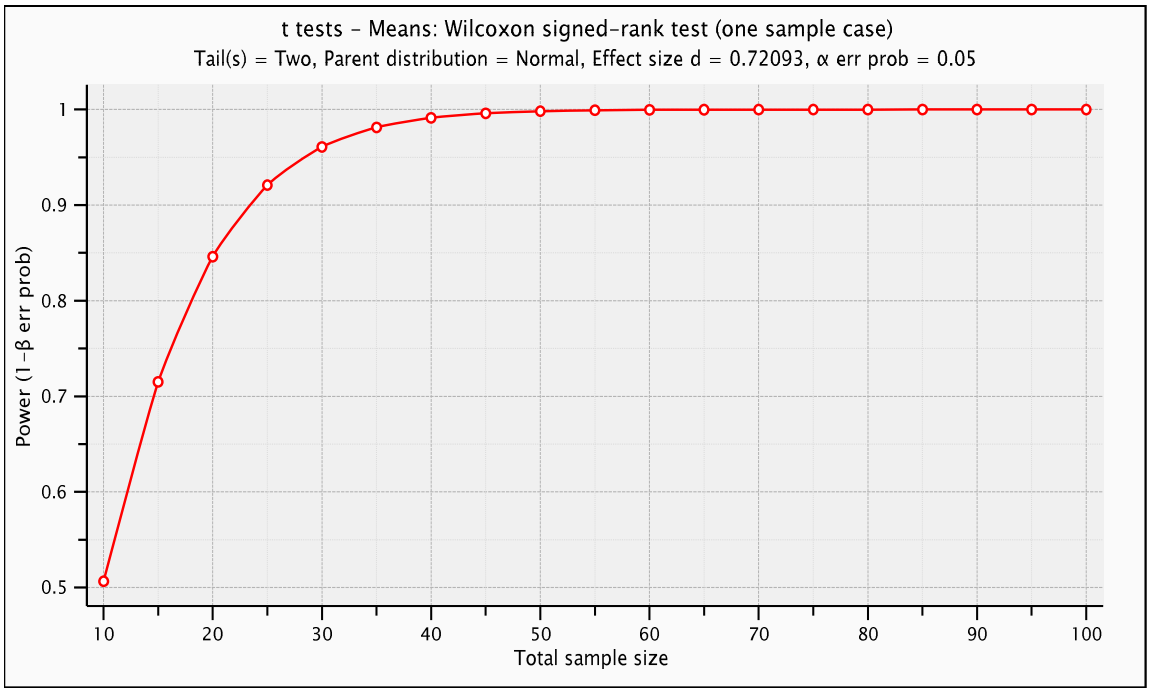

Figure 9. Post hoc Power Analysis for Research Question One

Research Question Two/Hypothesis Two

To what extent is there an increase between RNs' pre and posttest scores in self-efficacy to deal with an impaired colleague after substance use training? A Wilcoxon Signed Ranks Test indicated that posttest scores in self-efficacy to deal with an impaired colleague after substance use training ($M = 3.35$, $SD = 0.42$) were significantly higher than pretest scores in self-efficacy ($M = 3.16$, $SD = 0.39$) to deal with an impaired colleague after substance use training, $Z = -5.58$, $p < .001$, two-tailed. Therefore, the null hypothesis was rejected. A post-hoc power analysis was conducted on the data with G*Power 3.1. Cohen's $d = .46$ for the input parameters. This is a small effect size. See Figure 10.

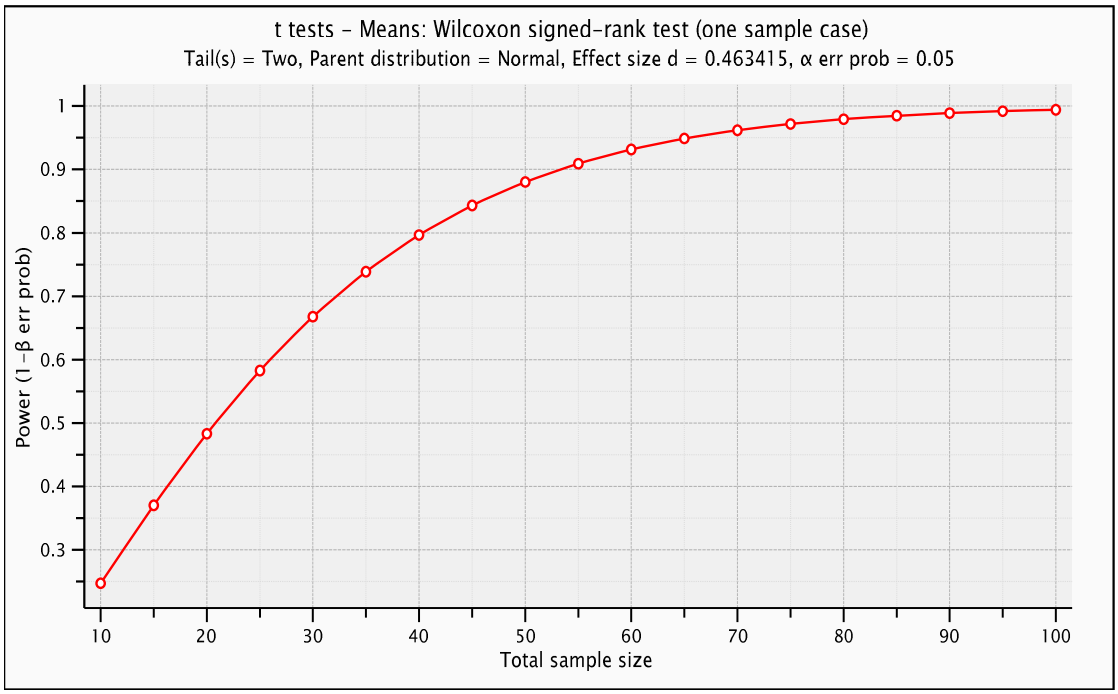

Figure 10. Post Hoc Power Analysis for Research Question Two

Summary of Results

The data did not meet the normality assumption. Therefore, the Wilcoxon Signed Ranks Test was implemented to test the research questions and hypotheses. It was determined that there was a significant difference between pre and posttest scores relative to nurses' competency about drug impairment after substance use training. Specifically, posttest scores were significantly lower than pretest scores. As stated earlier, lower scores were an indicator of increased competency due to the nominal value assigned to the survey answers (agree-1, neutral-2, disagree-3, strongly agree-4). It was also determined that there was a significant difference in nurses' self-efficacy to deal with an impaired colleague after substance use training. Specifically, posttest scores in self-efficacy to deal with an impaired colleague after substance use training were significantly higher than pretest scores in self-efficacy to deal with an impaired colleague

after substance use training. Recommendations and implications will be discussed in Chapter Five.

Chapter 5: Discussion

Introduction

The purpose of this quantitative, quasi-experimental study was to examine the effect of substance use training on RNs' post training competency about substance use impairment and level of self-efficacy to deal with impaired colleagues. Data was collected with paper surveys and then entered manually into SPSS for analysis. Participants were recruited through the Florida Nurse Association (FNA) West Central Region office. This chapter explains the significance of these results and implication of the findings in the context of previous literature and the theoretical framework. This chapter also includes the implications for social change, a review of the study limitations, evidence-based recommendations, suggestions for future areas of research and a brief conclusion. The research questions and hypotheses for the study were:

RQ1: To what extent is there a difference between pre and posttest scores in nurses' competency about drug impairment after substance use training?

H_0: There is no significant difference between pre and posttest scores in nurses' competency about drug impairment after substance use training.

H_1: There is a significant difference between pre and posttest scores in nurses' competency about drug impairment after substance use training.

RQ2: To what extent is there an increase between RNs' pre and posttest scores in self-efficacy to deal with an impaired colleague after substance use training?

H_0: There is no significant increase between RNs' pre and posttest scores in self-efficacy to deal with an impaired colleague after substance use training.

H_2: There is a significant increase between RNs' pre and posttest scores in self-efficacy to deal with an impaired colleague among after substance use training.

Summary of Findings

Responses were received from 118 registered nurses (RNs). A review of the findings revealed that there was a significant difference between pre and posttest scores relative to nurses' competency about drug impairment after substance use training. For Research Question 1, the RNs' competency was measured for any difference between pre and posttest scores about drug impairment after substance use training. The extent to which there was a difference was significant therefore, the null hypothesis was rejected and the directional hypothesis was accepted. This means there was a significant difference from the pre and posttest scores in the RNs' competency about drug impairment. Specifically, this means the RNs improved in the following areas: (a) competency care for those in recovery, (b) approach with a positive, nonjudgmental attitude, (c) know what questions to ask if drug use is suspected, and (d) know and refer the colleague to substance use resources. There were several definitions for competency discussed in Chapter 2, however for the purpose of this study Khan & Ramachandran (2012) was the most relevant. They recommended in the medical education literature, "The term 'competency' should strictly be used for the 'skill' itself while competence is the ability to perform skill and the attribute of the performer" (Khan & Ramachandran, 2012, p.920).

In addition, in Research Question 2, the RNs' self-efficacy was measured for any difference between pre and posttest scores about drug impairment after substance use training. The difference between the pretest and posttest scores was significant therefore, the null

hypothesis was rejected again, and the directional hypothesis was accepted. This means there was an increase between RNs' pre and posttest scores in self-efficacy to deal with an impaired colleague after substance use training. Specifically, RNs self-efficacy improve in the following areas when they strongly agreed that (a) employers should provide assistance for impaired nurses, (b) return to their workplace after substance use treatment and, (c) not be disciplined by the Board of Nursing for impairment. In addition, the RNs' self-efficacy increased when they disagreed that (a) impaired nurses should be terminated if impairment is suspected, (b) reported to law enforcement agency for impairment and, (c) be ignored by their peers until the impaired nurse asks for help. Bandura (1977) defined self-efficacy as an individual's belief in their ability to perform certain behaviors required to manage specific situations.

Interpretation of Findings

In this study, I found statistically significant relationships between the nurses (n = 118) and posttest scores on competency and self-efficacy on drug impairment. An analysis of the findings revealed a statistically significant difference on the first research question which asked is there a difference between pre and posttest scores in nurses' competency about drug impairment after substance use training. Research question asked to what extent is there an increase between RNs' pre and posttest scores in self-efficacy to deal with an impaired colleague after substance use training. It was also a significantly higher posttest scores confirming a higher self-efficacy in nurses. These findings support prior research suggesting a link between training and increased competency and self-efficacy (Hsieh, Kim, & Suh, 2015). They measured the competency and self-efficacy of nurses' pre and post-discharge planning training. Both groups of nurses who participated in the training improved their communication competency during this study. There

was a significant difference between experimental and control groups in communication competency. However, no significant difference was found in the nurses' communication self-efficacy.

The results of this study in research question #1 would agree with the literature regarding the influence of substance use educational trainings with increased competency. For example, (Puskar et al., 2014) screened nurse educators who engaged in Screening, Brief, Intervention, and Referral to Treatment (SBIRT) substance use training to increase knowledge and competency when screening patients successfully for substance use. Nurse educators reported an increase of competence to apply SBIRT in clinical settings after the training. Another example was a study that specifically focused on the influence of substance abuse training on nurses' competency while working in inpatient settings, and they found that there was a significant increase in competency in nurses' abilities to address unhealthy alcohol use in their patients (Broyles et al., 2013). Another study examined five-day training on substance use concerning opioid substitution. In this study, nurses showed improvement in knowledge and attitude toward patients with intravenous (IV) drug use (Rao et al., 2016; Ravindra et al., 2016). A statistically significant correlation in one study was found between training and knowledge in the field of addictions and experience in the management of patients (Barral et al., 2014). A recent study examined the impact of substance use educational training intervention on perceived competency post training. A significant increase was found in competency related to the nurses' knowledge, self-confidence communication and, attitudes in caring for patients with substance use disorder (Russell, Ojeda, & Ames, 2017). Even though the previous research studies focus on increased

competency with patients after training, all the studies yielded valid results that the substance use training increased competency in nurses similar to the current study.

Other findings of this study revealed a significant increase in both competency and self-efficacy after substance use training which confirm past studies (Broyles et al., 2013; Coleman et al., 1997; Smothers et al., 2018) For example, Broyles et al. (2013) evaluated RNs alcohol related knowledge, attitudes, and clinical practice after SBIRT training. After training, RNs showed a significant increase in SBIRT tasks. One study focused only on self-efficacy with RN nursing student after an educational intervention and the results indicated increased self-efficacy with the conclusion that a greater emphasis on drug and alcohol education can pay dividends (Coleman et al., 1997). A more recent study by Smothers et al. (2018) completed a review of literature on the effect of substance use training on nursing students with similar results as the current study that teaching nursing students about substance use disorders produced a positive impact on their attitudes, knowledge, and skills. The current study findings were consistent with the studies mentioned here and referenced in Chapter 2 adds to the past findings (e.g., Hodgson et al. 2016; Knopf-Amelung, 2018; Puskar et al., 2014; Rao et al., 2016).

However, there were a limited number of studies to date that have addressed the influence of substance use trainings on nurses' competency and self-efficacy to address impairment in colleagues. For instance, Cadiz et al. (2012) evaluated the effectiveness of an educational intervention about nursing impairment at one School of Nursing. The results indicated that nursing students' knowledge and self-efficacy increased significantly after the training to address impairment with a colleague. The current study builds upon the small body of research with addressing impairment in a colleague versus a patient.

Theoretical Framework

The SET was used to frame this study and provide the structure of support for the study design, selection of variables, basis for the hypothesis and the interpretation of findings. SET is one of the theories that provide a conceptual framework for the nursing profession used to explain and understand everyday events in addition to guide the (a) assessment, (b) intervention, and (c) evaluation of nursing care (Nursing Theories, 2011). Also, the self-efficacy theory is appropriate for studies exploring substance use knowledge (Franckowiak, 2015; Wiens & Walker, 2015). In the context of this study, it was important to understand how all three factors that influence self-efficacy could affect substance use intervention behaviors (Bandura, 1977). This is supported by previous research such as Broyles et al., (2013), who used the SET model in a similar manner to link the ability to recognize and respond to drug-related issues.

The completion of training correlated with increased competency and self-efficacy in several past studies with RNs. For example, Tran et al. (2009) investigated the impact of an education program on nurses' competency and knowledge to identify patients with alcohol and substance misuse. The results of the study supported the SET theory due to the nurses' reported increase of knowledge and competence after completing an education program. SET framework was used when evaluating the impact of a training course on healthcare professionals' self-efficacy on engaging fathers in the child protection process (Scourfield et al., 2012). In addition, Ma, Wallace, Qiu, Komsala-Anderson, and Battle, (2018) addressed the impact of breastfeeding training on nurses and other healthcare professionals using the Breastfeeding Support Self-Efficacy Scale. Overall, the research findings from this study are consistent with SET theory that

one has the power to produce the desired effect by completing a given task or activity related to that competency (Bandura, 1977).

Limitations of the Study

This study is limited in several ways. The first limitation of this study was the sample being drawn from a single state, limiting the generalizability to the greater population of nurses. The reason being is that this study was conducted in one South Eastern state in the U.S. and it would be difficult to generalize the results to other nurses within the U.S. There are currently 2.86 million registered nurses in the United States and the sample size for the current study was 118 RNs. A research study expanding over several states using similar methodology would help to increase generalizability.

The second limitation of the study was the lack of a control group. The study was a single-group, pre- and posttest study, which according to Spurlock (2018) the effect sizes are generally overestimated by 61% compared to those studies using a control group. Past studies in nursing research have been dominated by single-group, pre- and posttest design studies and faced a long history of criticism due to the threats to internal validity (Morton, 2017). However, with the addition of a control group, and in the context of nursing research, this would present a clearer picture of the interventions being tested. There is a lack of research on RNs and their ability to intervene on an impaired colleague; the aim of this study was to begin filling the gap.

This study lacked diversity of participants. Most nurses 83.1% (n = 98) were females, whereas 16.9% (n = 20) were males. Participants ranged from ages 27 to 86 years (M = 49.06, SD = 11.74) with a median age of 49.00. Regarding ethnicity, 58.5% of respondents (n = 69) were white, 16.1% (n = 19) were black or African Americans, and 11.0% (n = 13) were Asians

or Pacific Islanders according to the current study. A broader demographic of RNs alone may be an area for future research.

Recommendations

Further research is needed on the topics of workplace impairment and substance use training among RNs. This study has found that there are significant differences between RNs' competency and self-efficacy after completing substance use training. Based on the strengths and contributions from this study, some general recommendations for future research can be made. First, this study did not examine the impact of the RN's demographic background such as age, years in nursing practice and education attainment. Future researchers might choose to explore these factors and how they influence pre and posttest scores. For example, age and level of education influence was addressed in a previous study on nurses' willingness to share power and responsibility with patients (Malfait, Eeckloo, & Hecke, 2017). In another study, socio-demographics were considered when examining the effectiveness of an educational program on nurses' knowledge (Hayder & Mohammed, 2018).

Follow up research might also explore the correlation between RNs' competency and self-efficacy and their clinical areas and specialties in relation to posttest scores. For example, previous research focused on nurses' competency and self-efficacy in various areas of clinical skills training however not in substance use training (Franklin et al., 2015; Hsh et al., 2015; Kim & Suh, 2015). More research needs to be conducted to determine if substance use training for nurses in certain clinical areas would increase competency and self-efficacy and decrease misuse of controlled or illicit drugs.

Implications for Social Change

The results of this study found statistically significant relationships between nurses' competency and self-efficacy after substance use training. These findings aligned with previous research indications that formal training can lead to increase competency and self-efficacy when addressing impairment. People entrust their personal welfare and safety to healthcare professionals. The profession has an obligation to render services with skill and safety. Therefore, the implications for positive social change from this study could be useful for nurse leaders, nursing employers and educators contemplating workplace trainings for healthcare professionals to address substance use and abuse.

In addition, these study findings could assist healthcare professional organizations when developing policies that promote early discovery of impaired professionals who abuse alcohol or drugs. This could result in minimizing the risks of patient harm. More specifically, nursing employers could develop a set protocol for addressing and reporting an impaired nurse with the assurance of confidentiality between the reported and the authority figure. The study findings could bring awareness of the importance for the dissemination of substance use information to nurses relating to the warning signs of self-treatment with substances that could lead to unsafe nursing practice. Ideally, substance use training for all nurses about workplace impairment in colleagues and how to intervene would assist in changing this ongoing enculturated behavior of not recognizing or confronting an impaired colleague and the risk to patient harm as a result.

Conclusion

Drug abuse in healthcare professionals is a serious social and health problem, which has existed for hundreds of years (Merlo & Gold, 2008). Previous research revealed that substance

use impairment in nurses' dates back to the Florence Nightingale era (Cook & Webb, 2002). The rates of substance use disorders are higher for healthcare professionals than the general public (Brooks, Chalder, & Gerada, 2011). In addition, addictive disease in healthcare professionals, when compared with the public, is typically advanced before identification and intervention occur (Berge, Seppala, & Schipper, 2009). Therefore, increased competency and self-efficacy is important to identify drug-impaired nurses quickly which can lead to increased patient safety and assist the nurse in getting the appropriate treatment (Strobbe & Crowley, 2017). As stated, RNs often lack the training in substance use impairment to identify the signs and symptoms of drug impairment, which can affect their ability to intervene on impaired colleagues and reduce risks to the patient (Leff, 2014). The paucity of education and training in recognizing signs of impairment often begins in nursing school and continues to the workplace with inconsistent policies and procedures (McCulloh, Nemeth, Sommers, and Newman, 2015). Therefore, registered nurses with substance use problems are left untreated which can lead to, (a) loss of employment, (b) disciplinary actions, and (c) criminal charges (Kunyk, 2015). The impact on interpersonal relationships and workplace performance are higher with drug use at high dosages and with prolonged use (Poudel, Sharma, Guatam, & Poudel, 2016). Puskar et al., (2014) argued a link between substance use training and the RN's ability to identify and intervene on behalf of an impaired co-worker. The study confirmed training might help decrease these risks, the relationship warrants additional study.

Another reason, the topic of addressing drug impaired colleagues warrants additional study because RNs and other staff members do not consistently report suspected impaired nurses (Dumitrascu, Mannes, Gamble, & Selzer, 2014; Monroe & Kenaga, 2011). Dumitrascu et al.,

(2014) suggested multiple reasons exist for why nurses do not address or report fellow nurses when suspecting substance use impairment including (a) an inability to recognize symptoms of impairment, (b) fear of repercussion, and (c) ignorance about substance abuse and addiction. The study results confirmed that substance use training lead to increase competency and self-efficacy when addressing impairment in RNs but additional research is needed to explore long-term effects of training.

This current study makes a potentially useful contribution to healthcare employers, schools of nursing and healthcare professional organizations when addressing workplace impairment, for example, with healthcare employers with the development of mandatory substance use trainings for all healthcare professionals. Schools of nursing to assist in the development of curriculum to include substance use education. The findings could also be used to promote an increased awareness to workplace impairment in healthcare professionals with state licensing boards and policymakers that additional funding is needed to educate and rehabilitate impaired healthcare professionals. Overall, with education about substance use and abuse, RNs can provide support and understanding for impaired colleagues from intervention to their reentry into the nursing profession.

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Appendix A: Letter of Permission

JANEGALE BOYD, RN

PRESIDENT

WILLA FULLER, RN

EXECUTIVE DIRECTOR

Florida Nurses Association

January 2, 2019
c/o Willa Fuller, RN
Executive Director

Dear Myrtle Greene,

LETTER OF AUTHORIZATION TO CONDUCT RESEARCH REQUIRED BY WALDEN UNIVERSITY FOR REVIEW AND IRB APPROVAL

This letter will serve as authorization for Mrs. Myrtle Greene to conduct the research project entitled "Examining the Effect of Substance Use Training on Registered Nurses' Competency and Self-Efficacy." Upon a review of the letter sent to me, I am glad to offer you an opportunity to conduct the study during our organization scheduled training. Individuals' participation will be voluntary and at their own discretion. All interviews filed surveys and the distribution of questionnaires are approved and will be duly supervised by Dr. Janice Adams, West Central Region Director of the Florida Nurses Association.

I confirm that Dr. Adams is authorized to supervise research in this setting. We understand that the data collected will remain entirely confidential and may not be provided to any persons outside of the researcher without permission from the Walden University IRB.

If you have any concerns or require additional information, feel free to contact me. Thank you.

Sincerely,

Willa Fuller, RN
Executive Director

Appendix B: Research Consent Form

Consent Form

You are invited to take part in a research study that examines the effect of substance abuse training on registered nurses' competency and self-efficacy. Inclusion in this study will involve: **(a)** registering for the two-hour substance abuse training **(b)** being currently employed full time as a registered nurse in the state of Florida and **(c)** the willingness to provide informed consent. Exclusion criteria will include RNs not enrolled in the training, not currently working as a registered nurse in Florida and not willing to provide informed consent. This form is part of a process called "informed consent" to allow you to understand this study before deciding to take part.

A researcher named Myrtle Greene who is a doctoral student at Walden University is conducting this study.

Background Information:

The purpose of this study is to examine the effect of substance abuse training on registered nurses' competency and self-efficacy. Your feedback is important and critical to improving educational initiatives for recognizing substance use impairment amongst healthcare professionals.

Procedures:

If you agree to be in this study, you will be asked to:

- C

omplete two brief pre and posttests before and after the training along with one completion of a demographic questionnaire before the training

- Y

ou will be asked to complete the demographic questionnaire, pre and posttest independently

Here are some sample statements from the pre and posttest:

- A

n impaired nurse should be ignored by peers until the impaired nurse ask for help

- K

now what questions to ask if you suspect drug or alcohol use

- A

pproach with a positive, nonjudgmental attitude

Voluntary Nature of the Study:

Your participation in this study is *voluntary,* **and all responses will be** *anonymous*. No

personally identifiable information will be associated with your responses. You may withdraw at any time during the demographic questionnaire, pre or posttest without consequences. Please note that all attendees to the scheduled training will be contacted to take part in the study.

Risks and Benefits of Being in the Study:

Being in this type of study involves some risk of minor discomforts that can be encountered in daily life, such as feeling stress discussing impairment amongst colleagues. Being in this study would not pose a risk to your safety and wellbeing. Your feedback is important and critical to improving educational initiatives for recognizing substance use impairment amongst healthcare professionals.

Payment:

Participation in the research study will be completely voluntary, and no compensation will be awarded to the participants upon completion.

Privacy:

Reports coming out of this study will not share the identities of individual participants. Details that might identify participants, such as the location of the study, also will not be shared. Even the researcher will not know who you are. The researcher will not use your personal information for any person outside of this research project. Data will be kept secure by the use of codes in place of names. Data will be kept for a period of at least five years, as required by the university.

Contacts and Questions:

You may ask any questions you have now or later by contacting the researcher via email at **myrtle.greene@waldenu.edu.** If you want to talk privately about your rights as a participant, you can call the Research Participant Advocate at my university at 612-312-1210. Walden University approval number for this study is: # 04-09-19-0330349, and will expire on May 8, 2020 Please keep this consent form for your records.

After reviewing this document, if you feel you understand the study well enough to participate, please indicate your consent by completing the demographic questionnaire and surveys prior to the training beginning. To protect your privacy, no consent signature is requested.

Thank you for your time.

Appendix C: Demographic Questionnaire

1. Gender
- Male
- Female

2. _____ Age in years

3. Ethnicity
- White
- Black or African American
- Hispanic or Latino
- Asian/or Pacific Islander
- Native American or American Indian
- Other (please specify) _____

4. Years employed as a registered nurse
- Less than 1year
- 1 to 4 years
- 5 to 10 years
- 11 to 15 years
- 16 to 20 years
- More than 20 years

5. Present Nursing Position
- Nursing management (e.g., staff nurse, nurse manager, unit coordinator, etc.)
- Nursing administration (e.g., director of nursing, nursing, supervisor, etc.)
- Staff in nursing education program
- Administration in nursing education program
- Staff in Occupational Health
- Other (please specify) _____

6. Highest Educational Degree
- Associate degree
- Bachelor's degree in nursing
- Master's degree in nursing
- Doctorate in nursing

7. Have you had any experience with a substance use impaired nurse/colleague?
- Yes
- No

Appendix D: Perceived Competency with Impaired Nurses Survey

1. Feel confident to care for them and believe recovery is possible

    Agree

    Neutral

    Disagree

    Strongly Disagree

2. Approach with a positive, nonjudgmental attitude
    Agree

    Neutral

    Disagree

    Strongly Disagree

3. Know what questions to ask if I suspect drug or alcohol use
    Agree

    Neutral

    Disagree

    Strongly Disagree

4. Refer them to resources in the community and motivate them to seek help
    Agree

    Neutral

    Disagree

    Strongly Disagree

Appendix E: Methods for Dealing with Nurse Impairment Survey

METHODS OF DEALING WITH NURSE IMPAIRMENT INVENTORY

Please answer as a nurse administrator by circling the letter that most closely corresponds with your attitude.

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. Impaired nurses should be terminated by the employer once impairment is suspected.	1	2	3	4
2. Impaired nurses deserve much consideration from the nursing profession.	1	2	3	4
3. Impaired nurses should have their nursing license revoked.	1	2	3	4
4. Employers should provide some means of assistance and help for impaired nurses.	1	2	3	4
5. When suspicion of impairment exists, the impaired nurse should be asked to resign.	1	2	3	4
6. Impaired nurses should be reported to a law enforcement agency once impairment is suspected.	1	2	3	4
7. Impaired nurses should be disciplined by the Board of Nursing.	1	2	3	4
8. An impaired nurse should be ignored by peers until the impaired nurse asks for help.	1	2	3	4
9. After treatment, the employer should return the recovering nurse to the work place.	1	2	3	4

Appendix F: Permission to use Instrument (Perceived Competency with Impaired Nurses Survey)

September 7th, 2018
Myrtle Greene,
Walden University

Dear Ms. Greene, PhDc

You have my full permission to use the perceived competency survey questions from my published article "Increasing RN Perceived Competency with Substance Use Disorder Patients" in your Walden University dissertation ("Examining the Effect of Substance Use Training on Registered Nurses").

Sincerely,

Regina Russell, MBA, MSN, RN-BC
Clinical Learning Educator
Clinical Learning
Baptist Health South Florida

Appendix G: Permission to use Instrument (Methods for Dealing with Impaired Nurses Survey)

Sent: Friday, September 7, 2018 10:36 PM
To: Myrtle Greene
Subject: Re: Permission to use research instrument

Myrtle,

You have my permission to use this instrument that Lloyd used in her thesis (Nurse Administrators Attitudes Toward Chemical Dependency, Nurse Impairment, and Methods of Dealing with Nurse Impairment). I am retired now and do not have a readily available copy of that instrument. So, I hope that you have been able to obtain one. Please send me a copy of your results so I can save them.

Also, thanks for letting me know about Lloyd's death, as I was unaware of her passing.

Best wishes and good luck as you complete your studies.

Judith Alexander, Ph.D., RN
Faculty Emerita
College of Nursing
University of South Carolina