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Mindfulness Education for Stress Reduction in Nursing Students

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Mindfulness Education for Stress Reduction in Nursing Students

by

Kathryn K. Peterson

A capstone project submitted to the faculty of
Gardner-Webb University Hunt School of Nursing
in partial fulfillment of the requirements for the degree of
Doctor of Nursing Practice

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Abstract

Problem. The level of stress experienced by college students can be significant. It can be even more pronounced in nursing students as a result of the intense curriculum and clinical experiences. Stress can be the result of academic, personal, or interpersonal causes. It can affect physical, psychological, spiritual, and social well-being. Stress is not always avoidable but learning techniques to manage stress can improve overall well-being by decreasing the physical, psychological, spiritual, and social effects of stress. Learning to manage stress through holistic self-care with mindfulness stress reduction techniques could help alleviate the negative effects of stress, enabling the student to manage stress in a more appropriate and healthy manner.

Purpose. The purpose of the project was to determine whether education on stress and the use of mindfulness stress reduction techniques for stress management purposes in first semester nursing students would decrease the level of perceived stress.

Background. Nursing students can experience a high level of stress as the result of both academic and personal stressors.

Project design. Students were recruited for voluntary participation in the mindfulness stress reduction (MSR) intervention. The MSR intervention took place over an eight week period with biweekly mindfulness practice sessions offered. Descriptive statistics and a non-randomized pre-test/post-test design were used to determine outcome measurements for the level of stress perception and mindfulness. The Perceived Stress Scale (PSS) and the Mindful Attention Awareness Scale (MAAS) was used for data collection.

Sample. A non-randomized convenience sample was recruited from the undergraduate first semester nursing students in a pre-licensure traditional baccalaureate nursing program (BSN) in a private college.

Findings. The pre and post intervention scores of mindfulness (MAAS) and perceived stress (PSS) were not significantly different. In part, this might have been related to the small pool of participants. The post intervention questionnaire did reveal a number of positive effects of the MSR intervention.

Recommendations. Future studies could examine how to increase participation for a more effective MSR intervention in hopes of positively impacting nursing students' levels of stress and mindfulness.

Keywords: college student, nursing student, stress, stress reduction, effects of stress, mindfulness, mindfulness stress reduction

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Problem Background and Significance

Problem Recognition

Starting college can be an exciting time for both parents and their children. It can also be a very stressful time for college students with transition into adulthood and responsibilities associated with higher education (Jekielek & Brown, 2005; Robotham, 2008). In addition to stress associated with academics, there can be personal stressors (Hurst, Baranik, & Daniel, 2013). College students majoring in nursing can experience the additional stress of a very vigorous curriculum and intimidating clinical experiences (Pulido-Martos, Augusto-Landa, & Lopez-Zafra, 2012). It is important to consider sources and effects of stress on college students, in particular nursing students.

Stress is a physiological response to internal or external stressors that can upset the psychological and physiological well-being (Lazarus & Cohen, 1977). According to Lazarus and Folkman (1986) stress is defined as “a particular relationship between the individual and his surroundings which is judged by him to be threatening or to overwhelm his resources and which puts his well-being at risk” (p. 63). Research has found stress is present in nursing students and that it is of both a personal and academic nature (Pulido-Martos et al., 2012). From personal experience working with nursing students, factors causing stress are not always controllable (e.g. in the midst of a semester, students have experienced life threatening illness, severe injury, or the death of a loved one; issues with transportation to and from classes or clinicals; and even floods or house fires, necessitating the student to relocate in the middle of the term). Increased stress levels in students can lead to unhealthy behaviors including a change in eating habits, sleep, coping outlets, and reduction in physical activity (Deasy, Coughlan,

Pironom, Jourdan, & McNamara, 2014; Orzech, Salafsky, & Hamilton, 2011). When stress is ongoing over an extended period, it can lead to long-term or chronic stress which can affect the overall health and well-being of the student. Long-term stress is associated with a number of chronic diseases, both physiological and psychological, resulting in increased morbidity and mortality (Schneiderman, Ironson, & Siegel, 2005).

Needs Assessment

Population. The sample population was a non-randomized convenience sample of undergraduate nursing students in a traditional baccalaureate nursing program in a small private college in North Carolina. The students had completed their first two years of college, consisting of required coursework in liberal arts, sciences, and mathematics. The students were in their first semester of nursing school, consisting of males and females of varying ages and circumstances.

Stakeholders. The stakeholders were the college dean, administrators, the school of nursing dean, director, nursing faculty, and most importantly the nursing students. This capstone project required significant stakeholder support, as the program affected not only the students but the faculty who were facilitators in the implementation stage and ultimately would sustain it as a part of the education for nursing students.

Organizational Assessment. The college was a four-year residential college offering a diverse selection of baccalaureate degrees in 20 majors and 13 minors. Additionally, it offered online courses, programs, and baccalaureate degrees. It was located in a small town in the Blue Ridge Mountains of western North Carolina. The college offered its students the traditional education opportunities but also encouraged a healthy, holistic lifestyle approach by offering a number of outdoor enjoyments through

the college or locally including skiing, hiking, rafting, mountain climbing, and camping. Achieving physical and emotional well-being while in harmony with intellectual accomplishment was fundamental to the foundation of wellness. This institution offered ‘wellness initiatives’ including flexible pet friendly housing choices, a tobacco free campus, and “ample green space to study, play, and enjoy the mountain air” (LMC, n.d.). The college’s vision stated it was committed to “holistic learning in a safe and nurturing environment. Students were encouraged to strengthen their academic pursuits through education that addressed mind, body and spiritual growth” (Lees-McRae College Homepage [LMC], n.d.)

The School of Nursing (SON) handbook noted the importance and value of a holistic, evidence-based approach to advancing the art and science of nursing (LMC, 2015). Its organizing framework was also holistic, acknowledging the person, environment, and health with nursing and learning, making this environment conducive to a holistic intervention in nursing students involving stress reduction through caring for the mind, body, and spirit.

SWOT Analysis. When determining the ability to successfully implement a program to reduce student stress it was critical to evaluate the *strengths, weaknesses, opportunities, and threats* affecting the organization (see Appendix A for SWOT analysis diagram). Internal organizational strengths included faculty with a student-centered approach towards education. The faculty gathered on a regular basis for a shared governance style of decision-making pertaining to curriculum, faculty development, student issues, and other concerns or endeavors. Additionally, the faculty were creative and innovative in their development of the nursing curriculum. The college and the

school of nursing's mission, vision, and values reflected a belief in the importance of spiritual, physical, and mental growth in the students as part of the college experience. This was demonstrated through the college offering student athletics, intermural activities, recreational outlets, a tobacco free campus, and pet friendly residence halls. The college had a recreational complex with physical fitness equipment, work out space, and offers classes including Tai Chi, yoga, and Zumba classes. Additionally, the school of nursing was located in a new, state of the art facility with a soothing décor incorporating earthy, calming colors, and indoor plants. Student areas were furnished in soft, comfortable seating overlooking forest and landscaped grounds, providing a space for rest and reflection.

Internal organizational weaknesses were limited resources including a limited number of faculty and space in which to work. This resulted in faculty having very limited time to provide educational opportunities beyond the courses they were already teaching in the nursing curriculum. The intense nursing curriculum left very little room for additional material including the implementation. Physical space for the intervention to take place was also limited.

External to the organization were outside opportunities that could reinforce stress management in students, such as regular prayer or meditation through attendance at a church or temple. Other opportunities were gyms, athletic, recreational facilities, and classes offering activities such as yoga, Tai Chi, and Qigong. Additionally, the college was located in a region offering a large number of outdoor recreational activities in scenic surroundings creating a space for personal reflection while engaging in physical pursuits.

External threats were limited monetary resources and funding for sufficient faculty, time, training, and space. Another potential threat was some misunderstanding between religious and spiritual stress management techniques.

Theoretical/Conceptual Framework

Nursing is a caring science, reflected through complete care of the person, cognizant of all factors affecting the multidimensional facets of the being including the mind, body, and spirit (Watson, 2005). This is demonstrated through holistic care which embraces the whole person and not just the physical malady at hand (Dossey & Keegan, 2013). An aspect of holistic self-care and nursing practice is recognition of the effects of stress on overall health or well-being. In order to truly provide complete and effective nursing care, the nursing student must first practice holistic self-care, including effective stress management. With practice, the nursing student can become more adept at recognizing the effects of stress and its potential risk to self. Then, the student can more effectively assess the client for stress thus providing holistic nursing care where overall health of the client can be maintained or attained. This approach to nursing care is consistent with the Neuman Systems Model (Neuman, 2011). Hereafter, the Neuman Systems Model (NSM) will be discussed along with its application to nursing education.

Neuman Systems Model

Betty Neuman's life experiences contributed to her becoming a nurse (Aylward, 2010). Her education (master's degree is in public health nursing and her doctoral degree in clinical psychology) shaped the philosophical beliefs, clinical experiences, and personal views that lead to the development of the NSM (Aylward, 2010). The original concept for the NSM was developed in 1970 and published in 1972 (Aylward, 2010).

The model has continued to evolve with the addition of a “nursing process format”, “created environment concepts”, and “spiritual variable” (Aylward, 2010, p. 183). The NSM is a systems model that is open and continually interacting with variables which ultimately affect the client-client system energy flow and homeostasis (Neuman, 1995). Neuman’s model (see Appendix B) can be used in clinical practice, research, nursing education, and nursing administration (Aylward, 2010).

Betty Neuman (2002) stated:

The philosophic base of the Neuman Systems Model encompasses wholism, a wellness orientation, client perception and motivation, and a dynamic systems perspective of energy and variable interaction with the environment to mitigate possible harm from internal and external stressors, while caregivers and clients form a partnership relationship to desired outcome goals for optimal health retention, restoration, and maintenance. This philosophical base pervades all aspects of the model (p. 12).

Neuman (1995) viewed the client as an open system, multidimensional in nature, continually changing or dynamic in response to intrapersonal (occurring within the person), interpersonal (occurring between individuals), and extrapersonal factors (occurring outside the individual). The system is comprised of energy that ebbs and flows to maintain system stability or homeostasis. The system consists of concentric layers starting exteriorly with the ‘Flexible Line of Defense’, then the ‘Normal Line of Defense’, the ‘Lines of Resistance’, and innermost, the central core being. The central core houses the characteristics of the being including physiologic and psychologic factors.

Neuman (1995) envisioned nursing as providing care based on the understanding of the system through the recognition of potential or real stressors affecting the stability of the client-client system (C-CS). Recognition of the major NSM concepts and their effect on the client is critical to providing holistic nursing care whereby the nurse astutely assesses and responds to both potential and real stressors determined in collaboration with the client. From this nurse-client collaboration, a plan of care for improved homeostasis can be developed and implemented.

Major Concepts of the Neuman Systems Model

The four major concepts of the NSM model are the client-client system, the environment, health, and nursing. It is the dynamic interaction between these four concepts that determines the client-client system's wellbeing or homeostasis (Neuman, 1995, 2002).

Client-client system. The first concept is the C-CS which “consists of the flexible line of defense, the normal line of defense, lines of resistance, and the basic structure energy resources” (Aylward, 2010, p. 185) at the core. The model can be visualized as concentric circles expanding out from the core being (Neuman, 1995, 2002).

Flexible line of defense. The flexible line of defense is the outermost protective ring of the C-CS. Depending on the overall health or well-being of the client, it can expand or contract around the normal line of defense. It protects the C-CS and is the first line of defense against stressors. It can quickly be reduced or penetrated with stressors. Potential stressors affecting or penetrating the flexible line could be amount or quality of sleep, nutrition, or emotional stress, dependent on CC-S resources and ability to compensate (Neuman, 1995, 2002).

Normal line of defense. The normal line of defense represents the C-CS's overall health or wellbeing. It is changeable, depending on stressors and the ability to cope with them over time or with experience. Its function is to protect the basic structure and stability of the system.

Lines of resistance. The lines of resistance (LOR) are within the flexible and normal lines of defense and encircle the C-CS basic structure or core. They protect the overall stability, health, or well-being of the client dependent on the client innate resources. Depending on the C-CS's resilience, symptoms will develop when stressors penetrate the LOR causing the system to compensate. The client-client system will deteriorate if there are inadequate resources to stabilize the system. Neuman defined client resources as factors that are known or unknown, internal or external (Neuman, 1995, 2002).

Basic structure. The basic structure is the core of the C-CS and is made up of factors that are "common to the species including temperature range, genetic structure, response pattern, organ strength or weakness, ego structure, and knowns or commonalities" (Aylward, 2010, p. 187). It represents the basic function and structure of the system (Neuman, 1995, 2002).

Client variables. Client variables are the physiological, psychological, sociocultural, developmental, and spiritual dimensions. They are present throughout the system in all its concentric circles in different stages of development and potential. Neuman's definition of each variable are as follows. The physiological variable is the physical body and its function. The psychological variable is the "mental processes and relationships" (Aylward, 2010, p. 187). The sociocultural variable is social and cultural

function. The developmental variable is the stage of development or function in life. The spiritual variable is the spirituality of the system (Neuman, 1995, 2002).

Environment. The second concept of the NSM is the environment which is all the internal and external factors affecting the C-CS. They can be intrapersonal, interpersonal, and extra personal in nature. Later, Neuman added the concept of created environment to the overall concept of environment (Neuman, 1995, 2002).

Health. The third concept of the NSM is health which represents the level of overall stability, health, or well-being at a given point. The system's level of energy factors into the level of health. As long as the system has enough energy, it will remain healthy and heal from stressors. The system will destabilize into illness or death if there is inadequate energy to recover (Neuman, 1995, 2002).

Nursing. The fourth concept of the NSM is nursing. Nursing is the holistic care of the C-CS and all its components. It takes into account all stressors, factors, variables, and lines of defense when planning care. Care can be preventative in nature thereby maintaining the stability of the C-CS or it can be directed at rebalancing the system through intervention. Primary prevention is directed at the retention of health; secondary prevention is directed at re-attainment of health; and tertiary prevention is directed at re-acclimation and avoidance of further health issues. Primary, secondary, and tertiary prevention function as a continuing circle of care and re-balancing (Neuman, 1995, 2002). The objective is to retain health in nursing students in spite of the stress experienced with nursing school through primary prevention involving stress management with MSR.

Neuman Systems Model for Stress Management in Nursing Students

The NSM is an appropriate theoretical framework for this Capstone Project. The model is grounded in “wholism, a wellness orientation, client perception and motivation, and a dynamic systems perspective of energy and variable interaction with the environment to mitigate possible harm from internal and external stressors” (Neuman, 2002, p.12). The wellness and preventative perspective fits with the proactive approach of stress management.

The NSM’s concept of health is the maintenance of energy in which the open C-CS (the nursing student) has more energy stored than it is expending (Neuman, 1995, 2002). The nursing student’s environment can be stressful due to intrapersonal, interpersonal, and extrapersonal factors. The nursing student’s health depends on the ability of the lines of defense to protect the system from stressors. The interrelated physiological, psychological, sociocultural, developmental, and spiritual variables influence the extent to which the lines of defense can protect the C-CS. The C-CS’s reaction to stressors depends in part on the strength of its lines of defense and resistance. Chronic stress can penetrate the lines of defense, ultimately affecting the basic structure’s function and homeostasis (Neuman, 1995, 2002). The nursing student’s dynamic energy level can be depleted through chronic stress. Stress management can help the student to maintain or improve health through prevention strategies that strengthen lines of defense and maintain or restore the energy level.

Primary prevention involves interventions that strengthen the flexible lines of defense against the effects of stressors to maintain optimal stability or wellness. Secondary prevention involves interventions that strengthen the lines of resistance against

the effects of stressors to restore optimal stability or wellness. Tertiary prevention involves interventions that support existing strengths and conserve the C-CS energy in order to stabilize and restore the system (Neuman, 1995, 2002). The NSM concept of environment includes the typical type of stresses encountered by nursing students which can affect overall well-being. The NSM concept of nursing is the care of self and others (Aylward, 2010).

Review of Literature

Stress

Stress can have profound effects on overall well-being and is associated with both acute and chronic health conditions (Schneiderman et al., 2005). Stress can affect physiological well-being resulting in disturbed sleep, decreased energy, and increased muscle tension (Clayton & McCance, 2014; Orzech et al., 2011; Tucker-Ladd, 2007). Long-term stress can lead to chronic health conditions including cardiovascular disease and diabetes (Clayton & McCance, 2014). Stress can affect psychological well-being resulting in anxiety, depression, irritability, frustration, anger, worrying, uncertainty, and poor self-confidence (Tucker-Ladd, 2007; Zautra, 2003). This is very concerning when considering the level of stress students experience in college, especially within the nursing curriculum (American College Health Association [ACHA], 2014; Pulido-Martos et al., 2012).

Effects of Stress

Though stress is a normal part of life, it can affect overall wellbeing when ongoing or chronic in nature. The stress response is a protective “fight or flight” mechanism which is beneficial under life threatening circumstances (Clayton &

McCance, 2014; Schneiderman et al., 2005). Stress can also energize and motivate a person to perform optimally when needed. Unfortunately, ongoing or chronic stress can negatively impact overall well-being, affecting psychosocial, physiological, and spiritual well-being (Schneiderman et al., 2005). Ultimately, long-term or chronic stress can lead to increased morbidity and mortality (Schneiderman et al., 2005). Increased stress activates the hypothalamus-pituitary-adrenal axis (HPA) resulting in stimulation of the adrenal glands. The adrenal glands release adrenaline and cortisol, increasing the heart rate, respiratory rate, and blood pressure (Clayton & McCance, 2014; Schneiderman et al., 2005). Cortisol increases blood glucose and the electrolyte balance in the body. Stress can alter lipid metabolism, increase coagulation, and affect immune function. Short-term, this can be beneficial for survival, but long-term it can result in chronic diseases like hypertension, cardiovascular disease, immune dysfunction, and diabetes (Clayton & McCance, 2014). Additionally, increased stress has been associated with unhealthy lifestyle behaviors including tobacco use, substance abuse, decreased physical activity, and an unhealthy diet (Deasy et al., 2014). Based on the negative effects of stress, it is critical to learn techniques to manage stress in order to improve overall health.

Stress in the General Population

Data collected for the National Public Radio, Robert Wood Johnson Foundation, and Harvard School of Public Health survey was published in ‘The Burden of Stress in America’ (2014). Data were collected through randomized dialing of both cellular and landline phones. It was “weighted by household size, cell phone/landline use and demographics (sex, age, race/ethnicity, education, marital status, and census region) to reflect the true population” (National Public Radio, the Robert Wood Johnson

Foundation, & the Harvard School of Public Health, 2014, p. 11). The 2014 survey reported that out of 2,505 people participating, 49% had experienced major stress in the previous year. Furthermore, 26% of those surveyed reported experiencing major stress in the last month. Causes of stress were illness, disease, a loved one's death, employment, personal relationships, and life transitions. Fifty-three percent of those experiencing considerable stress in the last month noted work as the major cause (National Public Radio, Robert Wood Johnson Foundation, & Harvard School of Public Health, 2014). These findings can also apply to nursing students as well who are balancing a personal life, oftentimes employment, and nursing school.

Stress in College Students

In the annual American College Health Association (ACHA) survey, over 30% of college students reported stress interfered with their academic performance (ACHA, 2014). The ACHA-National College Health Assessment II (ACHA-NCHA II) data collection tool has been utilized since 2009 and is a revised version of the original tool used from 2000-2008. The survey helps college health service providers, health educators, counselors, and administrators collect data on "students' habits, behaviors, and perceptions on the most prevalent health topics" (ACHA, 2014, p.2). It is the most extensive survey of college students presently available and provides extensive data on student health. The overall response rate was 26% and included responses from 79,266 college students. The survey findings provide student information on general physical health, psychological health, disease and injury prevention, academic impacts, violence, abusive relationships, personal safety, alcohol, tobacco, and other drug use, sexual behavior, nutrition and exercise, mental health, sleep, demographics and student

characteristics, and demographics of participating institutions. Of note, 30% of students reported stress had interfered with their academic performance in the last 12 months.

This included receiving a lower grade on an exam or project, receiving a lower grade on a course or in some cases not completing the course at all.

A meta-analysis of 40 qualitative studies on stress in college students noted common causes of stress and their level of impact (Hurst et al., 2013). Stressors were reviewed and coded based on the type of stressor. Stressors were categorized into stress associated with relationships, lack of resources, academics, the environment, expectations, diversity, transitions and other stressors (Hurst et al., 2013). Interpersonal relationships were noted as a cause of stress and were related to family (38%), romantic partners (33%), peers (28%), and faculty (23%). Lack of resources also contributed to stress and was related to lack of time (38%), money (18%), support (15%), skills (13%), technology (5%), and sleep (5%). Lack of time and juggling work-life balance was another common theme in the review of literature. Both self-imposed (38%) and others expectations (30%) contributed to student stress. Academic related stressors were related to general academics (40%), exams (20%), classes (8%), and studying (8%). Environmental factors such as disruptive/hostile (33%), unfamiliar (10%), a different country (8%) and military (5%) environment contributed to student stress. Diversity was also noted as a source of stress and was related to race and ethnicity (18%), having a disability (5%), being a first-generation college student (5%) and sexual orientation (3%). Transition to college caused stress in 15% of students surveyed (Hurst et al., 2013).

In a study by Guo, Wang, Johnson, and Diaz (2011), economic stress was found to be a significant cause of student stress. Students were more concerned about the

probability of obtaining future employment than present employment while in college. Additionally, students were stressed about their present financial burden (Guo et al., 2011). The study population was voluntary sample of 560 undergraduate students from a mix of majors. It was located in a predominantly Hispanic public university in the southwestern United States. The students surveyed were 17 to 57 years of age, with 43% being males and 57% females. Eighty one percent were Hispanic, 7% Caucasian, 3% African American, 1% Asian, and others 10%. The students completed a five-point Likert type scale, with five being the highest stress level and one the lowest. There were four items or questions regarding economic stress to rate level of stress: current employment opportunities and condition, future employment opportunities, national/global financial outlook and economic development, and current financial burden. The average of the four items was used to determine overall stress relate to the economy. Students reported significantly higher levels of stress related to future employment and present financial burden than any other economic related category. This was particularly the case in senior college students. Gender did not appear to affect the levels of economic related stress (Guo et al., 2011).

In a review of study findings on student stress, Robotham (2008) noted seven areas of major stress in students. One area of stress was academic and study related stressors including meeting assignment deadlines, overwhelmed by workload, fear of failure, time management control, and lack of time. Upcoming exams were a frequent source of stress for college students. Another source of stress was associated with first starting college, especially if it involved living away from home as this required taking on new responsibilities; adjusting to new environments including social and support

systems. Foreign students had additional stress related to adjusting to a different culture and language. Another area of stress was related to financial issues and is consistent with the findings in Guo et al. (2011) study.

Stress in Nursing Students

A systematic review of 784 studies by Pulido-Martos et al. (2012) resulted in the analysis of 86 quantitative studies on stress in nursing students. The authors reported that nursing students experience significant stress related to the nursing curriculum. The review found the intensity and rigor of the nursing program contributed to major stress in nursing students as did the lengthy clinical hours. Furthermore, nursing students' emotional well-being suffered as a result of the toll of caregiving and concern over making a mistake and potentially causing harm to the patient (Pulido-Martos et al., 2012).

A comprehensive survey of 1,557 college students majoring in nursing, midwifery, or education showed a strong correlation between increased psychological stress and unhealthy lifestyle behaviors (Deasy et al., 2014). Unhealthy lifestyle behaviors included increased alcohol consumption, tobacco smoking, poor diet, and decreased physical activity. The cross sectional design study utilized the General Health Questionnaire, the Ways of Coping Questionnaire, and the Lifestyle Behavior Questionnaire to examine life style behaviors and their relationship to psychological distress level. The survey response was 71% with 1,112 students completing the survey. Thirty-seven percent of the respondents were nursing and midwifery students. Nursing students were found to be more stressed than students from other majors (Deasy et al., 2014).

Intervention for Stress

Research has proven stress is a real concern in college students including nursing students. Not only does stress affect the overall well-being of the student but it also affects the student's academic performance. There are a number of options for alleviating student stress including physical activity, yoga, qigong, journaling, and mindfulness stress reduction (MSR). All have demonstrated usefulness for stress management (Bland, Melton, Bigham, & Welle, 2014; Chan et al., 2013; Grossman, Niemann, Schmidt, & Walach 2004; Lumley & Provenzano, 2003; Michalsen et al., 2005). MSR was chosen as the intervention of choice for this Capstone project based on the ability to fit it into the nursing student academic schedule and its usability in both the classroom and clinical. Also, the college already offered a number of opportunities for physical activity at the recreational complex including physical fitness equipment and classes including Tai Chi, yoga, and Zumba classes. Furthermore, the college was located in a recreational area offering a number of physical pursuits including hiking, biking, whitewater rafting, and rock climbing (Lees-McRae College [LMC], n.d.). Furthermore, yoga and journaling are a component of MSR practices.

The use of mindfulness stress reduction (MSR) in college students has been shown to be helpful in the management of stress and its effects on health. Kabat-Zinn, the founder of the mindfulness-based stress reduction program at University of Massachusetts, described mindfulness as the ability to discover and cultivate the ability to “pay attention in a particular way: on purpose, in the present moment, in a non-judgmental manner (Kabat-Zinn, 2013, pp. xxvii). This is accomplished through focusing on the breath in order to calm the brain from a constant stream of thoughts, their

corresponding emotions, and effects on the body. Essentially, MSR is an opportunity to take a break and rest the physiological and psychological system (Kabat-Zinn, 2013).

Grossman et al. (2004) performed a review and meta-analysis of 64 published and unpublished studies from 1999-2002 on the use of MSR for health related reasons. Twenty of the 64 studies reviewed met the criteria for inclusion in the meta-analysis resulting in a study population of 1,605 participants. Forty four of the studies were excluded for insufficient description of the MSR interventions; insufficient quantitative health evaluation and statistical analysis; MSR wasn't the main focus of the intervention; or the MSR intervention deviated too far from the program's format. Included in the meta-analysis were study populations experiencing pain, cancer, heart disease, depression, anxiety, and stress; studies were both controlled and observational. The results were homogenous in both type of studies with effect sizes of approximately 0.5 ($P < .0001$). The meta-analysis of the 20 studies meeting the criteria demonstrated a consistent and fairly strong effect with use of mindfulness based stress reduction for anxiety and stress associated with both clinical and nonclinical problems; of note was its usefulness for stress management (Grossman et al., 2004).

Oman, Shapiro, Thoresen, Plante, and Flinders (2008) evaluated the effects of MSR on stress, rumination, forgiveness, and hope in college students. Participants were recruited through flyers, emails, class presentations, and event presentations resulting in a total of 47 consented participants. The participants were randomized into one of two mindfulness intervention groups, MSR or Eight-Point Program (EPP), or a control group. A self-report pre-test, post-test, and eight-week follow-up data of perceived stress, forgiveness, and rumination was measured. The results of the study showed little difference between the MSR and EPP intervention groups ($p > .10$) but significant

differences in stress between the intervention groups and control group ($p < .05$, Cohen's $d = -.45$), suggesting meditation-based stress-management practices reduce stress (Oman et al., 2008).

A small qualitative pilot study examined the effectiveness of a seven week mindfulness stress reduction intervention in nursing and midwifery students (van der Riet, Rossiter, Kirby, Dluzewska, & Harmon, 2015). Fourteen students participated in the intervention with 10 students completing it. A descriptive qualitative design was used to examine the effects of the program. The findings demonstrated common themes of improved sleep, concentration, clarity and reduction in negative thoughts. Students noted an improved ability to recognize symptoms of stress and its management with mindfulness techniques. The study was limited by a small number of participants but did demonstrate the benefits of mindfulness for stress reduction.

A pilot study examined the effects of an eight-week mindfulness-based stress reduction (MBSR) course in baccalaureate nursing students on levels of stress and empathy (Beddoe & Murphy, 2004). The study was a pre-test and post-test design with the Derogatis Stress Profile measuring stress levels and the Interpersonal Reactivity Index measuring empathy. The participants were recruited from a BSN program as a convenience and voluntary sample. Twenty-three students volunteered to participate in the program with 16 students completing the program and testing. The course provided MBSR education in eight weekly sessions by the researcher. Additionally, the students agreed to complete journal assignments and practice a 30 minute audiotape guided meditation five times per week. Students completing the MBSR program had a significant reduction in anxiety and stress levels ($p > .05$). Stress dimensions of attitude,

time pressure, and total stress improved post MBSR intervention. Empathy dimensions of personal distress and fantasy improved post MBSR intervention. Participants practicing home meditation on a regular basis showed even more benefits post MBSR intervention (Beddoe & Murphy, 2004). Though limited by number of participants, this small pilot study supports the use of mindfulness based stress reduction for stress management purposes in nursing students.

Summary

The presence of stress is well established in nursing students; it is related to everyday life, college, the intensity of the nursing curriculum, and practicum. A large national survey of 2,505 people reported 49% having experienced major stress in the last year (National Public Radio, Robert Wood Johnson Foundation, & Harvard School of Public Health, 2014). Stress in college students was strongly supported in a large national study of 79,266 students (ACHA, 2014); an extensive meta-analysis of 40 qualitative studies (Hurst et al., 2013); an extensive review of studies on student stress (Robotham, 2008); and a single study of 560 students (Guo et al., 2011). Furthermore, a review of literature specific to the presence of stress in nursing students is supported in a systematic review of 86 quantitative studies (Pulido-Martos et al., 2012) and an extensive survey of 1,557 college students with 37 percent being nursing students (Deasy et al., 2014). The effect of stress on well-being is concerning when considering potential long-term effects. For this reason, stress management education should be an integral component of nursing education in order to decrease the negative effects of interpersonal and curriculum related stress on well-being. Mindfulness stress reduction has demonstrated usefulness for stress management purposes. This is supported in a large

meta-analysis of 20 studies (Grossman et al., 2004); a single study by Oman et al. (2008); a small qualitative pilot study (van der Riet, Rossiter et al., 2015), and Beddoe & Murphy's (2004) pilot study.

Nursing students could decrease personal physical, psychological, spiritual, and social effects of stress through regular practice of MSR techniques for stress management purposes. As a result of study findings in the literature review, this Capstone project involved the implementation of a MSR intervention in nursing students.

Purpose, Goals, and Objectives of the Capstone Project

Purpose. The purpose of this project was to decrease the perception of stress in first semester nursing students through education on stress and use of mindfulness stress reduction techniques.

Goals.

- Decrease the physiological, psychological, and spiritual effects of acute and chronic stress.
- Maintain the physiological, psychological, and spiritual well-being of nursing and students.

Process objectives.

- Educate nursing students on the physiological effects of acute and chronic stress.
- Educate nursing students on the psychological effects of acute and chronic stress.
- Educate nursing students on the spiritual effects of acute and chronic stress.

- Educate nursing students on mindfulness stress reduction techniques for stress management purposes.

Outcome objectives.

- Students will understand the effects of acute and chronic stress on physiological wellbeing.
- Students will understand the effects of acute and chronic stress on psychological wellbeing.
- Students will understand the effects of acute and chronic stress on spiritual wellbeing.
- Students will demonstrate mindfulness stress reduction techniques.
- Students will practice mindfulness-based stress reduction techniques for a total of 20-30 minutes a day, at least four days per week.
- Students will transfer knowledge of mindfulness-based stress reduction to a holistic nursing practice.

Mission statement. Improve the health and well-being of nursing students through education on stress and the use of mindfulness stress reduction techniques for stress management. Nursing students will provide holistic nursing care to those they care for as a result of acquired knowledge through personal experience of mindfulness stress reduction.

Conceptual-Theoretical-Empirical Model CTE

The project framework was based on the theoretical concepts of the NSM. The Conceptual-Theoretical-Empirical model (CTE) illustrates the project's holistic approach to stress management in nursing students based on the NSM major concepts (Appendix

C). The four metaparadigm concepts of the NSM are the Client-Client System, Environment, Health, and Nursing.

The metaparadigm concept of client-client system is comprised of the Lines of Defense encircling the core being with the physiological, psychological, sociocultural, developmental, and spiritual dimensions variables. All are considered sub-parts of the whole being or client-client system. The level of health and well-being is reflected through the strength of the lines of defense with the individual variables being a component of overall well-being. The client-client system can be strengthened through holistic self-care involving stress management education with MSR practice.

The metaparadigm concept of the environment is comprised of the internal, external, and created environment. Environmental factors are stressors, good or bad, affecting the energy level of the client-client system and can be intrapersonal, interpersonal, and extrapersonal in nature. Environmental influences or stressors are managed through holistic self-care measures including stress management education with MSR practice.

The metaparadigm concept of health represents optimum system stability or best possible health of the client-client system. Overall health is based on the client-client system retaining more energy than it is expending. Through the holistic self-care measure of stress management education with MSR practice, overall health is improved through strengthening the client-client system, decreasing energy loss and retention of energy.

The metaparadigm concept of nursing involves nursing's focus on client-client system stability through accurate assessment and supporting the client-client system

through modifications for optimum health. Modifications or interventions can be at the primary, secondary, and tertiary level depending on the present state of wellness and stability of the client-client system. Stress management education with MSR practice can improve the student's ability to care for self and others. Stress management education can be incorporated into self-care and then transferred to practice.

Project Design

Population and Setting

A non-randomized convenience sample was recruited from the undergraduate first semester nursing students in a pre-licensure traditional baccalaureate nursing program (BSN) in a private college. The students had completed their first two years of college, consisting of coursework in required liberal arts, sciences, and math. The sample consisted of males and females of varying ages with some possessing prior completed degrees.

After Institutional Review Board (IRB) approval was granted, students were recruited for voluntary participation in the MSR intervention through the distribution of flyers with an introduction and explanation of the MSR intervention (Appendix D) along with announcements about the upcoming MSR course by nursing faculty in the two weeks prior to the MSR intervention.

The intervention took place at a four year private residential college offering a diverse selection of baccalaureate degrees in 20 majors and 13 minors. The college offers online courses and baccalaureate degrees. It is located in small town in the Blue Ridge Mountains of western North Carolina. There are a number of outdoor enjoyments available both through the college and locally including skiing, hiking, rafting, mountain

climbing, and camping. The nursing program is new with the first group of pre-licensure baccalaureate degree nursing students starting fall of 2015.

Team Selection

The team included the project manager and a nursing faculty member acting as the co-facilitator. Other nursing faculty members were included in the preparation and were educated on MSR intervention in order to support and reinforce its practice in the nursing students.

Best Practice Development and Implementation

This Capstone Project focused on decreasing stress in first semester nursing students through providing education on Mindfulness Stress Reduction (MSR) for stress management purposes (Kabat-Zinn, 2013). As part of holistic self-care, the students received education on the topic of stress and its effect on psychological, physiological, and spiritual wellbeing. MSR techniques were utilized to decrease the perception and effects of stress experienced by students in the intense nursing curriculum.

Students choosing to participate in the intervention were asked to sign an informed consent form (Appendix E) and complete the Perceived Stress Scale (PSS) and Mindful Attention Awareness Scale (MAAS) surveys prior to the first MSR session. The informed consent, pre-intervention PSS, and MAAS surveys were administered and collected by an assigned nursing faculty member prior to the MSR intervention. The MSR educational intervention was then explained in the introduction. After the week one introductory session, students met with the project manager or assigned nursing faculty member twice a week for education, practice, and reinforcement of mindfulness stress reduction (MSR) practices for stress reduction during the last 20-30 minutes of the lunch

break for a total of an eight week MSR intervention (see Appendix F for MSR Education Class Schedule). The MSR practice involved listening to MP3 recordings of MSR practices provided by the University of California, San Diego (UCSD, 2015). The first four weeks of the intervention, the MSR MP3 recording utilized was the UCSD “Awareness of Breath” recording. The second four weeks of the intervention, the MSR MP3 recording utilized was the UCSD “Body Scan” recording. Students were provided a MSR Resource Manual with voluntary reflective journaling opportunities (Appendix G), UCSD MP3 recordings “Awareness of Breath” and the “Body Scan”, general MSR information. MSR recorded practices provided by UCSD are available to the public free of charge and without restriction (UCSD, 2015).

The level of perceived stress and mindfulness in students was scheduled to be measured with the PSS and MAAS tools at the beginning of the semester, prior to the implementation of the intervention, immediately after completion of the intervention, and seven weeks after completion of the intervention. Students were given numbers for identification purposes by an assigned faculty member for completion of the MAAS, PSS, and Post Mindfulness Stress Reduction Education (MSR) Questionnaire (Appendix H). The assigned nursing faculty member administered and collected all documents.

Timeline

Week 1-7: Project Preparation

- The project manager worked with a mindfulness stress reduction expert to develop a sustainable intervention for students.
- Developed a class plan for faculty and students
- Developed a resource manual for students
- Collected data with the PSS and MAAS tools prior to the MSR intervention.

Week 1-8: Project Implementation

- Week one of the MSR educational intervention included an introduction and orientation to MSR (Appendix F).
- Week two through eight of the MSR educational intervention involved biweekly classes for education and reinforcement of MSR techniques (Appendix F).
- Students and faculty were given a resource manual with MP3 MSR recordings as a reference (see Appendix F and G).
- Project manager collected data post intervention week eight and week 15 utilizing the PSS, MAAS tools, and Post Mindfulness Stress Reduction Education (MSR) Questionnaire (Appendix H).

Week 1 Preparation	Week 2 Preparation	Week 3 Preparation	Week 4 Preparation	Week 5 Preparation	Week 6 Preparation	Week 7 Preparation
Work with a MSR expert to develop a sustainable intervention for students	Work with a MSR expert to develop a sustainable intervention for students	Work with a MSR expert to develop a sustainable intervention for students	Work with a MSR expert to develop a sustainable intervention for students	Work with a MSR expert to develop a sustainable intervention for students	Work with a MSR expert to develop a sustainable intervention for students	Work with a MSR expert to develop a sustainable intervention for students
			Develop class & resource manual for students	Develop resource manual for faculty	Meet w faculty for MSR orientation & training	Meet w faculty for MSR orientation & training

Week 1 Intervention	Week 2 Intervention	Week 3 Intervention	Week 4 Intervention	Week 5 Intervention	Week 6 Intervention	Week 7 Intervention	Week 8 Intervention
Collect data w PSS & MAAS pre-intervention							Collect data w PSS & MAAS post-intervention
Intro to MBSR							
	MSR practice biweekly: "Awareness of Breath"	MSR practice biweekly: "Awareness of Breath"	MSR practice biweekly: "Awareness of Breath"	MSR practice biweekly: "Awareness of Breath"	MSR practice biweekly: "Body Scan"	MSR practice biweekly: "Body Scan"	MSR practice biweekly: "Body Scan"

Figure 1. GANTT Chart

Outcome Measurements

The MSR educational intervention was evaluated for effectiveness in reducing the perception of stress in nursing students through increased mindfulness. Descriptive statistics and a non-randomized pre-test/post-test design were utilized to determine outcome measurements for the level of stress perception and mindfulness. The Perceived Stress Scale (PSS) and the Mindful Attention Awareness Scale (MAAS) were used for

data. The aggregate means of the pre-test and post-test data were determined and compared using paired t-tests. The independent variable was the MSR educational intervention. The dependent variables were perception of stress and level of mindfulness, as measured by the Perceived Stress Scale and the Mindful Attention Awareness Scale. Additionally, students were asked to complete a brief open-ended questionnaire on the MSR experience (Appendix H) at the end of the intervention. This qualitative data was coded for themes in response to the MSR intervention.

The Perceived Stress Scale (PSS) is a 10 item instrument and is an extensively used measurement tool for perception of stress (Lee, 2012). The scale evaluates the degree to which the participant feels stressed, in control, irritable or angry, and unable to cope or control life (Cohen, Kamarck, & Mermelstein, 1983). It has largely been empirically validated in studies of college students as the study population (Lee, 2012). Validity of the tool has been demonstrated through a review of studies utilizing the PSS. Internal consistency reliability was demonstrated in all 12 studies utilizing the PSS-10 with a Cronbach's coefficient of $>.7$ or more (Lee, 2012).

The trait MAAS is a 15-item scale that assesses level of present awareness, concentration, non-judgmental acceptance, and de-centered attention. It is a five point Likert-type scale with one being not at all to five being almost always. It takes about five minutes to complete (Brown & Ryan, 2003). The MAAS measurement tool has demonstrated excellent psychometric properties in numerous studies since 2003. Internal consistency levels (Cronbach's alphas) range from .80 to .90. The MAAS has demonstrated high test-retest reliability, discriminant and convergent validity, known-

groups validity, and criterion validity in correlational, quasi-experimental, and experimental studies.

Cost and Benefit Analysis

Costs associated with the project were printing of resource materials and flash drives with the MSR practice recordings. The use of the classroom incurred no further expense. The benefits were the potential improvement of well-being in nursing students through stress management utilizing MSR techniques.

Ethical Considerations

The educational MSR intervention was voluntary so students could decide whether to participate or not. Participants received verbal and written information on the nature and purpose of the MSR educational intervention prior to the first class in order to make the decision whether to participate or not.

It was not anticipated the project would pose a risk to the students but in the event a student experienced any undue stress or unmanageable emotions, they would have been referred to student health services or private health professional. The faculty worked closely with students and would have made referrals if necessary but none were required.

The project did not involve any deception. There were no incentives, financial gain, or coercion for participation in the intervention. Confidentiality was guaranteed through protection of personal information and no disclosure of any type of identifiable information. Students completed all documents with an identification number. The documents are stored in a locked office and analyzed on a password protected computer. All consents and data are to be given to the approving university IRB to be stored for 10 years post intervention.

The Project Implementation Process

The Project Process

The Capstone Project focused on decreasing stress in first semester nursing students through education on stress, its effects, and MSR techniques for stress management purposes. Nursing faculty received education on MSR and its benefits in three sessions prior to the MSR intervention. Through these collaborative sessions, it was decided the best time to meet with students for the MSR intervention was in the last 20 minutes of the lunch break twice a week. This differed from the original plan of it being included within the curriculum as a part of the class or lab. It was not possible to follow the original plan due to the need to save class and lab time for critical curriculum content. The original class plan included time for reflective group discussions and other mindfulness activities including sitting meditation, mindful eating exercise, and mindful physical activity which were eliminated due to time constraints.

Nursing faculty received a flash drive with the MSR Education Class Schedule (Appendix F), Student MSR Resource Manual (Appendix G) with voluntary reflective journaling opportunities, informational flyer/handout (Appendix D), and the MP3 MSR practice recordings. After IRB approval was received, the MSR Resource Manual with voluntary reflective journaling opportunities, MSR informational flyer/handout, and UCSD MP3 MSR practice recordings, “Awareness of Breath” and the “Body Scan” (Appendix F and G), were posted for student use on the learning management system. The informational flyer was not posted at the request of faculty. Instead it was explained and handed out in class for student consideration prior to the intervention.

The MSR introduction and informational session was scheduled the first week of the intervention. Unfortunately, no students attended the actual introductory session. The project manager met nursing students in the lounge area and discovered there were two exams scheduled following the introductory session. For this reason, students stated they needed to study for the exams instead of attending the scheduled introductory session. They were aware of the upcoming MSR intervention from faculty announcements in class. In addition, they had also received information on stress and the benefits of MSR for stress management purposes during class time and on the LMS.

The second through fourth week of the intervention involved the MSR practice of mindfulness breathing for the last 20 minutes of the lunch break twice a week. The students listened to the MP3 “Awareness of Breath” mindfulness practice recording. The fifth through eighth week of the intervention involved the MSR practice of body scan for the last 20 minutes of the lunch break twice a week. The students listened to the MP3 “Body Scan” mindfulness practice recording. During some of these sessions, the students chose to practice the MP3 mindfulness breathing practice recording instead as they found it more helpful. During the seventh through eighth week, the students met once a week due to unavailability of the practice space. Throughout the intervention, attendance was sporadic, ranging from 2-10 students per session.

At the end of the eighth week of the intervention, the students completed the Post MSR Education questionnaire (Appendix H), PSS, and MAAS surveys. The original project included re-surveying the students a fourth time with the PSS and MAAS surveys seven weeks post intervention, but it was canceled at the request of faculty.

Outcome/Metrics Data

Hypotheses.

H1. Perceived stress in nursing students will be less after MSR education compared to perceived stress in the same cohort before the MSR education.

H2. Dispositional mindfulness in nursing students will be increased after MSR education compared to dispositional mindfulness before the MSR education.

Data Analysis. The goal of the data analysis was to evaluate the effectiveness of mindfulness education for reducing stress and increasing mindfulness in the nursing student participants under the one group pre-test/post-test study design. Descriptive statistics such as frequency (N) and percentage (%) for categorical variables and mean, standard deviation (SD), minimum, and maximum for continuous variables were used to summarize participant characteristics, and Perceived Stress Scale (PSS) scores and Mindful Attention Awareness Scale (MAAS) scores over time. Higher PSS scores indicated a higher degree to which situations in the person's life are appraised as stressful. Higher MAAS scores reflect higher levels of dispositional mindfulness. Paired t-tests were performed to test for change over time before and after mindfulness education. Additionally, all conclusions were consistent with paired t-tests using nonparametric Wilcoxon signed-ranks testing in sensitivity analyses. A two-sided p-value < 0.05 was considered statistically significant.

Results. Fourteen (61%) of the 23 potential student participants agreed to participate. A 95% confidence interval (CI) for the participation rate is (40.8%, 77.8%). Characteristics of the 14 students are given in Table 1. The average age was 21.4 years old (SD = 2.4) and all were above 18 years old. All but two were female (86%). Forty-

three percent reported already having a degree but none had a post-graduate degree.

Three participants were in a relationship, one was married, and the rest reported being single. All students reported their mother as a person within their support system, followed by their father (86%), friends (86%), siblings (79%), grandparents (71%), and others including boyfriend/girlfriend (29%), spouse or partner (7%), and other (21%). Almost two-thirds (64%) reported feeling sad in the last 30 days. (Table 1)

Table 1

Characteristics of the Study Sample (N = 14).

Characteristic	N (%) or Mean \pm SD (Min, Max)
Age (years)	21.4 \pm 2.38 (19, 26)
19	3 (21)
20	3 (21)
21	3 (21)
22	2 (14)
24	1 (7)
26	2 (14)
Gender	
Female	12 (86)
Male	2 (14)
Marital status	
In a relationship	3 (21)
Married	1 (7)
Single	10 (71)
Do you have any children? (Yes)	0
Have you felt sad in the last 30 days? (Yes)	9 (64)
Persons of support currently in place:	
Boyfriend/Girlfriend	4 (29)
Father	12 (86)
Friends	12 (86)
Grandparents	10 (71)
Mother	14 (100)
Other	3 (21)
Siblings	11 (79)
Spouse or Partner	1 (7)
Do you already have a degree? (Yes)	6 (43)
Do you have a post-graduate degree? (Yes)	0

Table 2 described and compared PSS and MAAS scores before and after MSR. The average PSS scores were: 17.0 ± 6.4 at Pre 1, 23.5 ± 4.8 at Pre 2, and 24.0 ± 5.4 at Post. Here, PSS mean scores were significantly higher at Pre 2 compared to Pre 1 using a paired *t*-test ($t = 4.57$, $df = 12$, $p = 0.0006$). While there were no significant differences in average PSS scores between Post compared to Pre 2 ($t = 0.66$, $df = 12$, $p = 0.5244$), PSS mean scores were significantly higher at Post compared to Pre 1 ($t = 4.61$, $df = 11$, $p = 0.0007$).

For MAAS mindfulness scores, the average MAAS scores were: 4.1 ± 0.9 at Pre 1, 3.7 ± 0.8 at Pre 2, and 3.6 ± 0.5 at Post. Here, MAAS mean scores were not significantly different statistically between Pre 2 vs. Pre 1 ($t = -0.39$, $df = 7$, $p = 0.7057$), Post vs. Pre 1 ($t = -2.01$, $df = 10$, $p = 0.0718$), or Post vs. Pre 2 ($t = -0.91$, $df = 8$, $p = 0.3912$). However, caution should be urged in interpreting that Hypothesis *H2* is not supported from these findings, as this could be due to small sample/low statistical power alternatively. (Table 2)

Table 2

Tests of Perceived Stress and Dispositional Mindfulness (N = 14).

Mean \pm SD <i>P</i> -value* <i>n</i>	Perceived Stress Scale (PSS)	Mindful Attention Awareness Scale (MAAS)
Pre 1	17.00 \pm 6.44	4.07 \pm 0.88
Pre 2	23.50 \pm 4.77	3.71 \pm 0.83
Post	24.00 \pm 5.35	3.57 \pm 0.52
Pre 2 – Pre 1	6.31 \pm 4.97 0.0006 (0.0002) 13	-0.09 \pm 0.66 0.7057 (1.0000) 8
Post – Pre 1	6.83 \pm 5.13 0.0007 (0.0015) 12	-0.52 \pm 0.86 0.0718 (0.1738) 11
Post – Pre 2	0.54 \pm 2.96 0.5244 (0.4316) 13	-0.17 \pm 0.56 0.3912 (0.4141) 9

**Note.* Mean \pm SD *P*-value* paired *t*-test (Wilcoxon signed-ranks test). N

Tables 3 through 8 present qualitative descriptions of MSR education benefits from students' self-report. In Table 7, 9 of 14 (64%) students reported MSR education helped with their schoolwork.

Table 3

Post MSR Questionnaire: What parts of it worked well for you?

What parts of it worked well for you?

Being able to relax and clear my mind without thinking about what I had to do.

Being able to take a few minutes out of my day to relax and breathe and not think about anything.

Giving my mind a rest.

Having the time set aside to let my mind clear of the lists of thing I needed to do.

Just escaping all the stress from outside world - blocking everything out

Relaxed me before going to my last class

Sitting and meditating and focusing on my breathing relaxed body & mind allowed me to focus somewhat better

Slowing down, silence, relaxing background music

Taking breaks between assignments and getting enough sleep at night

Taking time out of the day to just sit & relax helped me calm down, which was definitely needed.

Taking time to relax

Taking time to slow down and just breathe

The parts that worked well for me was sitting quietly and having my eyes closed.

The relaxation - eyes closed, body relaxing, mind not thinking about stressors

Table 4

Post MSR Questionnaire: What parts did not work well for you?

What parts did not work well for you?

Difficult to keep focused

Find time or remembering to do it.

I believe all the techniques were useful.

It all seemed to relax me & reduce stress but I only did it one day so I 'm not very experienced with it.

It was the same thing each time

MSR usually came in the time before a test, so I felt I needed to study instead.

NA ($n = 3$)

None

Only lasted for a short time, it didn't carry over

Sometimes relaxed me too much!

The time it was scheduled at

The time the workshop was available (felt I could be studying, lunch could run over).
The late start to the workshop - if it was available earlier in the year, it could have been more therapeutic.

Table 5

Post MSR Questionnaire: Did you practice MSR practices between the scheduled practices on Tuesdays and Thursdays?

Did you practice MSR practices between the scheduled practices on Tuesdays and Thursdays?

I actually did it worked and I was calm and cool and relaxed.

I did when I did not feel pushed to get an assignment done

Mainly on my walks, just calming the mind and speaking to God.

No ($n = 7$)

Occasionally

Sometimes

Yes

Yes, some days

Table 6

Post MSR Questionnaire: On average how many times per week including the scheduled practices on Tuesdays and Thursdays would you say you practiced some form of MSR?

On average how many times per week including the scheduled practices on Tuesdays and Thursdays would you say you practiced some form of MSR?

2-3

0-1

1

1-2 per week (n = 3)

2 - Just during the Mindfulness Class

2 times per week

3x

4

About 3 times a day while studying

Around 1 time/week

I tried the technique about 4 times with soft music

Just sleeping or going to the gym

Table 7

Post MSR Questionnaire: Do you feel MSR education helped you with your schoolwork?

Do you feel MSR education helped you with your schoolwork?

Just remembering to breathe [sic] when I find myself feeling very anxious, stressed, and overwhelmed.

MSR education helped me with schoolwork by helping me not become so stressed out on the workload somewhat and to remain focus on the information

MSR helped me to decompress & slow down my thinking when I felt overwhelmed

No

No because I did not practice it often

No because I haven't used it very much

Not particularly

Not with school work, but more effective in daily stress relief.

Somewhat, made my mind clear to focus

Yes, because it helps me refocus on what I need to be doing

Yes, If I did MS I would feel more relaxed and able to concentrate on the task at hand

Yes, my mind felt clearer, and I was more relaxed so I could focus better.

Yes, taking breaks helped

Yes. It has helped me because now when I'm feeling burnt out when I study I know how to step away from it and let what I have studied sink in. That way when I go back to studying, my mind is clear.

Table 8

Post MSR Questionnaire: Do you feel MSR education helped you personally?

Do you feel MSR education helped you personally?

I think it was a good experience & it did reduce stress, I just didn't perform it often. But I will use it in the future more than likely.

If I had practiced more, I'm sure I would've seen more changes.

It helped my stress levels the days I went.

Just during the actual mindfulness class

MSR education has helped me become relaxed a bit more and not feel tensed or stress out much. But I can only but so much until you have to really let your emotions out.

NA

No

Not as much as I would have liked. Should continue to do more

Yes, again when I did incorporate MSR I felt less stressed after and I was able to actually sleep before the night of a test by doing MSR before bed.

Yes, because I try to do it before I sleep sometimes to turn my brain off

Yes, the MSR education in combination with therapy and exercise allowed me to lose weight, become more calm, and happier. Thank you!

Yes, to remember techniques to help me de-stress especially before a test to make myself calm.

Yes, when my anxiety starts rising up, I tried to just stop, sit down, and take some relaxing deep breaths.

Yes. I use this not only with schoolwork, but in my everyday life. When I am feeling like I am getting overwhelmed with things in my personal life I can use this to relax myself and reduce the building anxiety.

Project Evaluation

Interpretation of Outcomes

Though this MSR pilot project did not statistically support the effectiveness of the MSR intervention in this sample of nursing students; it did demonstrate increased stress levels in this sample of nursing students. This was especially clear when comparing the Pre 2 and Post intervention PSS scores to the Pre 1 PSS scores collected at the beginning of the semester. Stress levels significantly increased as the semester unfolded. Furthermore, students responding to the post questionnaire addressed many positive effects of the MSR intervention.

Lack of support for the study hypotheses could be due to level of participation (i.e., “dose”) or other artifacts co-occurring during the study period and intervention. For the former, half of the 14 students reported not practicing MSR outside of the Tuesday and Thursday scheduled practices. Future education could examine opportunities for regular mindfulness practice. Higher stress scores later in the semester could be due to increased school-related requirements of students, where as in the early part of the semester there were fewer assignments due. Although this was a highly motivated group of students, they were the first students in the first semester of the college’s new nursing program. Both students and new faculty were highly stressed and dealing with the uncertainty of academic processes and policies.

Limitations. The use of convenience sampling limits generalizability of study results. The overall small sample size of 14 participating students and missing data suggested caution should be taken in interpreting findings due to low statistical power.

Comparison to literature. Previous studies conducted on the use of MSR for stress management purposes resulted in positive outcomes (Beddoe & Murphy, 2004; Grossman et al., 2004; Oman et al., 2008; van der Riet et al., 2015). Positive outcomes were associated with MSR practice involving weekly sessions of 60 to 90 minutes in length over an eight week period. The sessions offered a variety of mindfulness practices including breath awareness, body scan, sitting meditation, mindful eating, mindfulness physical activity, and integration of informal mindfulness practice throughout the day. Students were encouraged to practice five to six times a week outside of class, journal, and keep a mindfulness practice log. Studies involving each of these interventional components resulted in a significant reduction in stress and increase in awareness (Beddoe & Murphy, 2004; Grossman et al., 2004; Oman et al., 2008; van der Riet et al., 2015). These outcomes were in contrast to the findings of this pilot project involving a modified MSR approach.

Comparison to the Neuman Systems Model. This MSR pilot project did not have sufficient participation to evaluate the effectiveness of MSR in nursing students within the context of the NSM. It did however demonstrate the level of perceived stress in nursing students both pre and post intervention. The perceived level of stress, noted both on the PSS survey and the Post MSR Questionnaire comments supported stress was affecting the nursing students' homeostasis or level of overall system stability. Students noted the presence of anxiety, stress, and a sense of being overwhelmed in the post MSR questionnaire. Client system homeostasis is significantly affected by the client's perceptions of stress (Neuman, 2011). One can assume the nursing students' perceived stress was affecting the dynamic energy level of the whole system and its stability due to

the students' difficulty with sleep based on the comments given on the post MSR questionnaire. The psychological variables as well as the physiological variables were being affected. The PSS scores were significantly higher in the Pre 2 and post intervention scores in comparison to the Pre 1 scores at the beginning of the semester. Comments on the post MSR questionnaire alluded to the physical symptom of difficulty with sleep. One can assume that unless stress is managed through MSR or another method, eventually the sociocultural, developmental, and spiritual variables will be affected since they are interrelated parts of the whole (Neuman, 2011).

Based on post MSR questionnaire comments describing the positive effects of the MSR intervention, it could have strengthened the students' system. Moreover, previous study findings have shown reduction in the perception of stress through regular MSR practice, reinforcing it as a method to strengthen the flexible line of defense in students. By strengthening the flexible line of defense, the normal line of defense would be protected from the effects of stress (Neuman, 2011). Additionally, the students' normal line of defense could have been increased as a result of MSR practice, resulting in an improved level of wellness.

The major goal of the MSR intervention was optimizing the students' system stability through attainment, retention, and maintenance of health. MSR can change the perception of stress decreasing its effect on the overall system. MSR focuses on changing the perception of stress, reducing its effects on the psychological and physiological well-being of the participant. This aligns with NSM's psychological and physiological variables influence on well-being. According to Neuman (2011), the client system as a whole is composed of interrelated parts. By addressing the psychological and

physiological variables, MSR positively affects the whole system. System stability can be retained or maintained through mindfulness practice as a primary or secondary prevention intervention.

Interpretation of Process

Due to time constraints in the nursing students' schedule, the planned intervention had to be radically altered. Originally, the planned intervention included meeting 60 to 90 minutes per week over an eight week period. This allowed time for education on stress; reflection in small groups on the previous week's experiences with MSR practice; and reinforcement of MSR techniques. Due to the tight curriculum, the mindful practice intervention sessions could only be scheduled twice a week for the last 20 minutes of a 60 minute lunch period. Frequently, there were exams scheduled after the MSR session contributing to students choosing to study instead of attending the intervention. For example, there were two exams scheduled the afternoon after the first week's introductory session resulting in a greatly diminished attendance.

The original planned intervention included the additional MSR practices sitting meditation, mindful eating, mindfulness physical activity, and integration of informal mindfulness practice throughout the day. In the end, the two MSR practices utilized were 'Mindful Breathing' and 'the Body Scan' with the most used practice being the 'Mindful Breathing'. The original planned intervention included reflective journaling activities and a practice log. It was decided that reflective journaling would be offered but not necessarily encouraged due to the students already heavy course load. For this reason, the practice log was also removed from the intervention. The only means of determining the frequency of student practice was through the post MSR questionnaire. The MSR

intervention sessions took place over six weeks instead of the planned eight week intervention. This was the result of room availability and nursing curriculum schedule conflicts the last two weeks of the MSR intervention.

Achievements. As a result of this project, stress was recognized as a real concern in nursing students. It reinforced the need for integration of student wellness education including MSR into nursing student education. Education on stress and its management emphasized the importance of recognizing stress and its effects on health. Furthermore, it provided students with a tool to care for themselves during the intense nursing curriculum and intimidating clinical experiences. It offered them an opportunity to take a mental and physical break in order to recharge. Moreover, it reinforced the importance of stress management in faculty themselves. In the words of the participants, MSR afforded an opportunity to “slow down”, “rest”, “relax”, “calm down”, “take a break”, “escape the stress”, “not think”, “improve focus”, and “improve sleep”. Comprehending the impact of stress and the critical need to manage it, has the potential to change lives for the better in both students and faculty. This alone made the rigors of this capstone process meaningful.

Recommendations for improvements. In the future, an MSR intervention might be more successful if it is incorporated into the curriculum or scheduled at a time that is more conducive to student participation. This is supported by student comments on the post MSR questionnaire regarding the timing of the intervention. Additionally, it might be more successful if the MSR intervention incorporates more types of MSR practice in order to appeal to all students and situations. This also was supported by student comments desiring more variety in practices. Additionally, reflective journaling and

maintenance of a practice log might help the student be more aware of the frequency of MSR practice and its effects. For future interventions, posted announcements on the learning management system, texts, or emails might encourage increased frequency of MSR practice in students. A larger pool of nursing students from all semesters of the nursing program might result in more participants and participation. Future projects could include more extensive faculty education on the benefits of regular mindfulness practice and its use during class time, exam preparation, and clinical.

Sustainability. Sustainability of this project and MSR intervention is possible but will require scheduling the intervention at a different time in order to draw in more students or include it as a part of curriculum. It will also need to be revised to more closely resemble studies with positive outcomes from MSR practice. Knowledge of stress management is critical to health promotion and maintenance of overall well-being. This knowledge is applicable to both self-care and patient care. Because of this, sustainability of this intervention should be seriously considered.

Conclusion

The presence of stress is well established in nursing students. It is related to everyday life, college, the intensity of the nursing curriculum, and practicum (ACHA, 2014; Deasy et al., 2014; Guo et al., 2011; Hurst et al., 2013; National Public Radio, Robert Wood Johnson Foundation, & Harvard School of Public Health, 2014; Pulido-Martos et al., 2012; Robotham, 2008). Stress can have a profound effect on nursing students' well-being (Clayton & McCance, 2014; Schneiderman et al., 2005). For this reason, it is critical that stress management education be included in nursing curriculum. Mindfulness stress reduction practices provide nursing students with a tool to manage

stress, decreasing the negative effects of interpersonal and curriculum related stress on well-being. Mindfulness stress reduction has demonstrated usefulness for stress management purposes (Beddoe & Murphy, 2004; Grossman et al., 2004; Oman et al., 2008; van der Riet et al., 2015). Though this MSR pilot project did not statistically support the effectiveness of the MSR intervention in this sample of nursing students; it did demonstrate increased stress levels are present in nursing students with stress levels significantly increasing as the semester unfolded. The post questionnaire noted many positive effects of the MSR intervention.

In conclusion, factors causing stress are not always controllable but learning techniques to manage stress can improve overall student well-being through decreasing the physiological, psychological, and spiritual effects of stress. Stress management techniques can help nursing students become more stress resilient. Stress management education should be an integral component of student nurse education early in the curriculum (Ying & Lindsey, 2013). It is not always possible to avoid stressful situations but it is possible to control response to stress through learned stress management techniques (Fogarty et al., 2015). Stress management techniques can reduce the multifaceted effects of stress on mental, emotional, physical, social, and spiritual well-being. By learning stress management techniques, the student can manage stress in a more appropriate and healthy manner. Furthermore, the student can apply this knowledge in clinical practice thus providing holistic nursing care.

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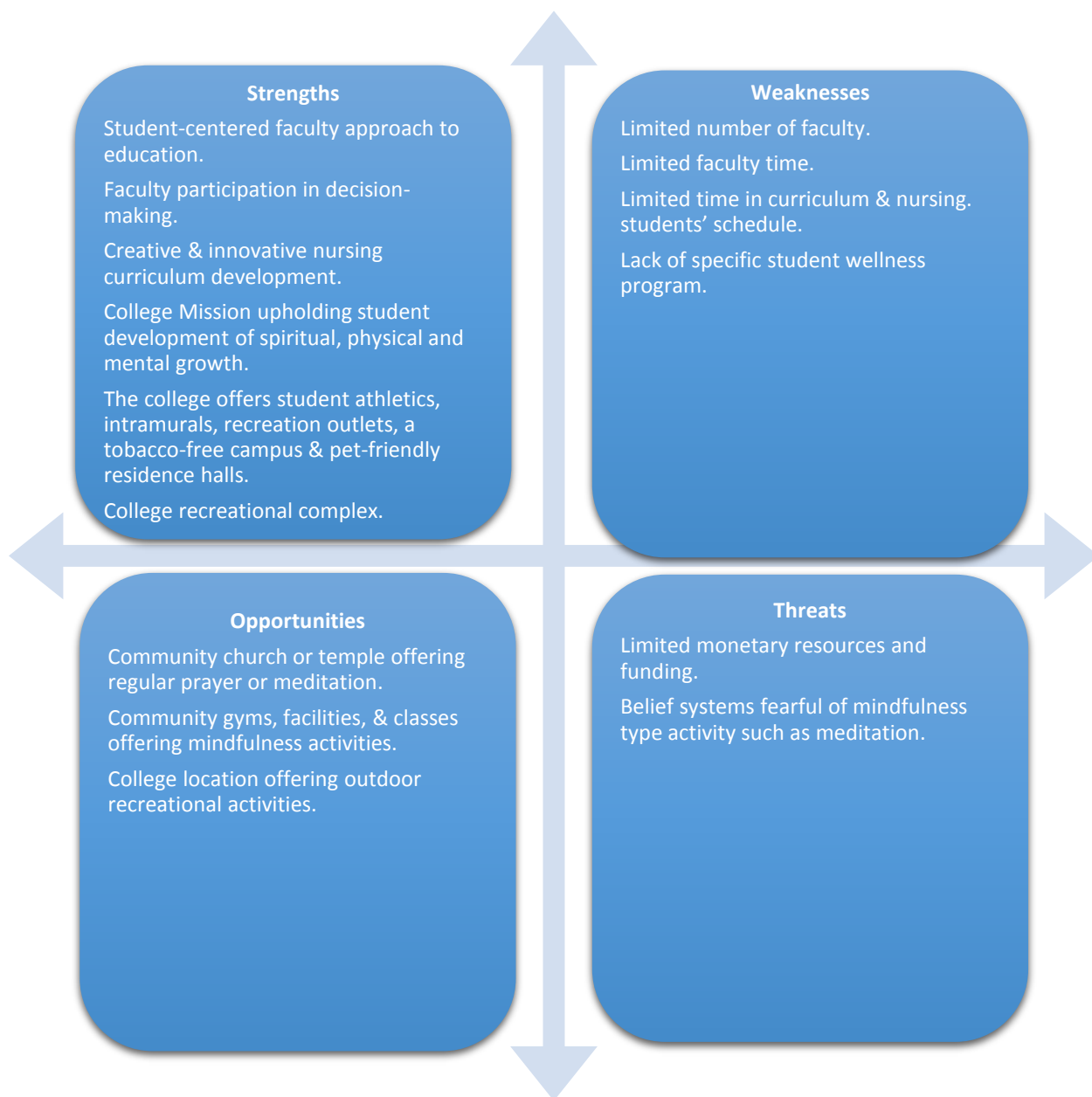
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Appendix A

SWOT Analysis

The School of Nursing



Appendix B

The Neuman Systems Model

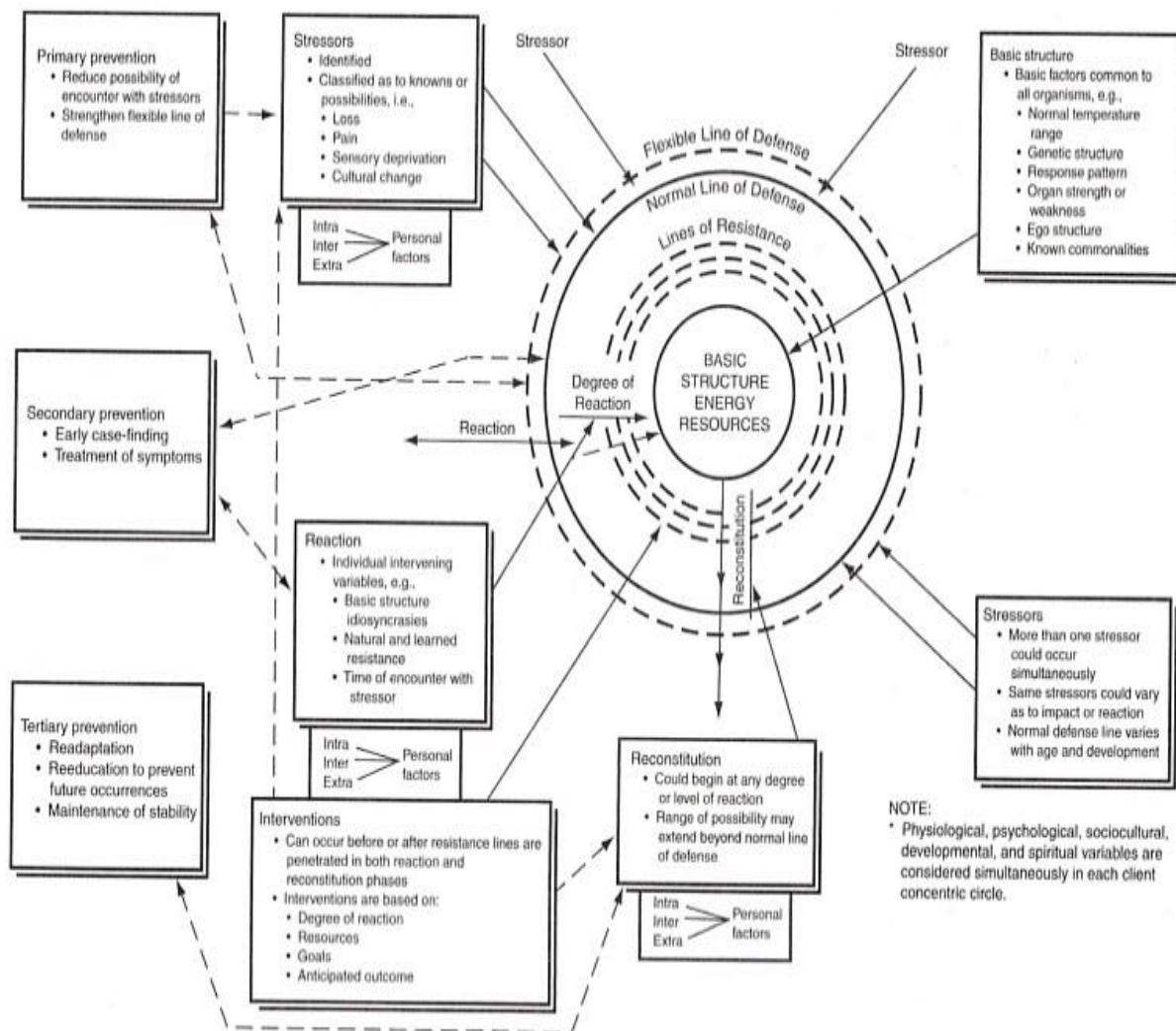
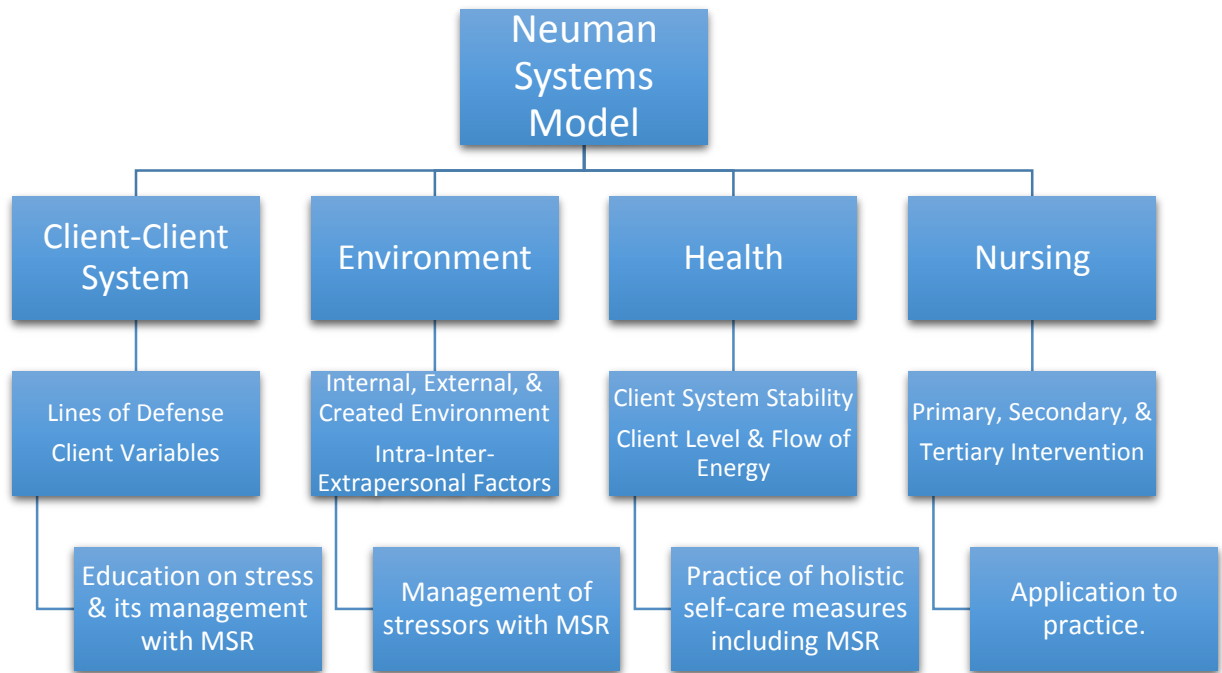


FIGURE 1-3. The Neuman Systems Model. (Original diagram copyright © 1970 by Betty Neuman.)

Appendix C

Conceptual-Theoretical-Empirical Model (CTE)



Appendix D

Student Flyer



"Mindfulness is a way of learning to relate directly to whatever is happening in your life, a way of taking charge of your life, a way of doing something for yourself that no one else can do for you — consciously and systematically working with your own stress, pain, illness, and the challenges and demands of everyday life."

Center for Mindfulness, University of Massachusetts Medical School

Mindfulness Stress Reduction was first developed over 35 years ago by Jon Kabat-Zinn, PhD. Three decades of research has demonstrated many health benefits in practicing mindfulness.

Mindfulness involves focusing on the breath to calm the body and brain from rapid thoughts and emotions....essentially taking a time out or rest period to settle the system. This can be done in formal mindful practices or even in simple daily activities by focusing on the breath and activity through being present and not somewhere else in the head.

Mindfulness Stress Reduction (MSR) **could potentially:**

- Decrease the perception of stress
- Reduce anxiety
- Improve cognitive function, concentration, & productivity
- Make schoolwork and clinical feel more manageable
- Improve patient care through emotional regulation and presence
- Increase compassion

- Improve sleep
- Improve immune function

Time & Place

The introduction & information session on MSR is Thursday October 15th at 12:30 pm.

If you choose to participate in the MSR class:

The MSR class is during the Tuesday & Thursday lunch periods (20 minutes)

You will learn mindfulness practices including mindfulness breathing and body scan

This class is health based class and accessible to all people regardless of religion or beliefs.

For more information contact:

Kathryn Kekeness Peterson, RN, MSN, DNP (c)

kkekenesspeterson@gardner-webb.edu

Appendix E

Informed Consent Form



110 S. Main St., P.O. Box 997, Boiling Springs, NC 28017 | 704-406-4000

Consent for Participation in Mindfulness Stress Reduction Class Research

I volunteer to participate in a research project conducted by Kathryn Kekenos Peterson from Gardner-Webb University. I understand that the project is designed to gather information about the effectiveness of a mindfulness stress reduction educational intervention on the perception of stress and mindfulness in first semester BSN nursing students.

1. My participation in this project is voluntary. I understand that I will not be paid for my participation. I may withdraw and discontinue participation at any time without penalty. If I decline to participate or withdraw from the study, no one on my campus will be told.
2. I understand that I will be asked to practice mindfulness as a stress reduction technique. Additionally, I will be asked to complete the Perceived Stress Scale (PSS) data collection questionnaire, the trait Mindful Attention Awareness Scale (MAAS) data collection questionnaire, and the Post Mindfulness Stress Reduction Education (MSR) Questionnaire. All materials collected will be anonymous and coded with an identification number only. If at any time I feel uncomfortable in any way during the mindfulness stress reduction educational intervention or data collection, I have the right to not participate.
3. Participation involves attending twice a week mindfulness stress reduction classes on Tuesdays and Thursdays for eight weeks from October 15th through December 4th, 2015. Surveys will be collected by an assigned Lees McRae faculty member prior to the intervention from October 1st, 2015 through October 12th, 2015, and directly after the

intervention is completed during the week of November 30th, 2015. A second post intervention data collection will occur the week of January 18th, 2015.

4. I understand the researcher will not identify me by name in any reports using information obtained from the data collection and my confidentiality as a participant in this study will remain secure. Individual responses on the data collection surveys, mindfulness stress reduction practice, or mindfulness stress reduction practice log will be kept strictly confidential. Subsequent uses of records and data will be subject to standard data use policies which protect the anonymity of individuals and institutions.

6. I understand that this research study has been reviewed and approved by the Institutional Review Board (IRB) for Studies Involving Human Subjects: Behavioral Sciences Committee at Gardner-Webb University. For research issues or questions, participants may contact Kathryn Kekenos Peterson at address, email, and phone number below, faculty advisor Dr. Gayle Casterline at 704-406-2418, or the Institutional Review Board chair at 704-406- 4724.

7. I have read and understand the explanation provided to me. I have had all my questions answered to my satisfaction, and I voluntarily agree to participate in this study.

8. I have been given a copy of this consent form.

My Signature

Date

My Printed Name

Signature of the Investigator

For further information, please contact:

Kathryn Kekenos Peterson RN, MSN, DNP (c)

110 S. Main St., Boiling Springs, NC 28017

828-768-3009

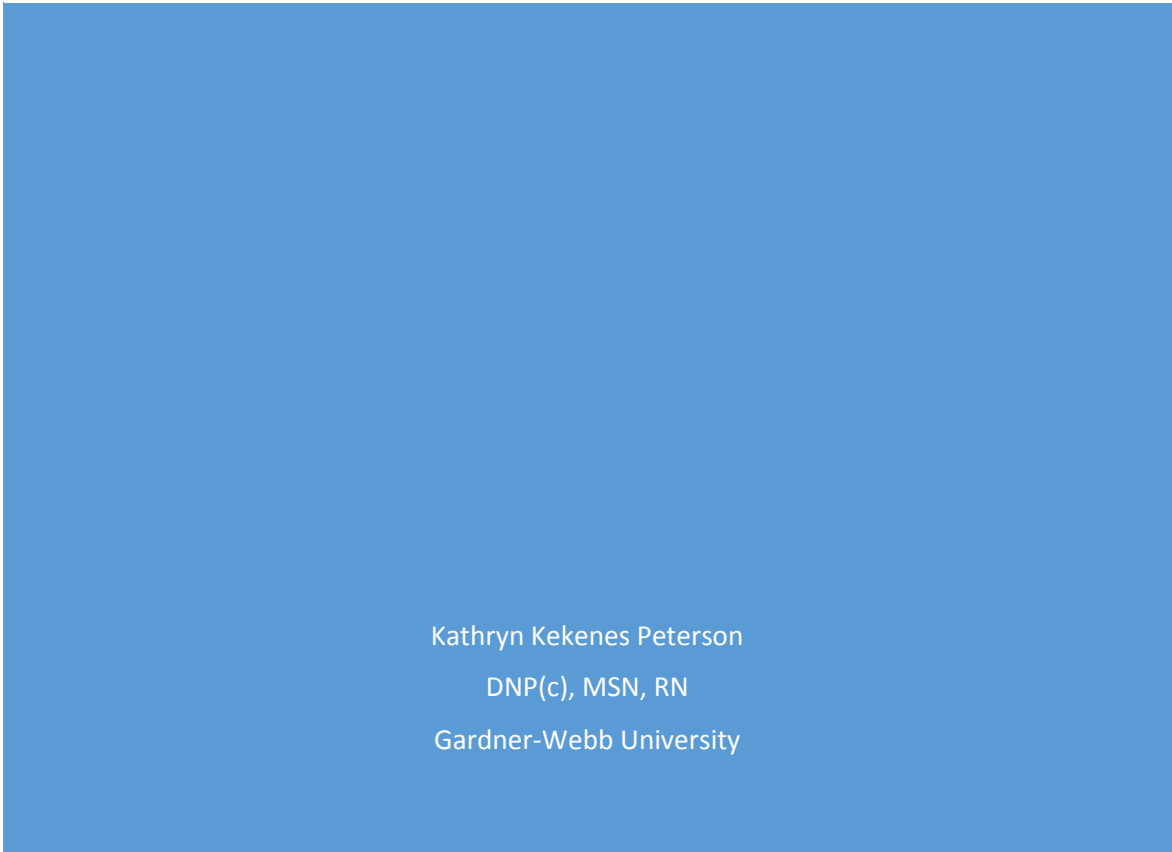
kkekenospeterson@gardner-webb.edu

Appendix F

MSR Education Class Schedule



MINDFULNESS STRESS
REDUCTION EDUCATION
CLASS SCHEDULE



Kathryn Kekenos Peterson
DNP(c), MSN, RN
Gardner-Webb University

Week 1 - Introduction Meet Thursday

Discuss the concept and practice of mindfulness.

Discuss pathophysiology associated with chronic stress.

Discuss health benefits of mindfulness practice.

Discuss stress management with mindfulness practice.

Stress the importance of integrating mindfulness throughout the day for ‘brain breaks’.

Encourage students to partner or group with others for support, reflection, and mindful practice.

Brief taste of mindfulness (3 minute)

- Listen to the MP3 recording Mindful breathing
<http://health.ucsd.edu/specialties/mindfulness/programs/mbsr/Documents/MP3/Awareness-of-Breath.mp3>

Week 2 Meet Tuesday and Thursday

Reflect on mindfulness practice in the previous week (break into small groups).

Stress the importance of integrating mindfulness throughout the day for ‘brain breaks’.

Encourage students to partner or group with others for support, reflection, and mindful practice.

Practice mindfulness exercise with a raisin. **Tuesday**

- *Hold the raisin, note how it feels..... Is it heavy or light, how does it smell, roll it between your fingers and hold it near your ear, how does it sound? If you are able to eat the raisin, place it on your tongue but don't chew it yet. How does it feel, how does it taste? Now you chew it, roll it around in your mouth before swallowing. How does it feel going down? How does it feel in your stomach? Did you discover new sensations while mindfully eating the raisin?*
 Repeat with another raisin.
- Discuss eating with mindfulness, taking time to eat, noting the food: taste, texture, smell, and feeling of eating the food.

Practice Mindful breathing **Tuesday and Thursday**

- Listen to the MP3 recording Mindful breathing
<http://health.ucsd.edu/specialties/mindfulness/programs/mbsr/Documents/MP3/Awareness-of-Breath.mp3>

This next week, consider:

- Listening to the guided Mindful Breathing recording outside of class:
- Eat at least one meal this next week in a mindful manner similar to the mindfulness exercise with the raisin.
- Integrate mindfulness throughout the day: mindful breathing, mindful movement or activity, mindful eating.
- Make daily activities mindful through focusing the experience:
 - While brushing the teeth: How does the toothpaste look on the toothbrush, how does it smell, how it does taste, how do the bristles/ toothpaste feel/ sound during brushing.
 - While showering: how does the water feel, sound.....rub the soap between your hands and smell (an aromatic soap such as lavender, peppermint is really nice).
 - Almost any daily activity can be made mindful through focusing on it and the breath by getting out of the head.

Week 3 Meet Tuesday and Thursday

Reflect on mindfulness practice in the previous week and its application to nursing practice break into small groups).

Discuss the benefits of movement and physical activity.

Discuss the need to breakup extended sedentary periods, such as class or study times, with mindful movement breaks like Yoga, Qigong, or Tai Chi depending on your experience and ability.

Practice Mindful breathing

- Listen to the MP3 recording Mindful breathing
<http://health.ucsd.edu/specialties/mindfulness/programs/mbsr/Documents/MP3/Awareness-of-Breath.mp3>

This next week, consider:

- Listening to the guided Mindful Breathing recording outside of class:
- Integrate mindfulness throughout the day: mindful breathing, mindful movement or activity, mindful eating.

Week 4 Meet Tuesday and Thursday

Reflect on mindfulness practice in the previous week and its application to nursing practice (break into small groups).

Practice Mindful breathing

- Listen to the MP3 recording Mindful breathing
<http://health.ucsd.edu/specialties/mindfulness/programs/mbsr/Documents/MP3/Awareness-of-Breath.mp3>

This next week, consider:

- Listening to the guided Mindful Breathing recording outside of class:
- Integrate mindfulness throughout the day: mindful breathing, mindful movement or activity, mindful eating.

Week 5 Meet Tuesday and Thursday

Reflect on mindfulness practice in the previous week and its application to nursing practice break into small groups).

Practice the Body Scan

- Listen to the MP3 recording Body Scan
- <http://192.168.1.1:8181/http://health.ucsd.edu/specialties/mindfulness/programs/mbsr/Documents/MP3/Kalika-McClure-20-Minute-Body-Scan.mp3>

This next week, consider:

- Listening to the guided Body Scan recording outside of class:
- Integrate mindfulness throughout the day: mindful breathing, mindful movement or activity, mindful eating.

Week 6-8 Meet Tuesday and Thursday

Reflect on mindfulness practice in the previous week and its application to nursing practice (break into small groups).

Practice the Body Scan

- Listen to the MP3 recording Body Scan

- <http://192.168.1.1:8181/http://health.ucsd.edu/specialties/mindfulness/programs/mbsr/Documents/MP3/Kalika-McClure-20-Minute-Body-Scan.mp3>

This next week, consider:

- Listening to the guided Body Scan recording outside of class:
- Integrate mindfulness throughout the day: mindful breathing, mindful movement or activity, mindful eating.

MP3 Recordings for Mindfulness and Meditation:

Click on following link, it may be saved to your computer, phone, or tablet.

The UC San Diego Center (UCSD) for Mindfulness has prepared a number of practices that are available in MP3 format. **Please feel free to download and/or share these guided practices.**

Mindful breathing

<http://health.ucsd.edu/specialties/mindfulness/programs/mbsr/Documents/MP3/Awareness-of-Breath.mp3>

Body Scan

<http://192.168.1.1:8181/http://health.ucsd.edu/specialties/mindfulness/programs/mbsr/Documents/MP3/Kalika-McClure-20-Minute-Body-Scan.mp3>

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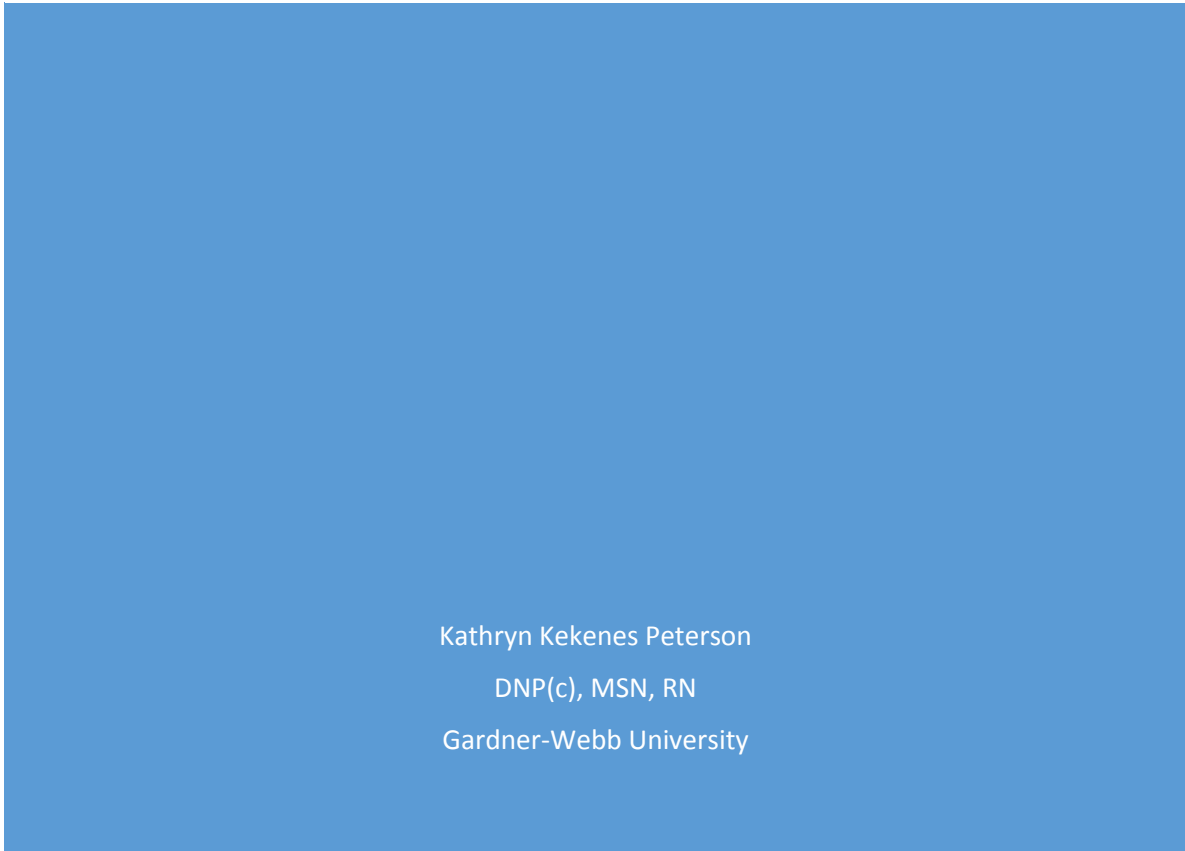
University of California, San Diego. (2015). *Guided audio files to practice mindfulness based stress reduction*. Center for Mindfulness. Retrieved from <http://health.ucsd.edu/specialties/mindfulness/programs/mbsr/Pages/audio.aspx>

Appendix G

Student MSR Resource Manual



MINDFULNESS STRESS
REDUCTION RESOURCE
MANUAL



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Introduction

Incorporating the following *mindfulness* attitudes into your daily life can increase loving kindness, empathy, compassion, generosity, and gratitude...all wonderful qualities in caring for yourself and others.

- ❖ Consider journaling reflections, experiences, emotions associated with practice if helpful.
- ❖ Consult the School of Nursing faculty or College Counseling Center if needed for assistance.
- ❖ You might also consider reflecting on the following attitudes through journaling:
 - What it means to you?
 - How might it affect your behavior toward yourself and others?
 - How might it affect your care of others, in nursing practice?

The journaling entry is for your own private reflection and growth and is not collected.

Attitudinal Foundations of Mindful/Heartfulness:

Trust—Cultivating a basic trust in your own self, feelings and intuitions. Realizing that inherent already within you is everything we need for wholeness and healing.

Non-judging—Recognizing our constant stream of judgments can liberate us from the constant stream of reactions to that which we judge.

Acceptance—A willingness to see in this moment things as they are. In fact, with a clear picture of thing as they are, you are more likely to know what to do and have an inner conviction to act appropriately.

Patience—Allowing things to unfold in their own time. Even being patient with our judging selves.

Non-striving—Learning to be non-goal oriented within the practice.

Letting go—Noticing both the good and bad thoughts/feelings that our minds cling to, and learning to let go and see beyond just the thoughts/feelings.

Beginner's Mind—seeing things as if for the first time without preconceptions; seeing extraordinary in the ordinary.

Staying in the present, not thinking about the past or future but instead on the present lived experience.

Week 1-4

Practice:

Listen to the guided mindfulness recording: Mindful Breathing almost daily if possible for relaxation and rejuvenation.

Mindful breathing

<http://health.ucsd.edu/specialties/mindfulness/programs/mbsr/Documents/MP3/Awareness-of-Breath.mp3>

- Journal reflections, experiences, emotions associated with practice this week if helpful.

Week 5-8

Practice:

Listen to the guided mindfulness recording: Body Scan almost daily if possible for relaxation and rejuvenation.

Body Scan

<http://192.168.1.1:8181/http://health.ucsd.edu/specialties/mindfulness/programs/mbsr/Documents/MP3/Kalika-McClure-20-Minute-Body-Scan.mp3>

- Journal reflections, experiences, emotions associated with practice this week if helpful.

MP3 Recordings for Mindfulness and Meditation:

Mindful breathing

<http://health.ucsd.edu/specialties/mindfulness/programs/mbsr/Documents/MP3/Awareness-of-Breath.mp3>

Body Scan

<http://192.168.1.1:8181/http://health.ucsd.edu/specialties/mindfulness/programs/mbsr/Documents/MP3/Kalika-McClure-20-Minute-Body-Scan.mp3>

References

Kabat-Zinn, J. (2013). *Full Catastrophe Living*. United States: Bantam Books.

University of California, San Diego. (2015). *Guided audio files to practice mindfulness based stress reduction*. Center for Mindfulness. Retrieved from <http://health.ucsd.edu/specialties/mindfulness/programs/mbsr/Pages/audio.aspx>

Appendix H

Post Mindfulness Stress Reduction Education (MSR) Questionnaire

- Please think about your experience with MSR as you answer the following questions.
- Thank you for participating in MSR and for completing the associated surveys.

What parts of it worked well for you?

What parts did not work well for you?

Did you practice MSR practices between the scheduled practices on Tuesdays and Thursdays?

On average, how many times per week including the scheduled practices on Tuesdays and Thursdays would you say you practiced some form of MSR?

Do you feel MSR education has helped you with schoolwork?
If so, please explain including effects on focus, concentration, stress, results, etc.

Do you feel MSR education has helped you personally?
If so, please explain including effects on stress, sleep, etc.