5-2019

Effectiveness of Simulation in Addressing Stigma

Sundeep Kaur Varaich

UNIVERSITY OF NORTHERN COLORADO

Greeley, Colorado

The Graduate School

EFFECTIVENESS OF SIMULATION IN ADDRESSING STIGMA

A Capstone Submitted in Partial Fulfillment
of the Requirements of the Degree of
Doctor of Philosophy

Sundeep Kaur Varaich

College of Natural and Health Sciences
School of Nursing
Nursing Education

May 2019

This Capstone by: Sundeep Kaur Varaich

Entitled: *Effectiveness of Simulation in Addressing Stigma*

has been approved as meeting the requirement for the Degree of Doctor of Philosophy in College of Natural and Health Sciences in School of Nursing, Program of Nursing Education

Accepted by the Doctoral Committee

_____
Jeannette McNeil, D.Ph., CNE, ANEF, Research Advisor

_____
Lory Clukey, Ph.D., Psy.D., RN, CNS, Committee Member

_____
Vicki Wilson, Ph.D., RN, Committee Member

_____
Michelle Athanasiou, Ph.D., Faculty Member

Accepted by the Graduate School

_____
Linda L. Black, Ed.D.
Associate Provost and Dean
Graduate School and International Admissions
Research and Sponsored Projects

ABSTRACT

Varaich, Sundeep Kaur. *Effectiveness of Simulation in Addressing Stigma*. Published Doctor of Philosophy, University of Northern Colorado, 2019.

Mental health stigma hinders quality nursing care. The aim of this quasi-experimental study was to test if simulation was effective for addressing stigma in nursing education and evaluating student attitudes towards psychiatric conditions. A sample of eight-nine undergraduate nursing students were assigned to a control or treatment group and participated in either a chronic health challenge scenario or a mental health scenario to test the effectiveness of using a mental health simulation to address stigmatizing attitudes. Day's Mental Illness Stigma Scale was used as the data collection tool for the post-test to measure students' stigmatizing perceptions in relation to their assigned scenario. This scale was completed by the students immediately after the simulation and approximately three months after participating in the simulation scenario to evaluate change in perceptions. Analysis of mean scores revealed that students participating in the mental health scenario demonstrated more stigmatizing attitudes overall except related to the subscale for anxiety toward mental illness, for which the control group showed more stigmatizing attitudes. These findings indicate a need for further research into the use of simulation as an educational approach and the possibility of modifying this approach for effectively addressing mental health stigma.

Keywords: stigma, mental health, simulation, nursing education, student perceptions of mental illness.

ACKNOWLEDGEMENTS

This dissertation has been a challenging process yet rewarding at the same time. In completing my dissertation, I have learned a lot about myself and developed as a researcher. I have also enhanced my understanding of mental health and the experience of individuals with mental health challenges, as well as the individuals who will be providing care for them in their future nursing practice. I could not have accomplished this alone and am thankful to the individuals who help me along the way.

I am grateful to the students and faculty who participated in this study and made this research possible. Harjit Dhesi, Nikki Purewal, and Beant Sindhar were the faculty members who were part of the research process and running the simulations. They provided a very valuable contribution and I could not have completed this study without their participation.

Special thanks to my committee, including Dr. Lory Clukey, Dr. Vicki Wilson, Dr. Michelle Athanasiou, and my research chair, Dr. Jeanette McNeill for your ongoing support during this research and writing process. Dr. McNeill, I cannot thank you enough for your ongoing support and helping me navigate through the many hurdles I faced and, with your help, overcame. I am also thankful to my editor, Judieth Hillman, for helping me bring it all together into a finished paper.

Finally, I would like to thank my family for their ongoing support and encouragement. They have been with me throughout my studies and my research process

and have made sacrifices to make this possible. I would like to dedicate this paper to them and to my late father, who left us too soon and I know is watching over me with pride today. I would also like to dedicate it to my children, who will hopefully grow up in a progressive world that is aware and informed of stigma and motivated for change.

TABLE OF CONTENTS

CHAPTER

III. continued

APPENDICES

LIST OF TABLES

CHAPTER I

INTRODUCTION

Mental health stigma can destructively impact the quality of nursing care. To promote quality care for patients experiencing mental illness, it is crucial to address stigmatizing attitudes in nursing students to promote nondiscriminatory nursing practice. Applying innovative teaching strategies may be a solution. Examining the use of simulation technology in addressing stigma amongst undergraduate nursing students will explore the effectiveness of this teaching strategy.

Background of Problem

Stigma is not a new item of concern. The Americans with Disabilities Act was enacted in 1990 to decrease stigma against people with mental and physical disabilities and promote inclusion in society (Carter, Satcher, & Coelho, 2013). The passing of this act indicates that stigma is clearly an issue that needs to be addressed, especially mental health stigma. This is especially true for the profession of nursing, as nurses work closely with stigmatized populations. However, the literature suggests that stigma continues to exist at multiple levels in nursing.

Statement of Problem

Nurses develop stigmatizing beliefs and attitudes at an early stage. Despite the increased prevalence of mental health conditions in society, mental health content and exposure is limited in the undergraduate nursing curriculum in Canada (Tognazzini, Davis, & Kean, 2008). Nurse educators need to promote quality in care and practice

through curriculum reform that reduces the theory-practice gap. To provide quality nursing care “nurses need to educate themselves about the facts and myths of mental illness and be aware of the words and language that are used when talking about people who are seeking help” (Tognazzini et al., 2008, p. 32). It is, therefore, important for nurse educators to address these issues regarding stigma and mental illness prior to students entering the profession. As simulation technology becomes more significant in nursing education, the usefulness of simulation technology in addressing stigmatizing attitudes needs to be explored.

Study Purpose

The purpose of this study was to compare the effectiveness of using simulation to address the issue of stigma and psychiatric mental illness. This study aimed to: (a) test the effectiveness of the simulation for addressing stigma in nursing education and (b) evaluate student attitudes towards psychiatric illness post-exposure to the simulation.

Research Questions

Q1 What is the relative effectiveness of using simulation to address stigma in nursing education regarding ability to change stigmatizing beliefs and attitudes?

H1 Students taking part in the simulation experience about mental illness will demonstrate a change in attitude toward a stigmatizing condition and become more aware of the patient experience of stigma.

H01 Students taking part in the simulation lab will not demonstrate a change in attitude and will not become more aware of the experience of stigma.

Significance of Study

Literature suggests that stigmatizing attitudes and beliefs can be tackled through the implementation of teaching methods that address stigmatizing beliefs. Addressing stigma in nursing education involves facilitating the development of empathy by applying

innovative teaching strategies (Webster, 2009). Aside from lobbying for more formal mental health content, incorporating self-reflection and increasing exposure to clients with mental health challenges (Tognazzini et al., 2008), using technological innovation, specifically simulation technology, may be a solution (Patterson & Hulton, 2012). If found to be successful, teaching approaches can be revised to incorporate simulation exercises into the mental health content of current nursing curriculum.

Definition of Terms

Stigma. An attribute that discredits an individual and differentiates and devalues the individual from others (Major& O'Brien, 2005). Golberstein, Eisenberg, and Gollust (2008) define stigma as "the extent to which the general public negatively stereotypes and discriminates against a stigmatized group" (p. 392). According to Major and O`Brien, (2005), stigma is not an individual experience; it is a social construction and concerned with social identity, as stigma is "a label attached by society" (p. 395). In the reviewed literature, other common themes that were associated with stigma included isolation, self-perception, embarrassment or shame, anxiety, and depression.

*Simulation***.** In nursing education, simulation is a form of an alternate clinical experience that exposes students to experiential learning by using technological or non-technological strategies (Patterson & Hulton, 2012). In the **prebriefing** stage of simulation, students are provided an opportunity to discuss the topic and focus of the simulation. The simulation is an enactment of a life-like scenario followed by a **debriefing** in which students reflect on their feelings and thoughts about the experience (Hofer, Luken, & Nerud, 2012).

Conceptual Description of Stigma

Sociologically, stigma is defined as "a social process, experienced or anticipated, characterized by exclusion, rejection, blame or devaluation that results from experience, perception or reasonable anticipation of an adverse social judgement about a person or group" (Scambler, 2009, p. 441). The Mental Health Commission of Canada defines stigma as "a complex social process that marginalizes and disenfranchises people who have a mental illness and their family members" (Langille, 2014, p. 35). The general public appears to be aware of what stigma is as well, as "when the Centre for Addiction and Mental Health asked Canadians to describe stigma, the responses included phrases like 'judgement based on one aspect of a person's life', 'life-lasting labels,' 'embarrassment and shame' and something you want to hide'" (Tognazzini et al., , 2008, p. 30).

Stigma is a negatively viewed concept, as it is defined as being a negative perception of an individual or group based on negative stereotypes that result in the stigmatized individual group being isolated and discriminated against. In order to explore, decipher, and gain an understanding of the concept of stigma, the process of concept analysis, as outlined by Walker and Avant (2011) was used. In examining research articles on stigma, the defining attributes that were uncovered included: shame, embarrassment, negative self-perception, labeling, fear, anxiety, depression, isolation, and negative stereotypes. These attributes also serve as empirical referents for the concept of stigma, as the existence of these attributes is indicative of stigma and feeling stigmatized. Some of the antecedents that were identified as being existent for stigma to occur included: social unacceptance, negative perception of the problem or issue faced by

the affected individual, blame, loss of control, fear, and general social discrimination of individuals with undesirable attributes (Carter et al., 2013; Creel & Tillman, 2011; Delaney, 2012; Golberstein et al., 2008; Happell et al., 2014; Langille, 2014; Major & O'Brien, 2005; Patterson & Hulton, 2012; Scambler, 2009; Sideras, McKenzie, Noone, Dieckmann, & Allen, 2015; Tognazzini et al., 2008; Webster, 2009).

Assumptions, Limitations, and Delimitations

Multiple ethical considerations were taken into account for this study. Informed consent was needed to ensure that participants were able to comprehend the information required for study participation and have freedom in choosing to participate. A guarantee of confidentiality was also used to avoid disclosure of personal information, such as feelings of failure or lack of confidence, and personal identifiers. This was useful in avoiding discrimination against research participants based on their decision to participate in the study, although risk was minimal. Following the debriefing, study participants had the opportunity to ask questions regarding the study and voice concerns. An expedited review process was applicable for this study due to the minimal risk posed, as the study involved an academic appraisal focus. Protection of human subjects and confidentiality, including handling of data, will be discussed in more detail in the research design section of this paper.

Theoretical Framework

After reviewing numerous nursing theories and models, Levine's conservation model was found to be the most suitable for examining the concept of stigma. As this dissertation research was based on students' perceptions of stigma in nursing care, this model was deemed appropriate for providing a framework for nursing care that

incorporated key ideas associated with stigma, such as personal and social integrity, interaction, and environment. The major concepts of this model are adaptation, conservation, and wholeness (Levine, 1996), and these concepts were all considered relevant in researching stigma. The principles of conservation include energy conservation, and structural, personal, and social integrity. Adaptation addresses change and wholeness which describes the holistic nature of human beings (Schaefer, 2006).

Levine (1996) stated that "a person is most vulnerable when confronted with a loss of independence – an event that occurs every time a person becomes a patient" (p. 40). Levine (1996) also stated that "awareness of being intact and whole is a necessary portion of self-identity" (p. 40). These assumptions were valuable in exploring the experience of stigma, as they were inclusive of factors that influence stigma and stigmatizing behaviors, as stigma is an attribute that discredits an individual and differentiates and devalues the individual from others (Major & O'Brien, 2005). Furthermore, an individual is defined by the environment that he or she is situated in and social integrity is based on this environment and interactions as well. According to Major and O`Brien, (2005), stigma is not an individual experience; it is a social construction and concerned with social identity, as stigma is "a label attached by society" (p. 395). Stigmatization in health care can be explored by applying this model as well, as, in being hospitalized or becoming a patient, an individual is situated in the health care system, which Levine (1996) feels is a large social network, as it encompasses rules and acceptable behaviors and norms.

Levine's Conservation Model focusses heavily on integrity, specifically structural, personal, and social integrity (Schaefer, 2006). The model was, therefore,

suitable for studies that explore sense of being. Structural integrity is threatened by stigmatizing conditions. For example, a person with HIV will endure physiological changes that are challenging and debilitating. Personal integrity is threatened when a person feels isolated or marginalized and can have debilitating effects. The impact on social integrity is also significant in investigating the phenomenon of stigma, as an individual's social interactions become negative through relationship and role strain and negative societal perceptions in the experience of stigma. The model can be further applied to explore interventions; such as changes in approaches to reducing stigma. For example, simulation scenarios can be designed to address the areas of personal, social, and structural integrity and these areas can be further discussed in debriefing exercises.

In general, studies using the conservation model support assessment of organismic responses, or changes in behavior that allow individuals to adapt to their environment and maintain their integrity (Schaefer, 2006). The experience of stigma fits in well with this notion. Also, Levine identified nurses are instrumental in providing nursing care when individuals are unable to adapt to stimuli. This inability to adapt is characteristic of stigmatizing conditions. Stigma compromises personal integrity and the patient's ability to maintain wholeness. The individual is a holistic being with individual identity and self-worth. The model can be used to explore challenges to the internal and external environment of the individual. An individual's stigmatizing condition, such as depression, can reduce energy resources and cause disruption to the internal environment mentioned in Levine's model. The external environment is more noticeably interrupted when relationships and social interactions are impacted by the stigmatizing condition.

Conclusion

Mental health stigma is prevalent in modern nursing practice and is an issue that clearly needs to be addressed. Devaluing patients with mental illness is a result of stigmatizing attitudes and behaviors (Langille, 2014). Addressing these attitudes in nursing students in developing approaches for promoting quality nursing practice is key in reducing stigmatization. The intent of this research study was to explore the effectiveness of simulation technology as an innovative teaching strategy for addressing stigma.

CHAPTER II

LITERATURE REVIEW

A literature review of nursing studies identified stigma as being an issue of concern in the discipline of nursing. Research regarding stigma addressed in the literature included the impact on patient care and outcomes, presence of stigmatizing behaviors and attitudes in nurses and nursing students, and lack of focus on stigma and mental health in nursing and nursing education.

Search Description

A literature search using various search engines, primarily CINAHL, Sage, Wiley Online Library, and Elsevier Science Direct, was conducted to examine articles related to stigma in nursing. The terms "stigma in nursing," "mental health stigma," and "simulation for addressing stigma" yielded more relevant results. Articles were selected based on the usefulness of examining the lived experience of stigma and the use of simulation and other educational strategies in addressing stigma in nursing education. A total of thirteen articles were found to be relevant for the proposed research study. Four of these articles were based on research studies that provided substantial results supporting the need for further research in this area (Happell et al., 2014; Patterson & Hulton, 2012; Webster, 2009).

Review of Research

Various research articles were reviewed in examining the issue of stigma in nursing and nursing education. Studies by Scambler (2009) and Major and O'Brien

(2005) were particularly useful in exploring the concept of stigma from a broad sociological perspective. Major and O'Brien (2005) conducted a thorough literature review of previous studies on the concept and Scambler (2009) also did the same, with more focus on health-related stigma. Both articles were instrumental in defining stigma and describing the experience of stigma as being discriminatory. Major and O'Brien (2005) highlighted the social construction of stigma described by scholars in previous works. The mechanisms of stigmatization outlined by the authors included negative treatment and discrimination, expectancy confirmation processes, automatic stereotype activation-behavior, and threat of identity. The authors further explored stigma at a personal level, focusing on individual characteristics that influence how stigma is perceived. These include stigma sensitivity, group identification, domain identification, and goals and motives.

Scambler (2009) discussed the contemporary sociology of health-related stigma, but also explored historical perspectives. According to Scambler (2009), stigma "has a long ancestry and has from the earliest times been associated with deviations from the 'normal', including, in various times and places, deviations from normative prescriptions of acceptable states of being for self and others" (p. 441). Scambler (2009) refers to stigma as being a personal tragedy and a label according to previous literature on the phenomenon. These accounts are viewed as being sociologically apathetic, as they have discounted the social structure of stigma. Scambler (2009) emphasizes that stigma reduction programs are often individualistic and an increased emphasis on structured social relations involving stigma is needed. Scambler (2009) states "enacted stigma and

deviance can elide into government, and felt stigma and deviance into governmentality" (p. 453) in discussing the sociological aspect of stigma.

Stigma and Nursing

Langille (2014) further discussed the prevalence of stigma in health care settings as being an issue of concern by highlighting the discriminatory behaviors exhibited by health professionals, such as diagnostic overshadowing and marginalization, and discussed the potential of education in reducing stigmatization from a theoretical perspective. The need for recovery-oriented contact-based education and skills training was emphasized as being influential in reducing stigma, such as exposure to the lived experience via videos and role playing. Tognazzini et al. (2008) also provide an overview of the issue of stigma in health care and discuss the magnitude of this issue from the perspective of the Canadian Federation of Mental Health Nurses education committee. The negativity of stigma was discussed, as well as the stigma that individuals encounter when seeking help from health professionals. Lack of knowledge and skills is stated as being a barrier in providing effective intervention for mental illness.

Research studies conducted on reducing stigmatizing attitudes and behaviors in nursing education were useful in determining the need for further work in this area and establishing a foundation for the proposed research. Patterson and Hulton (2012) conducted a study in which a convenience sample of 43 undergraduate nursing students took part in a poverty simulation experience. In this mixed-methods study, student attitudes were measured using an adapted form of the Attitudes about Poverty and Poor Populations Scale (APPPS) and students demonstrated significant change ($p = < 02$), especially in scores on the stigma of poverty.

The impact of simulation on student attitudes toward schizophrenia was measured in a quasi-experimental study conducted by Sideras et al. (2015). This study was conducted by comparing 145 students from four schools of nursing by comparing a treatment group that took part in a simulation activity based on schizophrenia, along with traditional classroom education and practicum experience, with a control group that did not take part in the simulation. The treatment group also took part in a three-part scenario using a standardized patient. Four tools were used to measure changes in students' attitudes, level of knowledge, behavior, and empathy. The most significant finding of the study was that the treatment group demonstrated fewer negative perceptions of schizophrenia than the control group. A study by Happell et al. (2014) also shared similarities with the proposed study, as it involved exposing students to mental health content through a lived experience-led course in an undergraduate nursing program. Specifically, a group of 70 students in a traditional mental health course were compared against 131 students in an experience-based course, which was led by a faculty member with lived experience of mental illness, for attitudes towards mental health and mental health nursing. It was found that the experience-based course was a more positive experience as per student self-reports.

Webster (2009) used an alternate approach of having groups of students (29 students in total) spend a day with client with a chronic mental illness. The students kept a reflective journal of their experience and used that reflection to portray the client's experience through use of creative media. The students became aware of the causes of their initial prejudices, such as lack of knowledge, and this increased self-awareness was found to increase empathy in the students.

Despite the increased focus on addressing stigma in nursing practice in recent years, stigma remains an identified, yet invisible, issue. It is known that stigma hinders recovery because it oppresses the human spirit and has a negative impact on the person-centered approach of nursing practice. Clients seeking professional help for mental health conditions are often treated differently than those seeking help for physical conditions, as societal attitudes can be exhibited by nurses and other health professionals when assessing patient needs (Tognazzini et al., 2008). According to the Mental Health Commission of Canada, stigmatizing behaviors by health professionals include "diagnostic overshadowing (wrongly attributing unrelated physical symptoms to mental illness), prognostic negativity (pessimism about chances for recovery) and marginalization (unwillingness to treat psychiatric symptoms in a medical setting)" (Langille, 2014, p. 36). Langille (2014) did not, however, document the occurrence of these behaviors.

Clearly, there is a need to promote a more recovery-oriented compassionate culture in nursing practice, especially mental health nursing practice. Many health professionals are, however, not aware that they have ingrained stigmatizing attitudes and may even propagate stigma. Furthermore, health professionals may not be aware of the presence of stigma in their own professional identity. For example, psychiatric nursing is considered to be an unpopular area of nursing practice due to stigma by association. (Delaney, 2012). Stigma towards mental health needs to be addressed not only for enhancing practice standards, but also for the equitable recruitment of students into mental health nursing practice. There is a need for nurses who can work with clients with mental illness, and research suggests that this can be achieved if stigmatizing attitudes

toward mental health and mental health nursing are addressed early in undergraduate nursing education (Happell et al., 2014).

Stigmatizing attitudes may also be evident in nursing students prior to the start of professional practice. Many students may have certain attitudes toward mental health conditions due to a lack of knowledge or knowledge based on false perceptions, such as those portrayed by the media. For example, after interviewing students, Webster (2009) reported that undergraduate nursing students' expectations of a psychiatric clinical placement were based on discomfort and fear, as well as stigma resulting from media portrayal of psychiatric patients. In a scan conducted by the Canadian Federation of Mental Health Nurses, it was found that mental health nursing content was underrepresented in undergraduate nursing curriculum across the country. It was found that some schools did not require a mental health clinical placement or offer a mental health nursing course. Instead, it was found that mental health content tended to be offered in bits and pieces throughout the curriculum (Tognazzini et al., 2008). It is questionable if nursing education is addressing the issue of the lack of curricular content on mental health stigma or trying to ignore it.

Addressing Stigma Through Simulation

An innovative teaching strategy that has gained a lot of momentum in recent years is simulation. Although simulation has been researched extensively for use in case study type learning, it has not been well publicized for its use in teaching community-based health curriculum (Patterson & Hulton, 2012). Simulation of real-life practice using mannequins and dolls dates back to over a hundred years and computerized mannequins have been used in nursing schools since the late 1990s and is now used in a variety of

practice settings as well. Nursing schools are increasingly replacing clinical hours with simulation practice hours, particularly in areas with limited practice placements (Nelson, 2016).

According to Lavoie and Clarke (2017),"in its most general sense, simulation is the replication of real-world scenarios, allowing trainees to perform skills and learn actively" (p. 16). Simulation is a unique learning strategy, as it allows for the replication of realistic, sometimes rare, clinical events. Students can practice important skills, including communication, for dealing with these events in a safe environment. Although it is still unclear in research as to how simulation-based learning transfers to real life practice, this form of learning is becoming increasingly popular in nursing education (Lavoie & Clarke, 2017).

Although simulation is seen as being a viable alternative for practice areas with limited placements, such as obstetrics and pediatrics (Nelson, 2016), it may also be beneficial for nursing areas in which communication skills are vital, such as community and mental health nursing. As this type of learning allows students to explore the lived experience from a phenomenological perspective, simulation can provide students with a learning experience that allows for education, awareness, and reflection on stigmatizing attitudes towards vulnerable populations. The study by Patterson and Hulton (2012), previously described, found that the use of a simulation designed to address attitudes towards poverty and the poor reduced nursing students' stigmatizing attitudes, resulting in statistically significant changes when measured on the Attitudes about Poverty and Poor Populations Scale.

Simulation has been used as an educational strategy for changing student attitudes in other health professional programs as well. For example, simulation was found to improve the attitudes of pharmacy students towards poverty in a study conducted by Clarke, Sedlacek, and Watson (2016). In this study, pharmacy students completed the Attitude toward Poverty (ATP) Short Form Scale prior to and after a simulation exercise on poverty, producing significant change in student attitudes. The researchers emphasized the use of careful planning and clear expectations to produce a simulation experience with positive outcomes. Simulation is also suggested as being a beneficial supplement for didactic and experiential curriculum for changing student attitudes.

A unique advantage that simulation-based learning offers is the ability of simulation to fill knowledge and experience gaps that traditional classroom and clinical education may not be able to do (Campbell, 2013). Whereas communication with clients and family members can take place in the clinical setting, communication in the simulation can be designed and implemented by faculty to cover specific theoretical concepts. Faculty also can observe interactions more closely than they would in the clinical setting and use the debriefing session following the simulation for reflection. The nature of simulation activities allows for the incorporation of methods for reducing stigma and increased exposure and self-reflection, in a unique manner that is learner-centered and based on measurable goals and objectives. The effectiveness of simulation is strengthened by following the simulation with a review and reflection on the experience, referred to as debriefing in simulation learning (Lavoie & Clarke, 2017). As simulation technology has become widely available in nursing schools, this approach is also realistic and feasible.

Summary of Reviewed Literature

The stigmatization of mental health conditions bears negative consequences for those experiencing mental illness. Addressing this stigma is essential for nurses in promoting environments conducive for optimal health and healing, as stigma hinders recovery and promotes oppression. Addressing stigma in the undergraduate nursing curriculum can address these attitudes prior to students forming their professional practice. Research studies have demonstrated the proven effectiveness of introducing students to the actual or simulated lived experience of stigma in reducing stigmatizing attitudes. Simulation based learning has proven to be a significant learning strategy for enhancing skill acquisition and providing students with an opportunity to practice patient communication skills in a controlled environment. This form of learning may be a beneficial addition to the nursing curriculum in changing students' stigmatizing attitudes and beliefs if applied appropriately.

CHAPTER III

METHODOLOGY

Research clearly indicates that experiential learning experiences provide a promising solution for reducing stigmatizing attitudes amongst students in the undergraduate nursing curriculum. This research study involved exposing an experimental group of undergraduate nursing students to the experience of a stigmatizing mental health challenge and completing Day's Mental Illness Stigma Scale (see Appendix A) to measure stigmatizing attitudes. This was done through their participation in a simulation scenario. The treatment group participated in a mental health scenario (see Appendix B) and the control group participated in a medical scenario (see Appendix C) based on a chronic health challenge. The impact of the scenario on changing students' attitudes was measured using Day's Mental Illness Stigma Scale immediately after taking part in the simulation scenario and three months after.

Research Design

A treatment group of undergraduate nursing students at Kwantlen Polytechnic University participated in an adapted version of a simulation scenario (see Appendix B), which had been permitted for use in this research study, based on bipolar disorder designed at the University of South Dakota (Hofer et al., 2012). A control group participated in a simulation scenario based on congestive heart failure (see Appendix C), also designed at the University of South Dakota (Johnson-Anderson, Dreke, & Ray,

2012). Faculty members from the participating institution obtained consent prior to the simulation. During the simulation, students started the exercise by preparing for the scenario by reviewing appropriate preparation material and participating in a prebriefing discussion on their initial thoughts and feelings. The students then decided their roles for the scenario and participated in a high-fidelity simulation based on the script for the scenario.

During the simulation, a mannequin with a voice-over, performed by the researcher or an individual trained for the simulation, from the control room, was used to portray an individual with bipolar disorder, a stigmatizing mental health challenge, and students enacted roles according to the scenario. These included the roles of the patient, primary nurse, secondary nurse, and the patient's family members (Hofer et al., 2012). The enactment was followed by a debriefing session, after which the students completed the scale. The debriefing and administration of the scale was performed by a faculty member other than the researcher. The students also completed the scale once again after a three-month interval to measure change in attitudes once more.

As this study aimed to test cause and effect, a quasi-experimental study design was deemed appropriate. In a quasi-experimental study, the differences between two groups are compared after an intervention has been introduced and the change is measured to evaluate effectiveness. Specifically, a posttest-posttest method provided a comprehensive assessment of change in student attitude post-intervention. This method was considered more suitable than a posttest only design as the learners' attitudes after an interval of time may have changed. Using a posttest-posttest method, with a follow-up posttest three months after the experimental intervention, provided more accurate results

and allowed for a comparison between the change in attitude immediately and three months after the simulation. The quasi-experimental design is similar to the experimental research design but does not use true randomization in assigning participants to groups (Polit & Beck, 2012).

Research Questions

The research question posed was: What is the effectiveness of using simulation to address stigma in nursing education regarding the ability to change stigmatizing beliefs and attitudes and create awareness of the experience of a stigmatizing condition? It was hypothesized that students taking part in the mental health simulation would demonstrate a change in attitude toward a stigmatizing condition and become more aware of the patient experience of stigma. The null hypothesis was that students taking part in the simulation would not demonstrate a change in attitude and would not become more aware of the experience of stigma.

Setting

The target population for this study was undergraduate nursing students in an undergraduate nursing program at a Canadian post-secondary institution. Because the study applied to students' attitudes towards mental illness, the target population was pre-licensure nursing students.

Participants

The accessible population was undergraduate nursing students in the traditional and accelerated Bachelor of Science in Nursing programs at Kwantlen Polytechnic University. It was intended that these students would take part in the study prior to completing their mental health placement in the program, although some students did end

up taking part in a mental health experience prior to completing the study (see Study Limitations). The accessible population was different from the target population because the content may have been perceived at a different level, depending on the student's previous experiences and educational background. The population of students differed as well. For example, the students in a traditional undergraduate program may have had different characteristics than students in an accelerated second-degree nursing program. Also, the level of exposure to mental illness may have vary depending on previous nursing practice placements (students may have received some mental health content in other placements if exposed to individuals with mental health challenges or had personal experience with mental health issues).

Sampling Procedure

Considering the nature of the study, stratified random sampling was used. Because the study was conducted on a particular student group at a particular institution, stratified random sampling was considered to be the most appropriate procedure. This form of sampling allowed the researcher to choose a specific subgroup, or specific semester groups, of students. It also allowed for more equality between the experimental and control groups in relation to age, gender, and prior education. Furthermore, this form of sampling allowed for more accuracy than random sampling, therefore a smaller sample size was used for the study, increasing feasibility and cost effectiveness (Polit & Beck, 2012).

As a post-secondary institution was selected for the study, information regarding the study was shared with the faculty at the school, including deans and program coordinators. Also, the study design was outlined for the faculty members, as they were

not all experts in using this research method. This information was communicated via email and in person to ensure that the study, including risks and benefits, were understood. Faculty members at Kwantlen Polytechnic University advertised the study and obtained consent forms from students. Once consent, including IRB approval from both institutions, had been obtained, faculty and students were informed again of contact information in case further questions arose regarding the study. The students were randomized and coded with a study number prior to the initiation of the experiment. Random assignment was used to attempt to assure equivalence between the control and experimental groups. Faculty members from the research setting were trained to administer Day's Mental Illness Stigma Scale (see Appendix A) and conduct pre-briefing and debriefing, whereas the simulation staff at the school were instructed to oversee the technical set-up of the simulation.

Sample Size and Rationale

A sample size of 128 students would have been ideal to produce a more significant result. This required 64 participants in the control group and 64 participants in the treatment group. Using this sample size would have allowed for a power 0.8 to detect a statistically significant mean difference ($p < .05$) of 1.0. This sample size was estimated through a two-sample t test power calculation, assuming the minimum mean difference was 1.0 for a moderate effect (Desai & Puyat, 2017). In comparison, a similar study utilized a sample size of 131 students (intervention group), and "a statistically-significant positive change in mental health nursing as a future career was observed "(t (130) = -2.74, P = 0.007 (95% CI: -1.10, -1.18), r = 0.23)" (Happell et al., 2014, p. 431). However, due to the limitations of the practice setting, a sample size of 89 students was used for

this study. According to Soper (2019), a sample of this size produced a power of 0.64. As an observed power between 0.5-0.8 is needed for a moderate effect (Thompson, 2012), this study sample was within the same range as the original power calculation.

Study Rigor

Randomization was used in assigning study participants to groups to promote equalization in groups by drawing a simple random sample from each group. Although randomization is often used in quasi-experimental studies, it does not guarantee that all groups will be equal in a study. It must be considered that, as learners come from various backgrounds, randomization will definitely be affected due to differences in learner competence and level of knowledge. This may have caused one group to demonstrate fewer stigmatizing attitudes than others in the posttest due to differences in ability and not solely as an effect of the intervention (Polit & Beck, 2012). For this reason, random assignment with consideration of the variables of age, gender, previous personal experience, and previous practice experience was used to maximize equivalency.

Another potential issue that was not possible to overcome was the possibility of the Hawthorne effect. Because the participants were aware that they are taking part in a study, they may have modelled their behavior accordingly (Polit & Beck, 2012). This was especially an issue in this study, as the participants most likely had the expectation that the simulation would have a positive impact on attitudes in the posttest. Because the causal hypothesis was predictable, the group may not have tried as hard on the test. They may have also felt less motivated to perform well as they may have preferred the simulation lab format of learning as opposed to traditional didactic activities.

Data Collection Plan

To evaluate student attitudes, Day's Mental Illness Stigma Scale (see Appendix A), adapted to include chronic illness, was used as a posttest and follow-up posttest for the study. With permission from the University of South Dakota, an adapted version of their department of nursing bipolar simulation scenario (see Appendix B) was implemented for the experimental group and a medical scenario (see Appendix C) was used for the control group. The bipolar simulation scenario was based on a young adult patient diagnosed with bipolar disorder admitted to a hospital unit due to manic behavior (Hofer et al., 2012). The medical scenario was based on an elderly female admitted with congestive heart failure (Johnson-Anderson et al., 2012). Both scenarios were designed to be conducted in a similar sequence utilizing student role-play (see Appendices B and C).

Following the simulation, each student group participated in a debriefing session facilitated by the faculty member facilitating the scenario, utilizing the debriefing questions proposed in the scenario. The students were then allowed another ten minutes to complete the questionnaire after the simulation to measure stigmatizing attitudes after the simulation. The students completed the scale once again three months after participating in the simulation. By having the students complete the scale for measurement of change, observer bias was intended to be eliminated, as well as subjectivity in evaluation (Campbell, 2013). The faculty conducting the simulation were informed regarding the scale. To avoid conflict for IRB approval, the researcher did not participate in the data collection process.

Ethical Concerns

There were multiple ethical considerations to be taken into account for this study. Informed consent was needed to ensure that participants were able to comprehend the information required for study participation and have freedom in choosing to participate. It was noted in the consent form that the students' grades or academic progress in the nursing program would not be influenced by participation in this study. A guarantee of confidentiality was also used to avoid disclosure of personal information, such as feelings of failure or lack of confidence, and personal identifiers. This was also useful in avoiding discrimination against research participants based on the results of the study, although risk was minimal. All questionnaires used in the study were coded. The faculty leading the debriefing were provided with a standardized script for the simulation scenarios to control for variation. After the debriefing, participants had an opportunity to voice concerns and ask questions regarding the study. An expedited review process was applicable for this study due to the minimal risk posed, as the study involved an academic appraisal focus.

Data Collection Tool

The selection of Day's Mental Illness Stigma Scale (see Appendix A) was based on the congruence of the scale with the Conservation Model (Schaefer, 2006). This Likert type scale measures stigma towards mental illness in strength and dimension and specifically measures "7 factors of attitudes toward people with mental illness: interpersonal anxiety, relationship disruption, poor hygiene, visibility, treatability, professional efficacy, and recovery" ranging from 1 (*strongly disagree*) to 7 (*strongly agree*; Day, Edgren, & Eshleman, 2007, p. 2191). The scale consists of 28 items asking

the participants to respond according to their level of agreement or disagreement of the items. The Conservation Model's focus on maintaining wholeness and promoting adaptation is reflected in this scale, as it measures the attitudes that compromise individual wholeness and adaptation, such as negative perceptions, anxiety, and distrust. According to Day et al. (2007), the Mental Illness Stigma Scale is a useful tool for identifying stigmatizing conditions, as well as the extent, conditions and who demonstrates stigmatizing behaviors.

Day's Mental Illness Stigma scale was developed in the field of social psychology for the purposes of identifying stigmatizing attitudes that exist in the general public and perceived stigmatizing attitudes by psychiatric patients, a stigmatized population. It is also a more recent tool that is based on an extensive examination of the literature on stigma and developed with the intention of providing a theoretically driven, current, measure of attitudes toward mental illness. The scale possesses universal applicability, as it can be used by diverse populations and for diverse groups. The conditions that the scale can be applied to are left blank on the scale to allow for this (Day et al., 2007).

In completing Day's Mental Illness Stigma Scale, participants are asked to rate statements on a scale of 1 to 7 (*completely disagree* to *completely agree*) depending on the level of agreement with the statement presented. These statements pertain to stigma related to mental health conditions, such as ability to form or maintain relationships with people with a stigmatizing condition. Attitudes towards the condition itself are also assessed by the statements related to treatability and recovery. Some of the items are reverse scored (Day et al., 2007).

According to Day et al. (2007), "in addition to measuring public attitudes toward individuals with mental illness, the Mental Illness Stigma scale may be used to identify which mental illnesses are stigmatizing, to what extent, under what conditions, and by whom" (p. 2194). Day's Mental Illness Stigma Scale was designed for assessing the attitudes of the general public. Previous scales were designed primarily for assessing the attitudes of mental health professionals.

In testing the scale, the sample of participants was chosen from undergraduate Introduction to Psychology course students at the University of Kansas, volunteers from a community college, psychiatric patients, and two church organizations. The statements used in Day's Mental Illness Stigma Scale reflect the present tense and the current attitudes of the user. As stated by Waltz, Strickland, and Lenz (2005), it is essential to determine the extent to which an instrument is concerned with short-term versus long-term conditions. The items in the scale refer to long-term situations, as they reflect imbedded beliefs and attitudes.

Various theoretical works were reviewed in the development of Day's Mental Illness Stigma Scale; however, the six dimensions identified in Jones et al.'s (1984) theory of stigma provide the main conceptual basis for this instrument. An in-depth factor analysis "revealed seven main attitude dimensions – interpersonal anxiety, relationship disruption, poor hygiene, visibility, treatability, professional efficacy, and recovery – which were measured with 28 items" (Day et al., 2007, p. 2195). These dimensions are dynamic, as the varying degrees of beliefs and attitudes are measured and are also subjective, as the degree depends on the perception of the user.

While other instruments and scales have been used to measure stigma in previous research, Day et al. (2007), felt these instruments had shortcomings and were developed to measure the attitudes and perceptions of mental health professionals and not the general public. Furthermore, these measures are outdated and not reflective of the current context in terms of treatments and ideologies. Day et al. (2007) also felt that "a valid measure of current attitudes toward mental illness must be theoretically driven and able to take account of severity and type of illness" (p. 2193).

Using Day's Mental Illness Stigma Scale, stigmatizing attitudes are measured using a Likert type scale based on theory on stigma. The extent to which the respondents agree or disagree with a statement is rated from one to seven. The measurement of one indicates complete disagreement and seven indicates complete agreement. This allows for measurement of the degree of stigmatizing attitudes and tests the hypothesis that peoples' attitudes vary in strength and dimension. As stated by Day et al. (2007), "visibility of mental illness can range from transparent to highly salient, depending on the type of illness, its severity, and treatment status" (p. 2193).

The scale was chosen as an evaluation tool for measuring stigma towards mental illness because it was developed to address the weaknesses of previously developed scales and it is a more recently developed tool (Day et al., 2007). According to Day et al. (2007), the scale captures the significant qualities of mental illness and people's attitudes towards it. Day's Mental Illness Stigma Scale has been tested in research on a total of 368 participants. Of these participants, 249 were students in the Introduction to Psychology course at the University of Kansas, 92 were volunteers from a community college and 27 were volunteers from two church organizations. The average age of the

participants was 24.84 years of age. The reliability for the anxiety (α = 0.9), relationship disruption (α = 0.84), hygiene (α = 0.83), visibility (α = 0.78), treatability (α = 0.71), professional efficacy (α = 0.86), and recovery (α = 0.75) factor items has been reported (Day et al., 2007). It is useful for more in-depth examination of the phenomenon of stigma, as "the hypothesis that people's attitudes vary both in their strength and dimension as a function of type of illness is tested" (Day et al., 2007, p. 2194).

The attitudes assessed in Day's Mental Illness Stigma Scale are significant for nursing practice, thus is a valuable resource for addressing stigma in nursing education and practice. Also, as the scale can be used for addressing any stigmatizing condition, it is a fairly universal tool. For example, it questions whether symptoms of a condition can be easily recognized and if the condition can be treated. It also addresses prejudices about stigmatizing conditions by asking questions about hygiene, visibility, and anxiety (refer to Appendix A).

As this instrument was developed by conducting an extensive literature review and is specifically based on the six dimensions of stigma identified by Jones et al. (1984), it is reflective of content validity. Furthermore, a factor analysis was conducted to reveal seven factors, including interpersonal anxiety, relationship disruption, poor hygiene, visibility, treatability, professional efficacy, and recovery (Day et al., 2007). According to Polit and Beck (2012), criterion-related validity, which refers to the relationship between an instrument and an external criterion, can be assessed using correlation coefficient. In the development of this instrument, analysis of variance was used and, "to determine relationships between the factor, a Pearson correlation analysis was conducted comparing mean factor scores across illness conditions" (Day et al., 2007, p. 2198). Concurrent

validity has, therefore, been established by comparing the data collected for the study with a similar study (Day et al., 2007).

Polit and Beck (2012) identify reliability as the ability of an instrument to produce reliable results. A method of determining reliability is the using a reliability coefficient in comparing the scores of the study groups, as is evident in this study. In order to address user perception as a threat to reliability, "separate ANOVAs within each illness condition on each of the seven factors were used to determine whether personal contact with someone with a mental illness predicts attitudes" (Day et al., 2007, p. 2200). The scale was validated across two studies as well. This instrument is, however, newly developed, so the test-retest reliability and, consequently, test-retest variability is negatively influenced by this factor. A more in-depth reliability assessment and review of internal consistency was needed, as it was not reported. This was conducted in the study, as the scale was administered three months after the experiment as well.

Data Analysis

According to Polit and Beck (2012), to analyze quantitative data, it is essential to organize the flow of tasks in phases. This includes the pre-analysis phase, preliminary assessments, principle analysis, and the interpretation of data. Once data had been gathered for this study, multivariate statistical analysis was applied to answer the questions hypothesized for the study.

Pre-Analysis and Preliminary Assessment of Data

In the first phase of data analysis, it was essential to review the collected data (Polit & Beck, 2012). This involved checking the completed scales for missing information, such as missed items, and ensuring that they were legible. As the treatment

and control groups had fairly similar characteristics, it will be feasible to omit the observations with missing data. Identification numbers were pre-assigned after receiving the demographic data and posttest and follow up responses were also coded to ensure confidentiality. Pre-coding was used to collect information on the study sample. The coded data included information regarding variables for the student groups, such as age, experience with mental illness, and gender. The code numbers from the demographic questionnaires were matched up with the posttests and follow up questionnaires. As part of the pre-analysis of data, it was also essential to assess the data for quality and bias. For example, students with previous experience with stigmatizing conditions may have demonstrated less change in attitude than those with less experience, creating a ceiling effect. Although the data could not be transformed to account for the difference, as the primary comparison was between mental health simulation and medical simulation groups, this difference was accounted for in the discussion of study results. In addition, analysis of covariance was needed to assess selection bias considering that a stratified random sample had been chosen for the study (Polit & Beck, 2012).

Substantive Data Analysis

Once the data had been cleaned and assessed in the preliminary phase of analysis, a more substantive data analysis was performed. Prior to analyzing the data, a table shell was developed to envision how the treatment group and the control group would be compared in terms of difference in scores. A substantive analysis was then performed through the use of descriptive analysis and statistical analysis. The descriptive analysis described the correlations among the variables and included a description of the sample population. The means and standard deviations for each item of the rubric were included.

A statistical analysis using paired samples t tests and an analysis of covariance (ANCOVA) was conducted to compare the differences between the scores and respondent characteristics. The posttests and follow up questionnaires were coded for participant confidentiality. Paired samples t tests and repeated measures ANCOVA were utilized to compare baseline and follow-up scores and the residuals from the ANCOVA were inspected to check for a possible violation of the normality assumption (Polit & Beck, 2012).

Conclusion

A quasi-experimental research study using paired samples t tests and a repeated measures ANCOVA design was proposed for evaluating the change in stigmatizing attitudes of undergraduate nursing students before and after a simulation exercise, as well as three months after. A treatment group took part in a simulation based on a mental health scenario and a control group took part in a simulation based on a medical scenario. It was hypothesized that the students in the treatment group would indicate greater awareness of the patient experience of mental health stigma in addition to change in attitude. Pre-licensure nursing students would participate in the study and be selected using stratified random sampling, with the target sample size being 174 students, although study limitations resulted in a sample size of 89 students. Data were collected post simulation and at a three month follow up data point using Day's Mental Illness Stigma Scale (see Appendix A).

CHAPTER IV

RESEARCH FINDINGS

The intent of this study was to examine if students would demonstrate a change in attitude toward a stigmatizing condition and become more aware of the patient experience of stigma after taking part in a simulation based on a mental health scenario. The mean scores of the Day's Mental Illness Stigma Scale (see Appendix A), which was completed by both the control and treatment group immediately after the scenario and approximately three months after, were analyzed to answer these questions. Stigmatizing perceptions and beliefs in relation to the factors of treatability, relationship disruption, hygiene, anxiety, visibility, recovery, and professional efficacy measured by the scale (Day et al., 2007) were analyzed.

Study Sample

Students enrolled in an undergraduate nursing program in British Columbia, Canada participated in a simulation based on either a mental health scenario (treatment group) or a chronic health scenario (control group). The sample consisted of 89 male and female nursing students (8%, $n = 7$, male and 92%, $n = 82$, female), with 43 participants in the control group taking part in the medical scenario and 46 participants taking part in the mental health scenario. The average age of the participants was 24.5 years (23.02 for the control group and 25.8 for the test group) and the average years of experience with mental health challenges was 2.4 years. Of the 89 participants, 54 reported having personal experience with a mental health issue. The study took place at a post-secondary

institute in British Columbia, Canada. The students were enrolled in, either the traditional undergraduate nursing program or the advanced entry post-baccalaureate nursing program (see Table 1). Both nursing programs have a similar curriculum but two different levels of entry.

Table 1

Demographic Table for Total, Treatment, and Control Group

	Total (n = 89)	Treatment (n = 46)	Control (n = 43)
Gender			
Male	7 (8%)	5 (6%)	2 (2%)
Female	82 (92%)	41 (46%)	41 (46%)
Average Age	24.5	25.8	23.02
Program			
BSN	68 (76%)	25 (28%)	43 (48%)
BSN AE	21 (24%)	21 (24%)	0
Personal Experience with Mental Health Issue			
Yes	54 (61%	27 (30%)	27 (30%)
No	35 (39%)	19 (21%)	16 (18%)
Average Years of Experience with Mental Health	2.4	2.5	2.3

Results

The mean scores of the control and treatment groups for Day's Mental Illness Stigma Scale were analyzed to answer the proposed research questions. The answers for the questions pertaining to each factor of the scale were grouped to demonstrate a change in attitude toward a stigmatizing condition and demonstrate increased awareness of the

patient experience of stigma. As each factor addressed a different aspect of the experience of stigma, the research questions were addressed according to relevance to the study hypotheses. A repeated measures ANCOVA was conducted to analyze baseline and follow-up scores to account for the effect of covariants on study results. Paired samples t-tests were conducted to compare the mean scores of the control and treatment groups for significant differences in means.

Treatability

There were three questions pertaining to treatability on Day's Mental Illness Stigma Scale. The questions are:

1. There are effective medications for chronic or mental illnesses that allow people to return to normal and productive lives.

8. There are no effective treatments for chronic or mental illnesses. (Reverse-scored)

11. There is little that can be done to control the symptoms of chronic or mental illness. (Reverse-scored)

The initial scores for the questions related to treatability on Day's Mental Illness Stigma Scale demonstrate that the treatment group generally perceived that medications were effective in treating mental illness to a slightly higher degree than the control group perceived them to be effective for chronic health conditions ($p = 0.002$) for Question 1. Both groups demonstrated higher scores for this question in the follow-up survey, with no significant difference in scores. Question 8 also pertained to the effectiveness of treatment for chronic and mental health conditions, specifically medication. As the question was reverse scored, the treatment group demonstrated a slightly lower score than the control group. In the follow-up survey, however, the control group's score was lower. The results for both groups were not significantly different. The last question regarding

treatability, Question 11 was also reverse scored but pertained to controlling the symptoms of chronic or mental illness. The treatment group scored significantly lower than the control group ($p = 0.038$) for this question initially but scored higher than the control group in the follow-up for this question, demonstrating a significant change in attitude ($p = 0.031$) over time (see Table 2). This indicates that the treatment group did not demonstrate more change in attitude overall or become more aware of the patient experience of stigma, contradicting the study hypothesis.

Relationship Disruption

The questions relating to relationship disruption on Day's Mental Illness Stigma Scale included Questions 2, 3, 5, 10, 12, and 15. These questions are:

2. I don't think that it is possible to have a normal relationship with someone with a chronic or mental illness.

3. I would find it difficult to trust someone with a chronic or mental illness.

5. It would be difficult to have a close meaningful relationship with someone with a chronic or mental illness.

10. A close relationship with someone with a chronic or mental illness would be like living on an emotional roller coaster.

12. I think that a personal relationship with someone with a chronic or mental illness would be too demanding.

15. Chronic or mental illnesses prevent people from having normal relationships with others.

Table 2

Post-test and Follow-up Means for Treatability Subscale--Treatment and Control Group

Question	Sample Group	Mean		*SD*		*T*-Score	Change in Mean Scores
		Post-Test	Follow-up	Post-Test	Follow-up		*p* =
1	Treatment	5.80	5.61	0.96	0.88	1.593	0.118
	Control	5.06	5.30	1.22	1.26	-1.136	0.262
	Difference in Mean Scores *p* =	0.002	0.199				
8	Treatment	1.85	2.33	1.19	1.46	-0.479	0.634
	Control	1.86	1.98	1.04	1.08	-0.927	0.359
	Difference in Mean Scores *p* =	0.849	0.794				
11	Treatment	1.70	2.02	0.76	0.88	-2.234	0.031
	Control	2.12	1.95	0.96	0.84	1.155	0.255
	Difference in Mean Scores *p* =	0.038	0.685				

The treatment group generally indicated that it was more difficult to have a normal relationship with someone with mental illness than the control group in answering Question 2, as the control group's mean score was significantly lower ($p = 0.001$). This held true for the follow-up questionnaire as well, although the scores were not significantly different between groups. For Question 3, the treatment group also scored significantly higher ($p = 0.001$) in indicating that it was difficult to trust someone with a

mental health condition in the initial and follow-up surveys, although the control group demonstrated a significantly higher degree of change ($p = 0.005$) over time (see Table 3).

The treatment group also demonstrated higher scores in the initial and follow-up surveys for Questions 5 and 10, which both pertained to being able to have a close meaningful relationship with someone with a mental illness. The control group's mean score was significantly lower for Question 10 ($p = 0.037$) in the follow-up survey, but neither group demonstrated a significant change in attitude over time for Questions 5 and 10. For Question 12, which probed if a relationship with someone with a chronic or mental illness would be too demanding, the control group scored significantly lower than the treatment group ($p = 0.011$) initially, but there was no significant difference in mean scores for the follow-up survey. As indicated by the overall response to Question 15, the treatment group generally reported that mental illness prevented people from having a normal relationship with others, but there was no significant difference in results from the control group or significant change in perception reported over time. The hypothesis was contradicted for this subscale, as the treatment group demonstrated less change in attitude overall and did not indicate greater awareness of the patient experience of stigma, as compared to the control group (see Table 3).

Table 3

Post-test and Follow-up Means for Relationship Disruption Subscale--Treatment and Control Group

Question	Sample Group	Mean		*SD*		*T*-Score	Change in Mean Scores
		Post-Test	Follow-up	Post-Test	Follow-up		*p* =
2	Treatment	2.22	2.33	1.30	1.46	-0.509	0.631
	Control	1.44	1.88	0.63	0.93	-3.104	0.003
	Difference in Mean Scores *p* =	0.001	0.081				
3	Treatment	2.89	2.50	1.58	1.21	1.827	0.074
	Control	1.84	2.37	1.13	1.58	-2.967	0.005
	Difference in Mean Scores *p* =	0.001	0.632				
5	Treatment	2.24	2.45	1.34	1.53	-0.789	0.434
	Control	1.95	1.98	1.41	1.17	-0.141	0.888
	Difference in Mean Scores *p* =	0.311	0.094				
10	Treatment	3.24	3.30	1.34	1.25	-0.330	0.743
	Control	2.74	2.88	1.51	1.61	-0.628	0.533
	Difference in Mean Scores *p* =	0.129	0.037				
12	Treatment	2.96	2.89	1.37	1.32	0.339	0.737
	Control	2.26	2.56	126	1.35	-1.304	0.199
	Difference in Mean Scores *p* =	0.011	0.116				

Table 3 (continued)

Question	Sample Group	Mean		*SD*		*T*-Score	Change in Mean Scores
		Post-Test	Follow-up	Post-Test	Follow-up		*p* =
15	Treatment	2.85	2.52	1.46	1.13	1.468	0.149
	Control	2.44	2.49	1.49	1.47	-0.196	0.846
	Difference in Mean Scores *p* =	0.086	0.801				

Hygiene

Questions 4, 14, 19, and 27 on Day's Mental Illness Stigma Scale) were related to hygiene. The questions are:

4. People with chronic or mental illnesses tend to neglect their appearance.

14. People with chronic or mental illnesses ignore their hygiene, such as bathing and using deodorant.

19. People with chronic or mental illnesses do not groom themselves properly.

27. People with chronic or mental illnesses need to take better care of their grooming (bathe, clean teeth, use deodorant).

The treatment group indicated more stigmatizing perceptions of people with mental health conditions than the control group in relation to the hygiene subscale in completing Day's Mental Illness Stigma Scale. The mean scores were, however, only significantly higher than the control group for one of the questions in the initial survey. For Question 4, the treatment group scored higher in answering if people with mental illness tend to neglect their appearance in the initial and follow-up test scores. They also reported that people with mental illness ignored their hygiene in answering Question 14 to a higher degree than the control group (see Table 4).

Table 4

Post-test and Follow-up Means for Hygiene Subscale--Treatment and Control Group

Question	Sample Group	Mean		*SD*		*T*-Score	Change in Mean Scores
		Post-Test	Follow-up	Post-Test	Follow-up		*p* =
4	Treatment	2.52	2.54	1.33	1.31	-0.117	0.907
	Control	2.07	2.37	1.28	1.18	-1.644	0.108
	Difference in Mean Scores *p* =	0.072	0.524				
14	Treatment	2.17	2.13	1.37	1.19	0.194	0.847
	Control	1.95	2.07	1.27	1.22	-0.670	0.507
	Difference in Mean Scores *p* =	0.199	0.801				
19	Treatment	2.17	2.13	1.29	1.13	0.204	0.839
	Control	1.74	2.05	1.00	1.21	-1.764	0.085
	Difference in Mean Scores *p* =	0.031	0.657				
27	Treatment	2.16	2.30	1.13	1.36	-1.552	0.359
	Control	2.16	2.33	1.23	1.25	-0.927	0.128
	Difference in Mean Scores *p* =	1.00	0.940				

The mean scores were significantly higher for the treatment group in reporting if they felt people with mental illness did not groom themselves properly than the control group ($p = 0.031$) for Question 19. Question 27 asked if people with chronic or mental illness need to take better care of their grooming and the treatment group indicated a similar

score (p = 1.00) to the control group for this question in the initial survey. For the follow-up survey, the treatment group's score was lower than that of the control group, demonstrating a less stigmatizing perception. The study hypothesis was not supported for this subscale, as the treatment group scored higher than the control group for stigmatizing perceptions overall and did not indicate significantly higher awareness of the experience of stigma (see Table 4).

Anxiety

There were six questions related to anxiety on Day's Mental Illness Stigma Scale. These included Questions 6, 16, 17, 21, 22, 25.

6. I feel anxious and uncomfortable when I'm around someone with a chronic or mental illness.

16. I tend to feel anxious and nervous when I am around someone with a chronic or mental illness.

17. When talking with someone with a chronic or mental illness, I worry that I might say something that will upset him or her.

21. I don't think that I can really relax and be myself when I'm around someone with a chronic or mental illness.

22. When I am around someone with a chronic or mental illness, I worry that he or she might harm me physically.

24. I would feel unsure about what to say or do if I were around someone with a chronic or mental illness.

25. I feel nervous and uneasy when I'm near someone with a chronic or mental illness.

The treatment group did not initially report feeling significantly more anxious and uncomfortable around someone with a chronic or mental illness for Question 6 in completing Day's Mental Illness Stigma Scale. They also did not score significantly lower than the control group for this question in the follow-up survey. Question 16 asked

if the groups felt more anxious and nervous around someone with chronic or mental illness, and the treatment group scored higher in the initial survey and lower in the follow-up than the control group for this question, although the mean scores were not significantly different. The treatment group did, however, demonstrate a more significant change in attitude over time ($p = 0.027$). For Question 17, which probed about upsetting someone with a chronic or mental illness in conversation, the treatment group initially reported an insignificantly lower score than the treatment group but indicated a slightly higher score in the follow-up questionnaire, as the control group indicated a more significant change in attitude over time ($p = 0.003$). The treatment group scored lower than the control group for the initial and follow-up surveys when asked about being able to relax around someone with a mental illness for Question 21, although the mean scores were not significantly different (see Table 5).

Table 5

Post-test and Follow-up Means for Anxiety Subscale--Treatment and Control Group

Question	Sample Group	Mean		*SD*		*T*-Score	Change in Mean Scores
		Post-Test	Follow-up	Post-Test	Follow-up		*p* =
6	Treatment	2.24	2.22	1.10	1.23	0.090	0.929
	Control	2.16	2.33	1.25	1.29	-0.816	0.419
	Difference in Mean Scores *p* =	0.808	0.815				
16	Treatment	2.37	1.96	1.16	0.89	2.293	0.027
	Control	2.30	2.44	1.46	1.46	-0.590	0.559
	Difference in Mean Scores *p* =	0.863	0.065				
17	Treatment	4.20	3.91	1.80	1.46	1.177	0.245
	Control	4.70	3.81	1.52	1.69	3.125	0.003
	Difference in Mean Scores *p* =	0.176	0.709				
21	Treatment	2.24	2.22	1.18	0.99	0.144	0.886
	Control	2.35	2.40	2.21	1.31	-0.158	0.875
	Difference in Mean Scores *p* =	0.784	0.427				
22	Treatment	2.61	2.33	1.99	1.25	2.460	0.423
	Control	2.37	2.23	1.38	1.09	0.882	0.383
	Difference in Mean Scores *p* =	0.411	0.694				

Table 5 (continued)

Question	Sample Group	Mean		*SD*		*T*-Score	Change in Mean Scores
		Post-Test	Follow-up	Post-Test	Follow-up		p =
25	Treatment	2.51	2.28	1.03	1.02	2.290	0.0141
	Control	2.26	2.30	0.98	0.99	-0.573	0.570
	Difference in Mean Scores p =	0.243	0.915				

The treatment group scored higher in indicating that they worry about being harmed by someone with a mental illness in their answers to Question 22 in both the initial and follow-up survey. The treatment group scored insignificantly lower than the control group in their answers to Question 24 in both surveys, which pertained to feeling unsure about what to say when around someone with a mental illness. Question 25 was related to feeling nervous and uneasy when around someone with a chronic or mental illness, and the treatment group initially indicated a higher score than the control group for this question but reported a lower score in the follow-up, reporting a significant change in attitude over time ($p = 0.014$). Overall, for the factor of anxiety on Day's Mental Illness Stigma Scale, the study hypothesis was not initially supported, as the treatment group did demonstrate more change in attitude than the control group initially. The hypothesis was supported for the research question by these findings once the students had completed the follow-up survey however, as the treatment group reported a more significant change in attitude over time and thus become more aware of the patient experience of stigma (see Table 5).

Visibility

Questions 7, 9, 18, and 26 of Day's Mental Illness Stigma Scale pertained to visibility. The questions are:

7. It is easy for me to recognize the symptoms of chronic or mental illnesses.

9. I probably wouldn't know that someone has a chronic or mental illness unless I was told. (Reverse-scored)

18. I can tell that someone has a chronic or mental illness by the way he or she acts.

26. I can tell that someone has a chronic or mental illness by the way he or she talks.

In completing Day's Mental Illness Stigma Scale), the treatment group scored higher in their perception that they can easily recognize the symptoms of mental illness than the control group for the initial survey and significantly higher in their follow-up responses to Question 7 ($p = 0.016$). They also reported a significantly negative change in perception over time ($p = 0.005$) for this question. The treatment group reported an insignificantly lower score initially in answering if they would not know if someone had a mental illness unless they were told for Question 9, which was reverse scored. This score was higher than the control group's for the follow-up survey, although not significantly so. For Question 18, which asked if the respondent could tell if someone had a chronic or mental illness by the way he or she acts, the treatment group scored insignificantly higher than the control group at both intervals. Question 26 was very similar, as it pertained to being able to tell if someone had a chronic or mental illness by the way he or she talked. For this question, the treatment group initially exhibited a less stigmatizing perception than the control group, but their score was higher than the control group for the follow-up questionnaire and the perceived change in attitude over time was

significantly more negative ($p = 0.042$). The study hypothesis was not supported for the factor of visibility, as the treatment group demonstrated less change in attitude overall and failed to demonstrate a more positive change in scores over time (see Table 6).

Table 6

Post-test and Follow-up Means for Visibility Subscale--Treatment and Control Group

Question	Sample Group	Mean		*SD*		*T*-Score	Change in Mean Scores
		Post-Test	Follow-up	Post-Test	Follow-up		*p* =
7	Treatment	3.61	4.26	1.27	1.39	-2.932	0.005
	Control	3.35	3.63	1.25	1.28	-1.206	0.234
	Difference in Mean Scores *p* =	0.364	0.016				
9	Treatment	3.612	4.26	1.27	1.39	0.182	0.856
	Control	3.79	3.58	1.28	1.37	0.922	0.362
	Difference in Mean Scores *p* =	0.594	0.835				
18	Treatment	2.98	3.09	1.36	1.30	-0.504	0.617
	Control	2.72	2.91	1.22	1.36	-0.955	0.345
	Difference in Mean Scores *p* =	0.305	0.435				
26	Treatment	2.29	2.61	0.90	1.16	-2.094	0.042
	Control	2.37	2.42	1.20	1.28	-0.530	0.599
	Difference in Mean Scores *p* =	0.514	0.489				

Recovery

For the factor of recovery, there were two reverse scored questions on Day's Mental Illness Stigma Scale that addressed this subscale. The questions are:

13. Once someone develops a chronic or mental illness, he or she will never be able to fully recover from it. (Reverse-scored)

20. People with chronic or mental illnesses will remain ill for the rest of their lives. (Reverse-scored)

For the factor of recovery on Day's Mental Illness Stigma Scale, the perceptions of both groups varied related to the two questions on recovery and the mean scores were not significantly different. For Question 13, which asked if someone would be able to recover from a chronic or mental illness once they developed it, the treatment group scored lower than the control group at both intervals. Question 20 was very similar in probing if people with chronic or mental illness remain ill for the rest of their lives, but the treatment group demonstrated an insignificantly higher score in the initial and follow up responses for this question. Therefore, the students did not demonstrate a significant change in attitude or significant change over time, contradicting the study hypothesis (see Table 7).

Table 7

Post-test and Follow-up Means for Recovery Subscale--Treatment and Control Group

Question	Sample Group	Mean		*SD*		*T*-Score	Change in Mean Scores
		Post-Test	Follow-up	Post-Test	Follow-up		*p* =
13	Treatment	2.26	2.52	1.29	1.39	-1.182	0.244
	Control	2.30	2.54	0.14	1.61	-1.080	0.286
	Difference in Mean Scores *p* =	.878	0.947				
20	Treatment	2.30	2.33	1.43	1.46	-0.085	0.933
	Control	2.02	2.09	1.08	1.56	-0.295	0.769
	Difference in Mean Scores *p* =	0.330	0.442				

Professional Efficacy

Questions 23 and 28 on Day's Mental Illness Stigma Scale) pertained to professional efficacy. The questions are:

23. Psychiatrists and psychologists have the knowledge and skills needed to effectively treat chronic or mental illnesses.

28. Mental health professionals, such as psychiatrists and psychologists, can provide effective treatments for chronic or mental illnesses.

Comparison of the results for the factor of professional efficacy factor of Day's Mental Illness Stigma Scale indicates that the treatment group did not demonstrate a more significant change in attitude overall or become significantly more aware of the patient experience of stigma. The treatment group generally scored higher than the control group in answering the questions related to professional efficacy. Questions 23

and 28 both pertained to the ability of mental health professionals, particularly psychologists and psychiatrists in being able to treat chronic and mental illness. The treatment group reported a higher, but not significant, score for the initial and follow-up surveys for Question 23. For Question 28, the treatment group initial scored higher than the control group but scored slightly lower in the follow-up (see Table 8).

Table 8

Post-test and Follow-up Means for Professional Efficacy Subscale--Treatment and Control Group

Question	Sample Group	Mean		*SD*		*T*-Score	Change in Mean Scores
		Post-Test	Follow-up	Post-Test	Follow-up		*p* =
23	Treatment	4.78	4.87	1.09	1.26	-0.599	0.552
	Control	4.67	4.78	1.61	1.09	-1.816	0.077
	Difference in Mean Scores *p* =	0.762	0.726				
28	Treatment	5.31	5.28	1.04	1.10	0.000	0.868
	Control	5.21	5.30	1.21	1.34	-0.662	0.511
	Difference in Mean Scores *p* =	0.691	0.927				

Analysis of the Effect of Demographic Factors

An analysis of covariance (ANCOVA) was conducted on each question of Day's Mental Illness Stigma Scale to determine the effect of participant variables on study results. Questions related to relationship disruption, visibility, and hygiene were found to be impacted by certain differences in the study groups. For Question 2, related to relationship disruption, the ANCOVA revealed a significant result ($p = 0.009$) for the covariant of gender. Pertaining to visibility, the ANCOVA revealed a significant result for gender for the post-test ($p = 0.002$) and follow-up ($p = 0.042$) for Question 7. There was also reported significance for years of experience ($p = 0.023$) and for personal health experience ($p = 0.018$) for the post-test for Question 7. The ANCOVA also demonstrated a significant result for the covariant of personal health experience for Questions 14 ($p = 0.017$) and 19 ($p = 0.008$) for the factor of hygiene (see Table 9).

Reliability of Day's Mental Illness Stigma Scale

In order to determine the reliability of Day's Mental Illness Stigma Scale Cronbach's alpha statistic was computed using SPSS. For the initial post-test, Cronbach's alpha based on standardized items was 0.845. Cronbach's alpha based on standardized items for the follow-up scale was 0.870. It can, therefore, be concluded that the scale itself had good reliability for this study sample, as a value of greater than 0.8 indicates (Polit & Beck, 2012). As the scale consistently measured stigma for the factors on the scale, the results can be stated as being reliable.

Table 9

Significance Results for ANCOVA of Results

Factor	Question #	Covariant	Significance * p =
Relationship Disruption	2 (post-test)	Gender	0.009
Visibility	7 (post-test)	Gender	0.002
		Years of Experience	0.042
		Personal Health Experience	0.018
Hyiene	14 (post-test)	Personal Mental Health Experience	0.017
	19 (post-test)	Personal Mental Health Experience	0.008

Summary of Findings

Day's Mental Illness Stigma Scale was administered to measure stigmatizing attitudes related to the subscales of treatability, relationship disruption, hygiene, anxiety, visibility, recovery, and professional efficacy. The control group reported fewer stigmatizing scores overall. The treatment group indicated more stigmatizing attitudes overall. The scores were more evenly distributed between both groups for the factors of recovery and professional efficacy. The treatment group did report fewer stigmatizing responses than the control group for the factor of anxiety and reported a more significant change in attitude in completing the follow-up questionnaire for the anxiety subscale as well. Conducting an ANCOVA accounted for some of the differences in covariants for both groups, with differences between the groups found for the domains of relationship

disruption, visibility and hygiene for the covariants of gender, personal experience and years of experience with mental illness.

This study compared the Day's Mental Illness Stigma Scale scores of a treatment and control group of undergraduate nursing students participating, respectively, in a mental health and chronic health challenge scenario. Study findings indicated that participating in a mental health scenario resulted in the undergraduate nursing students' participants to retain more stigmatizing attitudes toward mental health conditions in relation to mental illness being treatable, visible, disrupting relationships, and influencing personal hygiene. The ANCOVA analysis demonstrated significant differences between the groups for the responses to five of the questions under the domains of relationship disruption, visibility, and hygiene, but the overall responses represent a higher degree of stigma reported by the treatment group. This finding does not support the hypothesis that participating in the simulation scenario would produce a change in attitude toward a stigmatizing condition, with the exception of the responses on the anxiety subscale. These findings indicate that the results are mixed in claiming whether a mental health simulation is an effective method for reducing stigmatizing attitudes in relation to anxiety about mental illness.

For the factors of recovery and professional efficacy, the responses to the survey questions were more evenly distributed, with both groups reporting higher perceptions of stigma for an equal number of questions. The follow-up scores were higher for the follow-up post tests for most of the questions under these domains as well. These findings do not support the original hypothesis that the mental health-based simulation

scenario would produce change in stigmatizing attitudes or that the students would become more aware of the experience of stigma.

The responses to the questions related to the domain of anxiety produced lower scores overall from the treatment group in this study and were significantly different at the three-month interval. The follow-up scores were also generally lower than the original scores reported by the students. These results support the hypothesis that the mental health simulation scenario is effective for reducing anxiety related to mental illness. This is possibly due to greater awareness of the experience of stigma.

Conclusion

The intent of this study was to evaluate the effectiveness of using simulation to address stigma in nursing education. Specifically, the ability of using simulation to change stigmatizing beliefs and attitudes and creating awareness of the lived experience of a stigmatizing condition were examined by having students complete Day's Mental Illness Stigma Scale (see Appendix A). This was tested by having a treatment group participate in a mental health-based scenario (see Appendix B) and a control group participate in a chronic health-based simulation scenario (see Appendix C). It was hypothesized that participating in the mental health-based simulation would result in the students demonstrating a change in attitude toward a stigmatizing condition and indicating more awareness of the patient experience of stigma. The Day's Mental Illness Stigma Scale was administered to measure stigmatizing attitudes as a post-test and follow-up post-test approximately three months after the simulation. While the responses from both groups varied, the treatment group demonstrated a higher degree of

stigmatizing attitudes overall immediately after the simulation and in the three-month follow-up.

CHAPTER V

DISCUSSION AND IMPLICATIONS

This study involved the use of a simulation scenario to address the important societal issue of mental health stigma. It was, in this aspect, a small-scale study planned to address a large-scale issue. Because the simulation was not found to be completely successful in addressing stigmatizing attitudes, it is necessary to explore the various factors that could have contributed to the study findings. It is therefore essential to examine the case scenario itself, the study instrument used, and the impact of nursing curriculum and societal views on mental challenges.

Both case scenarios used for the simulations involved providing nursing care for a client undergoing a health challenge. The scenario used for the control group was based on the medical condition of congestive heart failure and involved providing care for an older client using medical management (see Appendix C). The mental health scenario involved medical management as well but placed a greater emphasis on communicating with a younger client with bipolar disorder (see Appendix B).

Regarding the aspect of treatability, the effect of medical treatment on a cardiac condition is more immediate than the effect of medication on a mental health condition. Thus, it can be assumed that the students naturally viewed congestive heart failure as being more treatable than bipolar disorder. They may have also felt less empathetic for the mental health client. In a study that measured the impact of simulation on nursing students' perceptions of schizophrenia, it was found that using simulation reduced

negative perceptions of the mental illness but did not result in significant change in empathy (Sideras et al.,2015).

Relationship disruption, a factor for which the control group reported less perception of stigma, was given more attention in the mental health scenario than the congestive heart failure scenario completed by the control group. The impact of the client's condition on her relationships was clearly indicated in the mental health scenario, so this may have impacted the students' perceptions of mental health influencing personal relationships. This factor may have accounted for the overwhelmingly higher score for stigma reported for the relationship disruption domain in the post-test and follow-up by the treatment group. The mental health scenario involved a client with a disheveled appearance and the compromised hygiene was mentioned in the scenario, so this would have potentially caused a biased view of mental health challenges impacting personal hygiene. This presentation of the client also enhanced the visibility of her condition in the scenario. The students reported higher scores overall for the domains of hygiene and visibility, indicating a higher degree of stigma, as compared to the students in the control group. This finding is like the Sideras et al., (2015) study in which increased student exposure to schizophrenic individuals resulted in changes in negative attitudes but not significant changes in empathy.

The domains of recovery and professional efficacy were more neutral than the other domains tested by the Day's Mental Illness Stigma Scale. The students' views on mental health challenges being chronic varied, as the treatment group reported less perceived stigma than the control group in an individual's ability to recover from a mental health challenge, but more stigma in answering if they will remain ill for the rest

of their lives. The answers for the two questions related to professional efficacy followed a similar pattern, as the students in the treatment group reported indicating a more stigmatizing perception in answering if psychiatrists and psychologists had the necessary skills to provide effective treatment yet reported less stigma in answering if these professionals could provide effective treatment. The neutrality in answering these questions could be related to the similar wording used to ask each of the questions in these domains. Also, the questions for the recovery domain were not addressed in either scenario to a great extent, as both scenarios dealt with more acute situations than those probed by the survey. In addition, the questions related to professional efficacy specifically mention psychiatrists and psychologists. These specific health providers did not pertain to the chronic health scenario and were not a major part of the mental health scenario, as both scenarios were nursing based. Day's Mental Illness Stigma Scale was initially tested on perceptions of students related to psychiatric patients in a hospital setting, so the testing was not based on specific scenarios (Day et al., 2007).

Interestingly, the students in the treatment group reported less anxiety overall for the factor of anxiety in post-test and follow-up surveys, indicating a significant change in awareness. This was a positive study finding, as it supported the study hypotheses that the simulation would reduce stigmatizing attitudes. The mental health scenario was heavily focused on anxiety and was based on a mental health condition that is associated with anxiety. Although the client in the chronic health scenario was presented as being anxious as well, the severity was not a primary focus in providing nursing care. The debriefing for the mental health scenario was, therefore, also more focused on anxiety than the chronic health condition and the students in the treatment group reflected on anxiety more than

those in the control group. This finding is concurrent with the finding in the Patterson and Hulton (2012) study in which a simulation specifically designed to address attitudes towards poverty was found to reduce stigmatizing attitudes, although in this case it was useful for reducing stigmatizing attitudes in relation to anxiety.

Link to Theoretical Framework

Levine's (1996) conservation model was used as the theoretical framework for this study. The model emphasizes the conservation of energy, structural integrity, personal integrity, and social integrity. These principles are directly related to the stigmatizing factors measured by Day's Mental Illness Stigma Scale. All the factors on the scale pertain to the conservation of energy principle, as they are relevant to the experience of the client and the ability of nurses to balance energy supply and demand by recognizing existing perceptions. The conservation of energy is related to the treatability and recovery factors. These factors are viewed by Levine (1996) as being essential in maintaining life process and activities. They are also related to the conservation of structural integrity, as an individual's belief that the body can be healed and maintain wholeness is essential for maintaining structural integrity (Levine, 1996). Personal integrity is most relevantly measured by the factors of hygiene and visibility. Negative attitudes toward a client's personal integrity, as measured by the perceived attitudes for these factors in the study, are viewed as being detrimental for conserving personal integrity (Levine, 1996). The factors of relationship disruption, anxiety, and professional efficacy pertain the most to the conservation of social integrity, as Levine (1996) perceives that people are defined by their surrounding environment and community.

Social acceptance is essential, as it is for nurses to recognize existing beliefs and norms in the client's environment.

Curricular Implications

Reviewing the possible impact of the existing nursing curriculum on the study results is also essential in deciphering the findings of this study. There is generally an underrepresentation of mental health content in undergraduate nursing programs (Tognazzini et al., 2008). Mental health content in undergraduate nursing programs is also limited in the study setting, as the institution offers a separate program that focusses specifically on psychiatric nursing. The mental health clinical rotation for the general nursing programs is usually observation based and does not always take place on psychiatric units. The general nursing curriculum at this institution is heavily focused on medical content, and the students in this study have been exposed to more medical content in the classroom and clinical setting than content regarding mental health. This increased exposure to medical content may have resulted in students in both groups having fewer stigmatizing perceptions about chronic health challenges than mental health challenges. Societal views are also influential in shaping student perceptions about mental health. As supported by Webster (2009), students may have stigmatizing perceptions about mental health conditions prior to entering a nursing program due to societal factors, such as media portrayal of psychiatric patients. Also, as supported by Angermeyer, Holzinger, Carta, and Schomerus (2011), education alone is not powerful enough to change negative attitudes and perceptions, as increased exposure in practice is also essential. Happell et al. (2014) further suggest that lived-experience participation

experiences are not enough to replace traditional nursing education but are useful for enhancing it.

Study Limitations

There were some limitations in conducting this study that may have impacted the effectiveness of the treatment, the mental health simulation, and the results. The absence of a pre-test, due to the perception by the ethics board in the study setting that it may cause bias in responses, did not allow for the assessment of preliminary attitudes. As indicated by Sideras et al. (2015), it may be useful to understand students' baseline experiences with mental illness to direct the use of simulation.

The items on Day's Mental Illness Stigma Scale) were modified to include the phrase "chronic and mental illness." Although it was permissible to insert names of conditions for items on the tool, it is possible that the phrasing these items may have altered the results of the study and the proficiency of the study in answering the research question, as the participants' perceptions of mental illness and change in attitude may not have been captured.

Changes in curriculum and scheduling changes also may have resulted in some students participating in a mental health based clinical placement prior to completing the study. The sample size was also smaller than originally planned due to lack of availability of participants and curriculum changes that hindered the ability of some potential study participants to take part in the study. The reluctance of faculty members to have students participate in a research study during scheduled class time was also a barrier. Further, the lack of availability of other forms of simulation in the setting, such as standardized patients, only allowed for the use of technological simulation. Students in the study by

Patterson and Hulton (2012) responded positively to the use of non-technological simulation, like standardized patients, in a similar study on poverty perceptions, so this may be a more effective method for teaching students about the lived experience of clients with mental health conditions.

Implications for Education and Research

Nursing students participate in simulation experiences in undergraduate nursing education to increase exposure to possible real-world experiences and prepare them for practice. It is possible that even a brief experience can change stigmatizing attitudes that hinder good nursing practice (Patterson & Hulton, 2012). For example, although this study failed to demonstrate a reduction in stigmatizing perceptions for all the domains measured in Day's Mental Illness Stigma Scale, it did show that a mental health simulation has the potential for reducing anxiety towards individuals with mental illness. For future studies, it may be beneficial to conduct a longitudinal study that examines the changes in stigmatizing attitudes over time, as it is an issue larger than the time limitation for this study permitted examining. It would also be beneficial to utilize a larger sample size to produce more reliable results. This could be achieved by recruiting participants from more nursing programs and other institutions as well. Extending the time to complete the study, in order to recruit more participants, would also be beneficial.

Because factors related to the scenarios and the study instrument itself posed limitations, it may be useful to use alternate scenarios and another data collection tool to produce more accurate results. An alternate scale, or modified version of the Day's Mental Illness Stigma Scale could be used to explore each specific domain in relation to the simulation scenarios used so that the questions in the scale are more relevant. Because

the scale was modified to include chronic and mental illness to fulfil the requirements of the Review Ethics Board, it may be beneficial to only measure for participant views on mental illness in the future. This would be advantageous in answering the proposed research question, as changes in perceptions of mental illness would be measured more specifically.

Other than using an alternate scale, it may be beneficial to utilize more than one tool for measuring stigmatizing attitudes, as in the study by Sideras et al. (2015), to account for multiple factors that contribute to stigma. The simulation scenarios could also be selected based on relevance to the specific factors that are to be measured. For example, the mental health scenario in this study focused on anxiety and the students reported less stigma in answering questions based on the anxiety factor. Finally, future research should measure pre-simulation views on mental illness and stigmatizing attitudes to provide a baseline to assess the effectiveness of the simulation experience in changing attitudes. Following a well-designed simulation, a post simulation survey measuring attitudes regarding mental illness could then provide information regarding the effectiveness of the simulation.

Conclusion

This study compared the effectiveness of using simulation to address the issue of stigma towards people with mental illness. The aim of the study was to test if simulation was effective for addressing stigma in nursing education and evaluating student attitudes towards psychiatric conditions. A sample of 89 undergraduate nursing students were assigned to a control or treatment group through stratified random sampling and participated in either a chronic health challenge scenario or a mental health scenario.

Day's Mental Illness Stigma Scale was used as the data collection tool for the post-test to measure students' stigmatizing perceptions in relation to their assigned scenario. This scale was completed by the students immediately after the simulation and approximately three months after participating in the simulation scenario to evaluate change in perceptions. The mean scores for both groups were compared and a repeated measures ANCOVA was conducted to account for the influence of covariant in the study population on the test results. The responses varied for the stigma scale, with the treatment group demonstrating more perceived stigma overall, except for the anxiety subscale. Changes to the study design, simulation scenarios, and data collection tool may produce more positive results in future research and provide undergraduate nursing programs with an innovative teaching approach for addressing mental health stigma.

REFERENCES

Angermeyer, M.C., Holzinger, A., Carta, M.G., & Schomerus, G. (2011). Biogenetic explanations and public acceptance of mental illness: Systematic review of population studies. *British Journal of Psychiatry, 199,* 367-372.

Campbell, C. A. (2013). Impact of simulation on safe medication practice with diploma/ADN students. *Teaching and Learning in Nursing, 8*(4), 147-156. doi:10.1016/j.teln.2013.07.004

Carter, R., Satcher, D., & Coelho, T. (2013). Addressing stigma through social inclusion. *American Journal of Public Health, 103*(5), 773. doi:10.2105/AJPH.2012.301167

Clarke, C., Sedlacek, R. K., & Watson, S. B. (2016). Impact of a simulation exercise on pharmacy student attitude toward poverty. *American Journal of Pharmaceutical Education, 80*(2), 1-7.

Creel, E., & Tillman, K. (2011). Stigmatization of overweight patients by nurses. *The Qualitative Report, 16*(5), 1330-1351. Retrieved from http://0-search.proquest.com.source.unco.edu/docview/902571541?accountid=12832

Day, E. N., Edgren, K., & Eshleman, A. (2007). Measuring stigma toward mental illness: Development and application of the Mental Illness Stigma Scale. *Journal of Applied Social Psychology, 37*(10), 2191-2219.

Delaney, K. R. (2012). Psychiatric mental health nurses: Stigma issues we fail to see. *Archives of Psychiatric Nursing, 26*(4), 333-335. doi:10.1010/j.apnu.2012.04.006

Desai, S., & Puyat, J. H. (2017). Power analysis prepared for S. Varaich. *Center for Health Evaluation & Outcome Sciences.* Retrieved from www.cheos.ubc.ca

Golberstein, E., Eisenberg, D., & Gollust, S. E. (2008). Perceived stigma and mental health care seeking. *Psychiatric Services, 59*(4), 392-399.

Happell, B., Byrne, L., Platania-Phung, C., Harris, S., Bradshaw, J., & Davies, J. (2014). Lived-experience participation in nurse education: Reducing stigma and enhancing popularity. *International Journal of Mental Health Nursing, 23,* 427-434. doi:10.1111/inm.12077

Hofer, T., Luken, R., & Nerud, K. (2012). *Simulation scenario; Mood/affect: Bipolar*. Unpublished manuscript. Department of Nursing, University of South Dakota at Vermillion, SD.

Johnson-Anderson, H., Dreke, C., & Ray, A. (2012). *Simulation scenario; Circulation: Congestive heart failure*. Unpublished manuscript, Department of Nursing, University of South Dakota at Vermillion, SD.

Jones, E. E., Farina, A., Hastorf, A. H., Markus, H., Miller, D. T., & Scott, R. A. (1984). *Social stigma: The psychology of marked relationships*. New York, NY: W. H. Freeman.

Langille, J. (2014). Reducing stigma in health-care settings. *Canadian Nurse, 110*(1), 35-36.

Lavoie, P., & Clarke, S. P. (2017). Simulation in nursing education. *Nursing Management, 48*(2), 16-17.

Levine, M. E. (1996). The conh servation principles: A retrospective. *Nursing Science Quarterly, 9*(1), 38-41. Retrieved from https://doi.org/10.1177/089431849600900110

Major, B., & O'Brien, L. T. (2005). The social psychology of stigma. *Annual Review of Psychology, 56*, 393-421.

Nelson, R. (2016). Replicating real life: Simulation in nursing education and practice. *American Journal of Nursing, 116*(5), 20-21. doi:10.1097/01.NAJ.0000482956.85929.d8

Patterson, N., & Hulton, L. J. (2012). Enhancing nursing students' understanding of poverty through simulation. *Public Health Nursing, 29*(2), 143-151. doi:10.111/j.1525-1446.2011.00999.x

Polit, D. F., & Beck, C. T. (2012). *Nursing research: Generating and assessing evidence for nursing practice* (9th ed.). Philadelphia, PA: Lippincott, Williams & Wilkins.

Scambler, G. (2009). Health-related stigma. *Sociology of Health & Illness, 31*(3), 441-455.

Schaefer, K. M. (2006). Levine's conservation model in nursing practice. In M. R. Alligood & A. M. Tomey (Eds.), *Nursing theory: Utilization & application* (pp. 207-228). St Louis, MO: Elsevier Mosby.

Sideras, S., McKenzie, G., Noone, J., Dieckmann, N., & Allen, T. (2015). Impact of simulation on nursing students' attitudes toward schizophrenia. *Clinical Simulation in Nursing,11*(2), 134-141. doi:10.1016/j.ecns.2014.11.005

Soper, D. (2019). *Statistics calculators*. Retrieved from http://www.danielsoper.com/statcalc3/

Thompson, C. B. (2012, Nov. 20). Power, sample size, effect size: Considerations for research [PowerPoint Presentation]. Retrieved from https://nursing.jhu.edu/faculty_researh/research/documents/BBL_Presentation_Nov2012.pdf

Tognazzini. P., Davis, C., & Kean, A. (2008). Reducing the stigma of mental illness. *The Canadian Nurse, 104*(8), 30-33.

Walker, L. O., & Avant, K. C. (2011). *Strategies for theory construction in nursing* (5th ed.). Upper Saddle River, NJ: Pearson Prentice Hall.

Waltz, C. F., Strickland, O. L., & Lenz, E. R. (2005). *Measurement in nursing and health research* (3rd ed.). New York, NY: Springer Publishing Co.

Webster, D. A. (2009). Addressing nursing students' stigmatizing beliefs. *Journal of Psychosocial Nursing, 47*(10), 34-42.

APPENDIX A

DAY'S MENTAL ILLNESS STIGMA SCALE

DAY'S MENTAL ILLNESS
STIGMA SCALE

Factors are noted at the end of each item. Brackets indicate where illness names can be interchanged to present various mental illness conditions.

Please indicate the extent to which you agree or disagree with the statements listed below using the following scale:

1	2	3	4	5	6	7
Completely Disagree						Completely Agree

_____ 1. There are effective medications for chronic or mental illnesses that allow people to return to normal and productive lives. (Treatability)

____ 2. I don't think that it is possible to have a normal relationship with someone with a chronic or mental illness. (Relationship Disruption)

____ 3. I would find it difficult to trust someone with a chronic or mental illness. (Relationship Disruption)

____ 4. People with chronic or mental illnesses tend to neglect their appearance. (Hygiene)

____ 5. It would be difficult to have a close meaningful relationship with someone with a chronic or mental illness. (Relationship Disruption)

____ 6. I feel anxious and uncomfortable when I'm around someone with a chronic or mental illness. (Anxiety)

____ 7. It is easy for me to recognize the symptoms of chronic or mental illnesses. (Visibility)

____ 8. There are no effective treatments for chronic or mental illnesses. (Treatability; reverse-scored)

____ 9. I probably wouldn't know that someone has a chronic or mental illness unless I was told. (Visibility; reverse-scored)

____ 10. A close relationship with someone with a chronic or mental illness would be like living on an emotional roller coaster. (Relationship Disruption)

____ 11. There is little that can be done to control the symptoms of chronic or mental illness. (Treatability; reverse-scored)

____ 12. I think that a personal relationship with someone with a chronic or mental illness would be too demanding. (Relationship Disruption)

____ 13. Once someone develops a chronic or mental illness, he or she will never be able to fully recover from it. (Recovery; reverse-scored)

____ 14. People with chronic or mental illnesses ignore their hygiene, such as bathing and using deodorant. (Hygiene)

____ 15. Chronic or mental illnesses prevent people from having normal relationships with others. (Relationship Disruption)

____ 16. I tend to feel anxious and nervous when I am around someone with a chronic or mental illness. (Anxiety)

____ 17. When talking with someone with a chronic or mental illness, I worry that I might say something that will upset him or her. (Anxiety)

____ 18. I can tell that someone has a chronic or mental illness by the way he or she acts. (Visibility)

____ 19. People with chronic or mental illnesses do not groom themselves properly. (Hygiene)

____ 20. People with chronic or mental illnesses will remain ill for the rest of their lives. (Recovery; reverse-scored)

____ 21. I don't think that I can really relax and be myself when I'm around someone with a chronic or mental illness. (Anxiety)

____ 22. When I am around someone with a chronic or mental illness, I worry that he or she might harm me physically. (Anxiety)

____ 23. Psychiatrists and psychologists have the knowledge and skills needed to effectively treat chronic or mental illnesses. (Professional Efficacy)

____ 24. I would feel unsure about what to say or do if I were around someone with a chronic or mental illness. (Anxiety)

____ 25. I feel nervous and uneasy when I'm near someone with a chronic or mental illness. (Anxiety)

____ 26. I can tell that someone has a chronic or mental illness by the way he or she talks. (Visibility)

____ 27. People with chronic or mental illnesses need to take better care of their grooming (bathe, clean teeth, use deodorant). (Hygiene)

____ 28. Mental health professionals, such as psychiatrists and psychologists, can provide effective treatments for chronic or mental illnesses. (Professional Efficacy)

APPENDIX B

UNIVERSITY OF SOUTH DAKOTA
BIPOLAR SIMULATION
SCENARIO

UNIVERSITY OF SOUTH DAKOTA
BIPOLAR SIMULATION
SCENARIO

University of South Dakota
Vermillion, South Dakota

Department of Nursing

Simulation Scenario
Mood/Affect: Bipolar

Overview		
Bipolar Nursing Students	Concept: Mood/Affect	Target Group: Second Year

Hofer, T., Luken, R. & Nerud, K. (2012). *Simulation scenario; Mood/affect: Bipolar*. Unpublished manuscript. Department of Nursing, University of South Dakota at Vermillion.

Time Allotment (each simulation is designed to be run in a two-hour block of time which equals four clinical hours):

Prep: Campus specific (see preparation requirements).

Prebriefing: Campus specific (first year students should be longer than second year students according to evidence-based practice [EBP] standards).

Simulation: 15-20 minutes (no longer than 30 minutes).

Debriefing: Campus specific (first year students shorter than second year students according to EBP standards).

This is a 23-year old female who was diagnosed with Bipolar Disorder one and a half years ago. She discontinued taking her medication three weeks ago and is being admitted to an acute psychiatric unit due to manic behavior.

Curriculum Alignment	
AACN Essentials: I, VII, VIII, IX	
Population: Adult	
Concept	Exemplar
Mood/Affect	Bipolar Disorder

Objectives and Outcomes		
Area	Scenario Objectives	Course Outcome
Knowledge	Student will demonstrate an understanding of nursing care related to Bipolar Disorder	3.1, 5.1, 5.2
Skills	Student will demonstrate safe medication administrator practices and completion of a psychiatric assessment	1.2, 5.3
Attitudes	Student will demonstrate use of therapeutic communication techniques with the patient and family	

Prerequisite Assignment
Students are expected to bring their laptop, drug book, and primary text. The following prep should be completed prior to simulation. *Mood Bipolar Student Prep* *http://www2.gov.bc.ca/assets/gov/health/practitioner-pro/bc-guidelines/cogimp-smmse.pdf*

Simulation Setup			
Manikin Settings:		**Patient Condition**	
	Use student or faculty as patient	Clothing	Disheveled, wearing tight fitting, bright colored clothing and a baseball cap
Initial Vital Signs		Props	Huge purse or bag containing a women's fashion magazine, bright red lipstick, compact mirror, wallet with numerous credit cards, crumpled up papers
Pulse		Moulage	Heave makeup like blue eye shadow, red lipstick, lots of blush. Hair braided on one side.

Blood pressure		**Roles for Students**	**Student Name**
Pulse ox		Primary nurse	
Respiratory rate		Amanda (patient)	Faculty or student—if student, give he/she the script prior to simulation day in order to practice role
Temperature		Amanda's mother	
Cardiac rhythm		Amanda's father	
Lung sounds		Mental health tech	
		Secondary nurse	
Bowel sounds		**Documents**	
Other:		Medication administration record (will need to create one if using heard copy documentation)	
Change in Vital Signs		Mini Mental Status Exam	
How many minutes until change?	NA	Script: http://www.usd.edu/-/media/files/health-sciences/nursing/simulation-scenarios/mood-bipolar-script.ashx?la=en	
Pulse	NA		
Blood pressure	NA		
Pulse ox	NA		
Respiratory rate	NA		
Temperature	NA		
Cardiac rhythm	NA		
Lung sounds	NA		
Other			

Equipment List		
Vital signs equipment		
Table and chairs		
Medications in med drawer		
Medication cup		
Medication book/resource		
Scenario Setting		
Setting: Acute Psychiatric Unit		
Time of day of scenario: 1300		
Medication	**Dosage**	**Route**
Lithobid	600 mg BID	Po
Multivitamin	1 tab daily	Po
Haldol	5 mg q 4 hr PRN	Po/IM
Ativan	2 mg q 4 hr PRN	Po/IM
Ortho Novum	1 tab daily	Po
Ambien	10 mg HS PRN	Po
Concentration—Package		
Lithobid (Lithium Carbonate, USP Extended-Release Tables		300 mg tables
Haloperidol Oral Solution USP (Concentrate)		2 mg/mL
Haloperidol Injection, USP for IM use single use 1 mL vial		5 mg/mL
Ativan (Lorazepam)		2 mg tables

Lorazepam Injection, USP 1 mL sterile vial for IM or IV Injection	2 mg/mL	
Ambien (Zolpidem) 10 mg Tables	10 mg tables	

Patient Background

Patient Demographics

Last Name: Faraday			First Name: Amanda	
Gender: Female	Age: 23	Ht: 5'5"	Wt: 125 lbs.	Ethnicity: NA
Religion: NA	Language: English		English Proficiency: Strong	
Other:				

History of present illness: This is Ms. Amanda Faraday, a 23 y/o female who was diagnosed with Bipolar Disorder one and a half years ago. She has been living in an apartment, attending college as a psychology major, and has a full-time job at a coffee shop. Today, she presented at the Behavioral Health Outpatient Center. Her parents were with her and they are concerned about her increased mania. She is being admitted to an acute psychiatric unit. She quit taking her medications three weeks ago and has begun exhibiting manic behavior. She has stopped attending her college classes and has missed several shifts at her workplace. Her roommate called Ms. Faraday's parents because Ms. Faraday has not slept in the last 48 hours.

Primary Medical Diagnosis:	Axis I: Bipolar Disorder—manic Axis II: Deferred Axis III: No diagnosis Axis IV: Psychosocial stressors moderate: full-time student, full-time work relationship problems Axis V: GAF 40c
Central nervous system	WNL
Cardiovascular	WNL
Pulmonary	WNL
Renal/Hepatic	WNL
Gastrointestinal	WNL
Musculoskeletal	WNL

Integument	WNL		
Developmental history	WNL		
Psychological history	Diagnosed with Bipolar Disorder one and a half years ago and placed on Lithium. Lithium levels have been maintained in safe range. At the time of diagnosis patient had charged large amounts of money on multiple credit cards and was arrested for indecent exposure when she disrobed at a mall and jumped into a water fountain.		
Social history	Patient single with no dependents, working a full-time job, and attending college full time. She has lived independently from her parents and has had a roommate for the past six months. Denies use of alcohol and recreational drugs. States she smokes "only when I need to calm down."		
Surgical/Procedure history	Appendectomy when patient 13 years old. Tonsillectomy and Adenoidectomy when patient 4 years old. Patient diagnosed with precancerous cells of the cervix 1 year ago and underwent ablative therapy.		
Medication allergies	Toradol	Reaction:	Rash
Food/other allergies	NKA	Reaction:	

Prebriefing

Give students the opportunity to discuss their feelings and fears (can use the round table approach) and then have discussion.

1. Describe the presentation of Bipolar Disorder.
2. Discuss the treatment regimen for Bipolar Disorder.
3. 2.Identify topics that should be included in patient education.
4. Describe how you think the patient may be presented to you during this simulation.
5. Explain how you might care for this patient.
6. Any questions?

The above items are listed to assist faculty in leading a prebriefing discussion with students. Feel free to use some or all of the items depending on the needs of the student group.

Scenario
Change of shift report to students (if applicable): Ms. Amanda Faraday is a 23-year old single female presenting at the Behavioral Health Facility. The admission nurse will do the initial assessment of Ms. Faraday. She was diagnosed with Bipolar Disorder one and a half years ago. She is a junior in college majoring in psychology. She works at a coffee shop 36 – 40 hours per week. She lives in a two-bedroom apartment with a high school classmate. She has been dating Tim, whom she met at school, for the past eight months. Amanda has been experiencing a lot of stress lately. She had two major papers due in the past two weeks with three midterm exams. She has also been working extra hours at the coffee shop due to a staff vacancy. She has not been able to spend as much time with Tim so two weeks ago after an argument he told her that maybe they should see other people. Amanda had so much to do and felt that the mood stabilizer for her Bipolar Disorder was "slowing me down" and making it too difficult to complete things. She discontinued her medication three weeks ago. Her parents have noticed changes in her in the past week. They are concerned and brought her to the hospital for assessment. Amanda doesn't think she needs to be hospitalized. Dr. Winters reports Amanda was quite manic during her last admission which was an involuntary hospital stay. She had a lot of difficulty on the unit and required "psych emergency" medication on two separate occasions for aggression towards staff. Current home medicine includes Lithium 600mg BID, Multivitamin 1 daily; and Ortho Novum once daily. The physician ordered routine admission orders with Haldol, Ativan, and Ambien PRN in addition to above meds.

Timing	Patient/Nurse actions live faculty	Expected intervention	May use the following cues:
10 minutes	Amanda is pacing around room and sits for only short periods of time. She takes items out of her purse at times. She is angry about being admitted to the unit and ignores her parent's present in the room. Mr. and Mrs. Faraday are sitting at the table visually upset and	Nurse will: Introduce self Correctly identify patient Explains nursing care: Obtain vital signs complete head to toe assessment	Role member providing cue: Patents can ask, "What's going to happen? How are you gong to help her? Look at her! She can't even sit still for 5 minutes!" if nurse does not explain the admission process.

	anxious.	Use therapeutic communication	
10 minutes	Amanda sits down while talking with the nurse but is extremely fidgety. Continues to avoid eye contact with parents and will not acknowledge their presence. Towards the end of the assessment Amanda becomes extremely agitated and angry and shoves a chair across the room.	Nurse will: Complete MMSE Use therapeutic communication Safe administration of medication related to patient agitation	Amanda can ask, "Why are you asking me to do all of these stupid things!? I don't have time for this! Look at this magazine! I've decided to be a model and I've been reading these magazines, so I know what I have to do but if I have to sit here and waste my time I'll never get a magazine cover!" if nurse doesn't explain MMSE. Parents can ask, "Aren't you going to give her something to calm her down!" if nurse does not offer medications for agitation.

Debriefing

Start by asking students about their feelings/thoughts related to the experience. *It is alright to let the students lead the discussion at first. Utilize the questions below at your discretion*

Debriefing / Guided Reflection Questions for this Simulation:

Major symptoms related to bipolar disorder are sleep disturbance, manic behaviors such as rapid pressured speech, flight of ideas, and grandiosity. The goal of therapy is to provide patient and unit safety, provide a calm environment, decrease psychomotor agitation of patient, increase fluid and food intake, increase sleep, stabilize mood, and rule out any possible medical reason for presenting problem

Background:

1. Did you miss anything on the patient history that would affect her care?
2. What risk factors from the patient's history are pertinent to her care today?
3. How does the nurses' care/treatment affect her health or wellness?

Noticing:

1. What were initial thoughts/prejudices about your patient upon entering her room?
2. Did you notice anything in regards to her family or visitor?

Interpreting:

1. Did you have sufficient knowledge to interpret and respond to this situation?
2. Based on your observations, what is of highest priority for the patient?
3. What other concerns do you have about this patient?

Reflection-in-Action:

1. What were your priorities in responding to the patient? How did you prioritize your care?
2. Were you able to identify stigma or stigmatizing attitudes in this scenario?
3. How can the nurse partner with the patient/family to improve the health status?

Reflection-on-Action:

1. What went well in this scenario?
2. If you were able to do this again, what would you like to see done differently?
3. How do you feel the issue of stigma can be addressed in nursing education?
4. What is the most important thing you learned from this case?

Supporting Documents	
Forms	http://www2.gov.bc.ca/assets/gov/health/practitioner-pro/bc-guidelines/cogimp-smmse.pdf
Patient Chart	
Information/Forms	
Script/Roles	*Mood Bipolar Script*

APPENDIX C

UNIVERSITY OF SOUTH DAKOTA
CONGESTIVE HEART FAILURE
SIMULATION SCENARIO

UNIVERSITY OF SOUTH DAKOTA
CONGESTIVE HEART FAILURE
SIMULATION SCENARIO

University of South Dakota
Vermillion, South Dakota
Department of Nursing

Simulation Scenario
Circulation: Congestive Heart Failure

Overview			
Title:	Congestive Heart Failure	Concept: Circulation	Target Group: First Year Nursing Students

Johnson-Anderson, H., Dreke, C., & Ray, A. (2012). *Simulation scenario; Circulation: Congestive heart failure*. Unpublished manuscript, Department of Nursing, University of South Dakota at Vermillion.

Time Allotment (each simulation is designed to be run in a 2 hour block of time which equals four clinical hours).

Prep: Campus specific (see preparation requirements).

Prebriefing: Campus specific (first year students should be longer than second year students according to evidence-based practice [EBP] standards).

Simulation: 15-20 minutes (no longer than 30 minutes).

Debriefing: Campus specific (first year students shorter than second year students according to EBP standards).

DocuCare Information:

Dorothy Bloom was hospitalized for a Myocardial Infarction seven months ago and was transferred to the hospital for placement of cardiac stents. Dorothy was brought to the ER per ambulance at 0300 this morning with complaints of dyspnea and chest heaviness. Her EF was found to be 35%. Her diagnosis is systolic LVF and RVF. Chest X-ray revealed Cardiomegaly and ruled out Pneumonia

Curriculum Alignment	
AACN Essentials: IX	
Population: Elderly Caucasian female patient	
Concepts	Exemplar
Circulation	CHF Hypertension

Objectives and Outcomes		
Area	Scenario Objectives	Course Outcome
Knowledge	Identify signs and symptoms of worsening heart failure. Recognize impact of medical history on current health status.	2.1, 5.1
Skills	Safely administer medications.	1.1, 6.1
Attitudes	Values the importance of effective interprofessional communication during the delivery of safe patient care.	

Student Preparation
Prerequisite assignment (the following information should be sent to the students prior to the scheduled simulation). Students are expected to bring their laptop, drug book, and primary text. Complete the (CIRC_*CHF_Student Prep*) document.

Simulation Setup	
Manikin Settings:	
Initial Vital Signs	
Pulse	1.22
Blood pressure	172.90
Pulse ox	86%

Respiratory rate	28
Temperature	99.2
Cardiac rhythm	Irregular
Lung sounds	Crackles with loose cough
Bowel sounds	Normal
Other:	

Change in Vital Signs

How many minutes until change?	
Pulse	
Blood pressure	
Pulse ox	92% with student intervention
Respiratory rate	
Temperature	
Cardiac rhythm	Irregular
Lung sounds	Crackles
Other	

Equipment List
Incentive spirometer at bedside
IV pump
Medication room/drawer
O2 delivery equipment
O2 sat monitor
Ted hose or SCD
IVPB tubing

Crash cart with airway devices and emergency medications Suction		
Equipment attached to live personal or manikin:		
ID & allergy band		
IV tubing with NS @ 150cc/hr		
IV pump		
Foley catheter with 150cc of output		
2-3+ pitting edema (foam)		
Scenario Setting		
Setting: Inpatient Time of day of scenario: 1900		
Patient Condition		
Clothing	Patient gown	
Props	Working telephones	
Moulage		
Medication	**Dosage**	**Route**
Laxis	60 mg (10mg = 1 ml labeled bottle)	IV
Concentration—Package		
Normal Saline 0.9%		IV
Roles for Students		**Student Names**
Primary nurse		
Secondary nurse		
Observer		

Other		
Resource nurse		
Recording nurse		
Medications resource for med calculations		
Daughter		
EKG, Lab, Xray (same student)		
Attending physician: Dr. Winters	(Faculty)	
Documents		
Standing chest pain orders		
Diagnostics Available: Labs Xrays (done in ER—in chart) 12 lead EKG (done in ER—in chart) Echo report (done in ER—in chart)		
Physician orders		
Admit orders		
Flow sheet		
MAR		
Kardex		
Graphics record		
Shift assessment		
Heart failure orders		

Patient Background				
Patient Demographics				
Last Name: Bloom			First Name: Dorothy	
Gender: Female	Age: 70	Ht: 5’3”	Wt: 52 kg.	Ethnicity: Caucasian
Religion: Catholic	Language: English		English Proficiency: Yes	

Other: Patient does not believe in influenza or pneumonia vaccinations. All other immunizations up to date.

History of present illness: Dorothy was brought to the ER per ambulance at 0300 this morning with complaints of dyspnea and chest heaviness.

Primary Medical Diagnosis: Congestive Heart Failure

Central Nervous System			
Cardiovascular	HTN, cardiac stent placement, MI		
Pulmonary			
Renal/Hepatic	Type 2 Diabetes x 4 years		
Gastrointestinal			
Musculoskeletal			
Integument			
Developmental history			
Psychological history			
Social history	Smother x 50 years Widowed, retired school teacher, enjoys crocheting, and playing cards		
Surgical history	Hysterectomy (age 50), appendectomy 9age 25), left mastectomy (age 60)		
Medication allergies	Penicillin	Reaction:	
Food/other allergies		Reaction:	
Admission medications	Digoxin loading doses: 0.5 mg IV x1 then in 6 hours 0.25 mg IV then 0.125 mg PO daily Lasix 40 mg IV every morning Potassium 10 mEq PO with meals BID		

Prebriefing

Give students the opportunity to discuss their feelings and fears (can use the round table approach) and then have discussion.

1. Discuss the student prep (any worksheets, journal articles, readings, etc.).

2. Discuss reasons a patient may develop CHF.

3. Discuss the diagnostic tests that would be used to diagnose CHF.
   a. BNP
   b. Chest X-ray
   c. Echocardiogram

4. Which part of the physical assessment would a nurse focus on when assessing a patient with CHF?

5. Identify topics that should be included in patient education for CHF:
   a. Daily weights
   b. Fluid restrictions
   c. Low salt diet
   d. Medication compliance

6. Describe how you think the patient may be presented to you during this simulation.

7. Explain how you might care for this patient.

8. Any questions?

Scenario

Change of shift report to students (if applicable):

Dorothy Bloom is a patient of Dr. Winters. She is A & O X 3. Heart rate 90s with S3 heart sound, rhythm irregular, blood pressure 152/94. Lung sounds have crackles throughout bilaterally, respiration rate 24, bowel sounds positive in four quadrants. No abdominal pain with palpation. Skin intact. 3+ pitting edema to calves and feet bilaterally, pedal pulses 1+/Doppler. She has a 16 Fr foley catheter in place. The patient denies chest pain or other pain and has been afebrile. She has NS 0.9% running at 150cc/hr and is on 2000cc fluid restriction. Her I/O for the last 12 hours was 1200 in and 550 out. Dr. Winters increased Dorothy's Lisinopril from 10 mg to 20 mg daily. Prior to her hospitalization she lived at home alone. Her daughter lives in town and has remained at Dorothy's bedside.

Timing	**Patient/Nurse actions live faculty**	**Expected intervention**	**May use the following cues:**
5-7 minutes	Patient lying in bed. <u>VS</u> BP: 172/90 P: 122 T: 99.2 O2 Sat: 86% 3+ Edema—lower extremities Foley: 150 ml (last emptied @ 1600) Lungs: Crackles/loose cough	Change of shift report. Shift assessment (perform focused resp & cardiac assessment) Elevate head of bead Check VS/O2 sats Increase O2 Call PCP and document orders using SBAR.	**Role member providing cue:** Patient: "I can't seem to catch my breath? My legs/fee feel really puffy." Daughter: "Why is she struggling to breathe? Is she having another heart attack? How come her legs/fee are so puffy? PCP: Lasix 60 mg IV now ABGs, BNP, CPK Troponin stat, call with results.
5-7 minutes	Ask questions and respond to nurse's instructions Cough occasionally O2 sat 92%	Call lab & pharmacy. Explain plan to care for client and daughter. Look up administration of Lasix IVP and calculate dose. Question continuation of IV fluids. Nurses collaborate.	Patient: "I am so thirsty, please give me a glass of water." Daughter: "How does the Lasix work?" "How come she is retaining fluid . . . she is hardly drinking anything?" "If she can't drink much how come she can have IV?"
5-7 minutes	Ask questions and respond to the nurse	Call PCP to verify IV fluids. Administer IV Lasix. Call PCP with lab results.	Patient: "How long will I need this medication?" Daughter: "How will we know the medicine is working?"

Debriefing
Start by asking students about their feelings/thoughts related to the experience. **Debriefing / Guided Reflection Questions for this Simulation:** 1. How did you feel throughout the simulation experience? a) Emotions (are students angry, happy, confused, etc.?) 2. Could discuss with students their thinking about how they knew or why they did certain things (i.e. put on O2, checked blood pressure, things specific to the student group). This allows students to share aloud with other students how they are critically thinking and synthesizing information. 3. Describe the objectives you were able to achieve. 4. Which objectives were you unable to achieve (if any)? 5. Did you have the knowledge, skills, and attitude to meet the objectives? 6. Did you miss anything in getting report on the patient? 7. Were you satisfied with your ability to work through the simulation? 8. If you were to do this again, how would you handle the situation differently? 9. What did the group do well? 10. What did the team feel was the primary nursing diagnosis? 11. What were the key assessments and interventions? 12. In caring for this patient in simulation, do you feel you would be more confident to care for a patient with CHF in the hospital? 13. Is there anything else you would like to discuss?

Supporting Documents	
Forms	*CIRC_CHF_Standing Orders*
Patient Chart	
Information/Forms	*CIRC_CHF_DX_Tests*
Script/Roles	*CIRC_CHF_Script*