

DE-ESCALATION TRAINING FOR PYSCHIATRIC/
MENTAL HEALTH NURSE PRACTITIONER STUDENTS

by

Carly Jordan Hatfield

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ABSTRACT

Workplace violence towards nurses is occurring at alarming rates throughout Montana and the United States. Verbal de-escalation is recommended for the prevention and management of aggressive patients in health care settings. However, de-escalation training is not required to be provided in nursing education programs. The purpose of this project was to develop, implement, and evaluate simulation-based verbal de-escalation training for psychiatric/mental health graduate nursing students on the prevention and management of aggressive patient behavior. The de-escalation training included an education module and simulated scenario using a simulated patient behaving as an agitated psychiatric patient. Confidence levels before and after the training were measured with the Confidence in Coping with Patient Aggression (CCWPA) scale and de-escalation techniques were assessed with the English Modified De-escalating Aggressive Behavior scale (EMDABS). Strengths and weaknesses of the de-escalation techniques used in the simulation were identified and discussed. Overall scores on the CCWPA increased after the training. All participants received EMDABS scores representing acceptable de-escalation techniques. Identified strengths include use of a calm demeanor and maintaining a safe distance. Weaknesses include use of emotional suppression, limited use of inference, and lack of confidence. De-escalation training can positively affect nurses' confidence levels for coping with patient aggression. Use of a simulated patient scenario can provide a high-fidelity mental health experience that is effective for practicing de-escalation techniques. Participants reported that they felt the training was beneficial to their education and recommended that de-escalation training with a simulated patient be required in all nursing education.

CHAPTER ONE

INTRODUCTION

Workplace violence is defined as “violent acts, including physical assaults and threats of assault, directed toward persons at work or on duty” (National Institute for Occupational Safety and Health [NIOSH], 1996, para. 4). Annually, there are nearly 2 million reports of workplace violence; approximately 25,000 of these events are workplace assaults with roughly 75% occurring in health care settings (U.S. Department of Labor, Occupational Safety and Health Administration [OSHA], 2016). Nationally, healthcare professionals are four times more likely to encounter workplace violence than professionals employed in other industries (OSHA, 2016). These numbers may not accurately reflect the true number of assaults on healthcare professionals as violence against healthcare professionals is underreported and understudied (Phillips, 2016). Nurses in particular have been historically known to underreport workplace violence due to the belief that it was ‘just part of the job’ and because they may be uncertain as to what constitutes a reportable incident (Blando, Ridenour, Hartley & Casteel, 2015; McPhaul & Lipscomb, 2004).

Most commonly reported types of assault on healthcare professionals include verbal aggression in the form of shouting, cursing, and threatening, and physical aggression in the form of kicking, grabbing, punching, slapping, pushing, biting, hair pulling, arm twisting, and spitting (Speroni, Fitch, Dawson, Dugan, & Atheron, 2014). The current first line intervention recommendations for workplace violence are to use de-escalation techniques to prevent and manage aggressive behavior in patients (OSHA,

2016; National Institute for Health and Care Excellence [NICE], 2015). De-escalation is a combination of verbal and non-verbal techniques aimed at reducing agitation, aggression, and potential for future violence (Price & Baker, 2012). De-escalation training has been shown to reduce the number of incidents with aggressive patients and increase personal confidence in de-escalation skills (Deans, 2004; Fernandes et al., 2002; Ferrara, Davis-Ajami, Warren, & Murphy, 2017; Livingston, Verdun-Jones, Brink, Lussier, & Nicholls, 2010, Nau, Dassen, Needham, & Halfens, 2009). However, de-escalation training is under-utilized in healthcare settings, and educational programs.

The Joint Commission (2018) recommends that all healthcare professionals be trained in de-escalation techniques with the training to include practice drills. Most healthcare organizations offer some level of de-escalation training for healthcare professionals, although it may not be mandatory for all employees. Trainings that incorporate simulation-based learning, such as role playing, practice scenarios, or practice drills, provide the opportunity to apply newly learned skills and reinforce the learned behaviors. Simulation-based trainings are effective in a variety of nursing settings and have shown large effect size in the cognitive, affective and psychomotor domains (Kim, Park & Shin, 2016).

Background

In Montana, the rate of assaults on healthcare professionals is 1.75 times higher than the national average (Brennan & Elenbaas, 2016). Healthcare professionals who reported frequent exposure to actual or threatened violence also reported significantly lower levels of overall health and almost half endorsed symptoms of post-traumatic stress

syndrome (Wildgoose, Briscoe & Lloyd, 2003). The Montana Nurses Association launched the '*Your Nurse Wears Combat Boots*' campaign to address and improve workplace safety for nurses through education, legislative and cultural change within the healthcare field (Montana Nurses Association, 2018). The Joint Commission released a sentinel event alert in April 2018 on physical and verbal violence against healthcare professionals and the American Nurses Association responded by launching a social media movement, #EndNurseAbuse, for nurses and other healthcare professionals to pledge their commitment to standing with nurses for zero tolerance policies and reporting all abuse against nurses.

One area of healthcare with the highest rate of violence is psychiatric inpatient settings (McPhaul & Lipscomb, 2004). According to Cornaggia, Beghi, Pavone, and Barale (2011), psychiatric diagnoses most commonly associated with violence in psychiatric healthcare settings are paranoid schizophrenia, antisocial personality disorder, acute psychosis, co-occurring substance use disorders, and borderline personality disorder. Other factors that contribute to patient violence include long length of hospital stay, involuntary admission, the presence of hostility or impulsivity, and previous episodes of violence (Cornaggia et al., 2011). Up to 75% of violence in inpatient psychiatric settings is limited to verbal aggression (Cornaggia et al., 2011).

While many psychiatric facilities provide de-escalation training to their employees, little to no de-escalation training is offered to graduate students in the psychiatric/mental health nurse practitioner (PMHNP) program. These PMHNP students spend a significant amount of time throughout the course of their education in psychiatric settings providing direct care to patients as part of curriculum requirements

set forth by the American Association of Colleges of Nursing (AACN). Currently, the curriculum for the PMHNP program at the College of Nursing at Montana State University does not include training on de-escalation techniques, workplace safety, or management of aggressive patients (Montana State University College of Nursing, 2018). The clinical coordinator for the PMHNP program at Montana State University College of Nursing reported that the concept of de-escalation training is reviewed in assigned readings and then students are exposed to it in the clinical setting (R. Pogoda, personal communication, April 26, 2018). Providing verbal de-escalation training to PMHNP students during their education will provide the needed skills to de-escalate aggressive patients in clinical settings.

Statement of the Problem

Workplace violence towards nurses is occurring at alarming rates throughout Montana and the United States (Brennan & Elenbaas, 2016). Types of workplace violence include both verbal and physical violence. De-escalation trainings are utilized in many healthcare settings and can improve confidence and ability in the management of aggressive patients (Heckemann et al., 2015). Students enrolled in the PMHNP program are not receiving training on de-escalation techniques that can prevent assaults in the workplace. Without de-escalation training, students and new graduates may not be prepared to properly de-escalate aggressive patients in order to avoid physical violence and improve patient outcomes.

Purpose

De-escalation training can improve confidence, knowledge, and skill levels of nurses working in healthcare settings (Deans, 2004; Fernandes et al., 2002; Ferrara et al., 2017; Heckemann et al., 2015; Livingston et al., 2010; Nau, Halfens, Needham, Dassen, 2010). The purpose of this project was to develop, implement, and evaluate simulation-based de-escalation training for PMHNP students on the prevention and management of aggressive patient behavior in a psychiatric healthcare setting. The goal of this project was to create the foundation for potential adoption of simulation-based de-escalation training into PMHNP curriculum at Montana State University College of Nursing.

Inquiry Question

An inquiry question was used to guide the development of this scholarly project. The inquiry question was: For PMHNP students, does simulation based verbal de-escalation training improve the student's confidence and ability to verbally de-escalate aggressive patients?

Conceptual Framework

This project was guided by Kolb's Experiential Learning Theory (1984). Drawing on the works of early theorists on learning and development, Kolb developed the Experiential Learning Theory to holistically address the learning process. In his theory, learning is viewed as a process without regard to outcomes. Kolb believed that "learning is the process whereby knowledge is created through the transformation of

experience" (p. 38). Much of Kolb's theory focuses on the learner's internal cognitive processes.

Kolb's experiential learning cycle is composed of four sequential stages: (a) concrete experience, (b) reflective observation, (c) abstract conceptualization, and (d) active experimentation (1984). Concrete experience and abstract conceptualization are classified as methods of grasping experience and reflective observation and active experimentation are methods of transforming experience. These four stages are also described by the cognitive processes accompanying each one: (a) experiencing, (b) reflecting, (c) thinking, and (d) acting. In the first stage, concrete experience, the learner has a new experience or reinterpretation of an existing experience. The second stage, reflective observation, occurs when the learner consciously reflects on their experience. Abstract conceptualization, the third stage, occurs when reflection turns to conceptualization of a theory or model of the initial experience. The fourth stage, active experimentation, occurs when the learner tests their new theory or model by applying it to the world around them (Kolb, 1984).

Although Kolb's theory is not specific to nursing, it has been applied to nursing, psychology, medicine, and education (Kolb, Boyatzis, & Mainemelis, 2001). Kolb's cycle of learning will be applied to the development and the implementation of the simulation-based de-escalation training. Experiential learning theory is the most cited learning theory used as a theoretical framework for nursing simulations (Lavoie et al., 2018). This project will encompass all 4 stages of experiential learning in order to aid participants in transforming their experience into knowledge.

Significance of the Project to Nursing

The number of nurses affected by workplace violence is staggering, with 25% of nurses reporting physical assault and over 50% reporting verbal assault (American Nurses Association, 2017). Exposure to workplace violence can result in not only physical injuries, but also long-lasting psychological problems, such as flashbacks, nightmares, shock, and loss of sleep (Gates, Gillespie, & Succop, 2011). After exposure to a violent event, 94% of nurses experienced one or more symptom of post-traumatic stress disorder (PTSD), and 17% met diagnostic criteria for PTSD (Gates et al., 2011). Untreated psychological trauma, such as PTSD symptoms, may progress into depression, chronic illness, obesity, substance abuse, or even suicide (NIOSH, 2013). The severity of PTSD is not dependent on the severity of physical injury incurred, but rather on the subjective experience of the trauma itself on the individual (Ritcher & Berger, 2006). With the improved skills and confidence that de-escalation training provides, the subjective experience of exposure to workplace may be less traumatic to nurses. Other effects of workplace violence include low morale, missed work, increased medication errors, decreased work productivity, nurse burnout, increased employee turnover, and increased healthcare costs (Gates et al, 2011; NIOSH, 2013; Roche, Diers, Duffield, & Catling-Paull, 2010).

The role of the advanced practice nurse includes leadership in the workplace. Workplace violence is an epidemic that the psychiatric/mental health advanced practice nurse can combat through evidence-based quality improvement projects in the practice setting based on the de-escalation techniques and training provided by this project.

Therefore, this project supports the essential II of the essentials of doctoral education for advanced nursing practice, organizational and systems leadership for quality improvement and systems thinking (AACN, 2006).

This project is significant to nursing in that it can provide PMHNP programs with important information regarding the incorporation of de-escalation training into the curriculum and provide PMHNP students with needed de-escalation skills that can decrease their exposure to violence in the workplace. The projected result of this educational project was to prepare PMHNP students to safely and effectively de-escalate aggressive patients in clinical settings, possibly resulting in a lower incidence of workplace violence and assaults on healthcare professionals

Operational Definition of Terms

Workplace violence: "Any physical assault, threatening behavior, or verbal abuse occurring in the work setting" (NIOSH, 1996, para. 4).

De-escalation: verbal techniques used to help an individual regain control of their behavior in order to prevent the situation from escalating into a physical confrontation.

Simulation: a strategy that replicates real situations for the purpose of education

Simulated patient: a trained individual who portrays patient in a simulated learning scenario in a realistic and repeatable manner (Lewis et al., 2017).

CHAPTER TWO

REVIEW OF LITERATURE

For the purpose of this project a literature review was done with a focus on the current evidence on the management of aggressive patient behavior in a psychiatric healthcare setting., with specific attention on the use of de-escalation training for nurses and use of simulation in de-escalation training. This review identified five topic headings: effectiveness of de-escalation training; key components of de-escalation techniques; tools for evaluating de-escalation techniques; use of simulated patients for de-escalation training; and Kolb's experiential learning theory as framework for de-escalation simulations.

Search Methods/Results

For this project two separate literature searches were conducted and are presented under the following two headings: de-escalation techniques and use of simulated patients for de-escalation training. The first literature review on de-escalation techniques was sorted into three topics: effectiveness, key components, and tools for evaluation. The second literature review was on use of simulated patients for de-escalation training. Finally, all retrieved literature from the review on use of simulated patients for de-escalation training was analyzed to determine if Kolb's (1984) experiential learning theory was utilized

De-escalation Techniques

A comprehensive electronic review of literature on de-escalation was performed using the databases Cumulative Index of Nursing and Allied Health Literature (CINAHL) complete, MEDLINE, and PsycINFO for peer reviewed articles in English published between the year 2000 and 2019. Keywords searched included various combinations of de-escalation, aggression management, aggress* workplace violence, violen*, and nurs*. In CINAHL and PsycINFO, searches were further refined by use of subject: major headings and additional articles were located using the cited by feature. In MEDLINE, additional articles were identified by use of the similar articles feature. A hand-search of all retrieved article reference lists uncovered additional resources.

Articles were then sorted into three topics: effectiveness of de-escalation training, key components of de-escalation techniques, and tools for measuring de-escalation techniques. Effectiveness of de-escalation training was limited to articles that measured outcomes in terms of reducing the rate of aggressive incidents, reducing the rate of staff injuries, or improving de-escalation skills: Six articles were identified (Deans, 2004; Fernandes et al., 2002; Livingston et al., 2010; Nau et al., 2010; Phillips & Rudestam, 1995). Articles on key-components of de-escalation techniques were limited to those that provided descriptions of the de-escalation techniques: Two articles were identified (Price & Baker, 2012; Richmond et al, 2012). Three articles were identified that were related to tools for measuring de-escalation techniques (Mavandadi, Bieling, & Madsen, 2016; Nau, Halfens, Needham, & Dassen, 2009; Thackery, 1987).

Use of Simulated Patients for De-escalation Training

A comprehensive review of literature on use of simulated patients for de-escalation training was conducted in the following databases: CINAHL complete, PsychInfo, and MEDLINE. Each database was searched using the following Boolean terms and operations: (de-escalation OR aggress* OR violent) AND (simulation OR standardized patient) AND (nurs*). Search criteria included peer reviewed articles, in English, published between 2000 and 2019. These searches returned 26 articles in CINAHL, 19 articles in MEDLINE, and 8 articles in PyschInfo. After reviewing the articles for duplicates and applicability to de-escalation training with simulated patients, only four articles met these criteria (Krull, Gusenius, Germain, Schnepfer, 2019; Martinez, 2017; Mavanadadi et al., 2016; Nau et al., 2010;). All articles found in the initial search were then reviewed to determine if of Kolb's experiential theory was utilized as theoretical framework. This hand search revealed two articles that utilized Kolb's theory (Martinez, 2017; Wong, Wing, Weiss, & Gang, 2015).

Literature Findings

Effectiveness of De-escalation Training

Only six articles were identified that examined the effectiveness of de-escalation training at reducing the rate of aggressive incidents, reducing the rate of staff injuries, or improving de-escalation skills. Fernandes et al. (2002) investigated the effectiveness of the Prevention and Management of Aggressive Behavior Program (PMABP) in reducing violence in an emergency room setting. The PMABP was modeled after the Crisis

Prevention Institute's Nonviolent Crisis Intervention training program for healthcare professionals that is commonly used by hospitals throughout the United States (Fernandes et al., 2002). Fernandes et al. administered 667 cross-sectional surveys designed to measure the number and type of verbal and physical violence to all staff members working in the emergency department. Surveys were administered before the PMABP training, three months after the training and at six months after the training. Fernandes et al. reported that the number of violent incidents dropped dramatically three months post-training but increased six months post-training. Reported physical violence fell from 49 episodes at baseline to 19 episodes three months post-training and rose to 46 episodes at six months post-training. Reported verbal violence fell from 154 episodes at baseline to 58 episodes three months training and rose to 69 episodes six months post-training. Individuals who reported the highest incidence of violence were physicians, followed by nurses. Despite incident rate increasing between three- and six-months post-training, the number of violent episodes remained lower than baseline and the incidence of verbal violence was significantly lowered.

Deans (2004) conducted a one group non-experimental study to measure the effectiveness of a one-day training program for 40 emergency department nurses on management of aggressive behavior. This training program included education on de-escalation techniques, causes and types of aggression, avoidance and deflection techniques, effective communication, and secure and escort techniques. Deans used a pre-test questionnaire completed by nurse participants two months before the training and a post-test questionnaire completed three months after the training program. The pre-test

and post-test questionnaires were identical and covered a range of questions eliciting information about nurse demographics, incidence of aggression in the emergency department, information about the aggressive behavior, nurse confidence levels, and the nurse's attitudes about aggressive behavior in the emergency department. Deans reported that the number of aggressive situations in the emergency department after the nurses had completed the training program was reduced to 50% of the number reported before training ($p = 0.06$), the nurses also rated their knowledge and skills higher in the post-test ($p = .006$). Although the findings for decreasing number of aggressive situations were not statistically significant ($p = 0.06$), it is important to note that findings were clinically significant. Nurses reported increased confidence levels for managing aggressive behavior and reporting aggressive behavior incidents to their managers. Deans concluded that, since the training program could not alter the number of aggressive patients coming into the emergency department, the nurses reduced the incidence of reportable aggressive situations by de-escalating the situation before the patient became violent.

In a narrative review, Livingston et al. (2010) examined 29 articles on the effectiveness of aggression management training in psychiatric hospitals. Livingston et al. identified three main evaluation criteria on the effectiveness of the training programs: rate of aggressive incidents, staff injuries, and use of restraints and seclusion. Within the reviewed articles, the length of the trainings varied and there was a wide range of educational content presented in different training programs. Approximately 72% of training programs included verbal and nonverbal de-escalation techniques in the curriculum, 62% covered physical interventions such as proper use of restraints and

seclusion, and roughly 58% educated on prevention of aggressive behavior. Livingston et al. reported mixed results regarding the effect that aggressive management training had on rates of aggressive incidents. Out of 29 articles reviewed by Livingston et al., researchers in 16 of the included articles measured the number of aggressive incidents before and after training: researchers in six studies reported a reduction in aggressive incidents, researchers in four studies reported mixed results, and researchers in six reported nonsignificant results. In eight of the 29 studies reviewed by Livingston et al., researchers measured the rate of staff injuries in relation to the de-escalation training, of these eight studies, researchers in 62% concluded that staff injuries decreased after training on management of aggressive behavior. Livingston et al. found that use of restraints and seclusion was examined in nine of the 29 studies and in all nine of these studies, the researchers found that the use of restraints and seclusion decreased after staff training in management in aggressive behavior. The methods and designs of the research studies reviewed by Livingston et al. varied greatly and there were many limitations and confounding variables in each study. Given the number of variables in the studies reviewed by Livingston et al., it is hard to determine the strength of the evidence as a collective unit.

Phillips and Rudestam (1995) conducted the only randomized control trial identified in the literature review that measured the rate of assaults after staff training in management of aggressive behavior. Phillips and Rudestam administered nonviolent self-defense skill training to 24 male staff members working in psychiatric hospitals. Three groups were randomly assigned to receive either didactic training with physical

skill training, only didactic training, or no training. Twelve weeks post intervention, the staff that received didactic training with physical skill training were 20-23% less likely to be physically assaulted than their coworkers who received only didactic training or no training.

Nau et al. (2010) evaluated nursing student's de-escalations skill using the De-escalating Aggressive Behavior Scale (DABS). Over the course of five days, 24 hours of aggressive behavior training was given to nursing students. Simulated scenarios with live actors were used to evaluate the student nurses' de-escalation techniques. Nursing students completed two different de-escalation scenarios, one before and one after training. These scenarios were filmed and evaluated on the DABS scale by de-escalation experts. Nau et al. (2010) found there was a significant improvement in the student's de-escalation skills post training. Although the scores improved post training, the group mean was still slightly under the required level to be considered use of good de-escalation technique, indicating that more than 24 hours of training may be needed for students to become competent in de-escalation techniques.

Evidence supporting the use of de-escalation training to reduce incidence of aggressive situations and reducing staff injury is limited. The majority of the existing evidence supports the efficacy of de-escalation training to reduce the number of aggressive incidences (Deans, 2004; Fernandes et al., 2002; Phillips & Rudestam, 1995) Nearly all of the current evidence on effectiveness of de-escalation trainings comes from cohort and case control studies, with few randomized control studies and systematic reviews which weakens the overall strength of the evidence. Not surprisingly, there are

indications that to in order to sustain improved outcomes related to de-escalation trainings, more than one training session is required, repeated in regular intervals, such as annually, to maximize knowledge and skill retention of participants. (Fernandes et al., 202; Nau et al., 2010)

Key Components of De-escalation Techniques

The American Academy of Emergency Psychiatry (AAEP) initiated Project BETA (best practices in evaluation and treatment of agitation) to order to create guidelines for treatment of agitation in healthcare settings and supplement existing literature on verbal de-escalation techniques. The goal of Project BETA was to establish safe, consistent, and effective treatment approaches for agitation that had the best interests of the patient in mind (Holloman & Zeller, 2012). Treatment of aggression was broken into five stages: medical evaluation and triage; psychiatric evaluation; verbal de-escalation; psychopharmacological approaches; and use of seclusion and restraint. One workgroup was established for each of the five treatment stages and each workgroup published a set of guidelines based on best available evidence and expert consensus (Holloman, & Zeller, 2012).

In the guidelines for verbal de-escalation techniques, Richmond et al. (2012) stressed the importance of annual training in de-escalation for all staff that may encounter agitated or aggressive patients. Richmond et al. describes four main objectives for treatment of aggression in the clinical setting which focus on maintaining safety for all involved, helping the patient regain control of themselves, avoiding the use of restraints or seclusion, and avoiding the use of coercive methods which escalate aggression.

Richmond et al. developed ten domains of verbal de-escalation to aid in the successful de-escalation of an agitated patient: respect personal space, do not be provocative, establish verbal contact, be concise, identify wants and feelings, listen closely to what the patient is saying, agree or agree to disagree, lay down the law and set clear limits, offer choices and optimism, and debrief the patient and staff. Key recommendations are included for each of the ten domains which provide additional guidance for proper implementation the guidelines in a clinical setting. The ten domains of verbal de-escalation provide clear, easy to follow directions for best practice in verbal de-escalation in a healthcare setting.

Additionally, Price and Baker (2012) compiled a thematic synthesis of verbal de-escalation techniques from 11 qualitative studies and identified seven themes for successful verbal de-escalation: “(a) characteristics of effective de-escalators, (b) maintaining personal control, (c) verbal and non-verbal skills, (d) engaging with the patient, (e) when to intervene, (f) ensuring safe conditions for de-escalation, and (g) strategies for de-escalation (p.312).” Price and Baker recommend the use of autonomy confirming interventions, such as shared problem solving, facilitating expression, and offering alternatives to aggression. Verbal de-escalation requires a complex interaction between patient and staff that requires staff to maintain self-awareness throughout the interaction in order to be successful (Price & Baker, 2012).

There are many differences between established programs that include de-escalation skills, however, the basic principles of de-escalation remain the same. Verbal de-escalation is rapidly replacing coercive and physical techniques for management of

aggressive patients. Verbal de-escalation is an intervention designed to help the patient regain control of their behavior and successful navigation of the patient to a positive outcome.

Tools for Evaluating De-escalation Techniques

While there are several different de-escalation training programs available for healthcare professionals, there is little consensus on how to measure the effectiveness of such programs. As a means to examine the efficacy of de-escalation training, Nau, Halfens, et al. (2009) developed the De-escalating Aggressive Behavior Scale (DABS). Based on a qualitative investigation, seven topics were identified and used as the framework for the new scale: (a) value the client; (b) reduce fear; (c) enquire about the client's questions and anxiety; (d) provide guidance to the client; (e) work out possible agreements; (f) remain calm; and (g) the absence of risky behavior. Nau, Halfens, et al. (2009) concluded that the DABS is reliable tool for evaluating de-escalation training programs and psychometric testing established good inter-rater reliability, internal consistency, and reliability and validity.

Building on the evidence supporting use of the DABS, Mavandadi et al. (2016) created the English modified DABS (EMDABS) (see Appendix A). In addition to translating the scale from German to English, Mavandadi et al. also added one-sentence practice descriptors for each item clarifying what constituted best, acceptable, and least desirable practice. To evaluate the newly created EMDABS, 272 videos of nurses de-escalating simulated patients were reviewed over the course of three years. The EMDABS demonstrated good inter-rater reliability, intraclass correlation coefficient

(ICC) (3,1) = .752, and strong internal consistency, $\alpha = 0.901$. These findings suggest that the EMDABS may be an effective tool for quantitatively measuring de-escalation techniques and can be used to evaluate de-escalation training programs. To date, the EMDABS is the only English language tool for measuring an individual's ability to successfully de-escalate aggressive patients.

In addition to the ability to successfully de-escalate, Thackery (1987) argued that an individual's confidence in their ability to manage aggressive patients plays a vital role in patient outcomes. Higher levels of confidence may provide the clinician with the ability to override a biological fear response when faced with aggressive patients, thus enabling clinician's to successfully implement therapeutic de-escalation techniques. Thackery developed the Confidence in Coping with Patient Aggression (CCWPA) instrument to assess confidence levels in clinicians. The CCWPA consists of ten items that are scored on a Likert scale from 1-11, with lower scores representing less confidence and higher scores indicating greater confidence (see Appendix B). This instrument has a high degree of reliability (Cronbach's alpha = .92) and validity is supported by two additional studies (Allen & Tynan, 2000; McGowan, Wynaden, Harding, Yassine, & Parker, 1999). The CCWPA widely used in the evaluation of confidence related to management of aggressive patients (Brown, 2015; Grenyer et al., 2004; Guay, Goncalves & Boyer, 2016; McGowan et al., 1999; Nau, Dassen, et al., 2009; Nau, Dassen, Needham, Halfens, 2011). The CCWPA was found to be "useful for evaluations on the group level when used as a pre and post-test measure" (Nau et al., 2011, p. 2586).

Although there are small number of valid tools to measure the effectiveness of de-escalation training programs, the scales that are available have a high degree of validity, reliability, and interrater reliability (Mavandadi et al., 2016; Nau, Halfens, et al., 2009; Thackery, 1987). These instruments should continue to be used and evaluated in order to strengthen the evidence supporting use of de-escalation training in the healthcare setting.

Use of Simulated Patients for De-escalation Training

The use of simulation is widely accepted as an effective teaching tool in nursing education. In a landmark study, the National Council of State Boards of Nursing (2014) suggested that in nursing education “up to 50% simulation can be effectively substituted for traditional clinical experiences” (p. s38). There are many types of simulation used in nursing education, including use of high-fidelity manikins, standardized patients, skills stations, role playing, and computer-based simulations. Simulation in mental health education is effective at improving therapeutic communication skills, decreasing anxiety, and increasing student confidence (Brown, 2015). “Mental health nursing is a unique clinical specialty because human responses to mental illness are so diverse and unpredictable; therefore, communication skills, knowledge, and professional responses to distress are required to manage potentially escalating situations” (Alexander & Dearsly, 2014, p. 150). Due to the complex nature of interactions with psychiatric patients there are shortfalls of high-fidelity patient-simulators, such as the inability to provide realistic situations that include non-verbal communication such as facial expressions and body language (Doolen, Giddings, Johnson, de Nathan, & Badia, 2014). The use of simulated patients (SP) eliminates these shortfalls and can provide high-fidelity mental health

experiences for students (Doolen et al., 2014). “When the focus for learning is on the patient's psychosocial-emotional responses to the situation and when body language and physical movement are key components of the learning situation, then SPs are the better choice over manikins” (Sideras et al., 2013, p. 421). Simulated patient scenarios are especially effective in simulations that are based around communication (Bell et al., 2014). Simulated patient scenarios provide a low-risk setting in which students can practice confrontational situations which are commonly found in mental health settings (Alexander & Dearsly, 2014).

In line with the scope of this project, the following discussion will focus on the use of simulated patients in de-escalation trainings. Nau, Halfens, et al. (2009) and Mavandadi et al. (2016) used simulated patients to evaluate the validity of their de-escalation scales. However, Nau et al. (2010) also used simulated patients to evaluate the effectiveness of their de-escalation training program for student nurses. Nau et al. (2010) reported that de-escalation training that combined didactic and simulation-based learning was effective at improving de-escalation skills in nurses (Nau et al., 2010).

Martinez (2017) developed and implemented a psychiatric simulation on workplace violence for undergraduate nursing students. The subjects ($n = 15$) were given an educational presentation prior to the simulation that included information on workplace violence and evidence-based de-escalation skills. These subjects completed a 5-minute simulation with the goal of de-escalating an agitated simulated patient. Pre- and post-test calculations indicated that confidence levels and knowledge of workplace violence increased after completion of the education presentation and simulated

encounter and all the subjects reported a positive response to the simulated patient experience. Several of these subjects reported that interacting with the simulated patient provided an opportunity to “practice de-escalation skills” (p. 43).

Additionally, Krull et al. (2017) assessed participant perceptions of an interprofessional simulated patient scenario for verbal de-escalation and restraint procedures in an emergency room setting. These simulations were conducted with mix of four to six participants from varying professions. Nurses were required to participate in this simulated training, while medical providers, social services, and security participation was optional, but encouraged. In total, 98 participants completed the 20-minute simulated scenario, in which the patient’s aggression escalated to the point that the participants applied restraints. Pre- and post-test self-assessments identified significant increases in participant confidence, preparedness, knowledge and skills and nurses reported the greatest satisfaction with this simulated patient experience.

Kolb’s Experiential Learning Theory

While Kolb’s (1984) experiential learning theory is widely used as a theoretical model for nursing simulations (Lavoie et al., 2017), only two studies were identified that utilized Kolb’s theory and focused on de-escalation techniques or management of aggressive patients. Martinez (2017) implemented a simulation for undergraduate nursing students in which they were tasked with de-escalating an agitated simulated patient. This simulated patient scenario consisted of a schizophrenic patient displaying symptoms of anxiety and aggression (Martinez, 2017). A total of 15 nursing students completed the 5-minute simulation. A presentation on evidence-based interventions for

management of workplace violence was delivered to the students via email. Documents outlining the student's role in the simulation and the simulated patient's background and medical history were provided to the students one week before the simulation. Martinez met Kolb's first stage, concrete experience by giving the students the presentation on ways to manage workplace violence. The second stage, reflective observation, was met in the debriefing session. Martinez described the abstract conceptualization stage as occurring when the students were preparing for the simulation and thought about how to apply the new concepts. The fourth stage, active experimentation, occurred when the students participated in the simulation. According to Kolb (1984), the learner may begin at any stage, but they must be experienced sequentially. Martinez did not apply the learning stages in sequential order, but still reported good learner outcomes.

In a simulation-enhanced interprofessional project for behavioral emergencies in the emergency department, Wong et al. (2015) referenced Kolb's theory as the educational framework for the curriculum design. This simulation utilized simulated patients that were realistic to an emergency department. Two separate simulations were used by Wong et al., the first simulation was an intoxicated patient with a head injury and the second simulation was a psychiatric patient under the influence of phencyclidine (PCP). The participants for these simulations included physicians, nurses, patient care technicians, and security staff. These simulations were designed to accommodate between seven and eleven staff members to participate in de-escalation and ultimately restraint of the patient. The focus of these simulations was interdisciplinary collaboration and communication skills. Wong et al. described the simulation enhanced curriculum as

the application of Kolb's theory, but did not describe how the four stages of learning were met.

CHAPTER THREE

METHODS

This chapter details the methodology of this project including sample population and setting, protection of human subjects, development of the de-escalation training, application of Kolb's theory, procedures, measures, and data analysis. This project's de-escalation training focused on providing experiential learning for participants through the use of a simulated patient. It is for this reason, that the phrase de-escalation simulation will refer to this project's des-escalation training. The graduate student conducting this project will be referred to as the graduate student (CH) for the remainder of this paper.

Setting and Sample Population

The organizational setting for this scholarly project was Montana State University College of Nursing. The PMHNP program, established in 2013, is a distance graduate program, with all courses offered primarily online with teleconferences, video conferences, and in-person intensives used to supplement the content (Montana State University College of Nursing, n.d.). The de-escalation simulation developed for this project targeted psychiatric/mental health practice, therefore, only students currently enrolled in the PMHNP program at Montana State University College of Nursing were invited to participate. The project was implemented during the in-person skills lab that is offered in NRS631: Advanced Clinical I (NP, Psych/Mental Health) as this is the first course in the PMNHP curriculum that includes a clinical component. The following inclusion criteria were used to recruit participants: First, the student had to be enrolled in

the NRS 631 course. Second, the student was required to attend the course's optional skills lab held on Montana State University Bozeman Campus. At the time of this project, nine students were enrolled in the course and all were recruited to participate in this project. All students were informed of the nature of this scholarly project, both in writing and verbally, and all nine agreed to voluntarily participate in the de-escalation simulation. In order to ensure anonymity, no demographic data was collected from the student participants. Course grades in NRS 631 were not affected by this project.

Protection of Human Subjects

The Montana State University's institutional review board designated this project as exempt from requirement of review and approved the consent form for participation in human research used this project (Appendix C). Confidentiality and protection of the participants were maintained at all times, and all students who chose to participate provided written informed consent and permission to be video recorded during this simulation. Video recordings of the participants were stored in a password protected computer and were deleted at the end of the project. The video recordings were only reviewed by graduate student (CH). In accordance with the Family Education Rights and Privacy Act, student identities were kept confidential and anonymous.

Standards of Best Practice: Simulation

The de-escalation simulation was developed using the International Nursing Association for Clinical Simulation and Learning (INACSL) 2016 standards of best practice for simulation. Best practices for simulation design, outcomes and objectives,

facilitation, debriefing, and participant evaluation were used in the development of this project (INACSL Standards Committee 2016a, 2016b, 2016c, 2016d, 2016e). The design of this scholarly project was two pronged and included, (a) participant completion of an online pre-simulation educational module on de-escalation techniques, and (b) participant's de-escalation skills demonstrated and evaluated using a simulated patient scenario. The goal of providing the pre-simulation educational material was to increase the participants' knowledge on verbal de-escalation techniques and improve the participants' ability to successfully meet the expected outcomes of the simulation (INACSL Standards Committee, 2016b, 2016e).

The design of the simulation included three major phases: pre-simulation, simulation, post-simulation (INACSL Standards Committee, 2016e). The pre-simulation phase consisted of a pre-briefing immediately before the simulation which included orientation to the simulation and provided the participants with expectations and objectives for the simulation, (INACSL Standards Committee, 2016b, 2016e). The simulation design included use of a realistic patient scenario and conceptual, psychological and physical fidelity were considered when developing the simulation (INACSL Standards Committee, 2016e). To increase the fidelity of the simulation, the scenario was reviewed by the clinical coordinator for the PMHNP program After the simulation, a debriefing session was used to facilitated a guided reflective discussion and to enrich the participants' learning (INACSL Standards Committee, 2016a, 2016e). The post-simulation evaluation provided the participants with a place to provide specific

feedback and make suggestions for improvement to the de-escalation simulation (INACSL Standards Committee, 2016d, 2016e).

Application of Experiential Theory

This de-escalation simulation was designed using Kolb's experiential theory and learning stages were included in the following stages: A concrete experience was provided in the pre-simulation online educational module which presented a new experience for the participants. Reflective observation and abstract conceptualization are internal processes that occurred in the time between the educational module and the simulation. The active experimentation stage was provided during the simulation with an aggressive patient. The cyclic nature of Kolb's theory was also taken into consideration, and the cycle was restarted with the debrief session, which provided reflective observation and abstract conceptualization stages to the participant. The learning cycle will be completed when de-escalation skills are applied by participants a clinical setting.

Procedures

Pre-simulation Educational Module

Ten days before the scheduled simulation, all participants received pre-simulation educational material which included the Confidence in Coping with Patient Aggression (CCWPA) instrument (Thackery, 1987) (see Appendix B), the online course Workplace Violence Prevention for Nurses developed by the National Institute for Occupational Safety and Health (2013), written material on the ten domains of de-escalation (Richmond et al., 2012), and an educational video on de-escalation (see

Appendix D). First the participants were asked to complete the CCWPA which measured their confidence level for coping with aggressive patients. Then the participants completed the online course Workplace Violence Prevention for Nurses, read the written material on the ten domains of de-escalation, and watched an educational video on de-escalation. Time required to complete the educational module was estimated at 3 hours. All participants were able to complete the module at their own pace throughout the course of the 10 days leading up to the simulation.

Simulated Patient Experience

Pre-Simulation. A group pre-briefing was conducted immediately prior to the simulation in order to prepare all participants for the simulation. Before the pre-briefing, the only information about the simulation given to participants was that verbal de-escalation techniques were to be practiced on a simulated patient with aggression and agitation. During the pre-briefing, the only information given to the participants included that the simulated patient was an actively psychotic patient who was highly agitated and aggressive because he wanted to leave a locked psychiatric unit and that they, the participant, were to verbally de-escalated the patient. Background information on the patient provided to the participants was intentionally vague in order to force the participant to gather information directly from the simulated patient. All participants were instructed not speak about the content of the simulation with other participants until all participants completed their individual simulations, at which time everyone participated in one group debriefing.

Simulation. Each participant individually completed one simulation. All simulations were video recorded, and the same simulated patient scenario was used for all nine participants. This allowed each participant to apply one-to-one verbal de-escalation techniques discussed in the pre-simulation educational module over a five-minute time frame. It was essential for this simulation to be believable and realistic to the participants and since real-life scenarios with aggressive patients are stressful, the content of this simulation was designed to be stressful for the participant. To avoid potential psychological harm to the participants, they were informed they were able to end the simulation at any time.

The simulation was designed to mimic a realistic situation that a PMHNP might encounter in everyday practice. The scenario used in this simulation consisted of a psychotic patient who was agitated and aggressive after not being allowed to leave a locked inpatient unit. The psychotic simulated patient had delusions that he was being monitored and tracked, and that the people monitoring him had the ability to read his mind. The psychotic simulated patient did not feel safe in the inpatient unit due to his belief that the people monitoring him had infiltrated the unit and were posing as members of the staff. The scenario began with the participant entering the room and the psychotic patient demanding to leave. Throughout the scenario, the simulated patient repeatedly told the participant that he did not feel safe in the hospital and made indirect threats.

The simulated patient was provided with a detailed patient persona and background in addition to scripted material with prompts for the simulated patient to follow (see Appendix E). This type of simulated interaction required improvisation by the

simulated patient, for that reason the script was not written word for word but did include an outline of events that should occur during the simulation. In the week before the simulation, the simulated patient rehearsed the scenario with the role of the participant played by the graduate student (CH).

The individual portraying the simulated patient was recruited locally and volunteered his time for this project without monetary compensation, he was a male in his early thirties who stood six feet two inches and weighed 250 lbs. For the simulation, the simulated patient dressed in mismatched clothing and wore his hair uncombed and messy with unshaven facial hair in order to give a disheveled appearance to the character. During the simulation, the simulated patient paced continuously, spoke in a loud voice with rapid speech, shouted at times, and behaved in a physically threatening manner by kicking a garbage can and waving his arms while shouting.

It was unknown how skilled the PMHNP students were in de-escalation prior to this de-escalation simulation. In order to evaluate if PMHNP students entering their first clinical experience needed this type of training, the de-escalation techniques used in the simulation were evaluated using the English Modified De-Escalating Aggressive Behavior Scale (EMDABS) (Mavandadi et al., 2016) (see Appendix A). Video recordings of each simulation were analyzed in order to better define the participants' skill in de-escalation and identify areas of strength and weakness within the de-escalation techniques used by participants. Each participant's de-escalation technique was evaluated by three independent evaluators for interrater reliability. The evaluators were present in the room during the simulation and evaluation of de-escalation techniques occurred as the

simulation took place. The two lead instructors for NRS 631 were selected to be evaluators due to their availability, psychiatric experience, and knowledge of de-escalation in psychiatric settings. Both nursing instructors are PMHNPs and have worked in inpatient psychiatric settings. The third evaluator was the graduate student (CH).

The individual simulations were conducted in succession over the course of two hours. Immediately after completion of the scenario, the de-escalation technique evaluators and the simulated patient provided each individual participant with verbal feedback on their de-escalation technique in a five minute debrief which occurred in the room that the simulation took place. This provided a decompression period for each participant and a chance for each participant to communicate directly with simulated patient and evaluators.

Post-Simulation. After completion of all nine simulations a 30-minute debriefing session was conducted with all participants, the three evaluators, and the simulated patient. This debriefing session included a guided conversation which explored emotions evoked by the simulation, de-escalation techniques that worked and those that did not work during the simulation, and factors that affected the participants' decision-making. In addition, this group debrief allowed each participant an opportunity for self-reflection on how they felt about their de-escalation skill and what they might do differently when they needed to de-escalate a situation in the future. This debriefing session was not video recorded, but notes were taken by graduate student (CH). The simulated patient provided the participants valuable feedback on how their de-escalation techniques made him feel

during the simulation. This de-briefing session provided time for the participants to provide feedback on their overall experience and suggested improvements or changes to the simulation that would improve learning outcomes. At the conclusion of the debriefing session, all participants self-reported their post-training confidence level in coping with patient aggression by completing a second CCWPA.

Simulation Evaluation. An evaluation of the simulation-based experience was available online for the participants to complete after the simulation. Participants were advised to take a few days to reflect on their experience before completing the evaluation in order to provide the thoughtful feedback. This evaluation was optional for participants and was available for two weeks after the simulation. This evaluation consisted of 9 open ended questions and provided a place to provide specific feedback and make suggestions for improvement to the de-escalation simulation (see Appendix G).

Measures

Quantitative Measures

Confidence Levels. To compare participants' self-reported confidence levels before and after the de-escalation simulation, the Confidence in Coping with Patient Aggression (CCWPA) instrument (Thackery, 1987) was used (see Appendix B). This instrument is available for public use and has a high degree of reliability (Cronbach's $\alpha = .92$) and validity (Thackery, 1987). Ten items are scored on a Likert scale from 1-11, with lower scores representing less confidence and higher scores indicating greater confidence. The scores range from 10-110, representing lowest confidence level and

highest confidence level, respectively. All participants completed the pre-training CCWPA online before starting the online educational module. The post-training CCWPA was administered in paper and pencil format directly after the group debriefing concluded. The participants listed the last four digits of their phone number on their pre- and post-training CCWPAs. This identification method was used to prevent participants from forgetting their identification number between administration of the two scales and phone numbers were not known to the graduate student (CH)

De-escalation Techniques. The participant's ability to apply verbal de-escalation techniques in the simulated patient experience were assessed with the English Modified De-Escalating Aggressive Behavior Scale (EMDABS) (Mavandadi et al., 2016) (see Appendix A). This scale consists of seven items that are rated on a scale of 1 (strongly disagree) – 5 (strongly agree), with 1 representing least desirable practice, 3 representing acceptable practice, and 5 representing most desirable practice. The seven items are: (a) valuing the client; (b) reducing fear; (c) inquiring about client's quires and anxiety; (c) providing guidance to the client; (d) working out possible agreements; (e) remaining calm; (f) risky. The highest possible score on the EMBADS is 35 and the lowest possible score is 7, representing best and worst practice respectively. A score of 21 or higher is considered acceptable de-escalation practice, with increasing scores representing de-escalation practice closer to best practices. Permission to use the EMDADS for this project was granted by Mavandadi et al. and training material for use of the scale was also provided (see Appendix F.) Each participants' de-escalation technique was scored on the EMDABS by three independent evaluators, resulting in three EMDABS scores per

participant. All three evaluators observed the simulated patient experience as it occurred and scored each of the participants in real time. Participants were assigned a number from one to nine for data analysis. Participant's EMDABs were not paired with their CCWPA.

Qualitative Measures

De-escalation Techniques. In order to provide a narrative account of the participants' ability to apply verbal de-escalation techniques in a simulated patient experience all simulations were video taped for analysis. During each simulation, the graduate student (CH) kept notes while evaluating de-escalation techniques used by participants. The notes included phrases used by the participant, responses by the participant and simulated patient, and missed opportunities to use de-escalation techniques by the participant.

Evaluation of De-escalation Simulation. An evaluation was completed by the participants after the simulation (Appendix G). The evaluation was available online for participants to complete in the two weeks after the simulation and consisted of nine open-ended questions. This evaluation was designed to determine if the participants felt that the simulation was beneficial to their education and how improvements could be made for future simulations. Participant completion of the evaluation was voluntary and anonymous.

Data Analysis

Quantitative Data Analysis

Confidence Levels. Quantitative data on the participants' confidence levels in coping with patient aggression were collected from self-rated pre/post training CCWPAs. Descriptive statistics were used in analysis of CCWPA data. The pre-training data and post-training data results were compared.

De-escalation Techniques. Quantitative data on de-escalation techniques used by participants in the simulated patient experience were collected from the completed EMDABS. Descriptive statistics were used in the data analysis of EMDABS results. Interrater reliability was assessed by calculation of a two-way mixed-effect, single measure interclass correlation coefficient [ICC (3,1)]. Interclass correlation is used to measure reliability between measures (Koo & Li, 2016), in this case it reflects the variation between three raters who measured the participants in this project. A two-way mixed-effects method was selected due to the fact that all three raters were the only raters of interest and the results were not intended for generalization to other raters (Koo & Li, 2016). Single measure type interclass correlation is used when actual measurements from each single rater, not mean values, are used in the calculation (Koo & Li, 2016). There are two definitions of interclass correlation for two-way mixed-effect models: (a) absolute agreement, which assess if different raters gave the same score to the same participant, and (b) consistency, which assess if the individual raters assigned scores consistently across the group of participants (Koo & Li, 2016). Both interclass correlations were calculated for this project.

Qualitative Data Analysis

Qualitative data was analyzed using an inductive approach to identify themes. For analysis of the de-escalation techniques presented by participants in the simulated patient experience data was collected from video recording of the simulation and notes taken by the graduate student (CH). All video recordings were reviewed by the graduate student (CH), who transcribed language used in verbal de-escalation techniques and use of non-verbal de-escalation techniques, such as body language and distance from the simulated patient. The graduate student (CH) identified common verbal and non-verbal de-escalation techniques used by the participants. Qualitative data on participants' de-escalation techniques provided increased insight into the overall skill level of the participants as well as common strengths and weaknesses of the participants' ability to use best de-escalation techniques.

CHAPTER FOUR

RESULTS

Findings from this project are organized into four main categories, confidence levels of participants, de-escalation technique used by participants, debriefing findings, and evaluation of simulated experience. These four categories are separated into quantitative and qualitative data results. The results of the de-escalation techniques include both quantitative and qualitative data, therefore these results are included under both headings.

Quantitative Results

Confidence Levels

Participants' confidence levels before and after the de-escalation simulation were reported on the CCWPA and pre/post-test data was paired. Data analysis of overall scores on the CCWPA are presented first, followed by detailed results of scoring on individual questions. Results from descriptive statistical analysis are presented and pre-test data is compared to post-test data.

CCWPA overall scores. Participants' paired pre-test and post-test CWWPA scores are presented in Table 1. Average score (N =9) on the CCWPA increased by 25% after the de-escalation simulation, pre-test (M = 56.222, SD = 29.02) and post-test (M = 74.778, SD = 8.61) (Table 1). Overall scoring on the CCWPA ranges from 10 to 110, representing lowest confidence level to highest, respectively. The participants' pre-test

scores ranged from 10 to 100, and post-test scores ranged from 63 to 88. Seven of the nine participants (78%) reported an increase in confidence after the training. Participants with the lowest pre-test confidence score reported the greatest increase in post-test confidence. The greatest increase between pre- and post- test scores was 53 points, and the lowest increase was 2 points. Decreased post-test confidence scores were reported by the two participants with the highest pretest scores, pre-test (100, 89) and post-test (88, 84). The highest pre-test confidence score had a 12-point decrease, with an average a decrease of 1.2 points per question.

| Participant | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Mean (X) |
|-------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------------|
| Pre-Test Scores | 33 | 80 | 42 | 10 | 89 | 62 | 42 | 48 | 100 | 56.222 |
| Post-Test Scores | 65 | 82 | 68 | 63 | 84 | 75 | 74 | 74 | 88 | 74.778 |
| N=9 | | | | | | | | | | |

Table 1. Pre- and Post-test CCWPA Overall Scores. *Note.* Score range: 11-110. Higher scores represent higher confidence levels. CCWPA (Thackery, 1987) (see Appendix B).

CCWPA individual question scores. The mean scores for all 10 questions on the CCWPA increased after the de-escalation simulation as shown in Table 2. The questions with the largest increase from pre-test to post-test were Question 4, “How self-assured do you feel in the presence of an aggressive patient?” and Question 5, “How able are you to intervene psychologically with an aggressive patient?” with a 42.31% and 40.74% increase, respectively. The average net change was 1.9 points per question. Question 3, “How able are you to intervene physically with an aggressive patient” had the smallest post-test increase at 24.56% increase.

| CCWPA Questions | Pre-Test Mean | Post-Test Mean | Net Change | % increase |
|--|---------------|----------------|------------|------------|
| 1. How comfortable are you in working with an aggressive patient? | 5.9 | 7.9 | 2.0 | 33.90 |
| 2. How good is your present level of training for handling psychological aggression? | 5.8 | 7.7 | 1.9 | 32.76 |
| 3. How able are you to intervene physically with an aggressive patient? | 5.7 | 7.1 | 1.4 | 24.56 |
| 4. How self-assured do you feel in the presence of an aggressive patient? | 5.2 | 7.4 | 2.2 | 42.31 |
| 5. How able are you to intervene psychologically with an aggressive patient? | 5.4 | 7.6 | 2.2 | 40.74 |
| 6. How good is your present level of training for handling physical aggression? | 5.7 | 7.0 | 1.3 | 22.81 |
| 7. How safe do you feel around an aggressive patient? | 5.3 | 7.3 | 2.0 | 37.74 |
| 8. How effective are the techniques that you know for dealing with aggression? | 5.7 | 7.8 | 2.1 | 36.84 |
| 9. How able are you to meet the needs of an aggressive patient? | 5.6 | 7.3 | 1.7 | 30.36 |
| 10. How able are you to protect yourself physically from an aggressive patient? | 6.0 | 7.7 | 1.7 | 28.33 |
| Mean | 5.6 | 7.5 | 1.9 | 33.03 |

Table 2. Pre-and Post-test CCWP individual question scores. *Note.* N = 9, Individual item scores range from 1-11. Higher scores related to higher confidence levels. CCWPA (Thackery, 1987) (see Appendix B).

De-escalation Technique

All participants' skill level in verbal de-escalation techniques were evaluated using the EMDABS. Data analysis of overall scores on the EMDABS are presented first, followed by analysis of individual item scores. Descriptive statistics and interrater reliability are reported. The de-escalation technique of each participant was rated three times, once by each rater. The raters independently scored each simulation as it happened, scoring was not changed after the simulation and variations in scoring between raters were not adjusted or discussed. Data from EMDABS is independent from, and not

paired with data from CCWPA, the EMDABS scores were randomly labeled as participant 1-9.

EMDABS Overall Scores. Participant EMDABS scores are presented in figure 1. Participants' de-escalation techniques had a mean EMDABS score of 28.1 out of 35 (SD = 2.47), with individual participant scores ranging between 22 and 35. Scores on the EMDABS between 21 and 35 are considered acceptable de-escalation practice, with 21 representing the minimum use of de-escalation techniques required for acceptable practice, and 35 representing best practice for de-escalation techniques. Despite all participants receiving EMDABS scores of acceptable de-escalation, only two participants successfully used techniques that de-escalated the situation with the simulated patient.

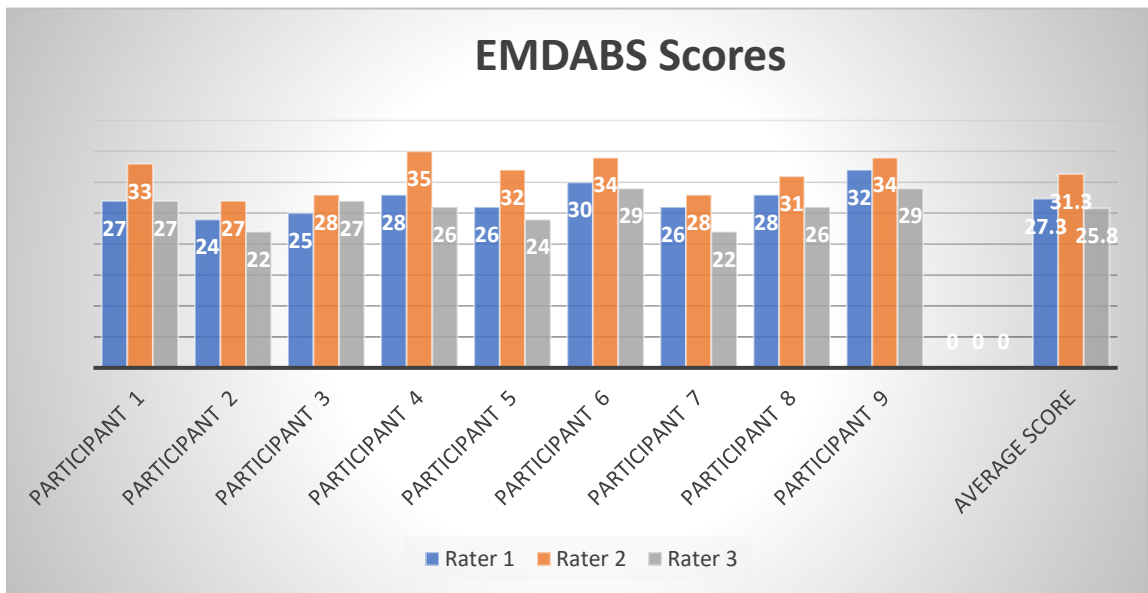


Figure 1. EMDABS participant scores from each rater. Note. N = 9, EMDABS scores range from 7 to 35. A score of 21 represents the minimum use of de-escalation techniques required for acceptable practice, and 35 representing best practice for de-escalation techniques. (EMDABS) (Mavandadi et al., 2016) (See Appendix A)

There were variations in EMDABS scores between raters, the largest variation in scores for a single participant was 9 points. Interrater reliability of the EMDABS was assessed by calculating a two-way mixed effect, single measure interclass correlation coefficient [ICC (3,1)]. The three raters showed good overall consistency across EMDABS ratings, ICC (3,1) = 0.739, but poor overall agreement across EMDABS ratings, ICC (3,1) = 0.355.

EMDABS Individual Item Scores. The average score per item on the EMDABS was 4 out of 5 (SD = 0.30), with individual item scores ranging between 2 and 5. Each item on the EMDABS is assigned a score between 1-5, with 1 representing unacceptable de-escalation technique and 5 representing best practice in de-escalation techniques. Mean scores for EMDABS items 1-7 are shown in Table 3. Participants scored the highest on Item 6: Remaining Calm and Item 7: Risky, both with mean score of 4.41. The item with the lowest mean score (3.67) was Item 2: Reducing fear.

| EMDABS ITEMS | MEAN | SD |
|-------------------------------|------|-------|
| Item 1: Valuing Client | 3.85 | 0.770 |
| Item 2: Reducing Fear | 3.67 | 0.877 |
| Item 3: Inquiring | 3.85 | 0.770 |
| Item 4: Guidance | 3.81 | 0.879 |
| Item 5: Agreements | 3.96 | 0.808 |
| Item 6: Remaining Calm | 4.41 | 0.888 |
| Item 7: Risky | 4.41 | 0.888 |
| All items | 3.99 | 0.295 |

Table 3. EMDABS Item Averages. *Note.* N= 9, Individual EMDAB item scores range from 1 to 5, with 1 representing unacceptable de-escalation technique and 5 representing best practice in de-escalation techniques. (EMDABS) (Mavandadi et al., 2016) (See Appendix A)

Qualitative Results

De-escalation Techniques

Analysis of the participants' de-escalation techniques revealed 5 major themes. These themes were then differentiated based on the effectiveness of each technique on de-escalation of the simulated patient. De-escalation techniques that were effective were identified as strengths and include calm demeanor and safe distance. Ineffective de-escalation techniques were identified as weaknesses and include emotional suppression, limited use of inference, and lack of confidence. Each theme is described below in more detail. Due to technical difficulties, only seven out of nine de-escalation scenarios were recorded. The two de-escalation scenarios that were not recorded were analyzed with data from notes taken by the three raters while scoring the participants de-escalation techniques on the EMDABS during the simulation.

Strength: Calm Demeanor. All participants remained calm during the simulation, despite the simulated patient's high level of agitation and threatening physical demeanor. Participants exhibited relaxed body language, a calm tone of voice, and did not show heightened reactions when the simulated patient amplified his behaviors. After the simulated patient kicked the trash can, several participants began to show signs of agitation, but all were able to regain their composure and continue with the de-escalation in a calm manner. Two of the participants were visibly frightened after the show of aggression, both participants paused and took 30 seconds before reengaging with the simulated patient. The tone of voice used by participants remained neutral while speaking with the simulated patient. The only time that the participants' tone of voice

showed signs of agitation were in comments made by some participants directly after the simulated patient increased his level of aggression. This shift in tone only remained for one or two comments before all participants were able to return to a neutral tone of voice.

Strength: Safe distance. A safe distance was maintained by all almost all participants. Several participants adjusted the distance from the simulated patient in response to changing levels of agitation. For example, when a participant was near the agitated simulated patient, they recognized this proximity to the patient was not safe and corrected the distance. Only one participant attempted to touch the simulated patient by placing a hand on the simulated patient's shoulder while he was still highly agitated. Although this participant stopped themselves before touching the simulated patient, they remained too close to the simulated patient throughout the experience. Of note, the one participant who did not maintain safe distance from the simulated patient successfully de-escalated the situation with the simulated patient.

Weakness: Emotional Suppression. Every participant responded to the simulated patient by using a non-therapeutic technique known as emotional suppression early in the de-escalation processes. Emotional suppression is when behaviors associated with an emotion are suppressed and typically backfires when used on individuals who are upset or aggressive. When a participant was first confronted with heightened aggressive behavior, such as yelling, they responded by asking the simulated patient to suppress his emotional response. Several participants continued these requests throughout the de-escalation, while others stopped after their first request. Two common emotional suppression phrases used by the participants specifically included *calm down* and *sit*

down, these phrases resulted in escalation rather than de-escalation. The phrase, *calm down*, was used most often in the simulation, with each participant repeatedly asking this of the simulated patient. Variations of phrasing included, *I need you to calm down*, *you need to calm down*, and *you have to calm down first*. Similarly, the phrase *sit down* was used by the participants frequently. Several of the participants focused on getting the simulated patient to sit down in order to talk, despite repeated rebuffs by the simulated patient. The more that participants used these two phrases and insisted that the simulated patient calm down and sit down, the more agitated the simulated patient became.

Weakness: Limited use of Inference. Successful de-escalation required participants to infer meaning from statements made by the simulated patient. Due to the simulated patient's delusions and auditory hallucinations, he was unable to effectively communicate his needs. During the simulated experience, the patient stated, "*I need to go home, because I have my fans there. I need my fans they keep me safe.*" All participants were able to infer that a fan might help de-escalate the patient, but only two took action to get a fan. The remaining seven participants asked the simulated patient if he would like a fan, but when he could not clearly indicate that he wanted a fan, they did not take action to get him a fan. The simulated patient's typical response when asked if he would like a fan was, "*I need my fans, I need to go home*". The participants who did not get a fan were unable to infer that the patient's need for his fans should be applied to the inpatient unit as well as his home.

A similar statement made by the simulated patient which required inference was "*at home my windows are blacked out*". Only one participant responded to this comment

by turning down the lights in the simulation room. Three other participants offered to take the simulated patient to his room and turn down the lights, but again, when he did not give a clear affirmative response to this question, the participants did not take action to accommodate to this request.

Another area that lacked inference was indirect threats, the most participants did not acknowledge threats that were made. The simulated patient made statements during the simulation such as, "If you don't let me leave, you are not going to like what happens." None of the participants made inquiries in order to assess what the simulated patient meant by these statements. At the height of agitation, the simulated patient kicked a small metal trash can creating a loud noise. Many of the participants failed to address this or even acknowledged that the simulated patient's agitation and aggression was increasing.

Weakness: Lack of Confidence. In the de-escalation scenarios, several areas of de-escalation technique were identified in which participants lacked confidence to properly execute. When participants tried to establish clear working conditions and set limits with the patient, they demonstrated a lack of confidence. Examples of ways that the participants tried set limits included, telling the simulated patient that before they could help the client would need to calm down, trying to strike a deal with the client, and stating that *we need to keep each other safe*. These attempts to set limits were not well received by the simulated patient and resulted in more agitation or were ignored by the simulated patient. The simulated patient crossed several boundaries during the simulation, including yelling and kicking the trash can. Most often, participants did not

address boundaries with the simulated patient until after boundaries had been crossed. None of the participants communicated clear working conditions and limits at the beginning of their interaction with the simulated patient. In most scenarios, when the simulated patient requested to leave, clear limits were not established by the participants. The participants responded in ways that shifted the responsibility for letting them leave or made the simulated patient believe that he may be able to leave if he calmed down. Several participants made statements that began with *in order for you to leave we have to...* and ended with *talk, calm down, and work together*. Even the participants who stated that they could not make the decision of whether the simulated patient could leave, did not directly set a clear expectation that leaving the hospital was not an option.

There was also a lack of confidence demonstrated by the participants in the manner they provided guidance, or choices, for the simulated patient to consider. All participants offered at least one option to the simulated patient, and many were able to offer three or more options. However, most participants stalled when the simulated patient did not explicitly state that he wanted to try that option. Guidance was not provided in a manner that helped the simulated patient stay in control of himself or make good choices.

The subject of medication can be a sensitive subject with psychiatric patients, but still needed to be addressed. Pharmacological interventions can reduce agitation quickly and are recommended to be used with verbal de-escalation techniques (Price & Baker, 2012; Richmond et al., 2012). Only one participant offered medication as an option; this was one of the participants who successfully de-escalated the simulated patient. The

participant who offered medication displayed high levels of confidence throughout the simulation. The other eight participants did not bring up the topic of medication at any point in the de-escalation scenario.

Debriefing

A guided conversation occurred in the debriefing session that took place immediately after completion of all nine simulations. This debrief included what worked well, what did not work, and take-home messages from the de-escalation simulation. Participants were encouraged to share their experience with the simulated patient with each other, including emotions they experienced.

Participants identified that their attempts to have the patient calm down or sit down were not effective, making them feel rattled and overwhelmed at times. The simulated patient reported that when the participants asked him to sit down or to calm down, he felt that his concerns were not being heard, thus producing more agitation. When the participant continued to focus having the simulated patient calm down and sit down, they inadvertently initiated a power struggle between themselves and the simulated patient.

Participants shared that they felt that the simulated patient was too agitated to be successfully de-escalated and that in a clinical setting they would not attempt to verbally de-escalate this patient. Some participants shared that in their workplaces, they are instructed not to de-escalate patients with high levels of agitation or aggression, such as this simulated patient, and that they should try and wait it out. It was reported by some

participants that in their workplace, this level of aggression would require additional staff support for de-escalation.

Several participants reported that they did not know what was allowed during the simulation, such as if they had access to a fan or if fans were allowed on the inpatient unit, and that this uncertainty made it more difficult to de-escalate the client. They requested that more information be provided at the beginning of the simulation about the patient situation and limits within the simulation.

Anecdotally, several of the participants reported that they had previous training in de-escalation techniques and had role played in those trainings, some had previous training in de-escalation technique but had not role played in those trainings, and a few had no previous de-escalation training. Regardless of their previous de-escalation training, all participants felt that this type of simulated experience was helpful for learning de-escalation techniques.

Evaluation of De-escalation Simulation

Six of the nine participants completed the post simulation evaluation survey for a 66% response rate. One participant only responded to the first four questions, which resulted in leaving questions five through nine only having five responses for a response rate of 55%. The simulation felt realistic to all participants who completed the evaluation. Participants reported that the least helpful part of the de-escalation simulation was the pre-simulation educational module. Suggestions included adding an in-person pre-simulation de-escalation training presentation, group discussion that includes classmates' suggestions for de-escalation approaches, practicing de-escalation techniques in class

before the simulation, and offering de-escalation training several times throughout graduate and undergraduate nursing courses. All participants indicated that they felt that this simulation was helpful for improving their de-escalation skills and recommended that this training be included in the skills lab for future graduate students enrolled in the PMHNP program.

CHAPTER FIVE

DISCUSSION, RECOMMENDATIONS, CONCLUSIONS

Violence against healthcare professionals is an epidemic in the United States and Montana has higher rates than the national average (Brennan & Elenbaas, 2016).

Psychiatric settings have high rates of violence (McPhaul & Lipscomb, 2004) and use of verbal de-escalation techniques by healthcare professionals can reduce the number of incidents with aggressive patients and increase personal confidence in coping with patient aggression (Deans, 2004; Fernandes et al., 2002; Ferrara et al., 2017; Livingston et al., 2010; Nau, Dassen, et al., 2009). The Joint Commission (2018) recommend that all healthcare professionals be trained in de-escalation techniques. Currently, there is no de-escalation training in the curriculum for PMHPN students at Montana State University College of Nursing.

The purpose of this scholarly project was to develop, implement, and evaluate simulation-based de-escalation training for PMHNP students on the prevention and management of aggressive behavior of patients in a psychiatric healthcare setting. The review of literature included effectiveness and key components of de-escalation techniques, tools for evaluating de-escalation techniques, use of simulated patients for de-escalation training and Kolb's experiential learning theory as framework for de-escalation simulations. This project was implemented with a goal of providing the foundation for potential adoption of simulation-based training on de-escalation into the PMHNP curriculum.

Discussion

Three major variables were measured in this project: (a) participants' self-reported confidence levels in their ability to cope with patient aggression, (b) participants' ability to demonstrate verbal de-escalation techniques, and (c) participants' and evaluators' perceptions on use of a simulated patient scenario for verbal de-escalation training in a PMHNP program. A discussion of the project findings is presented below, organized into three topic headings, confidence levels, de-escalation techniques, and participant perception.

Confidence Levels

The participants' mean confidence scores increased from pre-test to post-test, suggesting that the de-escalation training was successful in increasing the students' overall confidence in coping with patient aggression. Our findings are aligned with the evidence that de-escalation training increases confidence levels of nurses (Deans, 2004, Nau, Dassen, et al., 2009; Needham, et al., 2005). The mean increase in confidence scores was 18 points, which is higher than in Thackery's (1987) initial testing with the CCWPA where the mean increase was 10 points. One participant reported the lowest possible confidence level before de-escalation training, their confidence level increased by 53 points after completion of the training, which may have acted as an outlier and skewed results. The average increase per CCWPA item was 1.9 points, but after removing the one possible outlier the increase is closer to 1.0 points.

There were two participants with a decrease in confidence level after completion of the de-escalation training. Proposed reasons for decrease in confidence levels after the

simulation include that the participant may have been unsuccessful at de-escalating the simulated patient, or the simulated patient possibly exhibited higher levels of agitation and aggression than the participant had previous experience in de-escalating.

Interestingly, the participants with decreased post-test scores had the two highest pre-test scores. This could mean that this de-escalation training helped these two participants to realize that they were less confident in coping with patient aggression than they initially believed. Perhaps, de-escalation of the simulated patient was more challenging than expected. High levels of confidence may lead to underestimation of aggressive situations, leading to poor results (Nau et al., 2011). The simulated patient presented a high level of agitation and aggression, which occurs less frequently in the clinical setting than mild and moderate levels of agitation and aggression. A decrease in confidence level may indicate that the participants felt confident in coping with lower level of aggression, but once faced with high levels of aggression felt less confident. It is important to note, that Nau et al. (2011) concluded that self-confidence levels in coping with patient aggression are not predictors of de-escalation performance.

It was noted that there were lower scores on the questions that asked about physical aspects of patient aggression, which may have been due to the de-escalation training not including any physical training in management of aggressive patients. The simulated patient was highly agitated and physically threatening at times and the participants may have felt unprepared to cope with the physical threat associated with this scenario. Physical de-escalation techniques are included in many de-escalation training

programs, but best practices clearly state that verbal de-escalation techniques should be used first and may prevent the need to use physical de-escalation techniques.

De-escalation Techniques

EMDABS Scores. All participants were successfully able to demonstrate acceptable de-escalation techniques. However, none of the participants were able to demonstrate best practices when de-escalating the simulated patient, which implies that one de-escalation training is not adequate for student to become skilled in best de-escalation practices. The participants' mean score of 28 on the EMDABS represented de-escalation practice which was halfway between minimum acceptable practice and best practice, this indicates that the participants demonstrated intermediate skill levels in de-escalation techniques. Despite all participants receiving satisfactory ratings on the EMBADS, only two participants were successful at de-escalating the simulated patient, which raises the question if there is a correlation between use of best practice de-escalation techniques, as scored on the EMDABS, and positive de-escalation outcomes in clinical settings.

There were also clear differences in scores between raters, with rater 2 consistently scoring higher and rater 3 consistently scoring lower than rater 1. Differences between raters remained consistent across all nine participants and may be due to the fact that it was the first time that all three raters used this scale. Review of all videotaped simulations revealed that the EMDABS scores were somewhat inflated. This may be related to difficulty rating the simulations in real time and while in the same room as the simulated patient and participant demonstrating de-escalation skills. During the

simulations, the highly reactive state of the simulated patient may have caused a heightened emotional reaction in the raters, resulting in altered scores.

Emotional Suppression. During the simulation, all participants attempted to get the simulated patient to suppress his emotions. Emotional suppression is hiding or suppressing an emotion, and it typically backfires, resulting in heightened emotions that are more difficult to contain. The most common reason for one individual imposing emotional suppression on another individual is that behaviors associated with anger, make others feel uncomfortable. When confronted with an angry individual who is causing discomfort within oneself, the natural response is to attempt to remove the distressing behaviors, often by saying '*calm down*' or '*relax*'.

The majority of participants focused on getting the aggressive patient to calm down and sit down rather than focusing on understanding and solving his problem. This focus may have been reinforced by the directions given to the participants that their only objective was to de-escalate the aggressive patient situation. In verbal de-escalation technique, the focus is on understanding the client, validating their feelings and finding mutually agreed solutions to resolve the conflict. Perhaps, the participants went into the simulation with a goal of de-escalating the patient rather than understanding the patient, which may have resulted in the participants repeatedly asking the simulated patient to suppress emotions. Use of the statement '*calm down*' during verbal de-escalation sends messages to the aggressive patient that the de-escalator is not concerned with how they feel, is not listening to them, and want them to stop feeling the way that they are feeling, and it implies that the de-escalator thinks that the person is acting irrational and out of

control. If an aggressive person feels that the main goal of the de-escalator is only to quiet and calm them down, then there is little change at successful de-escalation. In this de-escalation scenario, it may have felt more important to address the behaviors that felt threatening because in an inpatient unit, staff must keep all patients safe.

Inquiring into concerns. All of the participants were successful at inquiring into the simulated patient's concerns, however, their statements were often framed with conditional offers to help, such as, *'I understand that you want to leave, but you need to calm down before I can help you.'* This statement may begin with a validating response but is followed by a non-validating statement. In addition to provoking the simulated patient, participants inadvertently initiated a power struggle between themselves and the simulated patient.

Confidence. The participants who showed more confidence in their ability to help the simulated patient had better de-escalation results. Confidence was shown when the participant took full responsibility for helping, set clear expectations and limits, and took action to resolve the conflict. The two participants who acted quickly and got a fan for the simulated patient were able to successfully de-escalate the situation. There was also confidence in their ability to infer what the simulated patient needed from his words. It is unknown if high self-rated confidence scores on the CCWPA corresponded with ability to shown confidence in the simulation.

Confidence levels may have played a role in the participants' decision to offer medication to the simulated patient. Pharmacological interventions are commonly used to reduce agitation in emergency settings, such as the emergency department and

inpatient psychiatric settings (Richmond et al., 2012). Several psychiatric medications are approved for acute agitation and many others are used off-label to prevent and reduce agitation. Teaching patients to recognize when they are agitated and to voluntarily utilize as-needed medication improves coping skills and is a standard nursing intervention with evidence-based rationale. Some psychiatric patients do not want to take medications and this can be over-generalized to all psychiatric patients, which can result in hesitation to offer medications. There is a distinction between voluntary use of medications that help the patient to regain control of themselves and use of involuntary medication as a pharmacological restraint (Richmond et al., 2012). Use of voluntary medication is recommended to be used with verbal de-escalation techniques (Price & Baker, 2012; Richmond et al, 2012). The simulated patient displayed high levels of agitation, and increased his agitation levels when participants attempted to set boundaries. The participants who lacked confidence may have been hesitant to offer medication due to their pre-conceived belief that he would refuse medication.

Responding to Threats. It was alarming that the majority of the participants did not address the indirect threats made by the simulated patient. Either the participants did not recognize that a threat was being made or they chose to ignore it. This is concerning because in the clinical setting, safety must be assessed at all times, including safety for the patient, other patients, and staff. When threats are made by a patient, even small indirect threats, a risk assessment should occur. It is the PMNHP's responsibility to identify these threats and inquire into the nature of the threat and the likelihood that the patient will act on the threat. This skill is vital to ensure safety in a psychiatric setting.

Participant Perceptions.

All participants reported that the de-escalation training was helpful for improving their de-escalation skills and was beneficial their nursing education. Responses from participants indicated that the simulated patient was realistic and that the simulation was more beneficial than the educational module. This aligns with previous findings from Doolen et al. (2014) and Nau et al. (2010) that simulated patient scenarios provide high-fidelity mental health experiences that are effective for practicing de-escalation. Participants recommended that de-escalation training be incorporated into nursing curriculum, which is supported by available evidence (Nau et al., 2010) and recommendations from the professional organizations that healthcare professionals receive de-escalation training (OSHA, 2016; The Joint Commission, 2018).

Limitations

There were several limitations in this scholarly project. Lack of demographic information on participants made it difficult to draw conclusion as to the baseline de-escalation skill level. This project had a very small sample size and the findings from this project may not be generalizable to other PMHNP students. The simulated patient may have been too agitated and aggressive for verbal de-escalation. The three raters were briefly trained on the use of the EMDAB scale, but scores varied by rater and differences were not discussed and agreed on, so ratings may be skewed. The participants' confidence levels were not linked to their de-escalation technique scores, preventing correlations between confidence levels and skill in de-escalation technique to be identified. The audio and visual quality of the simulation recordings was poor. In all

recordings the voices echoed, and the camera was set to move towards noise, causing the camera to zoom in and out during the simulation. The simulated patient used a much louder voice than the participants during the simulations, which resulted in the camera following him. Throughout the recordings, the participant moved in and out of the frame and at times only their voice could be heard. The pre-simulation educational module only required 3 hours to complete, which may not have prepared the participants for the simulation.

Implications for Nursing Practice

Findings from this project support current evidence that training in de-escalation techniques increases nurse confidence levels in coping with patient aggression (Deans 2004), and confidence is a vital part of good de-escalation technique. Use of verbal de-escalation techniques is the first line intervention for the prevention of aggressive behaviors in healthcare settings. Safety is a top priority in clinical settings and providing de-escalation training prior to clinical experiences provide student nurses with skills that have the potential to prevent violence in clinical healthcare settings. Patient aggression occurs in all healthcare settings, and all nurses need to be prepared to manage patient aggression in the workplace. Annual de-escalation trainings, that include the opportunity to practice verbal de-escalation techniques, should be offered by healthcare organizations to all nurses.

Implications for Nursing Education

This project provides the foundation for implementation of simulation-based de-escalation training in PMHNP curriculum. The PMHNP students in this project used acceptable de-escalation techniques with the simulated patient, but they did were unable to use best de-escalation practices. Situations with aggressive patients can occur in all healthcare settings, accordingly training in de-escalation techniques should be provided to all nursing students and not be limited to nursing students with a psychiatric focus. Safety is a top priority in clinical settings, and providing de-escalation training prior to clinical experiences provide students with skills that have the potential to prevent violence in clinical healthcare settings. Fernandes et al. (2002) and Nau et al. (2010) concluded that de-escalation training should be completed annually for best results, and findings from this project support providing PMHNP students with more than one de-escalation training throughout the course of their undergraduate and graduate curriculum. Nau et al. (2010) concluded that assuming that aggression management will be learned in the workplace is unfounded and that de-escalation trainings should be provided early in nursing education, which is supported by the findings of this project.

Implications for Nursing Research

This project adds to the evidence that supports use of de-escalation training to improve nurse confidence in managing patient aggression in the clinical setting. Evidence on the topic of de-escalation training is limited, and little evidence is available on the effectiveness of de-escalation training on clinical safety outcomes and how well

de-escalation training prepares nurses to use best practice de-escalation techniques with aggressive patients in the clinical setting. Additional research is needed on the use of verbal de-escalation in clinical settings, and the effectiveness of de-escalation trainings for improving the ability of nurses to properly use de-escalation techniques. Further research is also needed on the impact of de-escalation trainings on actual de-escalation performance in clinical settings. Additional research on the EMDABS scale is needed to determine if use of best de-escalation techniques result in consistent de-escalation of aggressive situation in clinical settings.

Recommendations

De-escalation training with use of simulated patient is recommended once per semester for nursing students throughout the entirety of their undergraduate and graduate education. Based on participant feedback, future trainings should include an in-person demonstration of de-escalation techniques and provide students with opportunities to discuss the educational material as a group before attempting to de-escalate an aggressive simulated patient. Observation of de-escalation scenarios should occur from outside the simulation room, either through the use of video recordings or a one-way mirror. Video recordings of de-escalation simulations can be used as an educational tool by providing students with the opportunity to review their de-escalation performance with feedback from a nursing educator. Simulated patient scenarios that vary in level of aggression, can be completed by students throughout their education in a progressive manner from low aggression to high aggression, which may improve development of de-escalation skills by

providing more challenging de-escalation scenarios to students who have had more de-escalation trainings.

Conclusion

This scholarly project provides evidence that verbal de-escalation training can positively affect nurses' confidence levels for coping with patient aggression. This project also provides a foundation for implementation of simulation-based de-escalation training for PMHNP students. No studies were identified in the literature review that assessed simulation-based de-escalation training for PMHNP students, however, Martinez (2017) and Nau et al. (2010) both conducted simulation-based de-escalation training for undergraduate nursing student. Martinez and Nau et al. (2010) reported similar outcomes to the results of this project. Students in the PMHNP program at Montana State University College of Nursing were not able to demonstrate best practices in de-escalation techniques and may benefit from additional de-escalation training. Verbal de-escalation techniques can be used in any healthcare setting and can prevent violence in healthcare settings (Deans, 2004; Fernandes et al., 2002; Phillips & Rudestam, 1995). Incorporation of de-escalation training into graduate nursing curriculum can prepare PHMNP students for potential patient aggression in clinical settings and increase use of verbal de-escalation technique in healthcare settings.

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APPENDICES

APPENDIX A

ENGLISH MODIFIED DE-ESCALATING AGGRESSIVE BEHAVIOR SCALE

English Modified De-escalating Aggressive Behavior Scale
(Mavandadi & Bieling, 2016; Nau, Halfens, Needham, & Dassen, 2009)

| | 1 Strongly Disagree | 2 Disagree | 3 Neither/nor | 4 Agree | 5 Strongly Agree |
|--|--|-----------------------|--|--------------------|--|
| 1. Valuing the Client | <i>Example:</i> Demeans or trivializes the client's concerns, emotions and requests | | <i>Example:</i> Provides limited or superficial acknowledgement that the client's concerns are valid, important and will be addressed | | <i>Example:</i> Provides genuine acknowledgement that the client's concerns are valid, important, and will be addressed in a meaningful way. |
| 2. Reducing fear | Fails to empathize with the client, reinforces their fears and does not suggest things will get better | | Listens actively to the client's concerns, but offers limited reframing, understanding, empathy or hope for the future. | | Listens actively to the client and offers genuine empathy while suggesting that the client's situation has the potential for positive future change. |
| 3. Inquiring about client's queries and anxiety | Makes no effort to understand the client's concerns and disregards what the client says or implies it is not important | | Attempts to understand the client's present concerns, but does not probe the client for more information | | Can communicate a thorough understanding of the client's concerns, and works to uncover the root of the issues. |
| 4. Providing guidance to the client | Trivializes the client's concerns and implies there is nothing they can do to help them | | Suggests limited, non-client centered, 'textbook' solutions that only address the client's immediate concerns. | | Suggests multiple ways to help the client with their current concerns and recommends preventative measures. |
| 5. Working out possible agreements | Displaces responsibility for the client's care to someone else entirely and leaves the encounter unresolved with no agreed upon plan | | Displaces some responsibility away from themselves and proposes a solution that requires minimal effort from the provider | | Takes responsibility for the client's care and concludes the encounter with an agreed upon short-term solution and long-term action plan |

| | 1 Strongly Disagree | 2 Disagree | 3 Neither/nor | 4 Agree | 5 Strongly Agree |
|--------------------------|---|-----------------------|--|--------------------|--|
| 6. Remaining calm | Becomes impatient, visibly frustrated or condescending when the client becomes more difficult. | | Maintains a relatively calm demeanor, but signals agitation or impatience at times | | Maintains a calm tone of voice and steady pace that is appropriate to the client's feelings and behavior |
| 7. Risky* | Maintains a moderate distance from the client to ensure safety, but does not appear guarded and fearful | | Keeps and excessive distance from the client to ensure safety and comes across as slightly guarded and fearful | | Instigates or provokes the client by being too close and confronting, or too far away or fearful. |

*Risky is reverse coded.

APPENDIX B

CONFIDENCE IN COPING WITH PATIENT AGGRESSION INSTRUMENT
(CCWPA)

Confidence in Coping With Patient Aggression Instrument

| Items | Scale anchors | |
|--|-----------------------|-------------------|
| | 1 | 11 |
| 1. How comfortable are you in working with an aggressive patient? | very uncomfortable | very comfortable |
| 2. How good is your present level of training for handling psychological aggression? | very poor | very good |
| 3. How able are you to intervene physically with an aggressive patient? | very unable | very able |
| 4. How self-assured do you feel in the presence of an aggressive patient? | not very self-assured | very self-assured |
| 5. How able are you to intervene psychologically with an aggressive patient? | very unable | very able |
| 6. How good is your present level of training for handling physical aggression? | very poor | very good |
| 7. How safe do you feel around an aggressive patient? | very unsafe | very safe |
| 8. How effective are the techniques that you know for dealing with aggression? | very ineffective | very effective |
| 9. How able are you to meet the needs of an aggressive patient? | very unable | very able |
| 10. How able are you to protect yourself physically from an aggressive patient? | very unable | very able |

APPENDIX C

IRB EXEMPTION AND CONSENT APPROVAL



INSTITUTIONAL REVIEW BOARD
For the Protection of Human Subjects
FWA 00000165

960 Technology Blvd. Room 127
 c/o Microbiology & Immunology
 Montana State University
 Bozeman, MT 59718
 Telephone: 406-994-6783
 FAX: 406-994-4303
 E-mail: cherylj@montana.edu

Chair: Mark Quinn
 406-994-4707
 mquinn@montana.edu

Administrator:
 Cheryl Johnson
 406-994-4706
 cherylj@montana.edu

MEMORANDUM

TO: Carly Hatfield and Sandra Kuntz

FROM: Mark Quinn *Mark Quinn CJ*
 Chair, Institutional Review Board for the Protection of Human Subjects

DATE: April 16, 2019

RE: "De-Escalation Training for Psychiatric/Mental Health Doctorate of Nursing Practice Students" [CH041619-EX]

The above research, described in your submission of April 15, 2019, is exempt from the requirement of review by the Institutional Review Board in accordance with the Code of Federal regulations, Part 46, section 101. The specific paragraph which applies to your research is:

- (b) (1) Research conducted in established or commonly accepted educational settings, involving normal educational practices such as (i) research on regular and special education instructional strategies, or (ii) research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods.
- (b) (2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability, or be damaging to the subjects' financial standing, employability, or reputation.
- (b) (3) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior that is not exempt under paragraph (b)(2) of this section, if: (i) the human subjects are elected or appointed public officials or candidates for public office; or (ii) federal statute(s) without exception that the confidentiality of the personally identifiable information will be maintained throughout the research and thereafter.
- (b) (4) Research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available, or if the information is recorded by the investigator in such a manner that the subjects cannot be identified, directly or through identifiers linked to the subjects.
- (b) (5) Research and demonstration projects, which are conducted by or subject to the approval of department or agency heads, and which are designed to study, evaluate, or otherwise examine: (i) public benefit or service programs; (ii) procedures for obtaining benefits or services under those programs; (iii) possible changes in or alternatives to those programs or procedures; or (iv) possible changes in methods or levels of payment for benefits or services under those programs.
- (b) (6) Taste and food quality evaluation and consumer acceptance studies, (i) if wholesome foods without additives are consumed, or (ii) if a food is consumed that contains a food ingredient at or below the level and for a use found to be safe, or agricultural chemical or environmental contaminant at or below the level found to be safe, by the FDA, or approved by the EPA, or the Food Safety and Inspection Service of the USDA.

Although review by the Institutional Review Board is not required for the above research, the Committee will be glad to review it. If you wish a review and committee approval, please submit 3 copies of the usual application form and it will be processed by expedited review.

**SUBJECT CONSENT FORM FOR PARTICIPATION IN HUMAN RESEARCH AT
MONTANA STATE UNIVERSITY**

Project Title: De-Escalation Training for Psychiatric/ Mental Health Doctorate of Nursing Practice Students

You are being asked to participate in an educational project to understand if training on verbal de-escalation techniques that includes use of a simulated patient experience is effective at improving de-escalations skills and confidence levels for graduate level nursing students.

Rationale of research: This project may help us obtain a better understanding of the effectiveness of this particular verbal de-escalation techniques educational program. Your participation may also help us to better understand the need for this type training for graduate level nursing students.

Procedures involved: Participation is voluntary. If you agree to participate you will be asked to complete an online training module on verbal de-escalation techniques and then practice those verbal de-escalation techniques in a 5-minute simulation with an actor portraying an aggressive/agitated patient. Participation is voluntary and you can choose to not answer any questions you do not want to answer and/or you can stop at any time. The online training module will be available 2 weeks prior to the scheduled simulation. On the day of the simulation, there will be a pre-briefing to explain the simulation and answer any questions you may have. The simulation will last approximately 5 minutes and afterwards there will be a de-brief with time allotted to address any additional questions or concerns you may have. Your de-escalation skills during the simulation will be scored. You will be asked to complete a 10-item scale on your confidence level in coping with aggressive patients before and after the training.

Risks and Benefits: There are minimal risks associated with participating in this education project. Due to the sensitized nature of the content, it may make participants feel uncomfortable. You are not required to answer all survey questions and may do so as you feel comfortable. You may stop the simulation at any time that you want. The benefits associated with your participation in this project are the possibility of improved verbal de-escalation skills and ability to cope with aggressive patients.

Source of Funding: NA

Cost to Subjects: None

Confidentiality: Your responses de-escalation score will be in no way tied to your personal demographic information. All possible attempts to maintain your privacy will be completed.

APPROVED
MSU IRB
04/16/2019
Date approved

Please feel free to contact me with any questions you may have:
Carly Hatfield, RN, BSN
carly.hatfield@student.montana.edu

If you have additional questions about the rights of human subjects you can contact the Chair of the Institutional Review Board, Mark Quinn, (406) 994-4707 [mquinn@montana.edu].

AUTHORIZATION: I have read the above and understand the discomforts, inconvenience and risk of this study. I, _____ (*name of subject*), agree to participate in this research. I understand that I may later refuse to participate and that I may withdraw from the study at any time. I have received a copy of this consent form for my own records.

Signed: _____

Investigator: _____

Date: _____

APPROVED
MSU IRB
04/16/2019
Date approved

APPENDIX D

STUDENT EDUCATIONAL MODULE

Hello Class,

I am a fellow PMHDNP student and my scholarly project is the implementation and evaluation of a de-escalation training with a simulated patient. This training is to be implemented at your N631 skills lab. Participation is voluntary and does not affect your grade for the class in anyway. In order to participate, you will complete a confidence scale and educational module beforehand, and then practice your de-escalation skills on a simulated patient (actor) during skills lab and complete a second confidence scale.

Attached is the consent form and for participation, confidence scale, and the educational module material.

First:

Complete Confidence in Coping with Patient Aggression Scale BEFORE beginning educational module

Google Forms: <https://forms.gle/WYRiRixPraBNDUo36>

The educational module consists of:

1. Complete the free online training: Workplace Violence Prevention for Nurses available from the CDC at https://www.cdc.gov/niosh/topics/violence/training_nurses.html.
2. Read the Following (attached to email):
 - a. Richmond, J. S., Berlin, J. S., Fishkind, A. B., Holloman, G. H., Jr., Zeller, S. L., Wilson, M. P., . . . Ng, A. T. (2012). Verbal De-escalation of the Agitated Patient: Consensus Statement of the American Association for Emergency Psychiatry Project BETA De-escalation Workgroup. *Western Journal of Emergency Medicine*, 13(1), 17-25. doi:10.5811/westjem.2011.9.6864
 - b. 10 domains of de-escalation handout
3. View the video: “Understanding Agitation: De-escalation” by Scott Zeller, M.D available at <https://www.youtube.com/watch?v=6B9Kqg6jFeI>

Please feel free to contact me or Becka with any questions.
Thank you!

Carly Hatfield
carly.hatfield@student.montana.edu

APPENDIX E

SIMULATED PATIENT BACKGROUND AND SCRIPT

Scenario Basics:

Male, 25 years old. First break psychosis. Currently paranoid and suspicious, new admit to unit. Brought in to ED by police due to erratic public behavior. He is highly agitating, cursing, threatening and pacing in room, occasionally banging on countertops. He is loud and suspicious of participant. He is threatened if his personal space is invaded, or if the participant puts their hands in their pockets or behind their back. He is primarily agitated about not being safe in this unit because he is being monitored, by unknown people. He escalates if you challenge his delusions or ask him to calm down. He de-escalates if his feelings are validated and he feels he is being heard.

Actor Background information:

- You were taken to the emergency department by the police due to loitering/harassing others in front of a local business. You were warning people entering the building that they were conducting illegal experiments in the store and inserting tracking devices in customers. When police arrived, you tried to explain that you were helping the customers and became hostile and upset when they told you to leave. This led to being taken to the hospital.
- After a psychiatric evaluation in the emergency department, you were admitted involuntarily to the locked psychiatric unit for further evaluation and treatment.
- You have been in the psychiatric unit for 1 day and feel that you are still being monitored and that the staff is part of the “unknown people who are monitoring you”.
- You want to leave, do not feel safe, and do not trust the doctor.
- When the nurse enters the room you are suspicious, agitated, and pacing.

Actor cues and script:

- The scenario begins with you being agitated and you will become angrier before calming down. You will be required to improvise during the simulation, but these cues/lines should be said:

1. When the nurse enters, you will be pacing the room, do not make eye contact, and answer in one-word comments, and demand to leave.
“It is illegal for you to keep me here. I know my rights. That doctor is part of them”

2. Nurse will try and get more information about why you are upset/tell you to calm down. Act like the nurse is stupid and knows why you’re are mad, knows about the people tracking you.

“Don’t play dumb! You know why I am upset! I just want to leave!”

3. Show non-verbal signs of increased anger when nurse denies knowing about the conspiracy- clenching fists, aggressive posture, clenching jaw.

4. Threaten the nurse: “If you don’t help me get away from them, you are not going to like what happens!”

5. Respond to nurse’s attempts to de-escalate you. If they make you feel like you are being heard, validating your feelings, identifying your wants, giving you choices, etc., begin to calm down.

Simulation will end between 5-7 minutes base on how quickly the nurse is able to de-escalate. The simulation may end while you are still agitated if they do not successfully de-escalate you.

APPENDIX F

PERMISSION TO USE EMDABS

Request to use EMDABS

Carly Hatfield-Schreck
Sat, Jan 5, 11:45 AM
to pbieling

Hello Dr. Bieling,

I am a student in the Psychiatric Doctor of Nursing Program at Montana State University and am working on my scholarly project, in which I am developing and implementing a de-escalation training for future doctorate of nursing students that includes de-escalation training followed by live-actor role play scenarios in which to practice de-escalation skills. The inspiration for my project came from the work of Nau et al., specifically their study, Student nurses' de-escalation of patient aggression: A pretest-posttest intervention study. I am writing you because I have an interest in using the EMDABS as a means to evaluate outcomes of the de-escalation training. Use of your scale would provide an objective means to measure if the de-escalation training provided is effective and would improve the overall outcomes of my project. I appreciate your time and consideration in this matter.

Thank you,

Carly Hatfield-Schreck

Peter Bieling
Mon, Jan 7, 8:47 AM
to Veesta, me

Hello Carly,

Good luck on the project, hope the scale will be useful to you.

I've cc.ed Veesta who was the co-author and might be able to provide more details on the scale and its use in practice.

Cheers

Peter

Veesta Mavandadi
Attachments
Mon, Jan 7, 9:46 AM
to me, Peter

Dear Carly,

Thank you for reaching out for a copy of the EMDABS, we hope it can support your wonderful training and evaluation initiative. We have attached the EMDABS and the materials we used to train our raters. We have also attached two videos and associated sample ratings you can use for training. Note. the videos cut off short, but they are the only videos we have available to the public.

We encourage users of the EMDABS to first review the Powerpoint presentation and become familiar with each item on the scale. Items may need to be interpreted differently depending on your workplace - please feel free to email me if you have any questions. Note, that for the item Risky we highlighted the challenges that arise with defining this construct, and outlined our research informed definition.

To use the scale reliably, we recommend that raters watch each video and independently complete the EMDABS following each viewing. As a team, you can then compare your ratings to the provided sample ratings that correspond with each video. As a group of raters, you may consider discussing any discrepancies until an agreement is reached.

We wish you luck in your initiative, please let us know if you have any further questions.

Best wishes,

Veesta Mavandadi, MA

Ph D Student, Clinical Child and Adolescent Psychology

University of Guelph

APPENDIX G

DE-ESCALATION TRAINING EVALUATION FORM

1. Did the pre-simulation educational material increase your knowledge of de-escalation techniques and did it prepare you for the simulation? Why or Why not?
2. What would improve the pre-simulation educational training materials?
3. Do you feel that the simulation was helpful for improving your de-escalation skills? Why or Why not?
4. Did the simulation feel realistic? Why or Why not?
5. What would improve the simulation with an aggressive patient?
6. Which parts of this training were least useful? Why?
7. What suggestions do you have for improving this de-escalation training program?
8. Would you recommend continuing to use this de-escalation and training for future students in this skills lab? Why or Why not?
9. Do you have any other comments, questions, or concerns?