EVALUATION OF A MOTIVATIONAL INTERVIEWING TRAINING USING STANDARDIZED PATIENTS IN MANAGING PRESCRIPTION OPIOID ABUSE FOR DOCTOR OF NURSING PRACTICE STUDENTS

by
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Abstract

Problem under Investigation: Addressing prescription opioid abuse in older adults using MI.

Objective: To determine whether an MI training with an SP simulation improves DNP students’ knowledge, confidence and skills in MI.

Background Literature/Theoretical Framework: Prescription opioid abuse is increasing in older adults. MI can effectively reduce substance abuse, but training has not been well incorporated into APN education. The theoretical basis for this study is Benner’s Novice to Expert model.

Project Methods: A one group pretest-posttest repeated measures design with convenience sampling is used. Twenty-one students completed the MI training. Descriptive statistics and RM-ANOVA is used for quantitative data analysis. Qualitative data is analyzed using content analysis.

Results: Findings indicate a significant improvement in MI confidence at both post-tests compared to the baseline. MI attitudes are improved but are not statistically significant. MI consistent principles improved significantly from baseline to the second post-test. Addiction myth scores and principles inconsistent with MI do not indicate training effects. Participants agreed that the course was beneficial.

Potential Significance/Implications: Results support that an MI training is valued by students and can be effectively incorporated into a DNP program to better prepare students to address prescription opioid abuse in older adults.
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Introduction

Prescription opioid misuse in the United States has increased to epidemic proportions, and has become a top public health concern. In 2007, someone in the United States died from an unintentional prescription drug overdose every 19 minutes. Drug overdose deaths are now the leading cause of injury death in the United States, and almost half of all opioid overdose involve a prescription opioid (Centers for Disease Control and Prevention [CDC], 2016; Rudd, 2016). A population that is at an increased risk of prescription opioid abuse and death due to normal physiological changes and polypharmacy that is often overlooked by providers is older adults. This public health concern is a call to action for health care providers to intervene with patients abuse prescription opioids; however, many providers lack the skills necessary to provide appropriate intervention. Motivational interviewing (MI), which is a person-centered counseling style, has been shown to be an effective intervention for patients with substance misuse, promoting the reduction of use of many substances, including opioids (Smedslund, Berg, Hammerstrom, Steiro, Leiknes, Dahl, & Karksen, 2011; Sayegh, Huey, Zara, & Jhaveri, 2017). However, MI has not been well incorporated into healthcare providers’ educational curriculums, and providers are unprepared to use this intervention in practice. A review of the literature has determined that medical students and residents who participated in a MI training that used lectures, student role playing, and standardized patient (SP) simulation had improved knowledge, confidence and skills (Bell & Cole, 2008; Childers, Bost, Kraemer, Cluss, Spagnoletti, Gonzaga, & Arnold, 2012; Daeppen, Fortini, Bertholet, Bonvin, Berney, Michaud, Layat, & Gaume, 2012; Haeseler, Fortin, Pfeiffer, Walters, & Martino, 2011; Martino, Haeseler, Belitsky, Pantalon, & Fortin, 2007; Opheim, Andreasson, Eklund, & Prescott, 2009; Poirier, Clark, Cerhan, Pruthi, Geda, & Dale, 2004; Shershneva, Kim, Kear, Heyden, Heyden, Lee, & Mitchell, 2014; Spollen,
There have been limited studies published on the effect of an MI educational intervention with a SP component on the knowledge, confidence and skills of MI in Doctor of Nursing Practice (DNP) students. As the demand for nurse practitioners (NP) in practice increase, it is imperative that DNP students are educated in MI so that they are be prepared with the appropriate skills and knowledge needed to make a significant impact in addressing older adults with prescription opioid misuse.

**Purpose**

The objective of this capstone project is to implement and evaluate a motivational interviewing (MI) educational intervention including didactic lectures, role playing, and a standardized patient (SP) simulation into the curriculum of the Bachelor of Nursing to Doctor of Nursing Program (BSN-DNP) program at the University at Buffalo (UB). The question this project is trying to answer is does the use of an MI educational intervention including a SP simulation improve DNP students’ knowledge, confidence and skills using MI to address prescription opioid abuse in older adults?

This capstone meets the essentials of doctoral education outlined by the American Association of Colleges of Nursing (2006). It teaches advanced practice nursing (APN) students the evidenced based skills needed to enhance health care delivery and improve patient outcomes.

**Background and Significance**

**Prescription Opioid Abuse**

The rates of prescription opioid abuse and death is the highest it has ever been, and has become a top public health concern in the United States. In 2012, prescribers in the United States
(U.S.) wrote 82.5 opioid pain reliever prescriptions per 100 persons (Paulozzi, Mack, & Hockenberry, 2014). Today, about 20% of patients with non-cancer pain or pain-related diagnoses are prescribed opioids, which include pain medications such as oxycodone, hydrocodone, morphine, and fentanyl (Daubresse, Chang, Yu, Viswanathan, Shah, Stafford, Kruzewki, & Alexander, 2013). With the increased prescribing of pain medications, opioids have become more available for misuse and abuse. From 1992 to 2012, the number of Americans who reported abusing prescription opioids increased from 4.9 million to 12.5 million (Brady, McCauley, & Back, 2015). The effects of prescription opioid abuse and misuse is detrimental and costly. Prescription opioid overdoses cause two deaths every hour and account for almost half of all opioid overdose deaths in the United States (CDC, 2016; Paulozzi, 2006). One out of every four patients prescribed opioids develops a long-term struggle with addiction (Boscarino, Rukstalis, Hoffman, Han, Erlich, Gerhard, & Stewart, 2010). In fact, almost 80% of new heroin users started out misusing prescription opioids (Cicero, Ellis, Surratt, & Kurtz, 2014; Jones, 2013). Additionally, it costs health insurers about 72.5 billion dollars annually in health care costs (CDC, 2011).

**Substance Abuse in Older Adults**

Prescription drug misuse and abuse is increasing in older adults and is often overlooked by providers. In 2014, about two percent of Americans 50 years of age and older reported the nonmedical use of a prescription drug (National Survey on Drug Use and Health, 2017). With the aging of baby boom cohort, the number of older adults with a substance use disorder (SUD) is projected to increase from the self-reported 2.8 million (annual average) in 2002–2006 to 5.7 million by 2020 (Han, Gfroerer, Colliver, & Penne, 2009). In addition, the number of older
adults with a mental health disorder, including SUD, will equal or surpass those that are found in younger populations by 2030 (Bartels, Blow, Brockmann, & Van Citters, 2005). Although there is limited research regarding substance abuse in older adults, older adults have several physical, emotional, and social problems that increase their risk of prescription abuse and death. They are often prescribed multiple, concurrent medications due to higher rates of chronic diseases, pain, sleep disturbances, and mental health disorders. Since older adults are more sensitive to medication effects due to natural physiological changes, they have an increased risk of adverse effects and drug-drug interactions (Pretorius, Gataric, Swedlund, & Miller, 2013). Additionally, they are more likely to experience social isolation, due to retirement or bereavement, and may turn to drugs instead of health care providers due to their characteristically intrinsic coping strategies (Han et al., 2009).

**Motivational Interviewing**

Although the rates of prescription drug abuse in older adults is increasing, providers are unprepared to provide appropriate interventions for positive screens, and older adults with substance abuse are being left untreated (Wu & Blazer, 2011; Zarit & Zarit, 2007). A patient centered counseling style that can be used as an intervention for substance abuse in the older adults is motivational interviewing (Chang, Compton, Almeter, & Fox, 2015). It is designed to strengthen a person’s own motivation to change in an environment of trust and compassion (Miller & Rollnick, 2013). MI helps clients identify their problem behaviors and evoke change by acknowledging hesitation, resolving ambivalence, developing discrepancies between current behavior and own personal values, expressing empathy, and promoting self-efficacy. Clinicians elicit motivation by using open-ended questions, affirmations, reflections, summaries, and
The intervention can be performed by any health care provider, is easy to implement, and has been successful in changing behavior in as little as one to two sessions (Miller, 1995). MI has been found to be an effective intervention for patients with substance misuse, promoting the reduction of use of many substances, including opioids (Sayegh, Huey, Zara, & Jhaveri, 2017; Smedslund, Berg, Hammerstrom, Steiro, Leiknes, Dahl, & Karksen, 2011). It has also been found to be successful in significantly reducing the risk of prescription opioid misuse and decreasing substance use in older adults (Chang, Compton, Almeter, & Fox, 2015).

**Significance of the Problem**

Although MI has proven to be an evidenced based intervention for substance abuse, many health care providers do not have the knowledge, confidence or skill to practice MI because it is often not included in their educational curriculums. Implementing an MI training in health care providers curriculums could improve their MI knowledge, confidence and skills to provide the appropriate intervention to an older adult misusing prescription opioids and ultimately improve patient outcomes. A review of the literature determined that there are several studies that focused on the benefits of a formalized MI educational intervention in medical student and resident education (Bell & Cole, 2008; Childers et al., 2012; Daeppen et al., 2012; Haeseler et al., 2011; Martino, et al., 2007; Mounsey, Bovbjerg, White, & Gazewood, 2006; Opheim et al., 2009; Poirier et al., 2004; Shershneva et al., 2014; Spollen et al., 2010; White, Gazewood, & Mounsey, 2007). Educational methods that were included in the MI curriculums varied across studies, but included a combination of didactic lectures, videos, discussions, demonstrations, role playing and SP simulations. The majority of the literature focused on the outcome of MI skills after a
formalized curriculum and found positive effects (Childers et al., 2012; Daeppen et al., 2012; Martino, et al., 2007; Mounsey, Bovbjerg, White, & Gazewood, 2006; Opheim et al., 2009; Poirier et al., 2004; Shershneva et al., 2014; Spollen et al., 2010; White, Gazewood, & Mounsey, 2007). Some studies concentrated on the change in students’ knowledge, and found significant increases after an MI curriculum (Bell & Cole, 2008; Edwards et al., 2015; Martino et al., 2007; Poirier, Clark, Cerhan, Pruthi, Geda, & Dale, 2004; Spollen, Thrush, Mui, Woods, Tariq, & Hicks, 2010). A few studies also assessed student confidence, since it closely mirrors competency and is correlated with reliable practice, and determined that students were more confident in discussing behavior change with patients after an MI training (Bell & Cole, 2008; Cant & Cooper, 2010; Edwards, Stapleton, Williams, & Ball, 2015; Hunt, 2003; Martino et al., 2007; White, Gazewood, & Mounsey, 2007). The studies that obtained feedback about the trainings found positive responses from participants, many of which felt that the training was a valuable learning experience (Bell & Cole 2007; Childers et al., 2012; Martino et al., 2007; Opheim et al., 2009; White et al., 2007). Although there has been some research on the positive effects of MI training in medical students and residents, there is limited studies published on the effect of an educational intervention with a SP component on the knowledge, confidence, and skills of MI in DNP students.

**Standardized Patient Simulation as an Educational Tool**

An evidenced based learning tool that can be utilized to teach DNP students MI is standardized patients (SPs). SPs are individuals who are trained to take on the characteristics of a real patient in a simulated environment with the guidance of a case scenario. They provide students the opportunity to practice skills that they have learned in didactic lectures in real-life
scenarios without compromising patient safety. SPs also allow students to experience scenarios that they may not have in clinical rotations, but will most likely encounter in future practice (Yong-Shian, G. O. H., Selvarajan, S., Chng, M. L., Tan, C. S., & Yobas, 2016). This prevents gaps in knowledge, confidence and skills between peers. Additionally, the safe and controlled environment reduces students’ anxiety and improves confidence. Research has found that simulated patient encounters have specific benefits that cannot be duplicated by the use of paper problems, discussions, role playing, questionnaires, or even sometimes real patients. Several studies utilized SPs as an educational intervention or assessment tool for MI training in medical students and residents and found positive results on MI knowledge, confidence, and skills (Bell & Cole, 2008; Childers et al., 2012; Daeppen et al., 2012; Haeseler et al., 2011; Martino et al., 2007; Opheim et al., 2009; Shershneva et al., 2014; White, Gazewood, & Mounsey, 2007). Additionally, studies that evaluated the trainings found that SPs were most valued educational tool by students. This creates an argument that implementing a MI educational intervention that includes a SP simulation on DNP students would increase their knowledge, confidence and skills in MI, and would also be highly supported.

**Theoretical Framework**

The theoretical framework for this study is Benner’s Novice to Expert model. The concepts of Benner’s model are derived from the Dreyfus Model of Skill Acquisition, which categorizes skilled performance into five levels of capabilities: novice, advanced beginner, competent, proficient, and expert. Dr. Benner applied the five concepts of the Dreyfus model to nursing skill acquisition and competencies based on interviews and observations of nurses (Benner, 1984, p. 128). The levels of competency are differentiated based on a “nurse’s focus of
attention, involvement in the situation, and perception of responsibility or accountability” (Waldner & Olson, 2007).

The first level is characterized by the novice nurse, who has no experience in the situation at hand. She focuses on objective attributes, such as weight or vital signs, and uses context-free guidelines to direct task performance. The second level is known as the advanced beginner, which is when the nurse has some experience or instruction to begin to recognize meaningful situations and patterns. For example, she would be able to determine implications for abnormal vital signs. During this stage, the nurse still requires an experienced instructor to help them discern importance (Benner, 1984, p. 128). After two to three years, the nurse moves into the third level, the competent stage. The transition to the competent stage is usually proceeded by a challenge to the nurse’s confidence when a clinical situation does not turn out as expected (Benner et al., 1992). She is now more organized, recognizes patterns to determine prioritizes, and visualizes her actions in terms of long term goals. When the nurse reaches the fourth level, the proficient stage, she is able to recognize information as a whole and respond accordingly (Benner, 1984, p. 130). After five years or more of experience, the nurse reaches the expert level. She has the intuitive and deep understanding of total situations and no longer relies on clinical guidelines and protocols for actions (Benner, 1984, p. 131).

Some studies argue that nursing students should enter the profession educationally prepared to work as an advanced beginner at a minimum. Others recommend entering at the competent level (Waldner & Olson, 2007). An educational intervention with a simulated patient component can provide DNP students the opportunity to achieve these levels before entering the real world. Participants began the educational intervention in the novice level since they have not yet had any clinical experience as an APN. After the didactic lecture, they understood the
objective attributes and basic skills for mental health and substance abuse screening and assessment and distinguish abnormal findings according to guidelines. Additionally, they learned about the basic skills of MI and participate in role playing scenarios with each another to practice.

In order for DNP students to transition from the novice to the advanced beginner stage, they need to understand how to apply what they have learned from the lecture meaningfully. A SP simulation provides this opportunity while in a controlled clinical environment. Students were able to adapt the skills that they have learned in the classroom to a unique and challenging patient scenario without compromising patient safety. They began to recognize their own capabilities and independently develop and prioritize a plan of care. Debriefing with experienced nurses after the simulation made the situation meaningful. It helped students reflect, identify their strengths and weaknesses, and understand what they are striving for (Waldner & Olson, 2007). Repeated patient SPs would help students learn to become more organized, determine prioritizes, visualize their actions in terms of long term goals, and transition to the competent stage.

Method

Study Design

This capstone project utilized a one group pretest-posttest repeated measures design that used convenience sampling to evaluate the effect of a MI educational intervention that includes a SP simulation on DNP students to address prescription opioid abuse in older adults. The outcomes that were examined included knowledge, confidence and skills in MI. The justification
for the design was that the outcomes were evaluated at three points in time: before the intervention, after the didactic portion, and after the completion of intervention.

**Study Participants**

Study participants were from the University at Buffalo’s School of Nursing Bachelor of Nursing to Doctor of Nursing Program (BSN-DNP) students that were taking NGC576: Advanced Health Assessment. The MI course including the simulation was mandatory as part of the class’s curriculum, but participation in the evaluation study was voluntary. The sample consisted of 31 students in the Nurse Anesthetist, Family Nurse Practitioner, and Adult/Gerontiology Primary Care Nurse Practitioner specialty programs. Students were notified that no high stakes grading would be associated with participation in the educational intervention including the SP simulation. Students received full credit just for participating in the simulation.

**Setting**

A didactic lecture occurred in Room 203 of Diefendorf Hall on the University at Buffalo’s South Campus. All other portions of the project took place in the University at Buffalo School of Nursing, located in Wende Hall on the University at Buffalo’s South Campus. A didactic lecture occurred in Wende G-24; the role playing occurred in Wende 4th floor lab, and the SP simulation occurred in Wende G-26.

**Motivational Interviewing Training**

The motivational interviewing training was developed by the student investigator with the help of two experts who have experience in using MI in research, education, and clinical
practice. The curriculum took place over three separate days and consisted of didactic lectures, student role playing, and the SP simulation. Prior to the course, students were instructed to read two articles with pertinent information and watch five MI practice videos obtained from the Motivational Interviewing Network of Trainers (MINT), which is an international organization with the mission to promote the good practice, research and training of MI (Motivational Interviewing Network of Trainers, 2016). Students were given two hours of didactic lectures with a video. Content included the screening and assessment of mental health and substance abuse disorders in the older adult; MI; and an overview of the standardized simulation process. Materials for the didactic lectures were obtained from a review of the current literature on substance abuse in the older adult and MI. The majority of the information in the MI lecture was from Motivational Interviewing: Helping People Change by Miller and Rollnick. Learning objectives for the MI didactic lecture were as follows: understand barriers to helping patients change; define MI; understand the spirit of MI; understand the process of MI; understand and perform the skills and techniques of MI; and understand MI in practice.

A role-playing example was demonstrated to students by the student investigator and the NGC 576 course instructor. Students were given practice case studies from Motivational Interviewing in Health Care: Helping Patients Change Behavior by Rollnick, Miller and Butler, to review. They were given similar scenarios and the opportunity to role-play with one another, and they took turns being the patient and the NP. The student investigator was available during the role-playing portion to help students with MI skills, give them immediate feedback and suggestions, and address any questions or concerns.

The SP simulation day consisted of a brief introduction, the simulation encounter, and debriefing. During the simulation encounter, students were given ten minutes to review a door
chart that contained detailed instructions and necessary information for the patient encounter that mimics the information a provider in practice would have prior to meeting a patient. After the ten minutes, students were prompted to enter the patient room to begin the encounter via an intercom system. Students had 25 minutes for the encounter. Students were given a notification at the halfway point and when there was five minutes left via an intercom system. Students that finished the encounter early waited outside the patient’s door. When all students were done, they were taken to the debriefing room. Students then completed the post-simulation checklist, participated in debriefing, and completed the study post-test. The debriefing was facilitated by the student investigator and provided the opportunity for students to reflect and discuss the simulation encounter.

The SP scenario involved an older adult patient with a history of post-traumatic stress disorder that was asking for a refill on an opioid medication that was prescribed acutely after a motor vehicle accident. The patient was misusing the medication by taking it more than prescribed to help with pain as well as anxiety and sleep. The patient had a strong social support system but was not utilizing it appropriately.

**Standardized Patient Recruitment and Training**

Standardized patients were student volunteers from the University at Buffalo School of Nursing. Eight SPs were recruited via email, which was sent to the University at Buffalo School of Nursing listserv. Incentives to be an SP included eight volunteer hours, a gift card, and food. A demographic survey of the SPs included age, gender, acting experience, relationship to the nursing school, nursing educational status if applicable, experience with substance abuse, experience with MI, and experience with SPs. Eight female volunteers were recruited. The
average age of the SPs was 23.88 years (SD± 5.36, range 19 to 34 years). Previous acting experience was reported by one (12.5%) and five of the SPs (62.5%) reported previous work or educational experience on assessment of substance abuse. Three SPs (37.5%) reported previous experience with SPs in coursework as the provider. Five of the SPs (62.5%) reported previous education, training or practice in MI, all of which was from coursework. Six of the SPs (75.0%) were nursing students while two (25.0%) were not. One student (12.5%) was in an associate’s degree program, two students (25.0%) were enrolled in a current or future BSN program, and three students (37.5%) were in the DNP Family Nurse Practitioner program. The two remainder SPs (25.0%) were involved in research at UB’s School of Nursing.

The training consisted of a two-hour in person session. SPs were given a lecture that contained a brief overview of the screening and assessment of mental health and substance abuse disorders in the older adult; MI; and the SP process. Other components of the training included the project objectives, a video demonstration, a read-through and clarification of the scenario, role-playing with each other, appropriate attire and demeanor on simulation day, and a read-through and clarification of the checklist. SPs were expected to study the material for ninety minutes on their own time after the training and before the simulation day. A meeting was held with the SPs prior to the simulation to briefly review the simulation process and schedule, tour the simulation rooms, and address any questions or concerns.

**Data Collection Procedure**

All students were fully informed about the study procedures with written information, and were informed that completion of the pretest and posttests indicated informed consent to participate in the study and the use of data for research purposes. MI knowledge and confidence
were measured with a repeated measures design using a pretest and posttests. Students completed a pretest prior to the educational intervention. Students completed a posttest after the classroom didactic lecture and role-playing exercise and before the SP simulation. Students completed the posttest again at the completion of the educational intervention.

MI skills and training effects and evaluation were measured with a post-test only design. After the completion of the simulation encounters, students completed a skills checklist that assessed their use of MI skills during the simulation. Training effects were evaluated quantitatively with the course evaluation and qualitatively with feedback from the debriefing sessions.

Outcome Measures

Demographic survey. The data collected included age, gender, race, enrollment status, program enrolled in, employment status, years of working experience as a nurse, type of nursing experience, current employment setting, nursing experience with substance abuse, and experience with MI.

Motivational Interviewing Knowledge and Attitude Test (MIKAT). The MIKAT is a tool that measures the knowledge and behaviors consistent with MI. It was administered before the didactic lecture, after the didactic lecture and role playing, and again at the completion of the educational intervention. The first part of the MIKAT consisted of 14 true-false questions; four questions were attitudes consistent with an MI approach (e.g. “Readiness to make change is the client’s responsibility – no one can help them until they decide they are ready”) and were
correctly answered with “true.” Ten questions were myths about addiction (e.g. “The best way to motivate substance users is to help them resolve their ambivalence about change”) and were correctly answered with “false” (Leffingwell, 2006). The second part of the MIKAT was a “select all that apply” checklist for counseling behaviors consistent with an MI approach. Five behaviors were considered consistent with MI and deemed as correct. Both subcomponent scores and total scores were analyzed. Subcomponents included attitudes consistent with MI, addiction myths, principles consistent with MI and principles inconsistent with MI. Subcomponent scores were calculated by adding up of the number of correct answers given by a student (Leffingwell, 2006). Total scores were out of 19, which is made up of the number of MI attitudes, addiction myths and principles consistent with MI identified. Internal consistency of the tool has been documented with a Cronbach’s \( \alpha \) of 0.84 (Doran, Hohman, & Koutsenok, 2011).

**Motivational Interviewing Confidence Scale (MISC).** The MISC is a scale that measures a student’s confidence in understanding and performing MI. It was developed by a group of nurse researchers since there is no valid or reliable tool that measures MI confidence. It was administered before the didactic lecture, after the didactic lecture and role playing, and again at the completion of the educational intervention. The tool utilized a 5-point Likert scale that ranged from one being “very confident” to five being “very not confident.” Scoring for this tool involved taking the mean score.

**Skills Checklist.** The skills checklist evaluated the MI skills a student believed he or she used during the simulation. It was developed by the student investigator with the help of two MI experts using evidence-based literature. A self-designed checklist was used since it was specific
to the SP scenario. It was completed immediately following the simulation. It consisted of yes/no questions that evaluated MI skills such as “Did you ask mostly open-ended questions to explore the patient’s concerns, promote understanding of the patient’s perspective, and promote collaboration?” and “Did you give affirmation (praise) to support the patient's strengths and to show respect for the patient?”

**Course Evaluation.** After the simulation, students completed a course evaluation embedded in the checklist which assessed the quality and effectiveness of the MI curriculum and its components as well as their plan to use MI in future practice. A self-designed scale was used since it was specific to the educational intervention. The course evaluation included items rated on a five-point Likert scale and open-ended questions, and provided feedback to improve the curriculum in the future. An example is “How would you rate the usefulness of the didactic lecture in talking to clients about behavior change?” with a score of one as “not very useful” and five as “extremely useful.” Additionally, the debriefing sessions provided the opportunity for students to voice their opinions and feedback about the educational intervention without being constrained to specific questions, and can be used to improve the curriculum in the future.

**Data Analysis**

Data analysis was managed and performed using the Statistical Package for the Social Sciences (SPSS) software, version 24.0. Descriptive statistics of mean, range, standard deviation, and percentage were used to describe the demographic data, the skills checklist, and the course evaluation. A one way repeated measures ANOVA analysis was used to assess the MIKAT and MISC at three points in time: before the intervention, after the didactic lecture and role-playing
portion, and after completion of the intervention. The study considered a p value of <.05 as statistically significant. Qualitative data was analyzed using content analysis to identify themes.

**Ethical Considerations**

This capstone project involved human subjects and received Institutional Review Board (IRB) approval from the University at Buffalo. The study posed minimal threat to study subjects. All students were fully informed about the study procedures with written information, and were informed that completion of the pretest and posttests indicated informed consent to participate in the study and the use of data for research purposes. The SP simulation was mandatory as part of the class’s curriculum, but participation in the lectures and the evaluation study was voluntary, and no student was coerced. Students were notified that no high stakes grading would be associated with participation in the educational intervention including the SP simulation. They were allowed to rescind participation in the evaluation study at any point without discrimination or consequence. Students received full credit just for participating in the simulation. Anonymity and confidentiality of demographic and measurement tool data were preserved with the use of a four-digit number. All consent forms and instruments were kept in a locked file cabinet in the researcher’s office at UB. They will be kept for three years and subsequently destroyed.

**Results**

**Participant Characteristics**

Twenty-one BSN to DNP students participated in all three parts of the study. Twenty-eight students completed the pre-test prior to the intervention. Twenty-three students completed the post-didactic test. All 31 enrolled students completed the post intervention test. Participating
students averaged 31.57 years of age (SD±6.41; range of 25-48 years) and reported an average of 5.47 years of nursing experience (SD±3.50; range of 1-16 years). Twenty-five of the participants were female and six were male. Over half of participants (n=12; 57.1%) were enrolled in their programs full-time and nine of participants (42.9%) were enrolled part-time. The majority of students (n= 9, 42.9%) were in the Nurse Anesthetist specialty program. Of the other participants, five (23.8%) were in the Family Nurse Practitioner program and seven (33.3%) were in the Adult/Gerontology Primary Care Nurse Practitioner program. Ten students (47.6%) were employed full time; five students (23.8%) were employed part time; and six students (28.6%) were not employed. Of the students working, 15 (71.4%) worked in a hospital setting. Two students (9.5%) reported previous geriatric nursing experience and no participants reported previous psychiatric/mental health nursing experience. Seven students (33.3%) reported previous substance abuse assessment experience and no participants reported previous substance abuse treatment experience. Seven students (33.3%) have had experience with MI in previous coursework. All demographic data can be seen on Table 1.

**Motivational Interviewing Knowledge and Attitude Test (MIKAT)**

A one-way repeated measure ANOVA was performed to determine if there was a statistically significant (p<0.05) difference in total MIKAT scores over the course of the educational intervention measured at three times points: before the intervention, after the didactic portion, and after the completion of intervention (Table 2). Total MIKAT scores increased at all three points in time, from 11.48 ± 0.52 to 11.57 ± 0.65 to 12.38 ± 0.55, but changes were not statistically significant. Subcomponents of the MIKAT were also analyzed using a one-way repeated measure ANOVA (Table 2). Addiction myth scores did not indicate training effects.
Scores decreased from 5.52 ± 1.89 before the intervention to 5.24 ± 2.05 after the didactic portion and increased to 5.48 ± 2.04 after the completion of the intervention. Attitudes consistent with MI increased at all three points in time, from 2.38 ± 0.92 to 2.43 ± 0.93 to 2.67 ± 0.73, but changes were not statistically significant. Principles consistent with MI that were identified correctly also increased at all three points in time, from 3.57 ± 1.16 to 3.71 ± 1.46 to 4.24 ± 0.83. Post hoc analysis determined that an increase in MI principles identified was only statistically significantly from pre-intervention to post-intervention. Principles inconsistent with MI identified correctly did not indicate training effects. Scores increased from 6.05 ± 2.18 before the intervention to 6.43 ± 2.20 after the didactic portion and then decreased to 6.19 ± 1.72 after the completion of the intervention. All MIKAT data can be found on Table 2.

Motivational Interviewing Confidence Scale

A one-way repeated measure ANOVA was performed to determine if there was a statistically significant (p<0.05) difference in MI confidence over the course of the educational intervention measured at three times points: before the intervention, after the didactic portion, and after the completion of intervention (Table 2). Findings indicated a statistically significant improvement in MI confidence at all three points in time, from 26.19 ± 5.54 pre-intervention to 21.48 ± 5.81 after the didactic portion and 17.86 ± 4.42 post intervention.

Skills Checklist

Students used most of the MI skills and techniques during the SP simulation. All students elicited motivations for change; provided support for change; showed compassion and/or empathy; gave affirmation; and utilized the change plan worksheet. The skills used least often
were discussing discrepancies (n=8, 38.1%), reframing statements (n = 6, 28.6%) and allowing the SP to draw her own conclusions about change (n = 6, 28.6%). All skills checklist data can be found on Table 3.

**Course Evaluation and Debriefing Sessions**

Student feedback from the written evaluation and debriefing sessions was positive. Fifteen of 21 students (71.4%) rated the overall course as “good” and “excellent” and 14 students (66.7%) found the usefulness of the overall course in talking to clients about behavior change as “useful” and “very useful.” Students were also asked to rate the usefulness of the individual components of the training in helping them talk to patients about behavior change on a 5-point Likert scale. The standardized patient simulation was the highest-rated component of the course with a mean score of 4.10 (SD±0.94). Mean scores of the other training components were 3.48 (SD±1.12) for the didactic lecture; 3.90 (SD± 1.07) for the MINT/YouTube videos; and 3.24 (SD±1.26) for the role playing with scenarios. Sixteen students (76.2%) indicated that they would “probably” and “definitely” use MI in practice after the education intervention and five students (23.8%) have already used MI in practice since the start of the training. Eighteen students (85.7%) “agreed” and “strongly agreed” that the course helped them to learn about MI skills and talking to clients about behavior change. Eighteen of the students (85.7%) rated the simulation an overall valuable learning experience as “agree” and “strongly agree.” The remaining three students (14.3%) were undecided. All course evaluation data can be seen on Table 4.

Students responses to the open-ended questions on the student checklist and comments made during the debriefing sessions were analyzed using content analysis and six broad themes
were identified. The first theme was *increased awareness*. An example of a student comment was “Previously unaware of available screening resources.” The second theme was *new skills learned*. An example of a student comment was “I learned how to use open ended question and reflect back what the patient states.” The third theme was *translation of knowledge into practice*. An example of a student comment was “I am starting MI at my job”. The fourth theme was *personal insight*. An example of a student comment was “It motivated me to think critically about how I interact with people and how to do so effectively.” The fifth theme was *helpful techniques*. An example of a student comment was “The interview portion gave me the opportunity to practice the skills and reintroduce what was learned in class.” The sixth theme was *recommended improvements*. An example of a student comment was “Shorter scenarios but more of them.” A list of themes and exemplar student comments can be found on Table 5.

**Discussion**

This study tested the effectiveness of an MI educational intervention that included a SP simulation on DNP students’ knowledge, confidence and skills in MI. Findings indicated that there was improvement in some areas of students’ knowledge regarding MI. Identification of MI consistent principles improved significantly from baseline to the second post-test. However, addiction myth scores and identification of principles inconsistent with MI did not indicate training effects. These results may be attributed to the fact that the didactic lectures focused largely on the principles and skills consistent with MI opposed to myths of addiction. Additionally, students may have spent more time focusing on studying the MI spirit and skills because this was what was utilized during the role-playing sessions and SP simulation. MI attitudes improved but were not statistically significant. This is not surprising since changes in
attitude are usually more difficult to change than changes in knowledge. This is because people are usually unaware of their own ignorance and process new information in biased ways to reinforce their own attitudes (Fernbach, Rogers, Fox, & Sloman, 2013). MIKAT total scores also improved but was not statistically significant.

Results differed from previous studies in medical students and residents. The review of the literature found that studies that measured MI knowledge saw a significant improvement after implementation of an MI training. However, most studies used self-designed multiple-choice tests (Bell & Cole, 2008; Martino et al., 2007; Poirier, Clark, Cerhan, Pruthi, Geda & Dale, 2004; Spollen, Thrush, Mui, Woods, Tariq, & Hicks, 2010). Edwards, et al. (2015) utilized the MIKAT to evaluate health care providers MI knowledge after a one-day training and found that scores increased significantly from pretest to posttest and sustained at the three-month and six-month follow ups. However, the MI training was longer with more simulated encounters. Additionally, the training was facilitated by three psychologists and a counselor who were more experienced in MI than the student investigator.

While an objective evaluation of the student’s knowledge in MI indicates the need for continued improvement, the skills checklist shows that students perceived that they used most core MI skills during the SP simulation. The use of skills can be attributed to the structure of the training with the SP simulation. “Learning by doing” has been found to facilitate skill acquisition; however, it is difficult for students to apply the skills learned in the classroom in clinical practice since there is no guarantee for the opportunity with real patients (Yuan, Williams, & Fang, 2012). Therefore, students are often unable to develop competency in skills that is required for independent practice after graduation. SP simulations bridge this gap by providing practice in a risk-free environment. However, since this study used a posttest only
design and a self-designed evaluation tool, it is difficult to determine if there was a change in students’ skills after the MI training. An objective assessment of MI skills would be needed to more confidently draw the conclusion that students’ skills improved from the intervention.

The improvement in skills in this project is consistent with previous studies in medical students and residents who received MI training with lecture, role-playing and SPs (Childers et al., 2012; Daeppen et al., 2012; Martino et al., 2007; Opheim et al., 2009; White et al., 2007). Ophiem and colleagues (2009) evaluated medical students’ change in MI skills after attending a four-hour MI workshop, which included brainstorming, video demonstrations, and exercises in pairs and small groups. Students who received the training used open questions, summarizing, and affirmations more often and closed questions, directing and confronting less often. White et al. (2007) also evaluated medical students who received MI didactic lectures and small group teachings over three years, and found that students became proficient in “rate of reflections” and had limited competency in other MI components (empathy, MI spirit, open questions, and MI-adherence). Additionally, medical students who were randomly assigned to attended an eight hour MI training workshop that included didactics, discussion and role playing, had a significant improvement in MI scores when compared to the control group (Daeppen et al., 2012). Martino et al. (2007) evaluated medical students who participated in a 2-hour brief MI training that consisted of a didactic lecture, role-play practice, a video, and three five-minute SP simulations with feedback and suggestions and saw an immediate improvement in MI consistent skills. Moreover, third year medical residents who participated in 12 hours of didactic sessions, written exercises, role playing, discussions and three hours of SP sessions had a significant increase in use of reflections and MI-consistent strategies and decrease in closed-ended questions and MI roadblocks (Childers et al., 2012).
Findings indicated a statistically significant improvement in MI confidence from the pretest to post-didactic test, from the pretest to the post-intervention test; and from the post-didactic to the post-intervention test. The improvements in confidence can be attributed to the structure of the training with a SP simulation. Previous studies have found that confidence increases with skill acquisition and clinical experiences (Hecimovich & Volet, 2012). The opportunity to practice new skills with a SP in a controlled setting without risking patient safety reduces anxiety and encourages autonomy. This finding is consistent with previous studies that found an increase in medical students’ confidence in discussing behavior change with patients after a formalized MI training (Bell & Cole, 2008; Edwards, Stapleton, Williams & Ball, 2015; Martino et al., 2007; White, Gazewood, & Mounsey, 2007). Martino et al. (2007) found that the increase in confidence that students exhibited immediately after the intervention continued at the four-week follow-up assessment. Edwards, et al. (2015) also found that healthcare provider confidence continued to increase from post intervention to three-month follow up, and sustained to the six-month follow up. This creates an argument that participants’ confidence may continue to increase after the training which would encourage students to use MI in future practice.

The student’s responses on the course evaluation checklist were favorable. Most students felt that the training was a valuable learning experience, and that it encouraged them to think differently while also develop personal growth. Additionally, responses indicated that students were already using MI since the beginning of the training, and that many students plan to use it in future practice. The open response questions and debriefing mirrored the course evaluation. Many students indicated that they have gained new awareness about the risks of substance use in the older adults and how to address the provide intervention with the newly learned motivational interviewing skills. The positive results can be attributed to the structure of the training. Student
comments included, “the MI simulation was extremely helpful in ‘pulling it all together’ in clinical practice” and “the interview portion gave me the opportunity to practice the skills and reintroduce what was learned in class.” These results are consistent with previous studies in medical students and residents (Bell & Cole 2007; Childers et al., 2012; Martino et al., 2007; Opheim et al., 2009; White et al., 2007). White and colleagues (2007) discovered that of the first-year students who participated in the optional evaluation, 98% believed it was an important skill to have and 83% believed that the course had increased their comfort in MI. Martino and colleagues (2007) determined that students showed a heightened interest in MI after the course and indicated that they would use the learned skills in their future practice. Bell and Cole (2007) discovered that over 90% of the students rated the course highly and believed it was a valuable experience. Opheim et al. (2009) found that participants believed listening, using open questions, and summarizing were important skills to have and practicing reflective listening was the most useful part of the training. Childers and colleagues (2012) discovered that participants rated the SP portion as the most informative aspect of their course, and participants would have liked additional time with the SP. The findings from this study suggest that an MI educational intervention is valued by students and would be welcomed into their curriculum. Some students thought the training was “perfect” and had “no suggestions.” Other students provided criticism of the training and recommended improvements. Examples of comments included “not for a grade as part of the course would eliminate unnecessary anxiety;” “have SPs match the stated age so it is more realistic and believable” and “an additional scenario not related to drug use.” Some students in the Nurse Anesthetist program indicated that it would be more useful for the other specialties, which was mirrored in the checklist. Therefore, the course evaluation and debriefing
sessions provided content that can be used to minimized limitations and improve the motivational interviewing curriculum development and implementation in the future.

Scope and Limitations

**Strengths.** A strength to this study was that a repeated measures pretest posttest design was used. With this design, the effectiveness of the didactic and role-playing portion and the effectiveness of adding a SP simulation in improving student’s knowledge and confidence in MI was assessed. Another strength was that the debriefing session provided qualitative data. It gave students the opportunity to deliver feedback that was not constrained to specific questions and provided a holistic picture. Another strength to this study was that no high stakes grading was associated with participation in the educational intervention. Students received full credit for participating in the simulation. It was thought that this decreased students’ stress levels related to participation in the intervention and, therefore, decreased social desirability bias. Since the training was delivered as expected, another strength to the study was fidelity.

**Limitations.** There were several limitations in this study. First, this study used a nonexperimental design with no control group or randomization. Therefore, it cannot be ruled out that the findings may have occurred as a result of other factors. Although this design was limited by minimal internal validity and no external validity, it would have been unethical to do a more robust design and have only some students receive the superior education. Furthermore, a small convenience sample was used, which can lead to sampling bias. Additionally, attendance to the didactic class and role-playing session was not mandatory, so not all students attended all three parts.
Another limitation was the use of SPs instead of actual patients. Since the SPs had a script to follow, they did not always respond like a real patient. Therefore, the measures may not perfectly reflect the MI knowledge and skills in actual patient encounters. Due to cost constraints, experienced SPs could not be hired, and the SPs were instead student volunteers from the University at Buffalo School of Nursing. Only one of the volunteer SPs had experience with acting, which was in a school performance. The SPs also had limited knowledge regarding the assessment of substance abuse, MI and SPs. Additionally, the volunteers were ages 19-31 and it may have been difficult for students to picture the SPs as older adults. Some students indicated this difficulty in the course evaluation checklist and during the debriefing session. Examples of comments were “Have SPs match the stated age so it is more realistic and believable;” “More realistic ‘actors’ as older patients if available;” and “Hard to see them as an older adult.”

An additional limitation was the time allotted for the educational intervention. Due to time constraints, students were given two hours of lectures, a demonstrated role-play scenario, an opportunity to practice role playing with each other, and a 25-minute simulation with debriefing. Most studies in the literature had curriculums that were eight hours or longer (Bell & Cole, 2008; Daeppen et al., 2012; Poirier et al., 2004). This study may not have provided students a sufficient amount of time for them to have improved knowledge, confidence and skills in MI. Additionally, many students indicated that they wished for more time for practice and additional scenarios in the course evaluation checklist in the debriefing session.

Two of the evaluation tools were designed by the project team. Self-designed tools were used since questions were specific to the SP scenario and there are no valid or reliable tools that measure the desired outcomes. Since the tools lack reliability and validity, it may call into
question the conclusions drawn from the study. A potential limitation was that students had social desirability bias and were not truthful on the questionnaires or in the debriefing session. Students were not required to actively participate in the debriefing session, and the data may also be affected by response rate bias.

Finally, there was no follow-up to the study, and the long-term effects of the MI educational intervention are not known. Therefore, it is unknown if the students’ skills will be translated into their future practice.

**Conclusion**

This is one of the few studies to evaluate MI training in DNP students. Results found an improvement in DNP confidence that continued to increase after the addition of a SP simulation; an improvement in knowledge about MI consistent principles, but no other areas of knowledge and that students used MI skills during the SP simulation. More research is needed to determine if a brief MI educational training with a SP simulation can be successfully integrated into a DNP curriculum with favorable results

**Contribution to Clinical Practice**

Despite these results, there is some argument for adding it to DNP curriculums. About two-thirds of Americans are seen by an APN for one of their health care needs. Additionally, the number of NPs are rising, and is expected to reach 244,000 by 2025 (American Association of Nurse Practitioners [AANP], 2017). Currently, 89% of NPs are prepared in primary care programs whereas only 14.5% of physicians studied a primary care. Additionally, the increase in the aging population and the insured under the Affordable Care Act will bring many more patients into the health care system, specifically primary care offices (AANP, 2017). As the
number of NPs in practice increase, it is imperative that APN students are educated on MI, especially since primary care providers are often the first to recognize patients with substance abuse. The addition of an MI training would, teach APN students evidenced based skills to enhance health care delivery, prepare them to effectively encourage behavior change, and ultimately improve nursing practice and patient outcomes.

**Future Implications**

Limitations identified within this study helped to recognize areas for improvement and can make future investigators aware of potential problems. Future studies should use an objective assessment of skills, more time devoted to the training, control groups, and have sufficient sample sizes.
<table>
<thead>
<tr>
<th>Characteristics of Participants (n=21)</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
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<tr>
<td>Female</td>
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<tr>
<td>American Indian or Alaskan Native</td>
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<td>0.0%</td>
</tr>
<tr>
<td>Asian, Native Hawaiian or other Pacific Islander</td>
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<td>9.5%</td>
</tr>
<tr>
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<td>4.8%</td>
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<td></td>
</tr>
<tr>
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<td>57.1%</td>
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<td>Part-Time</td>
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<td>42.9%</td>
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<td>Family Nurse Practitioner (FNP)</td>
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<td>23.8%</td>
</tr>
<tr>
<td>Adult/Gerontology Primary Care Nurse Practitioner (AGNP)</td>
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<tr>
<td>Psychiatric/Mental Health Nurse Practitioner (PMHNP)</td>
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<td>Training Programs/Workshop</td>
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<td><strong>Previous Graduate Level Education on Assessment of SA in the Elderly</strong></td>
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<tr>
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<td>14.3%</td>
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<td>No</td>
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<td>85.7%</td>
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<td>Advanced Cardiac Life Support (ACLS)</td>
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<td>28.6%</td>
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<td>Pediatric Advanced Life Support (PALS)</td>
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<td>23.8%</td>
</tr>
<tr>
<td>Advanced Trauma Care for Nurses (ATCN)</td>
<td>4</td>
<td>12.9%</td>
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<tr>
<td>Other</td>
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<td>42.6%</td>
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<tr>
<td><strong>Years of Nursing Experience</strong></td>
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</tr>
<tr>
<td>Mean (+SD)</td>
<td>5.47</td>
<td>(±3.50) years</td>
</tr>
<tr>
<td>Range</td>
<td>1-16 years</td>
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<tr>
<td><strong>Age</strong></td>
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<td></td>
</tr>
<tr>
<td>Mean (+SD)</td>
<td>31.57</td>
<td>(±6.41) years</td>
</tr>
<tr>
<td>Range (+SD)</td>
<td>25-48 years</td>
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</table>
Table 2. Change in Outcome Variables Overtime (n=21)

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Baseline (T1) (M ± SD)</th>
<th>Posttest1 (T2) (M ± SD)</th>
<th>Posttest2 (T3) (M ± SD)</th>
<th>Difference</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Addiction Myths (MIKAT)</td>
<td>5.52 ± 1.89</td>
<td>5.24 ± 2.05</td>
<td>5.48 ± 2.04</td>
<td>T1 vs. T2</td>
<td>.480</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>T1 vs. T3</td>
<td>.897</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>T2 vs. T3</td>
<td>.521</td>
</tr>
<tr>
<td>Attitudes Consistent with MI (MIKAT)</td>
<td>2.38 ± 0.92</td>
<td>2.43 ± 0.93</td>
<td>2.67 ± 0.73</td>
<td>T1 vs. T2</td>
<td>.833</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>T1 vs. T3</td>
<td>.137</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>T2 vs. T3</td>
<td>.204</td>
</tr>
<tr>
<td>Principles Consistent with MI Identified</td>
<td>3.57 ± 1.16</td>
<td>3.71 ± 1.45</td>
<td>4.24 ± 0.83</td>
<td>T1 vs. T2</td>
<td>.602</td>
</tr>
<tr>
<td>Correctly (MIKAT)</td>
<td></td>
<td></td>
<td></td>
<td>T1 vs. T3</td>
<td>.012*</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>T2 vs. T3</td>
<td>.061</td>
</tr>
<tr>
<td>Principles Inconsistent with MI Identified</td>
<td>6.05 ± 2.18</td>
<td>6.43 ± 2.20</td>
<td>6.19 ± 1.72</td>
<td>T1 vs. T2</td>
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<td>Consistent Correctly (MIKAT)</td>
<td></td>
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<td></td>
<td>T1 vs. T3</td>
<td>.748</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>T2 vs. T3</td>
<td>.586</td>
</tr>
<tr>
<td>MIKAT total score</td>
<td>11.48 ± 0.52</td>
<td>11.57 ± 0.65</td>
<td>12.38 ± 0.55</td>
<td>T1 vs. T2</td>
<td>.866</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>T1 vs. T3</td>
<td>.062</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>T2 vs. T3</td>
<td>.206</td>
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<tr>
<td>MI Confidence</td>
<td>26.19 ± 5.54</td>
<td>21.48 ± 5.81</td>
<td>17.86 ± 4.42</td>
<td>T1 vs. T2</td>
<td>.000*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>T1 vs. T3</td>
<td>.000*</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>T2 vs. T3</td>
<td>.003*</td>
</tr>
</tbody>
</table>
Table 3. Motivational Interviewing Skills (n=21)

<table>
<thead>
<tr>
<th>Skill</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ask Permission</td>
<td>19 (90.5%)</td>
<td>2 (9.5%)</td>
</tr>
<tr>
<td>Acknowledge Hesitation to Change</td>
<td>17 (81.0%)</td>
<td>3 (14.3%)</td>
</tr>
<tr>
<td>Elicit Motivations for Change</td>
<td>21 (100%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Provide Support for Change</td>
<td>21 (100%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Discuss Discrepancies</td>
<td>13 (61.9%)</td>
<td>8 (38.1%)</td>
</tr>
<tr>
<td>Show compassion and/or empathy</td>
<td>21 (100%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Explore Values and Goals</td>
<td>19 (90.5%)</td>
<td>2 (9.5%)</td>
</tr>
<tr>
<td>Affirm Strengths and Autonomy</td>
<td>19 (90.5%)</td>
<td>2 (9.5%)</td>
</tr>
<tr>
<td>Explore Previous Successes</td>
<td>18 (85.7%)</td>
<td>3 (14.3%)</td>
</tr>
<tr>
<td>Ask Open Ended Questions</td>
<td>19 (90.5%)</td>
<td>2 (9.5%)</td>
</tr>
<tr>
<td>Give Affirmation (Praise)</td>
<td>21 (100%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Use Reflective Listening</td>
<td>19 (90.5%)</td>
<td>2 (9.5%)</td>
</tr>
<tr>
<td>Summarize</td>
<td>18 (85.7%)</td>
<td>3 (14.3%)</td>
</tr>
<tr>
<td>Give Information and Advice with Permission</td>
<td>18 (85.7%)</td>
<td>3 (14.3%)</td>
</tr>
<tr>
<td>Reframe Statements</td>
<td>14 (66.7%)</td>
<td>6 (28.6%)</td>
</tr>
<tr>
<td>Use Confidence Ruler</td>
<td>21 (100%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Use Readiness Ruler</td>
<td>30 (96.8%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Explore Decisional Balancing</td>
<td>19 (90.5%)</td>
<td>2 (9.5%)</td>
</tr>
<tr>
<td>Allow SP to Draw Own Conclusions about change</td>
<td>14 (66.7%)</td>
<td>6 (28.6%)</td>
</tr>
<tr>
<td>Use Change Plan Worksheet</td>
<td>21 (100%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Invite SP to talk about Change Plan</td>
<td>18 (85.7%)</td>
<td>3 (14.3%)</td>
</tr>
<tr>
<td>Elicit Change Talk</td>
<td>19 (90.5%)</td>
<td>2 (9.5%)</td>
</tr>
</tbody>
</table>
Table 4. Course Evaluation

<table>
<thead>
<tr>
<th>Question</th>
<th>Participants (n=21)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>How would you rate the overall course?</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Very Poor</td>
<td>1</td>
<td>4.8%</td>
</tr>
<tr>
<td>Poor</td>
<td>5</td>
<td>23.8%</td>
</tr>
<tr>
<td>Acceptable</td>
<td>10</td>
<td>47.6%</td>
</tr>
<tr>
<td>Good</td>
<td>5</td>
<td>23.8%</td>
</tr>
<tr>
<td>Excellent</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mean</strong></td>
<td><strong>3.90 (±0.83)</strong></td>
<td></td>
</tr>
<tr>
<td>Did this course help you to learn about motivational interviewing skills and talking to clients about behavior change?</td>
<td>1</td>
<td>4.8%</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Disagree</td>
<td>2</td>
<td>9.5%</td>
</tr>
<tr>
<td>Undecided</td>
<td>12</td>
<td>57.1%</td>
</tr>
<tr>
<td>Agree</td>
<td>6</td>
<td>28.6%</td>
</tr>
<tr>
<td>Strongly agree</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mean (±SD)</strong></td>
<td><strong>4.05 (±0.92)</strong></td>
<td></td>
</tr>
<tr>
<td>How would you rate the usefulness of the didactic lecture in talking to clients about behavior change?</td>
<td>1</td>
<td>4.8%</td>
</tr>
<tr>
<td>Not at all useful</td>
<td>3</td>
<td>14.3%</td>
</tr>
<tr>
<td>Slightly useful</td>
<td>6</td>
<td>28.6%</td>
</tr>
<tr>
<td>Somewhat useful</td>
<td>7</td>
<td>33.3%</td>
</tr>
<tr>
<td>Very useful</td>
<td>4</td>
<td>19.0%</td>
</tr>
<tr>
<td>Extremely useful</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mean (±SD)</strong></td>
<td><strong>3.48 (±1.12)</strong></td>
<td></td>
</tr>
<tr>
<td>How would you rate the usefulness of the MINT/YouTube videos in talking to clients about behavior change?</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Not at all useful</td>
<td>3</td>
<td>14.3%</td>
</tr>
<tr>
<td>Slightly useful</td>
<td>3</td>
<td>14.3%</td>
</tr>
<tr>
<td>Somewhat useful</td>
<td>7</td>
<td>33.3%</td>
</tr>
<tr>
<td>Very useful</td>
<td>7</td>
<td>33.3%</td>
</tr>
<tr>
<td>Extremely useful</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mean (±SD)</strong></td>
<td><strong>3.90 (± 1.07)</strong></td>
<td></td>
</tr>
<tr>
<td>How would you rate the usefulness of the role playing with scenarios in talking to clients about behavior change?</td>
<td>2</td>
<td>9.5%</td>
</tr>
<tr>
<td>Not at all useful</td>
<td>4</td>
<td>19.0%</td>
</tr>
<tr>
<td>Slightly useful</td>
<td>6</td>
<td>28.6%</td>
</tr>
<tr>
<td>Somewhat useful</td>
<td>5</td>
<td>23.8%</td>
</tr>
<tr>
<td>Very useful</td>
<td>4</td>
<td>19.0%</td>
</tr>
<tr>
<td>Extremely useful</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mean (±SD)</strong></td>
<td><strong>3.24 (±1.26)</strong></td>
<td></td>
</tr>
<tr>
<td>How would you rate the usefulness of the standardized patient simulation in talking to clients about behavior change?</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Not at all useful</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Evaluation of A Motivational Interviewing Training

<table>
<thead>
<tr>
<th>Question</th>
<th>Rating</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>How would you rate the usefulness of the overall course in talking to clients about behavior change?</td>
<td>Slightly useful</td>
<td>2</td>
<td>9.5%</td>
</tr>
<tr>
<td></td>
<td>Somewhat useful</td>
<td>2</td>
<td>9.5%</td>
</tr>
<tr>
<td></td>
<td>Very useful</td>
<td>9</td>
<td>42.9%</td>
</tr>
<tr>
<td></td>
<td>Extremely useful</td>
<td>8</td>
<td>38.1%</td>
</tr>
<tr>
<td>Mean (±SD)</td>
<td>4.10 (±0.94)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How would you rate the usefulness of the overall course in talking to clients about behavior change?</td>
<td>Not at all useful</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>Slightly useful</td>
<td>3</td>
<td>14.3%</td>
</tr>
<tr>
<td></td>
<td>Somewhat useful</td>
<td>4</td>
<td>19.0%</td>
</tr>
<tr>
<td></td>
<td>Very useful</td>
<td>11</td>
<td>52.4%</td>
</tr>
<tr>
<td></td>
<td>Extremely useful</td>
<td>3</td>
<td>14.3%</td>
</tr>
<tr>
<td>Mean (±SD)</td>
<td>3.67 (±0.91)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have you used motivational interviewing in practice since the educational intervention?</td>
<td>Yes</td>
<td>5</td>
<td>23.8%</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>16</td>
<td>76.2%</td>
</tr>
<tr>
<td>Mean (±SD)</td>
<td>4.05 (±0.97)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you plan to use motivational interviewing in practice after the educational intervention? (Circle one)</td>
<td>Definitely won’t</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>Probably won’t</td>
<td>2</td>
<td>9.5%</td>
</tr>
<tr>
<td></td>
<td>Undecided</td>
<td>3</td>
<td>14.3%</td>
</tr>
<tr>
<td></td>
<td>Probably will</td>
<td>8</td>
<td>38.1%</td>
</tr>
<tr>
<td></td>
<td>Definitely will</td>
<td>8</td>
<td>38.1%</td>
</tr>
<tr>
<td>Mean (±SD)</td>
<td>4.24 (±0.70)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Did you find the simulation an overall valuable learning experience? (Circle one)</td>
<td>Strongly disagree</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>Disagree</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>Undecided</td>
<td>3</td>
<td>14.3%</td>
</tr>
<tr>
<td></td>
<td>Agree</td>
<td>10</td>
<td>47.6%</td>
</tr>
<tr>
<td></td>
<td>Strongly agree</td>
<td>8</td>
<td>38.1%</td>
</tr>
<tr>
<td>Mean (±SD)</td>
<td>4.24 (±0.70)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Table 5. Qualitative Themes and Student Comment Exemplars

<table>
<thead>
<tr>
<th>Theme</th>
<th>Student Comment Exemplars</th>
</tr>
</thead>
</table>
| **Increased Awareness**      | - “I did not know about the different factors in females and males”\[72x709]  
- “Previously unaware of available screening resources”\[72x709]  
- “Learned the differences in substance abuse in older populations”\[72x709]  
- “The course provided a real life look into the complex world of MH disorders”\[72x709]  
- “Older adults portion of the course provided good insight”\[72x709] |
| **New Skills Learned**       | - “Taught valuable skills for encouraging patients to talk about sensitive topics and how to avoid telling the patient what they need to do”\[72x709]  
- “I learned how to use open ended question and reflect back what the patient states”\[72x709]  
- “Learned how to approach discussing behavior change appropriately vs. inappropriately”\[72x709]  
- “How to approach patients with these style of challenges”\[72x709] |
| **Translation of Knowledge into Practice** | - “I am starting motivational interviewing at my job”\[72x709]  
- “First exposure, likely to use in primary care setting”\[72x709]  
- “Putting skills into practice”\[72x709]  
- “Would use in future practice”\[72x709]  
- “Will use screening tools in clinical practice”\[72x709] |
| **Personal Insight**         | - “It gave me the opportunity to think about things I have not considered in my workplace – “big picture” vs. acute treatment”\[72x709]  
- “It motivated me to think critically about how I interact with people and how to do so effectively”\[72x709]  
- “I work in pediatrics so this really helped me understand the other end of the spectrum that I don't get to work with and therefore don’t have knowledge of from experience”\[72x709]  
- “I already have a background with patients. This helped me try to understand it better”\[72x709]  
- “Harder than I thought”\[72x709]  
- “Can use in personal life”\[72x709] |
| **Helpful Techniques**       | - “OAR-I was helpful”\[72x709]  
- “The interview portion gave me the opportunity to practice the skills and reintroduce what was learned in class”\[72x709]  
- “The information via lecture and supplemental materials was thorough and informative while the MI simulation was extremely helpful in ‘pulling it all together’ in clinical practice”\[72x709]  
- “The simulation, while I hate them, did provide a big educational experience”\[72x709]  
- “The simulation was very helpful”\[72x709]  
- “Simulation was great”\[72x709]  
- “Helped learn how to talk to patient with substance abuse and make them comfortable to talk about their issue”\[72x709] |
| **Recommended Improvements** | - “Shorter scenarios but more of them”\[72x709]  
- “Not for a grade as part of the course would eliminate unnecessary anxiety”\[72x709]  
- “More videos and examples of how to carry out MI, felt awkward because I didn’t know how to start and transition between certain skills”\[72x709]  
- “More standardize practice in lab to practice MI skills”\[72x709]  
- “I think it would be more useful in NPs that have office visits with patients”\[72x709]  
- “Have SPs match the stated age so it is more realistic and believable”\[72x709]  
- “More realistic ‘actors’ as older patients if available”\[72x709]  
- “More useful for NPs – not as useful for CRNAs”\[72x709]  
- “An additional scenario not related to drug use”\[72x709]  
- “Practice with multiple scenarios”\[72x709] |
References:


Cassalia, J. (2016). *The outcomes of brief motivational interviewing training using standardized patients in managing prescription opioid abuse in older adults for DNP students.* Unpublished manuscript, Department of Nursing, University at Buffalo, Buffalo, NY.


EVALUATION OF A MOTIVATIONAL INTERVIEWING TRAINING


Mounsey, A. L., Bovbjerg, V., White, L., & Gazewood, J. (2006). Do students develop better motivational interviewing skills through role-play with standardised patients or with student colleagues? *Medical Education, 40*(8), 775-780. doi:10.1111/j.1365-2929.2006.02533.x


skills: description and assessment of a new Motivational interviewing curriculum.


Appendices

I. Timeline of Events

<table>
<thead>
<tr>
<th>Date</th>
<th>Task</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>JUNE</strong></td>
<td></td>
</tr>
<tr>
<td>June 1st, 2017</td>
<td>Institutional Review Board (IRB) approval from the University at Buffalo is received.</td>
</tr>
<tr>
<td>June 12th, 2017</td>
<td>Standardized patients are recruited.</td>
</tr>
<tr>
<td>June 25th, 2017</td>
<td>- Pre-test is administered to DNP students.</td>
</tr>
<tr>
<td></td>
<td>- Students received didactic lectures on the screening and assessment of mental health and substance abuse disorders in the older adult and motivational interviewing.</td>
</tr>
<tr>
<td></td>
<td>- Role-playing exercise is completed.</td>
</tr>
<tr>
<td><strong>JULY</strong></td>
<td></td>
</tr>
<tr>
<td>July 10th, 2017</td>
<td>- Training for standardized patients is completed.</td>
</tr>
<tr>
<td></td>
<td>- Posttest-1 is administered to DNP students</td>
</tr>
<tr>
<td></td>
<td>- Students received presentation on the overview of standardized patient simulations.</td>
</tr>
<tr>
<td></td>
<td>- Students are provided more materials and role-playing scenarios, with the opportunity to role play.</td>
</tr>
<tr>
<td>July 17th, 2017</td>
<td>- Standardized patient simulation is completed</td>
</tr>
<tr>
<td></td>
<td>- Student and SP checklists are completed</td>
</tr>
<tr>
<td></td>
<td>- Debriefing is completed</td>
</tr>
<tr>
<td></td>
<td>- Posttest-2 administered to DNP students</td>
</tr>
<tr>
<td><strong>AUGUST</strong></td>
<td></td>
</tr>
<tr>
<td>August</td>
<td>Analyze data</td>
</tr>
</tbody>
</table>
II. Research Information Sheet for Advanced Practice Nursing Students

**Purpose:** As part of your course work, you are required to participate in didactic lectures and standardized patient experiences. The standardized patient experience this semester will involve a standardized patient with substance abuse and mental health problems. The researchers are asking your permission to use the information obtained from their evaluation of your performance of these exercises for research purposes.

**Procedure:** By agreeing to participate in this study, you agree to allow the researchers to present and publish findings from their evaluation of these experiences. The evaluation will encompass your performance in completing a focused history, review of systems, debriefing, and completion of a survey. Any findings will be reported in aggregate form with no identifying information.

**Time Commitment:** No additional time commitment outside of your regularly scheduled course will be required.

**Risks and Benefits:** There are no known risks to participating in this study. Allowing us to use the data for presentations and publications will help to contribute to health educators’ knowledge about how effective a motivational interviewing curriculum is on graduate nursing students’ performance of clinical skills in assessing and managing substance abuse in geriatric patients.

**Confidentiality:** Your individual privacy will be maintained in all presented, published and written data resulting from this study. All consent forms and instruments will be kept in the researcher’s office at UB for three years in a locked file cabinet. By completing and returning the survey you affirm that:

- You have read the above information
- You are voluntarily agreeing to allow the evaluation data to be used in the research
- You are at least 18 years of age.

For questions about the study, contact: Dr. Yu-Ping Chang (PI), PhD, RN, FGSA, at 716 829-2015

Other faculty and members involved in the project:

Dr. Jade Cassalia, DNP, FNP, RN
Dr. Molli Warunek, DNP, FNP-C, RN
III. Demographic Survey

1. What are the last 4 digits of the telephone number you will use as an identifier on the survey instruments? ___ ___ ___ ___

2. What is your gender? 1. Male 2. Female

3. What is your age? __________

4. What is your race?
   1. White
   2. Black or African-American
   3. American Indian or Alaskan Native
   4. Asian, Native Hawaiian or other Pacific Islander
   5. From multiple races

5. Are you currently enrolled as a full-time or part-time student?
   1. Full-Time
   2. Part-Time

6. What specialty are you enrolled in at UB?
   1. Family Nurse Practitioner
   2. Adult Nurse Practitioner
   3. Psychiatric Nurse Practitioner
   4. Nurse Anesthetist

7. Are you currently employed?
   1. No, I am not employed
   2. Yes, I have a part-time job _____ hours/week (please indicate number of hours per week)
   3. Yes, I have a full-time job

8. How many years of nursing experience do you have? __________

9. What type of nursing experience do you have? (select all that apply)
   1. OR/PACU
   2. Critical Care
   3. Medical/Surgical
   4. ER/Trauma
   5. Management/Administration
   6. Telemetry/PCU
   7. Geriatric/LTC
   8. Psychiatric
   9. Home Health/Hospice
   10. Women’s Health/L&D
   11. Pediatrics/PICU
   12. Primary Care
   13. Oncology
14. NICU/Neonatal
15. Rehab
16. Other (please specify): ______________________________________

10. What is your current employment setting?
   1. Hospital
   2. Home Health/Hospice
   3. Physician Office/Ambulatory Care
   4. Nursing Home/LTC
   5. Public/Community Health
   6. Not currently employed
   7. Employed in non-nursing field
   8. Other (please specify): ______________________________________

11. What is your certification status?
   1. I currently hold certifications. Please describe them
      __________________________________________________________
   2. I do not currently hold any certifications

12. Do you have previous work experience on assessment of substance abuse?
   1. Yes. Please describe in what type of setting and capacity?
      _________________________________________________________
   2. No

14. Have you had graduate level course content on assessment of substance abuse in the elderly?
   1. Yes Please describe in what course ____________________________
   2. No

15. Have you had any previous education/training on motivational interviewing?
   1. Yes. Please describe in what capacity (e.g. previous coursework, workshops, training programs, etc.)?
      _________________________________________________________
   2. No, I never had.
IV. Motivational Interviewing Confidence Scale

1. How confident are you in your ability to introduce yourself to a new patient?
   1. Very Confident
   2. Somewhat Confident
   3. Not sure confidence level
   4. Somewhat Not Confident
   5. Very Not Confident

2. How confident are you in your interpersonal skills, such as eye contact, asking open-ended questions, and using silence in an interview with a patient?
   1. Very Confident
   2. Somewhat Confident
   3. Not sure confidence level
   4. Somewhat Not Confident
   5. Very Not Confident

3. How confident are you in your ability to express empathy and reflect a patient's emotions during an interview?
   1. Very Confident
   2. Somewhat Confident
   3. Not sure confidence level
   4. Somewhat Not Confident
   5. Very Not Confident

4. How confident are you in identifying a patient's goal importance and confidence rating?
   1. Very Confident
   2. Somewhat Confident
   3. Not sure confidence level
   4. Somewhat Not Confident
   5. Very Not Confident

5. How confident are you in your ability to elicit/evoke change talk, engage in reflective listening, normalizing patient's situation, engage in decisional balancing activities, supporting patient's self-efficacy, and provide affirmations?
   1. Very Confident
   2. Somewhat Confident
   3. Not sure confidence level
   4. Somewhat Not Confident
   5. Very Not Confident
6. How confident are you in your ability to assess a patient's "stage of change"?

1. Very Confident
2. Somewhat Confident
3. Not sure confidence level
4. Somewhat Not Confident
5. Very Not Confident

7. How confident are you to use the readiness to change ruler?

1. Very Confident
2. Somewhat Confident
3. Not sure confidence level
4. Somewhat Not Confident
5. Very Not Confident

8. How confident are you in your understanding of the key concepts of motivational interviewing?

1. Very Confident
2. Somewhat Confident
3. Not sure confidence level
4. Somewhat Not Confident
5. Very Not Confident

9. How confident are you in your ability to implement motivational interviewing?

1. Very Confident
2. Somewhat Confident
3. Not sure confidence level
4. Somewhat Not Confident
5. Very Not Confident

10. If you met an older adult patient with a substance use disorder in your clinical setting, how confident would you be in your ability to motivate the patient to engage in behavior change?

1. Very Confident
2. Somewhat Confident
3. Not sure confidence level
4. Somewhat Not Confident
5. Very Not Confident
V. **Motivational Interviewing (MIKAT)**

The following statements are either actually true or false or consistent with (“true”) or inconsistent with (“false”) a motivational interviewing approach. Indicate your response by circling the appropriate item to the right.

<table>
<thead>
<tr>
<th>Statement</th>
<th>True</th>
<th>False</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Substance users must accept their problem (for example: “I am an alcoholic/addict”) before they can get help.</td>
<td></td>
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</tr>
<tr>
<td>2. Denial is a characteristic of the disease of addiction.</td>
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<tr>
<td>3. Therapists’ expectancies of their client’s ability to change have no effect upon whether change occurs.</td>
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</tr>
<tr>
<td>4. Research has failed to find support the existence of an “addictive personality.”</td>
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<tr>
<td>5. Substance users need to “hit bottom” before they can change.</td>
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</tr>
<tr>
<td>6. If clients are resistant to talk about changing substance use, direct confrontation and persuasion are required to help the person change.</td>
<td></td>
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</tr>
<tr>
<td>7. Resistance to talking about substance use is the direct result of denial, a symptom of the disease of addiction.</td>
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</tr>
<tr>
<td>8. Counselors should emphasize personal choice over clients’ behaviors, including substance use.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Substance abusers are generally incapable of making sound decisions in their current state of addiction.</td>
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<td></td>
</tr>
<tr>
<td>10. Resistance is best thought of as a product of the interpersonal context in which it is observed.</td>
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<td></td>
</tr>
<tr>
<td>11. Addicts and alcoholics are not capable of exerting control over their substance use behaviors.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Readiness to make change is the client’s responsibility-no one can help them until they decide they are ready.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. The best way to motivate substance users is to help them resolve their ambivalence about change.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
14. External pressure and consequences is the only way to make substance abusers change. True False

15. Which of the following are principles of a Motivational Interviewing approach to dealing with substance use? (select all that apply)
- Breakdown denial
- Express empathy
- Maximize external pressure
- Roll with Resistance
- Require abstinence as only acceptable goal
- Develop discrepancies
- Acceptance of label (“alcoholic/addict”) is required
- Use subtle coercion
- Give direct advice
- Encourage submission to disease
- Confront resistance
- Educate about risk
- Support self-efficacy
- Give clear consequences
- Avoid argumentation
VI. Skills Checklist for Student

MARY MILLER – STANDARDIZED PATIENT
STUDENT CHECKLIST

Write the last 4 digits of your cell phone number: ______________________

Motivational Interviewing Questions

1. Did the you ask the client for permission to discuss her pain medication use or ask her what she would like to discuss?
   ☐ YES
   ☐ NO

2. Did you acknowledge Ms. Miller’s hesitation to change (while avoiding the "righting reflex" and “directing counseling” style)?
   ☐ YES
   ☐ NO

3. Did you elicit Ms. Miller’s motivations for change?
   ☐ YES
   ☐ NO

4. Did you support Ms. Miller’s ideas about how to change her behavior?
   ☐ YES
   ☐ NO

5. Did you discuss the discrepancies between Ms. Miller’s current behavior (taking too many pain medications) and desired behavior (to be healthy)?
   ☐ YES
   ☐ NO

6. Did you show understanding, compassion and/or empathy for Ms. Miller’s situation?
   ☐ YES
   ☐ NO

7. Did you explore Ms. Miller’s values and goals?
   ☐ YES
   ☐ NO

8. Did you instill hope and confidence in Ms. Miller by exploring or affirming her strengths/skills and/or emphasizing autonomy (freedom of choice)?
   ☐ YES
   ☐ NO
9. Did you explore any of Ms. Miller’s previous successful experiences in making change and praise her for her ability to change (Did Ms. Miller tell you that she quit smoking or drinking in the past and you praised her for it)?
   ☐ YES
   ☐ NO

10. Did you ask mostly open-ended questions to explore the patient's concerns, promote understanding of the patient's perspective, and promote collaboration?
    ☐ YES
    ☐ NO

11. Did you give affirmation (praise) to support the patient's strengths and to show respect for the patient?
    ☐ YES
    ☐ NO

12. Did you use reflective listening (restating the client’s ideas back to you) to explore the patient's concern, obtain understanding, and promote change talk?
    ☐ YES
    ☐ NO

13. Did you summarize what the patient stated to you back to the patient to ensure your understanding of their concerns and perspectives?
    ☐ YES
    ☐ NO

14. Did you give information and advice to Ms. Miller with her permission?
    ☐ YES
    ☐ NO

15. Did you reframe Ms. Miller’s statements by offering a new and positive interpretation of negative information she provided?
    ☐ YES
    ☐ NO

16. Did you assess the client’s level of CONFIDENCE by using a 1 to 10 scale?
    ☐ YES
    ☐ NO

17. Did you assess the client’s level of READINESS to change by using a 1 to 10 scale?
    ☐ YES
    ☐ NO
18. Did you explore Decisional Balancing with your client to increase her motivation to change (asked the client about the pros and cons of changing how she uses currently pain medication AND asked her about the pros and cons if she doesn’t change)?
☐ YES
☐ NO

19. After completing the Decisional Balancing Worksheet (comparing pros and cons), did you allow the client to come to her own conclusion that overusing pain medication does more harm than good?
☐ YES
☐ NO

20. Did you explore the Change Plan Worksheet with the client?
☐ YES
☐ NO

21. After Ms. Miller completed the Change Plan Worksheet, did you invite her to talk about her plan?
☐ YES
☐ NO

22. Did you elicit change talk from the patient (get the patient to verbalize reasons for change)?
☐ YES
☐ NO
VII. Course Evaluation

1. How would you rate the overall course? (Circle one)
   a) Very Poor
   b) Poor
   c) Acceptable
   d) Good
   e) Excellent

2. Did this course help you to learn about substance abuse and mental health issues in older adults? (Circle one)
   i. Strongly disagree
   ii. Disagree
   iii. Undecided
   iv. Agree
   v. Strongly agree

   How?

3. Did this course help you to learn about motivational interviewing skills and talking to clients about behavior change? (Circle one)
   i. Strongly disagree
   ii. Disagree
   iii. Undecided
   iv. Agree
   v. Strongly agree

   How?

4. How would you rate the usefulness of each element (of the course) in talking to clients about behavior change?

   a. Didactic lecture (Circle one)
      i. Not at all useful
      ii. Slightly useful
      iii. Somewhat Useful
      iv. Very Useful
      v. Extremely Useful

   b. MINT/ YouTube Videos (Circle one)
      i. Not at all useful
      ii. Slightly useful
      iii. Somewhat Useful
iv. Very Useful  
v. Extremely Useful

c. Role playing with scenarios (Examples and practice) (Circle one)  
i. Not at all useful  
ii. Slightly useful  
iii. Somewhat Useful  
iv. Very Useful  
v. Extremely Useful

d. Standardized patient simulation (Circle one)  
i. Not at all useful  
ii. Slightly useful  
iii. Somewhat Useful  
iv. Very Useful  
v. Extremely Useful

e. The overall course (Circle one)  
i. Not at all useful  
ii. Slightly useful  
iii. Somewhat Useful  
iv. Very Useful  
v. Extremely Useful

5. Have you used motivational interviewing in practice since the educational intervention?  
☐ YES  
☐ NO

6. Do you plan to use motivational interviewing in practice after the educational intervention? (Circle one)  
i. Definitely won’t  
ii. Probably won’t  
iii. Undecided  
iv. Probably will  
v. Definitely will

7. Did you find the simulation an overall valuable learning experience? (Circle one)  
i. Strongly disagree  
ii. Disagree  
iii. Undecided  
iv. Agree  
v. Strongly agree

8. How would you improve this simulation experience?
___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________
APPROVAL OF SUBMISSION

June 21, 2016

Dear YU-PING CHANG:

On 6/21/2016, the IRB reviewed the following submission:

<table>
<thead>
<tr>
<th>Type of Review:</th>
<th>Initial Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title of Study:</td>
<td>Enhancing Nurse Practitioner Students’ Competencies in Caring for Older Adults with Substance Abuse</td>
</tr>
<tr>
<td>Investigator:</td>
<td>YU-PING CHANG</td>
</tr>
<tr>
<td>IRB ID:</td>
<td>STUDY00000673</td>
</tr>
<tr>
<td>Funding:</td>
<td>Name: Health Foundation for Western &amp; Central New York</td>
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<tr>
<td>Grant ID:</td>
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<td>IND, IDE, or HDE:</td>
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</tbody>
</table>
| Documents Reviewed: | • Recruitment Process and Verbal Script.pdf, Category: Recruitment Materials;  
                                  • Recruitment Process for Focus Group.pdf, Category: Recruitment Materials;  
                                  • Measures 06_19_2016.docx, Category: Surveys/Questionnaires;  
                                  Focus group consent form document  
                                  Information sheet for surveys |

The IRB approved the study on 6/21/2016.

In conducting this study, you are required to follow the requirements listed in the Investigator Manual (HRP-103), which can be found by navigating to the IRB Library within the IRB system.
The Initial Study materials for the project referenced above were reviewed and approved by the SUNY University at Buffalo IRB (UBIRB) by Exempt. The expiration date of this approval is .

UBIRB approval is given with the understanding that the most recently approved procedures will be followed and the most recently approved consenting documents will be used. If modifications are needed, those changes may not be initiated until such modifications have been submitted to the UBIRB for review and have been granted approval.

As principal investigator for this study involving human participants, you have responsibilities to the SUNY University at Buffalo IRB (UBIRB) as follows:

1. Ensuring that no subjects are enrolled prior to the IRB approval date.

3. Ensuring that the UBIRB is notified of: o All Reportable Information in accordance with the Reportable New Information Form (HRP-214)

4. Ensuring that the protocol is followed as approved by UBIRB unless a protocol amendment is prospectively approved.

5. Ensuring that changes in research procedures, recruitment or consent processes are not initiated without prior UBIRB review and approval, except where necessary to eliminate apparent immediate hazards to subjects.

6. Ensuring that the study is conducted in compliance with all UBIRB decisions, conditions, and requirements.

7. Bearing responsibility for all actions of the staff and sub-investigators with regard to the protocol.

8. Bearing responsibility for securing any other required approvals before research begins.

If you have any questions, please contact the UBIRB Please include your project title and IRBNet Project Number in all correspondence with the IRB.
Purposes
Implement and evaluate a motivational interviewing (MI) educational intervention including didactic lectures, role playing, and a standardized patient (SP) simulation into the curriculum of the Bachelor of Nursing to Doctor of Nursing (BSN-DNP) program at the University at Buffalo (UB).

PICO Question
Does the use of an MI educational intervention including a SP simulation improve DNP students' knowledge, confidence, and skills using MI to address prescription opioid abuse in older adults?

Acknowledgements
• I would like to thank those who have contributed to the development, implementation and completion of my capstone project.
• Capstone advisor: Dr. Chang, PhD., RN, FGSA
• Faculty members:
  • Dr. Cassalia, DNP, RN, FNP
  • Dr. Warunek DNP, RN, MSN, FNP-BC, AOCNP
  • Dr. Fritz-Ramos, PhD, RN, FNP-BC, RHIA
• The students that participated in the project
• My friends and family, especially my parents, for their love and support
• Funding source: The Coletta A. Klug Fund.
Background and Significance

- Recent increase in providers prescribing pain medications
  - In 2012, 82.5 opioid pain reliever prescriptions per 100 persons (Paulozzi, Mack, & Hockenberry, 2014)
  - About 20% of patients with pain are prescribed opioids (Daubresse et al., 2013).

- Opioids more available for misuse and abuse
  - Americans who abuse prescription opioids increased from 4.9 million in 1992 to 12.5 million in 2012 (Brady, McCauley & Back, 2015).

- Costs:
  - Monetary: 72.5 billion dollars in health care costs annually (CDC, 2011)
  - Addiction: 25% of those prescribed opioids develop an addiction and 80% of new heroin users started off misusing a prescription (Lieschewski et al., 2015; Opioid et al., 2016, Jones, 2013)
  - Death: prescription opioids cause two deaths an hour & account for almost 50% of all opioid overdose deaths (Centers for Disease Control and Prevention [CDC], 2016; Rudd, 2016)

Prescription Opioid Abuse
- Increasing due to aging baby boomers
  - In 2014, 2% of Americans ≥ 50 reported the nonmedical use of a prescription drug (National Survey on Drug Use and Health, 2017).
  - Older adults with a substance use disorder is to increase from 2.8 million (annual average) in 2002–2006 to 5.7 million by 2020 (Han et al., 2003).
  - Older adults with a mental health/substance use disorder will be ≥ those in younger population by 2020 (Bartels et al., 2005).

- At an increased risk of prescription abuse and death
  - Prescribed multiple, concurrent medications due to higher rate of chronic disease, pain, sleep disturbances, and mental health disorders (Mente, Claxton & Chen, 2005)
  - Increased risk of adverse drug effects and interactions due to polypharmacy and medication sensitivity (Mente, Claxton & Chen, 2005)
  - Social isolation related to retirement or bereavement combined with intrinsic coping strategies may cause older adults to turn to drugs instead of health care providers (Han et al., 2006)

Substance Abuse in Older Adults

Motivational Interviewing
- Motivational Interviewing (MI) is an evidenced-based intervention that promotes the reduction of opioid abuse (Sayegh et al., 2017; Streeckland et al., 2011)
- Significantly reduces the risk of prescription opioid misuse and decreases substance use in older adults (Cheng et al., 2015)

- Motivational Interviewing
  - Patient-centered counseling style (Miller & Rollnick, 2013)
  - Strengthens a person’s own motivation to change in an environment of trust and compassion
  - Helps clients identify their problem behaviors and work change by acknowledging a client’s hesitation, resolving ambivalence, developing discrepancies between current behavior and own personal values, expressing empathy, & promoting self-efficacy
  - Clinicians elicit motivation by using open-ended questions, affirmations, reflections, summaries, & advisement
Significance of the Problem

- Many providers lack the knowledge, confidence, and skills to practice MI because it is not included in their educational curricula.
- A review of the literature has determined that medical students and residents who participated in an MI training have had positive effects in MI knowledge, confidence, and skills and have viewed the trainings as favorable.
- There have been limited studies published on the effect of an educational intervention with a SP component on the knowledge, confidence, and skills of MI in DNP students.

Standardized Patient Simulations

- Evidenced based learning tool
- Individuals who are trained to take on the characteristics of a real patient in a consistent and standardized manner with the guidance of a case scenario (Yong-Shian et al., 2016)
- Practice skills learned in didactic lectures in real-life scenarios
- Eliminates threat to patient safety
- Scenarios students may not get in clinical rotations, but most likely will encounter in future practice
- Safe and controlled environment reduces students’ anxiety and improved confidence
- Simulated patient encounters have specific benefits that cannot be duplicated by the use of paper problems, discussions, role playing, questionnaires, or even sometimes real patients (University of Pittsburgh School of Medicine, 2017)
- Several studies utilized SPs as an educational intervention for MI training in medical students and residents and found positive results on MI knowledge, confidence, and skills.

Theoretical Framework: Benner’s Novice to Expert Model

There are five levels of nursing skill acquisition and competency:

- Studies argue that nursing students should enter the profession at the advanced beginner or competent stage (Waldner & Olson, 2007).
- An educational intervention with an SP provides students the opportunity to achieve these stages.
- Participants are DNP students in the novice stage – they have not had clinical experience as an advanced practice nurse.
- The lecture helps students understand the basic principles and skills of MI.
- The SP simulation allows participants to apply what they have learned in lecture meaningfully and transition to the advanced beginners by teaching them to:
  - Adapt the skills that they have learned in the didactic lecture to a unique and challenging patient scenario
  - Recognize their own capabilities and independently develop and prioritize a plan of care
  - Reflect and discover meaning in the scenario after debriefing with an experienced nurse (Waldner & Olson, 2007).
Methodology

Study Design and Participants

- One group pretest-posttest repeated measures design with convenience sampling
- Participants: 31 BSN-DNP students taking NGC576: Advanced Health Assessment
- SP simulation was mandatory as part of the class’s curriculum
- Participation in the lectures and the evaluation study was voluntary
- No high stakes grading was associated with participation, and students received full credit for participation
- Anonymity and confidentiality was preserved with four digit ID number

Setting

Didactic Lectures
- Diefendorf Hall Room 204
- Wende G-24

Role Playing
- Wende 4th Floor Lab
- Wende G-26

Standardized Patient Simulation
- Wende G-26

Debriefing
- Wende B-02

Motivational Interviewing Training

- Three separate days
- Three part learning intervention:
  - Didactic lectures
  - Role playing
  - SP simulation
- Developed by the student investigator with two experts who have experience in using MI in research, education, and clinical practice
- Materials:
  - A review of the current literature on substance abuse in the older adult and MI
  - Motivational Interviewing Network of Trainers (MINT)
  - Motivational Interviewing: Helping People Change by Miller and Rollnick
  - Motivational Interviewing in Health Care: Helping Patients Change Behavior by Rollnick, Miller and Butler
MI Training: Didactic Lecture
- Two hours of didactic lectures with a video.
- Content:
  - Screening and assessment of mental health and substance use disorders in older adults
  - MI
  - Overview of the SP simulation process.
- Learning objectives for the MI didactic lecture:
  - Define MI
  - Understand the spirit of MI
  - Understand the processes of MI
  - Understand and perform the skills and techniques of MI
  - Understand MI in practice.

MI Training: Role Playing
- Demonstration by the student investigator with NGC 576 course instructor.
- Case studies for students to review.
- Opportunity for students to role-play with similar scenarios, taking turns being the patient and the NP.
- Student investigator available for immediate feedback and to address concerns.

MI Training: SP Simulation
- Brief introduction.
- Simulation encounter:
  - Scenario: An older adult patient with a history of PTSD that is asking for a refill on an opioid medication that was prescribed acutely after a motor vehicle accident. She will be misusing the medication by taking it more than prescribed to help with pain as well as anxiety and sleep.
  - 10 minutes to review door chart
  - 25 minutes for the encounter.
- Debriefing:
  - Facilitated by the student investigator.
  - Opportunity for students to reflect and discuss the simulation encounter.

Standardized Patient Recruitment
- Recruitment:
  - Via email sent to the UB School of Nursing listserv.
  - Incentives: volunteer hours, a gift card, and food.
- SP volunteers:
  - All female students (n=8).
  - Average age was 23.88 years (SD±5.36, range 19 to 34 years).
  - 75.0% (n=6) were nursing students.
  - 25.0% (n=2) were involved in research at UB’s School of Nursing.
  - 12.5% (n=1) had previous acting experience.
  - 62.5% (n=5) had previous work or educational experience in assessment of substance abuse.
  - 37.5% (n=3) had previous experience with SPs in coursework as the provider.
  - 62.5% (n=5) had previous education, training or practice in MI, all of which was from coursework.
Training for Standardized Patients

- 2 hours
- Lecture containing a brief overview of the screening and assessment of MH and SA disorders in the older adult, MI, and the SP simulation process
- Project objectives
- Video demonstration
- Read-through and clarification of the scenario
- Role-playing
- Appropriate attire and demeanor on simulation day
- Tour or simulation room
- SPs expected to study the material for 90 minutes on their own time

Data Collection Procedures

- IRB approval obtained
- All students were provided informed consent prior to completion of the pretest and posttests
- MI knowledge and confidence were measured with a repeated measures design using a pretest and posttest.
  - Pretest prior to the educational intervention
  - Posttest after the lecture and role-playing exercise
  - Second posttest after the SP simulation
- MI skills and perceived training effectiveness and evaluation were measured with a posttest only design
  - Skills checklist
  - Course evaluation
  - Debriefing

Outcome Measures

DEMOGRAPHIC SURVEY
- Student demographic data

MOTIVATIONAL INTERVIEWING KNOWLEDGE AND ATTITUDE TEST (MIKAT)
- Measured a student’s knowledge and behaviors consistent with MI
- Administered prior to the educational intervention, after the lecture and role-playing exercise, and after the SP simulation
- 14 true-false questions and a “select all that apply” checklist (Leffingwell, 2006)
- Subcomponent scores (attitudes consistent with MI, addiction myths, principles consistent with MI and principles inconsistent with MI) were calculated by adding the number of correct answers
- Total scores were out of 19
- Cronbach’s α of 0.84 (Doran, Hohman, & Koutsenok, 2011)

MOTIVATIONAL INTERVIEWING CONFIDENCE SCALE (MISC)
- Measured a student’s confidence in understanding and performing MI
- Developed by a group of nurse researchers
- Administered prior to the educational intervention, after the lecture and role-playing exercise, and after the SP simulation
- 5-point Likert scale: 1 was “very confident” to 5 which was “very not confident.”
- Mean score
Outcome Measures

SKILLS CHECKLIST
- Evaluated the students' perception of their MI skills during the simulation
- Developed by student investigator
- Administered after simulation
- Yes/no questions

COURSE EVALUATION
- Assessed the quality and effectiveness of the MI curriculum and its components and their plans to use MI in future practice
- Developed by student investigator
- Administered after simulation
- 5-point Likert scale
  - 1 was "not at all useful" and 5 was "extremely useful"
  - Open ended questions
  - Debriefing

Results

Participant Characteristics
- 21 MI-kits (21 students)
  - Female - 80.9% (n=17)
  - Male - 19.1% (n=4)
- Average age: 31.57 years (SD ± 6.41; range of 25-48 years)
- Average nursing experience: 5.47 years
- Enrollent Status:
  - Full-time - 57.1% (n=12)
  - Part-time - 42.9% (n=9)
- Specialty Program:
  - Nurse Anesthetist program - 42.9% (n=9)
  - Adult/Gerontology Primary Care Nurse Practitioner - 33.3% (n=7)
  - Family Nurse Practitioner program - 23.8% (n=5)

Data Analysis
- Statistical Package for the Social Sciences (SPSS) software, version 24.0
- Descriptive Statistics
  - Demographic survey
  - Skills checklist
  - Course evaluation
- One way repeated measures ANOVA
  - Three points in time
    - MKAT
    - MISC
- p value of <.05 statistically significant
- Qualitative data from debriefing was analyzed using content analysis to identify themes
Motivational Interviewing Knowledge and Attitude Test (MIKAT)

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Baseline (T1)</th>
<th>Posttest1 (T2)</th>
<th>Posttest2 (T3)</th>
<th>Difference (T3-T1)</th>
<th>P value</th>
</tr>
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<tr>
<td>Identified Correctly</td>
<td>T1 vs. T3</td>
<td>T1 vs. T2</td>
<td>T2 vs. T3</td>
<td>T1 vs. T3</td>
<td>T1 vs. T2</td>
</tr>
<tr>
<td>Principles Inconsistent with MI</td>
<td>T1 vs. T3</td>
<td>T1 vs. T2</td>
<td>T2 vs. T3</td>
<td>T1 vs. T3</td>
<td>T1 vs. T2</td>
</tr>
<tr>
<td>Principles Consistent with MI</td>
<td>T1 vs. T3</td>
<td>T1 vs. T2</td>
<td>T2 vs. T3</td>
<td>T1 vs. T3</td>
<td>T1 vs. T2</td>
</tr>
<tr>
<td>MIKAT Total Score</td>
<td>T1 vs. T3</td>
<td>T1 vs. T2</td>
<td>T2 vs. T3</td>
<td>T1 vs. T3</td>
<td>T1 vs. T2</td>
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Skills Checklist

<table>
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<th>Skill</th>
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<th>T2</th>
<th>T3</th>
<th>P value</th>
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<tbody>
<tr>
<td>Ask Questions (Use)</td>
<td>16 (81.0%)</td>
<td>19 (90.5%)</td>
<td>19 (90.5%)</td>
<td>.206</td>
</tr>
<tr>
<td>Use Open-ended Questions</td>
<td>16 (81.0%)</td>
<td>19 (90.5%)</td>
<td>19 (90.5%)</td>
<td>.206</td>
</tr>
<tr>
<td>Use Elicitation (Use)</td>
<td>16 (81.0%)</td>
<td>19 (90.5%)</td>
<td>19 (90.5%)</td>
<td>.206</td>
</tr>
<tr>
<td>Use Affirmation (Use)</td>
<td>16 (81.0%)</td>
<td>19 (90.5%)</td>
<td>19 (90.5%)</td>
<td>.206</td>
</tr>
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Motivational Interviewing Confidence Scale

<table>
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<tr>
<th>Outcome</th>
<th>Baseline (T1)</th>
<th>Posttest1 (T2)</th>
<th>Posttest2 (T3)</th>
<th>Difference (T3-T1)</th>
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<tr>
<td>MI Confidence</td>
<td>T1 vs. T3</td>
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<td>MI Confidence</td>
<td>T1 vs. T3</td>
<td>T1 vs. T2</td>
<td>T2 vs. T3</td>
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<tr>
<td>MI Confidence</td>
<td>T1 vs. T3</td>
<td>T1 vs. T2</td>
<td>T2 vs. T3</td>
<td>T1 vs. T3</td>
<td>T1 vs. T2</td>
</tr>
</tbody>
</table>

Course Evaluation and Debriefing Sessions

- 71.4% (n=15) rated the overall course as “good” and “excellent”
- Mean scores for individual components of the learning:
  - SP: 4.10 (SD=0.54)
  - MIN/YouTube videos: 3.90 (SD=1.07)
  - Didactic lectures: 3.48 (SD=1.13)
- 76.2% (n=16) would “probably” and “definitely” use MI in practice.
- 23.8% (n=5) would “probably” and “definitely” use MI in practice.
- 50.0% (n=10) “agreed” and “strongly agreed” that the course helped them to learn about MI skills and talking to clients about behavior change.
- 85.7% (n=18) “agreed” and “strongly agreed” that the simulation was an overall valuable learning experience. 14.3% (n=3) were undecided.
Table 5. Qualitative Themes and Student Comment Exemplars

**Course Evaluation and Debriefing Sessions**

<table>
<thead>
<tr>
<th>Theme</th>
<th>Description</th>
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| **Knowledge and Attitudes** | - Identification of MI consistent principles improved significantly from baseline to the second post-test, but addition myth scores, identification of principles inconsistent with MI, and MIKAT total scores did not indicate training effects.  
| - Didactic lectures focused largely on the principles and skills consistent with MI opposed to myths of addiction.  
| - Students spent more time studying MI skills because they were required for the role-playing and SP simulation.  
| - MI attitudes improved but were not statistically significant.  
| - Not surprising since attitudes are more difficult to change than knowledge.  
| - Individuals process new information in biased ways to reinforce their own attitudes (Kemmbach et al., 2012).  
| - Compared with previous studies in medical students and residents:  
|   - Using self-designed multiple choice tests (Bell & Cole, 2008; Martino et al., 2007; Postle et al., 2006; Spallen, et al., 2003)  
|   - Edwards et al. (2015) utilized the MIKAT and found that scores increased significantly from pretest to posttest and sustained at the three month and six month follow ups  
|   - Longer training with more simulated patient encounters  
|   - Facilitated by three psychologists and a counselor |

| **Skills** | - Students report using most MI skills during SP simulation.  
| - Use of skills can be attributed to the structure of the training with a SP simulation.  
| - Learning by doing facilitates skill acquisition.  
| - No guarantee for opportunity to practice skills learned in lecture in clinical rotations (Fernbach, Williams, & Zhang, 2012).  
| - SP simulations bridge the gap by providing practice in a risk-free environment.  
| - Compared with previous studies in medical students and residents (Childers et al., 2012; Daeppen et al., 2012; Martino et al., 2007; Oanh et al., 2005; White et al., 2007).  
| - Open questions, summarizing, and affirmations more often and closed questions, directing and confronting less often.  
| - Significant increase in open questions and MI consistent strategies and decrease in closed questions and MI roadblocks. |

| **Discussion** | - Limited by a post test only design & self-designed evaluation tool.  
| - Studies used a pattern pattern design and reliable and valid tests to assess skill deficits, such as the MITI and MIKAT.  
| - Difficult to determine a change in skills after training.  
| - Objective assessment of skills before and after the intervention would be needed in order to quantify the conclusions that students skills improved from the intervention. |
Confidence

- Statistically significant improvement in MI confidence over three points in time.
- Improvements can be attributed to the structure of the training with SP simulation.
- Confidence increases with skill acquisition and clinical experiences (Hecimovich & Volet, 2012).
- The opportunity to practice new skills with an SP in a controlled setting without risking patient safety reduces anxiety and encourages autonomy.
- Consistent with previous studies with medical students (Bell & Cole, 2008; Martino et al., 2007; White, Glazewood, & Mounsey, 2007).
- Martino et al. (2007) and Edwards et al. (2015) found that the increase in confidence sustained at follow up at one month and three months respectively.
- Creates an argument that the MI training may leave sustainable effects on confidence.

Course Evaluation

- Responses to checklist, open-ended questions, and debriefing were favorable, and many plan to use in future practice.
- Can be attributed to the structure of the training:
  - Increased awareness and new skills learned
  - “The interview portion gave me the opportunity to practice the skills and reintroduce what was learned in class.”
  - SP rated as the most useful component
  - “The MI simulation was extremely helpful in ‘putting it all together’ in clinical practice.”
- Consistent with previous studies in medical students and residents (Bell & Cole, 2007; Childers et al., 2012; Martino et al., 2007; Opheim et al., 2009; White et al., 2007).
- Found SP portion as the most informative component (Childers et al., 2012).
- Plan to use in future practice (Martino et al., 2007).
- Suggest that an MI training is valued by students and would be welcomed into the curriculum.

Strengths

- Repeated measures pretest posttest design
- Debriefing session
- Holistic picture
- Feedback for future
- No high stakes grading
- Fidelity

Limitations

- Limited generalizability
- Nonexperimental design with no control group or randomization
- Small sample size
- Convenience sample
- Using SPs instead of actual patients
- Student volunteers
- Time constraints
- Self-designed measurement tools
- Response rate bias
Conclusion
• One of the few studies to evaluate MI training in DNP students
• Results:
  » Improvement in DNP confidence that continued to increase after the addition of a SP simulation
  » Improvement in knowledge about MI consistent principles, but not in other areas of knowledge
  » Students’ use of MI skills in a SP simulation
• More research is needed to determine if a brief MI educational training with a SP simulation can be successfully integrated into a DNP curriculum with favorable results

Conclusion
• Despite results, there is some argument for adding an MI training to DNP curricula
• As the demand for APN increases, the addition of an MI educational intervention in a DNP curriculum could help address the growing problem of substance abuse
• Nurse Practitioner Statistics
  » About 2/3 of Americans see an APN (American Association of Nurse Practitioners [AANP], 2017)
  » Expected to reach 244,000 by 2025 (AANP, 2017)
  » 89% of NPs are prepared in primary care programs (AANP, 2017)
  » Aging baby boomers and the Affordable Care Act will bring more patients into the health care system, specifically primary care offices (AANP, 2017)
  » Primary care providers are often the first to recognize patients with substance abuse
• The addition of an MI training would teach DNP students evidenced-based skills and improve confidence to enhance health care delivery, prepare them to effectively encourage behavior change, and ultimately improve nursing practice and patient outcomes.

Future Implications
• Limitations identified within this study helped to recognize areas for improvement and can make future investigators aware of potential problems
• Future studies
  » Objective assessment of skills
  » More time devoted to training
  » Control groups
  » Sufficient sample sizes

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Questions and Comments
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