

Mindfulness Based Stress Reduction Effects on Registered Nurses

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Acknowledgements

I have always been a strongly spiritual person touched by the essence of a supreme being in our world. This I owe to my mother who taught me to love, be open, and trust in the Lord. She also taught me to be compassionate to all. My sister, Barbara is severely mentally handicapped with cerebral palsy and has always lived at our home. Because of Barbara, I learned the value of leading from the heart, compassion, forgiveness, community stewardship, acceptance and being there for others. My family is the reason I went into nursing, a career I will never regret.

This study began with my search to contribute something valuable to the profession of nursing that would strengthen the spiritual side of nurses and add more compassion to patient care. I saw firsthand how frustrated staff nurses were from the hospital environment and became concerned about the retention of staff, unsafe patient care, and overall satisfaction and professionalism of nursing. I wanted to make a difference in the lives of staff nurses. I also wanted to do this before my own daughter, Michele, graduated from her nursing program in 2009.

Through the encouragement of my doctoral cohort at the University of Minnesota, School of Nursing, I continued to search for what would make a difference in nursing practice at the bedside. In 2007, at the Midwest Nursing Research Conference in Nebraska, I met Dr. Virginia Burton. She presented her study on nursing presence and the importance to patients with cancer. I was so touched by her passion for nursing that I made contact with her for advice on how to research the concept of presence with staff nurses. She gave me her reference list and encouraged me to read Heidegger's works. The philosophy of life according to Heidegger revolves around "being." Through his works, the concepts of presence, spirituality, and compassion became even more alive for me.

In 2007, I took my first MBSR course through the University of Minnesota, Center for Spirituality and Healing. I immediately saw the association between mindfulness and presence through MBSR. I consulted with Dr. Mary Jo Kreitzer about the concept of presence and spirituality. I found such encouragement from Dr. Kreitzer to explore these constructs and not be afraid to speak openly about my beliefs on spirituality and presence. Knowing I could be mentored through Dr. Kreitzer, I have made a lifelong commitment to raise the awareness of spirituality in patient care.

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And to the wise nursing theorists who guide my principles and values, I give thanks. *“We come into being from a state of potential consciousness, are bound in time, find our identity in space, and through movement we learn the law of the way things work and make choices that ultimately take us beyond space and time to a state of absolute consciousness.”* Margaret Newman PhD, *Health As Expanding Consciousness* (2nd ed.), New York: National League for Nursing Press, p. 46.

Dedication

This study is dedicated to my family:

To my husband, Tony, who remains my sustenance and constant solace in my life. You are such a support and inspiration to me. You have always been there and encouraged me to go for my goals. My success is your success too. Your wisdom for the practical matters of this world has helped me prioritize what is most important. Family will always be number one, and I love you MOST!

This work is also dedicated to my daughter, Michele, who chose the nursing profession as her career and my son, Brent, who chose the field of medical research as his life's dream. You both have given me so much over the years. With your love, patience, support, and personal dreams, I have become a better person in this world.

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ABSTRACT

Nurses are leaving the profession mostly due to stress from clinical work and inability to practice as they were prepared. Strategies are needed to assist nurses manage clinical work and their overall health. The MBSR program promotes overall well being and reduces stress in some populations. The purpose of this study was to determine whether MBSR is an effective tool to support nurses psychologically and to improve work satisfaction as they perform essential work roles.

A quasi-experimental, longitudinal, pretest post test design examined the effects of MBSR on mindfulness, self compassion, empathy, serenity, and work satisfaction of Registered Nurses (N = 61). The correlation between mindfulness and self compassion, serenity and empathy were examined. The effects of MBSR on incidental overtime and job burnout were also analyzed.

Statistically significant differences in means were found pre to post MBSR in mindfulness (33.2 to 42.9), self compassion (2.8 to 3.8), serenity (3.0 to 3.7), work satisfaction measure of autonomy (3.3 to 4.3), and all subscales of job burnout. There was a statistically significant increase in empathetic concern from baseline (21.3 to 22.5). Mindfulness was statistically significantly correlated with self compassion ($r=.79$) and serenity ($r=.78$). Incidental overtime trended downward throughout the study.

Findings support the utilization of MBSR to improve overall psychological outcomes and personal health for registered nurses. MBSR showed a statistically significant increase in mindfulness in nurses which impacts practice by enhancing nursing presence. Mindfulness may improve patient care through patient safety, satisfaction, and quality of outcomes.

Further research is needed to explore the effects of MBSR on different groups of nurses and with a randomized control design. The utilization of MBSR as an intervention to help transition new graduates to staff nursing may be an effective means for overall retention. MBSR may be helpful in settings with high stress such as critical care units. The program of MBSR assists nurses to focus through mindful thoughts and actions versus multitasking. Further nursing research is needed to explore the effects of MBSR on nursing practice as it relates to patient safety.

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CHAPTER ONE:

Introduction

Background

Nursing is an essential profession necessary for the delivery of safe and high quality patient care in all settings. Today, we face one of the largest nursing shortages in the history of the nursing profession which may jeopardize patient care. In 2009, there is a national demand for approximately 7% more registered nurses; by the year 2016 the demand will rise to 23.5% more than present day staffing (AACN, 2009). The United States Bureau of Labor Statistics predicts that more than a million new registered nurses will be needed over the next seven years to replace the current workforce and respond to new healthcare needs from high acuity in patient care (AACN, 2009). Hence, it is important to recruit and retain nurses for the current and future hospital workforce.

The purpose of this chapter is to present the staggering figures of the registered nursing shortage and factors influencing the current nursing vacancy rates in hospital settings. Concern over the hospital work environment and health of the nurse are of paramount importance to the overall retention of nursing staff. Of equal importance is how nursing practice may be influenced to enhance patient care and nurse satisfaction. A proposed solution to improve the work environment, health of the nurse, and patient care

will be presented. It is the ongoing goal of this researcher to improve the professional practice of nursing and retention of nursing staff.

Overview of Nursing Shortage

While the American economy declined in 2009, the US Bureau of Labor Statistics (2009) projected nursing to become the number one profession in terms of growth. The increase in growth is largely due to the high turnover, vacancy rates, rising baby boomers, and increased health care needs of patients. The current national vacancy rate in registered nursing is 8.1%, and the demand continues to grow by about 2% each year (AACN, 2009). These rates are staggering to the American public and considered a health care crisis for quality and safety of patient care (AHRQ, 2004).

The current shortage in nursing is serious and projected to be prolonged due to the rising age of nurses in the current workforce and large volumes of nurses retiring. According to AACN (2009), 55% of nurses indicate plans to retire between 2011 and 2020. These alarming figures provide strong evidence for immediate action to “grow” the numbers within the profession of nursing. With these rising demands, there is also a compelling need to retain nurses in the profession to solve this national problem. The national shortage of nurses is distressing and could cause a poor quality of patient care due to a disproportionate supply and demand unless recruitment and retention strategies are developed and implemented (AHRQ, 2004).

Factors Influencing Shortage

Several factors contribute to the nursing shortage and seem to be consistent themes throughout the history of the nursing profession. The shortage in nursing also appears to be cyclical, reoccurring every 5-10 years (Buerhaus, Donelan, Ulrich, Norman, & Dittus, 2005). One theme for the shortage is the current demand for nurses outweighs the supply. Rising acuity and intensity of patient care creates a demand for more nurses than are graduating from nursing programs. The decrease in supply of graduating nurses is largely related to a shortage of nursing faculty. According to AACN (2009), in 2008 approximately 50,000 applicants were declined admission to nursing schools due to lack of nursing faculty and clinical sites.

Another factor contributing to the nursing shortage is the underlying etiology for turnover has not been completely addressed in the workplace. At the heart of the nursing shortage problem resides the serious dilemma of increased turnover of the present workforce in acute care settings. Within the first year of graduation, the turnover rate is 13% for new nurses (Kovner, Brewer, Greene, & Fairchild, 2007). Lower salaries, unpleasant working conditions, and known stress in the work environment have forced nurses to leave the profession for other careers or have contributed to job burnout.

According to Aiken (2002), work satisfaction and emotional well being of the registered nurse (RN) are linked to work conditions including the number of patients cared for by the nurse. Inadequate nurse staffing contributes to job burnout, turnover in

nursing, and negative outcomes to patients. Research findings indicate a decrease risk of adverse outcomes including decrease in medical errors, death, infection, bleeding, and pneumonia to patients with an increase in RN staffing (Needleman, Buerhaus, Mattke, Stewart, & Zelevinsky, 2002). Several studies by Aiken and colleagues have demonstrated positive patient outcomes with higher RN hours at the bedside and more education for nurses (Aiken, 2002; Aiken, Clarke, Cheung, Sloane, & Silber, 2003; Aiken, Clarke, Sloane, Lake, & Cheney, 2008). In each of these research studies, the increase in staffing costs is offset by a reduction in adverse events for patients and decrease in length of stays. Each additional patient added to a nurse's workload was related to a 7% increase in post surgical mortality (Aiken, Clarke, & Sloane, 2002). Research findings reveal an association with overall hospital mortality and RN staffing by demonstrating a 26% reduction in inpatient deaths (Rafferty, Clarke, Coles, Ball, James, & McKee, 2006).

In many cases, inadequate staffing is caused from high vacancy rates in acute care settings and inability to recruit to specialty areas such as critical care units (Coates, 2001). This may be due to high stress in the critical care work environment and the type of work in these units. Nursing leadership also has a difficult time filling positions in other specialty areas such as operating rooms and emergency departments due to higher than usual turnover in these areas. According to Coates, the quality of the work environment and the actual stress from clinical work are main reasons nurses leave

nursing departments. In a large cross-sectional survey in a Southeast hospital, surveys showed greater degrees of work stress were linked with job dissatisfaction and high turnover in nursing (Shader, Broome, Broome, West, & Nash, 2001). Hence, addressing the issues surrounding the clinical work of nursing is crucial for overall retention and recruitment.

Clinical Work

The role of staff nursing in acute care settings is associated with high demands and many challenges. Most nurses are able to effectively manage these demands, however, many nurses are prone to develop job burnout and potentially leave the profession. Job burnout is defined as emotional exhaustion, depersonalization of people and objects, and reduced feelings of personal accomplishments resulting in psychological and interpersonal stress (Maslach & Jackson, 1996). According to Maslach and Jackson, the chronic exposure to psychological and interpersonal stressors leads to high turnover in nursing and personal health problems. Approximately 40% of staff nurses experience feelings of burnout, and 20% of these nurses leave within the first year of experiencing symptoms (Vahey, Aiken, Sloane, Clarke, & Vargas, 2004).

Nurses begin their careers dedicated to giving compassionate care for patients but often experience fatigue from the clinical work and stress associated with providing care to others. Compassion fatigue, or physical and psychological fatigue from stressful situations, may increase over time for those who work in hospital settings. This fatigue

may increase from the strain of caring for patients in pain or those who are dying and lead to job burnout (Beddoe & Murphy, 2004). The burden of carrying other's suffering may lead to high degrees of stress if nurses do not learn to effectively deal with these issues. According to Beddoe and Murphy, clinical practice in hospital settings may also increase anxiety, health problems, and job burnout for nurses and other health professionals.

The literature reports that multiple factors contribute to RN dissatisfaction including work environments and overall lack of time to spend with patients (Aiken et al., 2002). Nurses leave at the end of their shift feeling dissatisfied due to the limited of quality time spent with patients, going from paperwork to task and having little time to be present with patients. The clinical practice for nurses includes caring for patients with complex acute and chronic conditions who require many needs. The RN must meet these patient needs while pressured to provide care quickly, reduce costs and length of hospital stay, and shorten plans of care. In an American Nurses Association survey (2000), nurses reported little time to spend with patients, lack of staff meal breaks, and increase in overtime due to the demands of the work. These conditions can lead to burnout and nursing turnover.

Managing work stress becomes critical not only to patient care but also to the individual health and long term tenure of the nurse. Chronic stress may compromise personal health and decrease self compassion and empathy for others (Neff, 2003). Stress

has also been shown to decrease thought processing and problem solving which possibly increases error and hinders safe patient care (Sexton, Thomas, & Helmreich, 2000). These added health risks may contribute to higher turnover in the nursing field. Due to these factors, nurses need to have tools to effectively manage their work and deliver empathetic care for promotion of health and well being of the patients and themselves.

Summary

It is clear from the literature that many causes of work stress in hospital environments have been identified through research studies (Aiken, Clarke, Sloane, Sochalski, Busse, & Clark, 2001; Zangaro & Soeken, 2007). Solutions are proposed in the literature to improve the work environment, scheduled hours and work load (Aiken et al.). Little exists in the literature related to effective tools that nurses may use to manage and enhance their nursing practice.

Administering programs to reduce job burnout can help retain RNs and positively affect the supply and demand of nurses. According to Cavanagh and Coffin (1992), increasing work satisfaction through interpersonal support, enhanced professionalism, and better work environments can decrease turnover and improve the overall shortage in nursing. Higher educational institutions have been actively recruiting nursing faculty and putting plans in place to address the supply issues for nursing. An important strategy is for every health care institution to responsibly develop plans to improve work conditions and help nurses manage stress from clinical work. Turnover in nursing should be

addressed by analyzing the causes. Implementing programs to assist nurses to effectively manage nursing practice and enhance their personal health may promote work satisfaction and potentially increase retention.

Statement of the Problem

The turnover rate in nursing is higher than in other health professional fields and a significant problem in hospital settings. The costs associated with nursing turnover are adding to increasing health care costs in this country. In 1995, the estimated costs from turnover and hiring new nurses were \$20,000 to \$50,000 per new nurse (Lee, Tzeng, Lin, & Yeh, 2008). By the year 2000, the costs were estimated at \$42,000 for a medical surgical nurse and \$64,000 for a specialty nurse (Strachota, Normandin, O'Brien, Clary, & Krukow, 2003).

Effective strategies and tools are therefore critical to recruitment and retention of staff nursing. The dedication of nurses to give high quality and safe care must be maintained and enhanced. Nurses must provide compassionate care through presence, and mindful thoughts and actions. A possible solution to work stress, nursing retention, and personal health may rest in learning to manage clinical work through mindfulness.

Significance of the Problem

According to Zangaro and Soeken (2007), work stress on the RN is contributing to the largest shortage of nurses through high turnover in the first year of graduation and

lower overall retention rates. Strategies are needed to correct and manage the factors associated with work stress. It is a priority for patient care and the profession of nursing to investigate means to support nursing staff working in hospital settings (Chang, Hancock, Johnson, Daly, & Jackson, 2004). According to Lambert and Lambert (2001), several research studies have examined factors associated with work stress; more intervention studies need to be conducted to assist staff manage work stress. One program that has had promising results with managing stress is the Mindfulness Based Stress Reduction (MBSR) program developed by Jon Kabat-Zinn (1990). The efficacy of MBSR program needs to be empirically examined as one means toward helping nurses.

Mindfulness Based Stress Reduction

Mindfulness Based Stress Reduction (MBSR) is a health care program of class instruction and practice in mindfulness techniques, meditation, and Hatha yoga designed to promote physical and psychological well being (Kabat-Zinn, 1990). Professionally trained personnel administer the MBSR program over the course of 8 weeks for 2.5 hours weekly and a full day retreat. Participants practice the techniques learned in class on a daily basis.

Many benefits have been documented in research studies that examined MBSR for patients including decrease in anxiety, pain, depression, and improved response to illness (Epstein, 2003; Gross, Kreitzer, Russas, Treesak, Frazier, & Hertz, 2004; Kabat-

Zinn, Massion, Kristeller, & Peterson, 1992). An increase in self awareness and a decrease in stress are additional outcomes achieved through this program (Neff, 2003).

The program of MBSR may be a tool that assists in managing work stress and improving other outcomes for health professionals, perhaps especially nurses. RNs may be able to utilize the mindfulness techniques in daily clinical practice to improve overall attention, empathy, and presence for patients and families. Less than a dozen studies have been conducted using MBSR on health professionals, and only two trials have been conducted exclusively on nurses and nursing assistants (Cohen-Katz, Wiley, Capuano, Baker, & Shapiro, 2005; MacKenzie, Poulin, & Carlson, 2006). No studies utilizing MBSR have been conducted with RNs alone. More knowledge is needed to lessen the gap in knowledge in the research literature.

Purpose of the Study

The purpose of this research study was to examine the effects of the MBSR program as an intervention for registered nurses to manage nursing practice and work challenges. The effectiveness of MBSR on psychological and work performance measures was analyzed through an analysis of specific measures pre and post intervention. These measures included mindfulness, self compassion, empathy, serenity, work satisfaction, job burnout, and incidental overtime.

CHAPTER TWO:

Review of the Literature

Today, registered nurses practicing in hospital environments experience many challenges in the delivery of high quality patient care. The purpose of this chapter is to review the literature related to the pressures associated with the delivery of nursing practice in hospital care and the psychological and work performance of the registered nurse that may be affected from clinical practice of nursing. Research findings from MBSR studies will be analyzed as they lend insight on how this program may help registered nurses manage their ability to be present with patients and impact the personal health of the nurse. The works of Heidegger (1962) and Newman (1994) on presence and 'being' are discussed as a conceptual framework influencing nursing practice. Research aims are derived from the findings in the literature and hypotheses are presented.

Clinical Practice of Nursing

Research studies discuss significant nurses' stress when caring for patients in hospital settings (Brat, Broome, Kelber, & Lostocco, 2000; Cronqvist, Burns, Theorell, & Lutzen, 2001). The actual work of caring and attending to patient and family needs may create joy while at the same time added work stress on the nurse. Patient care can be complex and demanding with ethical or moral issues for the nurse to address. According to Shimizu, Mizoue, Mishima, and Nagata (2003), nurses are at considerable risk for

work related stress. Caring for certain types of patients, such as those in chronic pain or who are dying, can be difficult and challenging. Frequent users of emergency departments may be patients who inappropriately use hospital care, causing extra added concern for nurses who work in this area. Each of these scenarios, if not managed effectively, can lead to job dissatisfaction and potential health problems for nurses.

The clinical practice of nursing may be described as hectic and carry inherent moral components related to patient care. Specific patient care units can carry different types of burden for the nurse. Critical care units usually encompass unpredictable situations and quick decision making related to patient care. The critical care unit includes an environment with high technology, intensive demands for patient care, quick prioritization of patient care, and may generate ethical conflicts over patient care needs. The stressful environment and problems of ethical moral decisions in critical care units can take a toll on the nurse (Cronqvist, Lutzen, & Nystrom, 2006). Critical care nurses feel tension when faced with demanding imperatives and dissonance in terms of patient and family needs (Cronqvist et al., 2001). Nurses working in critical care units must make ethical choices for patient care quickly. According to Cronqvist and associates, support for nurses in critical care units needs to be developed to enhance a professional climate.

Caring for patients is often emotionally draining and can contribute to job burnout and turnover in nursing. Health care professionals exert enormous amounts of emotional

energy when caring for patients and families. Over time, the nurse carries the burden of patient care suffering and may exhibit misplaced empathy (Figley, 2002; Weiss, 2004). According to Johnson (1992), known causes for nursing turnover are job burnout due to long hours working with patients' pain and suffering. This burnout is seen in many health care professionals, especially social workers and nurses. Misplaced empathy occurs when empathy develops no boundaries, and the nurse is unable to use the appropriate degree of objectivity when caring for patients.

Registered nurses typically work 8, 10, or 12 hour shifts and rotate shifts, weekends, and holidays. The pattern of the shift schedule can interfere with social and family events, creating pressure and strain on the nurse. At work, the environment may consist of inadequate staff levels for the number of patients in the unit, conflict between physicians and other health disciplines, insufficient managerial support, and scarce ancillary help. All of these factors affect the ability of the nurse to be present with patients and deliver safe care. In addition, these factors all can contribute to work stress, nursing dissatisfaction, and high turnover in the profession.

Several aspects about the clinical practice of nursing contribute to nurse dissatisfaction. Nursing care of patients includes a wide range of tasks and complex relationships with patients and other health care workers that may be a major concern to overall satisfaction (Maslach, Schaufeli, & Leiter, 2001). In a large meta-analysis of 31 studies, Zangaro and Soeken (2007) found that the most common reasons for leaving

nursing are lack of autonomy, increase in job stress, and lack of nurse physician collaboration. Zangaro and Soeken found job stress had the largest correlation with work satisfaction. The strain of the work environment may also contribute to unsafe work situations.

According to Skosnik, Chatterton, and Swisher (2000), the challenging aspects of the work environment may impact the nurses' ability to problem solve and be present with patients when giving care. The importance of the concept of presence or being in the moment is fundamental to a therapeutic relationship between the nurse and the patient. Presence is core to the model of care in nursing and is centered upon healing for both patients and staff nurses. Delivery of high quality patient care requires the nurse to be compassionate while present at all times. Understanding how to promote presence in a challenging work environment such as a hospital setting is crucial to high quality and safe patient care.

Nurses must care for themselves as well as caring for patients and families. Far too often, nurses give to others without caring about their own health. A positive degree of self compassion is a necessary trait for effective nursing care, buffer against undue stress, and overall psychological well being (Neff, Rude, & Kirkpatrick, 2006). The pressures from hospital work may have a negative impact on the nurse's ability to care for themselves and negatively impact the delivery of nursing care and ultimately, patient outcomes. Understanding and impacting the personal factors affected by clinical practice

of nursing is important to the nurse's personal health as well as the delivery of safe patient care.

Factors Affected by Clinical Work

Conceptually, several factors are affected in nurses by clinical work and can result in negative outcomes to the nurse and possibly the patient. Mindfulness, empathy, self compassion, and serenity are a few factors that may be adversely affected by clinical work in RNs. Work satisfaction may decrease if stress is prolonged and not alleviated for the nurse. Job burnout may result when these factors are out of alignment and prolonged. Patient care may be compromised when these factors are not present or decreased.

One reason nurses stay in the profession is because they care and desire to promote wellbeing for patients and families. The meaning and essence of nursing practice lies in the empathetic relationship between the patient and nurse. Through this relationship, healing occurs and outcomes improve in patient care. Clinical work in hospital settings may affect these personal factors and ability to care for others. The following subsections of this research study define constructs this researcher believes are critical to nursing practice and affected by the work environment in nurses.

Mindfulness

Mindfulness is a construct centering on the present moment and approaching an occasion with curiosity and acceptance (Bishop, Lau, Shapiro, Carlson, Anderson,

Carmody, et al., 2004). Kabat-Zinn (1990) defines mindfulness as nonjudgmental moment to moment awareness which is disciplined and intentional. Seven qualities of mindfulness are defined by Schmidt (2004): (a) nonjudgmental observation; (b) nonattachment; (c) beginner's mind; (d) non-striving observation; (e) gentleness; (f) acceptance; and (g) kindness. These attributes of being intentionally aware and in the present moment with others are affected by stress. Therefore, means to increase mindfulness for nurses working in the stressful clinical settings may be important for overall retention and work satisfaction.

Mindfulness practices have their roots in the Theravada Buddhist teachings and practices (Nyanaponika, 1966), Soto Zen (Suzuki, 1970), Yoga teachings (Krishnamurti, 1979), and philosophical teachings by Heidegger (1962). Vipassana, an ancient Buddhist practice, is another word for mindfulness and focuses on awareness with a point of focus such as the breath (Glickman, 2002). The Buddhist construct of mindfulness is a way of living in the present moment. Mindfulness means being aware and accepting one's thoughts, senses, and feelings while decentering from them. Through the process of mindfulness, one is able to have a more pleasant and fulfilling experience (Childs, 2007).

Mindfulness practice is a learned, controlled technique of paying attention to the present moment to attain deep physiologic relaxation and gain insight about a person's experience (Kabat-Zinn, Lipworth, & Burney, 1985). Thoughts can be overpowering and distracting, causing our own awareness to drift away from the present moment (Kabat-

Zinn, 1990). Some people live in a chronic state of unawareness of the present moment. According to Kabat-Zinn, this state or tendency to be unaware can be slowly or quickly lethal to a person. By paying attention to the present moment, one begins to see order and patterns between things and becomes more awake (Kabat-Zinn).

Insight into our way of being is found in several spiritual traditions as well and helps a person to find purpose and meaning in life. Being aware of the things around you brings perspective to life. Through gaining purpose and insight, mindfulness practices are very relevant for prevention and treatment of certain psychological and physical disorders (Germer, Siegel, & Fulton, 2005). In particular, mindfulness can reduce a person's vulnerability to stress (Kabat-Zinn, 1990). According to Baer, Fisher, and Huss (2005), mindfulness leads to improvement in coping skills related to enhanced self observation. The efficacy of mindfulness practices as a therapeutic intervention for psychological and physical problems has been established in several research studies (Teasdal, 1999; Baer et al., 2005; Kabat-Zinn et al., 1992, Kabat-Zinn, 1993; McKenzie et al., 2006).

Key psychological processes underlie mindfulness therapy. These processes include metacognition insight, which is the active direction of attention, and decentering from thought. The decentering occurs so mental thoughts are temporary and not representative of everyday living (Teasdale, 1999). Mindfulness therapy is considered cognitive therapy that allows a process of decentering and change in perspective over time (Schmidt, 2004). The participant learns to link thoughts and feelings and reshape

belief patterns. According to Baer (2003), mindfulness therapy teaches one to identify the smaller items of the experience and create a more manageable thought and feeling.

A critical component of most mindfulness therapies is the teaching of loving kindness. According to Kabat-Zinn (1990), supporting oneself with loving kindness is core to the development of the state of mindfulness. Sending positive thoughts through loving messages creates a feeling of enlightening and awakening (Kabat-Zinn).

According to Rinpoche (1992), compassion is enhanced over time when one thinks loving thoughts and restructures the mental chatter normally occurring in the mind.

Reduction in rumination is achieved through the practice of mindfulness (Teasdale, 1999). With mindfulness, thoughts are restructured so there is a pattern of acceptance of the present moment. According to Cohela (2007), the intervention of MBSR program is based on the cognitive theory that much of what we sense is derived from how we process ideas and feelings. Negative thoughts and beliefs over time may lead to loss of empathy and self compassion. Reframing our mental chatter is therefore imperative to nurses working in hospital settings.

Mindfulness is meditation in action and a technique that can be applied all of the time (Tophoff, 2004). Potential benefits of mindfulness programs include physical, psychological, and spiritual well being (Hawks, Hull, Thalman, & Richins, 1995). The meditative art of mindfulness enables a deepened concentration and an opening of one's mind. Through mindfulness, one sees things they may not have seen before and gains a

deeper appreciation of life and its connectiveness to oneself. A sense of fulfillment can be achieved through the awareness gained in mindfulness techniques.

Mindfulness techniques may be applied while at work in everyday and stressful situations. The way work stress affects people is influenced by their view and how they interpret the stress (Kabat-Zinn, 1990). To effectively cope with work stress requires a look of wholeness, perspective on the connectiveness of things, and not operating on automatic pilot (Kabat-Zinn). Utilizing mindfulness practice in the work setting can be beneficial for all. Through mindfulness practice one can control their thoughts, viewpoints, and actions related to work stress.

There is compelling evidence that mindfulness helps one to be aware of those around them and their actions in this world. Mindfulness reengages and renews oneself with the present moment. This engagement is therapeutic to others as well as self. Mindfulness cultivates positive qualities such as wisdom and empathy (Goldstein, 2002). The practice of mindfulness links to an increase in empathy by enabling the healer to objectively connect with the patient (Block-Lerner, Adair, Plumb, Rhatigan, & Orsillo, 2007). Bringing awareness to the situation is a process that intersects with empathy. Research studies in health professionals have shown that mindfulness can lead to mental clarity, better problem solving, increase in empathy, and overall psychological well being (Kabat-Zinn, 1990).

Empathy

Empathy is a construct that needs to be maintained or increased in nurses and may be negatively affected by the clinical work in hospital environments. The word, empathy, is derived from the German word “Einführung” meaning understanding or projection of feelings to people or things that are perceived (Duan & Hill, 1996). Empathy is further defined as the nurse’s ability to comprehend the patient needs and communicate back to the patient one’s understanding of their needs (Olson & Hanchett, 1997). It is a nonjudgmental understanding of another’s experience.

Empathy is viewed as a concept which may change over time and part of one’s personality (Duan & Hill, 1996). It is often confused with sympathy which means an awareness of others’ suffering versus a projection of feelings towards the suffering of others. Empathy is similar to sympathy in that both constructs require an understanding or self awareness of the feelings of others (Wispe, 1986). According to Duan and Hill, empathy involves a cognitive aspect called intellectual empathy and an affective aspect called empathetic emotions. Intellectual empathy is described as understanding and responding to a patient situation (Hojat, Gonnella, Nasca, Mangione, Vergare, & Magee, 2002). Empathetic emotions imply the ability to share another’s experience (Cohen & Strayer, 1996).

Other researchers view the cognitive and affective aspects of empathy as too broad, and do not describe the total experience of the event. Davis (1983) distinguished

four aspects of empathy: (a) Perspective Taking (PT) or the ability to understand the psychological profile of another; (b) Empathetic Concern (EC) or ability to feel concern for others sufferings; (c) Personal Distress (PD) or ability to feel one's own feelings in an uncomfortable situation; and (d) Fantasy (FS) or the ability to view oneself in someone else's life. Davis argued that empathy is a trait that can vary in terms of degree and situations.

According to Hoffman (2000), empathy develops in stages over the life of an individual with the more sophisticated cognitive abilities of empathy developing later in young adulthood. Empathy can be learned through exercises, role modeling and education. Training in empathy is common in many nursing programs to facilitate better care for patients. Herbek and Yammarino (1990) utilized different types of empathetic responses for nurses to maximize their limited use of time with patients in hospital settings.

The empathy required by nurses is therapeutic and benefits both the nurse and the patient. According to Long, Angera, Carter, Nakamoto, and Kalso (1999), empathy for others is linked to greater satisfaction in the relationship between persons. A cause of burnout has been linked to disturbance in empathy and is one reason why nurses are leaving the profession (Baxter, 1992). Baxter found that emotional exhaustion was inversely correlated with level of regard and congruence toward patients as measured on the Barrett-Lenard Relationship Inventory (BLRI), an empathy scale.

One strategy to retain nurses in acute care is to increase the means to experience and express empathy for patients and self. Nurses feel rewarded when they are able to give compassionate care. Patients feel heard when empathy is expressed by the nurse. Schmidt (2004) reported that the unification of one's own feelings with another's experience can lead to healing for all involved.

Mindfulness may facilitate the maturation of empathy in others. The development of techniques in awareness of one's own feelings could enhance empathetic responding to others (Block-Lerner et al., 2007). Learning to remain in the present moment enables one to be open to the current experience with others. Several researchers have linked mindfulness training with an increase in empathy (Roemer & Orsillo, 2002; Teasdale, Moore, & Hayhurst, 2002; Fruzzetti & Iverson, 2004; Kabat-Zinn, 2005). The MBSR program may be an effective means to increase empathy in nurses and add to greater nurse satisfaction.

Self Compassion

Another construct that may be affected by the clinical practice of nursing in hospital environments is self compassion. According to Neff and colleagues (2006), self compassion is being kind toward oneself when situations are demanding or painful, viewing the experience as part of the whole, and balancing painful feelings with a state of awareness (p. 908). Three components are identified in self compassion: (a) loving kindness towards oneself in face of suffering; (b) common humanity or recognition of

suffering as part of the human experience; and (c) mindful acceptance of one's emotions without exaggeration (Neff, 2003). The factor of self compassion is valuing oneself and is important to consider for the health of nurses and patient care.

Self compassion has been shown to be significantly related to more positive mood, personal initiative, curiosity, agreeableness, conscientiousness, extroversion, and lower levels of neuroticism (Neff et al., 2006). In this same study, self compassion was strongly associated with happiness, optimism, and reflective wisdom or the ability to have insight and view something as it really is. Neff concluded that self compassion helps one approach suffering with optimism which helps to nurture one's psychological health.

When bad outcomes happen to patients, nurses must be able to self discriminate and learn how to feel better about the situation rather than carrying the burden of pain. While showing concern and compassion for patient problems, nurses may have difficulty separating from the emotional care for others and the care for self. According to Neff (2003), self compassion allows one to dissolve negative feelings and forgive oneself as well as others. A healthy sense of self is gained through acceptance of one's weaknesses and acknowledgement of one's vulnerability in this world. With the presence of self compassion, one is able to constructively accept one's negative and positive attributes. There is symmetry in one's inner world and one's outer world and this is reflected in relationships (Schmidt, 2004).

Being self compassionate is an important aspect which enables a nurse to deal with suffering of others and life's problems. Self compassion protects one from negative events through positive actions toward oneself (Leary, Tate, Adams, Allen, & Hancock, 2007). Gilbert (2005) explains that self compassion lessens the threat system within oneself while heightening feelings of security and safety. Therefore, the construct of self compassion assists in managing difficult situations. Developing self compassion is an important aspect for nurses to buffer against stressful and negative events that may happen in the hospital setting.

Mindfulness and self compassion are constructs likely related to each other. When one is mindful, he/she is accepting of the present moment and aware of the experience. Mindfulness training has been shown to help persons accept suffering (Kabat-Zinn et al., 1992). Neff (2003) explains that mindfulness is an important factor in self compassion. According to Neff, in order to have self kindness, self understanding, and less self criticism, one must be able to have a certain degree of mindfulness. These attributes are important to the profession of nursing due to the intense nature of clinical work with patients and families.

It is not clear how this construct of self compassion is affected by the work demands in nursing or as a buffer for nurses to manage clinical work demands. No research has been conducted on the association of self compassion in nurses with job burnout, empathy, mindfulness, and other personal factors. According to Neff (2003), a

person with high self compassion views their limitations and should treat others with loving kindness and compassion. Research has shown an association between self compassion to negative reactions and that self compassion has been found to buffer people from negative reactions and emotions (Leary et al., 2007). Strategies that affect self compassion may be beneficial to nursing practice and should be explored.

Serenity

A construct that may be affected by mindful ways of being and contribute to nursing satisfaction and retention is serenity. Serenity is a spiritual construct (Roberts & Whall, 1996) of inner peace sustained over time despite life experiences (Kruse, 1999). Several characteristics of serene people have been identified that may help with managing work stress of nurses. Roberts and Cunningham (1990) found these traits in serene people: (a) ability to reach an inner haven; (b) detachment from negative emotions; (c) sense of belonging; (d) unconditional giving; (e) trust in higher power; (f) acceptance of things that can't be changed; (g) change what can be changed; (h) letting go of the past and future; (i) forgiveness; and (j) long range view of life. The inner peace of serenity is a long term vision for people to accomplish in this lifetime and may be developed.

Roberts and Whall (1996) identified that the greater the development of the higher self, the greater the level of experience of serenity. The growth of the higher self occurs along a continuum and can be measured in levels of serenity (level 1 to level 4). Life's

experiences and stressful situations can influence the development of serenity in either a positive or negative manner. Interventions to develop serenity are needed in nursing and may help with overall retention of nurses. Through learning to detach and objectively view the world, treat others and self with loving kindness and forgiveness, and reach an inner haven of peace, nurses may feel better about themselves and the nursing profession.

Serenity is an experience of connectiveness and associated with goodness and forgiveness (Roberts & Cunningham, 1990). Serenity may be learned through exercises such as detachment, meditation, and cognitive restructuring (Connors, Toscova, & Tonegan, 2000). Roberts and Whall (1996) described serenity as a learned emotion that assists in improvement of overall health of the person and others. According to Kreitzer, Gross, Waleekhachonloet, Reilly-Spong, and Byrd (2009), serenity positively correlates with positive affect and mindful awareness in groups of transplant patients and is inversely associated with anxiety, depression, perceived stressors, and health related distress. This finding supports the need for nurses to cultivate their own concept of serenity and utilize nursing interventions incorporating spirituality.

Serenity is described as having an inner calm in face of negative events (Gerber, 1986). Serenity has long been known as the core principle and outcome of the 12-step recovery programs for chemical abuse. Elements of trust, acceptance, caring, and letting go are at the heart of the recovery program and lead toward the goal of serenity. Positive thoughts and energy serve as key to recovery and help keep emotions centered on healing

the person. According to Roberts and Whall (1996), health for individuals improves through positive thoughts and serenity.

Serenity is also described as a construct invoking tranquility, gratitude, affection, and contentment especially in the face of tense situations (Bailey, 1990). Development of serenity requires development of the self. The MBSR program may be a tool to help with the development of serenity through the acquisition of loving kindness, awareness and decentering of thoughts. Roberts and Whall (1996) discuss the evolution of serenity through detachment, awareness, and 'being' or presence. Each of these aspects is taught in the MBSR program and may help nurses to achieve a higher sense of self fulfillment.

Work Satisfaction

Work satisfaction is typically defined as how satisfied one feels about their work or job (Stamps, 1997). According to Stamps, it is a complex, multifaceted construct that entails both intrinsic and extrinsic factors. Nurse-physician relationships, autonomy, management of the work environment, tasks, professional status, pay, caseload, advancement opportunities, and length of time employed at the institution have all been shown to influence work satisfaction (Aiken et al., 2001; Ulrich, Buerhaus, Donelan, Norman, & Dittus, 2005). Hospital organizations are motivated to improve these aspects of work to enhance the quality of work life and retention of nurses.

Work satisfaction and job dissatisfaction are two different constructs and may occur at the same time in a person (Stamps, 1997). Stamps identified achievements, work itself, recognition, and advancement in a job as satisfiers. Organizational structure and policy, pay scale, relationships, and status are causes of dissatisfaction and potentially turnover (Stamps). Job stress and work satisfaction are different constructs, however, there is a relationship between stress and how satisfied a nurse feels about their work (Blegan, 1993; Stamps). Brat et al., (2000) found a positive correlation between job stress and turnover in nursing. In lieu of these findings, there is an imperative reason to develop appropriate interventions to increase work satisfaction.

Work satisfaction in nursing is most often described as a dependent variable and arises from environmental, managerial, and personal attributes (Stamps, 1997). Recently, the National Database of Nursing Quality Indicators (NDNQI) from the American Nurses Association (ANA) established nursing satisfaction as a critical indicator of quality and patient outcomes in hospital settings. This significant movement by the ANA is an attempt to motivate hospitals to improve the clinical work and environment for nursing in order to deliver safe patient care.

Job Burnout

According to Maslach and Jackson (1986), burnout is defined as an occupational stress caused by emotionally charged relationships that are demanding and found in human service personnel. Job burnout is classified as a syndrome of feelings: (a) being

emotionally overwhelmed or emotionally exhausted; (b) impassive, impersonal responses towards patients or depersonalization; and (c) lack of personal accomplishments in one's work with people (Maslach & Jackson, 1996).

Negative outcomes may occur when one experiences job burnout. The state of emotional exhaustion causes a person to feel they are unable to emotionally connect or give to others (Maslach & Jackson, 1981). Maslach and Jackson also found negative feelings develop toward others and the work environment with ongoing feelings of emotional exhaustion. Research by Maslach and colleagues (2001) demonstrated a decrease in the quality of work, increase in absenteeism, job turnover, and poor morale from burnout. Stress in health care professionals from work may reduce the relationship between nurse and patients (Enochs & Etzbach, 2004) and increase job burnout (Rosenberg & Pace, 2007). Psychological consequences from job burnout include emotional fatigue, anxiety, psychosocial isolation, reduced self esteem, disrupted personal relationships, and loneliness (Blegen, 1993; Radeke & Mahoney, 2000; Lushington & Luscri, 2001; Tyssen, Vaglum, Gronvold, & Ekeberg, 2001). The key strategy therefore, is to decrease burnout by assisting RNs to let go of the patient's pain while remaining empathetic.

The symptoms of burnout relate to the physical and emotional depletion of energy in the body. Sussman (1995) identified affective, cognitive, behavioral, and physical symptoms of burnout. According to Sussman, affective symptoms include anxiety,

depression, hopelessness, apprehension, helplessness, resentment, irritability, self doubt, and decreased concern for others. Sussman describes the cognitive symptoms as intolerance, rigidity, close-mindedness, defensiveness, cynicism, pessimism, boredom, distrust, and paranoia. Behavioral tendencies include decrease productivity, increase distraction, and aggressive behaviors. Physical symptoms may include fatigue, sleep disturbances, inability to relax, and decrease in immunity.

Burnout creates a state of disengagement and not being in the present moment (Goleman, 1995). Individuals experiencing burnout do not have a connection with their emotions and have difficulty interpreting other's emotions. According to Goleman, without access to one's emotions, reality becomes distorted and information is missed. Goleman describes a person who is burned out as being in a cocoon and oblivious to others. This defensive state leads to non-therapeutic relationships between nurses and patients. The importance of preventing and managing burnout can't be overemphasized.

Work Performance

The clinical work of hospital nursing is evaluated by several measures. The nurse receives an evaluation of their work usually on an annual basis by their nurse manager. Input is usually obtained from peers and other health care workers. A self evaluation may also be completed using standards of behavior, ethics, and practice defined by nursing organizations. Competency is analyzed often through state licensure, mandatory regulatory bodies for hospitals, and nursing credentialing organizations. Other measures

of performance are monitored by hospital leadership for quality of patient care and overall work efficiency. One common measure of performance is incidental overtime.

Incidental overtime. The definition of incidental overtime is the number of minutes beyond a work shift and equal to or less than one hour. Incidental overtime can include meal time that was not taken because the nurse could not leave the patient care area. Incidental overtime is an unscheduled and necessary work time needed to complete patient care. The time paid for incidental overtime is more than regular pay and often one and a half times the nurses' hourly wages.

Job demands and work environment may affect incidental overtime as well as certain psychological factors. In a large research study of 1,473 workers, Van der Hulst, Van Veldhoven and Beckers (2006) found overtime was common in high stress jobs. Van der Hulst and colleagues found a positive relationship with the need for recovery from work and the amount of overtime in high stress jobs. More overtime was also associated from workers who experienced high demands and both high and low autonomy. Incidental overtime is not necessarily a negative aspect of employment. However, large amounts of incidental overtime can place strain on the hospital budgets. Therefore monitoring overtime and creating systems to decrease overtime is imperative.

Staff Nurse Correlates

Certain correlates may contribute to how staff nurses manage work stress. Research findings have shown burnout to decrease with age (Ilhan, Durukan, Tanerr, Maral, & Bumin, 2007). The longer a nurse works in the nursing profession, the statistically lower the mean score of emotional exhaustion and depersonalization on the Maslach Burnout Inventory (Ilhan et al.). In this same study, the factors of emotional exhaustion and depersonalization were found to be statistically higher in nurses who worked more hours in a pay period.

The longer a nurse works in one patient care unit, the greater the degree of job dissatisfaction and higher the degree of psychological distress (Decker, 1997). Years of experience most likely correlates with greater need for autonomy, professional recognition and rewards. According to Ma, Samuels, and Alexander (2003), job position affects work satisfaction of nurses. Those nurses who work in a charge nurse or manager role have a higher degree of work satisfaction than a staff nurse. Different job positions most likely hold different hours and flexibility in schedules which increase nurse satisfaction.

Education, gender, and age of the nurse may influence work satisfaction as well (Stamps, 1997). Some patient care units may affect work stress of the nurse and subsequent nurse satisfaction. Research findings have shown that nursing on units with longer length of stays and geriatric units can lower nurse satisfaction (Stamps, 1997).

Review of MBSR Research in Health Professionals

Programs that help prevent job burnout are much needed for the nursing profession for retention as well as overall health of the nurse. Teaching self care can be a powerful health promotion tool for nursing staff. By increasing self awareness and promoting a balanced life, the long term survival of the health care professional will be improved (Baker, 2003). The MBSR program teaches mindfulness and loving kindness towards self and others. It is a program offered over 8 weeks by experienced instructors. Participants attend a group class for 2.5 hours per week and learn meditation, Hatha Yoga, and other formal and informal techniques used to increase mindfulness. Supporting oneself with loving kindness is core to the program and the first step to mindfulness activities in this course.

The MBSR program consists of progressive mindfulness exercises to create awareness and openness in the individual. The MBSR program may be described as naturalistic and nondeliberate (Grossman, Niemann, Schmidt, & Walach, 2004). Mindfulness practice is both efficacious and therapeutic, and the benefits of MBSR have been well demonstrated in various research studies (Kabat-Zinn et al., 1985; Kabat-Zinn et al., 1992; Kaplan, Goldenberg, & Galvin-Nadeau, 1993; Miller, Fletcher, & Kabat-Zinn, 1995; Speca, Carlson, Goodey, & Angen, 2000; Grossman et al., 2001). Several MBSR studies have been conducted in health professionals; no MBSR study has been

conducted that has focused on registered nurses alone. The purpose of this section is to discuss the research findings of the utilization of MBSR in health professionals.

Quantitative Studies of MBSR in Health Professionals

Several quantitative studies using the MBSR program have been conducted in health professionals. In the first quantitative study, a randomized control design using the MBSR program as the intervention was implemented (Cohen-Katz et al., 2005). The purpose of this study was to examine whether the MBSR program would decrease burnout, psychological distress, and increase mindfulness in hospital staff. The Maslach Burnout Inventory (MBI), Brief Symptom Inventory (BSI), and the Mindfulness Attention Awareness Scale (MAAS) were used as psychometric instruments.

Inclusion criteria included regular contact with patients, employment at the hospital, English speaking, and over the age of 18 years. Staff members with substance abuse problems or active tendencies for suicide were excluded. Consent was obtained from 27 staff and 14 were randomized to the intervention group while 13 to a wait list. Ninety percent of the staff members were nurses while others were pastoral care, respiratory therapy, and social workers. Time to attend MBSR and the cost of the program were paid by administration and the wellness program. Psychometric tools were administered prior to the intervention, immediately afterwards, and three months post intervention. Overall, there was a 7% attrition rate in the intervention group.

In this study, the mean age of the nursing staff was 46 years and 100% were female. No significant differences between the intervention group and wait list group were found prior to intervention on mindfulness, burnout or psychological distress. Statistically significant positive differences occurred between the intervention group and the wait list on the mean scores post intervention for mindfulness. Similarly, post intervention, statistically significant differences were found on the MBI scale. Immediately post intervention, a significant difference was found for personal accomplishment in the intervention group but not at three months.

A within-group analysis on the intervention group demonstrated significant reductions in emotional exhaustion on the MBI scale immediately post intervention and three months later. The number of nurses with psychological distress prior to the start of the intervention was decreased in both the intervention group and wait list, however, these results were not significant. The strengths of this study were the randomized control design and the knowledge gained on the utilization of MBSR on health professionals in acute care settings. The limitations of the study include the small sample size, homogeneity of the sample, and bias introduced from paid course fees for the MBSR program for the hospital staff. However, the payment appeared to result in low attrition.

In another quantitative study, Galantino, Baime, Maguire, Szapary, and Farrar (2005) evaluated the relationship between physical and psychological stress measures before and after MBSR. Eighty-four health care employees were recruited to participate

in a nonrandomized research study on the mindfulness program. The health care employees consisted of managers and direct care givers from a university hospital setting. Ninety-six per cent of the participants were female with a mean age of 43 years. Stress measures included the salivary cortisol level collected between 5 pm and 7 pm, Profile of Moods States-Short Form (POMS-SF) to evaluate levels of stress and mood disturbances, MBI to evaluate burnout, and the Interpersonal Reactivity Index (IRI) to evaluate empathy.

Eighty-two per cent completed all of the questionnaires and 61% completed the pre and post cortisol tests. No statistically significant findings were reported for the cortisol levels from baseline. Statistical significant findings occurred from baseline in the emotional exhaustion MBI subscale and the subscales of the POMS-SF scale. Since there were no changes in salivary cortisol over time, this study did not demonstrate a correlation between cortisol level and the various psychological measures.

The strengths of this study included an adequate sample size and further knowledge on the outcomes from MBSR. An important factor mentioned was that patient satisfaction improved the quarter after MBSR was implemented which may suggest long term effects. The limitations of this study included lack of a control group, nonrandomized design, and the significant attrition. It is also unclear from the description of the sample, if the managers were clinically prepared and what the area of clinical specialty was for the health care professionals.

In a sample of 30 nurses and nursing assistants, MacKenzie and colleagues (2006) conducted a randomized control pilot to study the efficacy of a condensed version of MBSR utilizing the two works and experience of Kabat-Zinn (1990) and Segal, Williams, and Teasdale (2002) compared to a wait-list control group. The intervention group included four 30 minute group sessions. Research subjects were instructed to practice 10 minutes per day, five days per week compared to 45 minutes per day, six days per week in the traditional MBSR program developed by Kabat-Zinn.

Psychological measures were completed at baseline and post training. The MBI, Smith Relaxation Dispositions Inventory (SRDI), Intrinsic Job Satisfaction subscale from the Job Satisfaction Scale (JSS), Satisfaction With Life Scale (SWLS), and Antonovsky's Orientation to Life Questionnaire were used to measure overall well being. Repeated measures analyses of variance (ANOVA) were performed on the effects of group participation over time on the subscales of burnout, sense of coherence, life satisfaction, relaxation, and work satisfaction. Statistically significant effects were found in emotional exhaustion, depersonalization, and job related personal accomplishments between the intervention group and the wait list. Participants who completed the mindfulness program expressed significant satisfaction with life, well being, and relaxation ratings. No significant findings were obtained for work satisfaction or sense of coherence.

The strengths of this study were the randomized control design and added knowledge on MBSR with nurses and nursing assistants. The methodological section was

well written and clearly outlined the psychometric tools and their reliability. The limitations of this study were the small sample size and heterogeneity of the sample which included two types of health professionals. It was unclear if the study controlled for outside factors that might influence the psychological parameters. This was the only study found that modified the MBSR program and examined efficacy in a clinical setting.

Schenstrom, Romberg, and Badland (2006) conducted a prospective pilot on 52 health professionals in a primary care setting in Sweden. The purpose of this study was to explore the feasibility and usefulness of mindfulness and cognitive attitude training for health professionals as well as examine psychological factors related to well being. Health professionals consisted mostly of physicians (N = 29), and other health professionals (N = 23) including nurses, physical therapists, occupational therapists, and social workers. Two physicians taught 50 hours of didactic and cognitive attitude exercises and mindfulness based on the MBSR program over a course of several weeks. The MAAS, WHO-5 Well-Being Questionnaire, and two visual analog scales to measure stress were utilized pre intervention, immediately post intervention, and three months post intervention. A questionnaire was given to assess intensity of mindfulness training at home.

Statistically significant increases in mindfulness and well being occurred after the completion of the MBSR program. Reductions in stress were significant and also reported on both visual analog scales. Those participants that practiced mindfulness more

frequently reported a statistical significant increase in mindfulness immediately post intervention and at the three months follow-up. The strengths of this study included a low dropout rate and longitudinal focus through measures at three months post intervention. The limitations of this study include lack of a control group, no randomization, and the utilization of an untested MAAS tool on the Swedish population. Due to the combination of MBSR with cognitive attitude training, it is unclear which program created the significant improvements in well being.

In the final quantitative study on health professionals, Shapiro, Astin, Bishop, and Cordova (2005) conducted a prospective, randomized, controlled pilot study on 38 participants employed in a health care setting. The participants consisted of physicians, nurses, social workers, physical therapists, and psychologists randomized either to the MBSR intervention or a wait list. The purpose of the study was to examine the effects of MBSR on health care professionals currently working in clinical settings. Measures included the BSI, Perceived Stress Scale (PSS), SWLS, MBI, and the Self Compassion Scale. Forty-four percent of the 18 participants in the intervention group and 10% of the 20 participants in the control group dropped out of the study. Statistically significant improvements in stress and self compassion occurred in the intervention group. No statistically significant improvement in burnout was observed.

The strengths of this study included the randomized control design, and the contribution of further knowledge of MBSR on health professionals. The limitations of

this study included the high attrition rate and small sample size. It is unclear why there was a high attrition rate in health professionals in this study. The intervention group may have had more of an improvement in stress due to the higher rate of stress at baseline than the control group. Selection bias may have occurred in the both groups as it is probable that those with higher amounts of stress or those for whom MBSR was not effective or palatable dropped out.

Qualitative Study of MBSR in Health Professionals

The final study on health care professionals currently working in their field was qualitative in design and conducted by Cohen et al. (2005) on the same cohort as the quantitative arm of their study. Ninety per cent of the 27 participants were nurses working on a variety of patient care units in the hospital. Reasons for participating in the study were family stress such as aging, illness, or recent death of a family member. The stress of working part-time and performance anxiety at work were reported by three of the participants. Twenty-seven per cent reported demanding jobs, while 21% reported learning a new job as the main reason for work stress.

Qualitative data analysis included review of 46 open-ended questions given during MBSR, two interviews with the vice president for patient care, and a one hour focus group with seven of the 25 participants. The interviews from the focus group were transcribed and reviewed independently by each of the researchers. Content and themes were obtained from the transcripts utilizing a six item codebook developed by the

research team. Consensus was reached through two of the three researchers agreeing on the coding for five test transcripts. The remainder of the documents were coded by the principal investigator and reviewed by the research team. The NVIVO software was utilized after consensus coding. Themes that emerged from the focus group interviews were increase in empathy and appreciation of others, increased relaxation, feeling a sense of peace, and learning how to be in the present moment. Other themes were patience, calmness, letting go of worry, and being fully present in relationships.

The strengths of this study included using the grounded theory approach to analyze themes, validation of the data through several coders and consensus, and the explanation of the interpretative descriptions. The report is organized by section headers and includes language of the participants. Reliability was increased through multiple coders and consensus (Sandelowski & Barroso, 2003). Limitation of this study was the singular focus group. It was unclear from the study description if longer term effects occurred. This study should have mentioned if the transcripts were validated by the participants for accuracy.

Outcomes of MBSR on Students in Health Care Professions

Six studies were conducted on students enrolled in health care courses. These comprised four quantitative studies, one mixed study, and one qualitative research study. These research studies examined the use of MBSR with medical students, nursing students and other health care professionals enrolled in academic programs.

The first study involved nursing students in a nonrandomized pilot study using a pretest and post test design without a control group (Beddoe & Murphy, 2004). The purpose of this study was to explore outcomes of MBSR on stress, empathy, attitude, and behavior in baccalaureate nursing students. Twenty three students were recruited for the MBSR program, however, there was a 22% attrition rate and only 16 of the 18 students completed all of the measures. The IRI was utilized to measure empathy, and the Derogatis Stress Profile (DSP) was used to measure stress. Questionnaires were created by the authors to measure the students' perceptions of benefit and amount of behavior change from using the MBSR program. The sample included 100% women with the mean age of 25 years. High empathy scores were noted on the pretests of the students.

A statistically significant difference was found on the post test of the DSP anxiety scale compared to pretests. Student nurses, who meditated more, reported greater overall benefit. Favorable trends were found in the DSP subscale scores of Time Pressure which is related to work habits and work satisfaction, the Attitude Posture subscale scores, and the two of the IRI dimensions. However, improvements in these scores were not statistically significant. The strengths of this study included increased knowledge about the effects of the MBSR program with nursing students. This study could have been strengthened through a randomized control design, larger sample, and added points in time to assess long term anxiety reduction. A large attrition rate (22%) is noted in this

study. It is unclear if male nursing students were available or wanted to participate in this study.

Rosenzweig, Reibel, Greeson, and Brainard (2003), examined the effects of MBSR using a prospective nonrandomized cohort controlled design. Three hundred and two, second year medical students participated over a five year period in elective semester courses in MBSR (N = 140) or seminars on complementary and alternative medicine (N = 162). The Profile of Mood States (POMS) was used to measure six mood or affective states. Multivariate analysis of variance (MANOVA) for repeated measure designs examined pre and post test changes on all subscales of the POMS. Univariate analysis of variance (ANOVA) was run on the Total Mood Distress scale of the POMS. A statistically significant difference was found between groups' pre and post test scores on the Total Mood Disturbance (TMD) scale, four out of six subscales of the POMS, Tension-Anxiety, Vigor-Anxiety, Fatigue-Inertia, and Confusion Bewilderment. Seventy-one per cent of the students who took MBSR reported they felt more mindful, and 60% felt more effective in handling stress.

Strengths of this study included the large sample size and use of a control cohort. This study also adds to further education on the effects from MBSR on students in health care fields. Limitations included a nonrandomized design and failure to measure baseline physical health to exclude for conditions that might affect these results. The post tests occurred during the last weeks of the semester when high degrees of stress usually occur

for students and may have influenced some of these results. Only a single measure, POMS, was used to examine states of well being and stress. Lastly, the students in the control group did not have the same daily homework as the MBSR group. Given this study was conducted over five years, a longitudinal design would have been appropriate to measure anxiety over time in these students.

In a quantitative design, Shapiro, Schwartz, and Bonner (1998) recruited premedical and medical students to participate in a matched randomized design to examine the potential benefits of MBSR. Shapiro and colleagues were particularly interested in determining if mindfulness would improve psychological measures, especially an increase in empathy. The 90 item Hopkins Symptom Checklist (SCL-90) was used to measure somatization, obsessive compulsive behavior, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism (Derogatis, 1977). The 40 item STAI-1 tool was used to measure state and trait anxiety. A 42 item Empathy Construct Rating Scale and the 7 item INSPIRIT tool were used to measure empathy and spirituality respectively.

Two hundred premedical or medical students were recruited of which 78 students agreed to be randomly assigned to either an intervention or control group. Ninety five students agreed to be assigned to a wait list in the second semester. Two semester-long elective courses of MBSR (N = 18; N = 19) were conducted with a different facilitator for each. In addition to MBSR, skills to increase empathy and didactic content on stress

were included. The attrition rate was low for both the intervention and control group (5%). No statistically significant differences were found between groups at the pretest point. Significantly less depression and trait anxiety were found in the intervention group at the post test point compared to baseline. In addition, at the post test a significant increase in empathy and spirituality was determined in the intervention group as compared to the control group. Post tests were given during the final exam period of the semester when stress is usually higher than at the start of the semester. These post test results are remarkable considering the time of the year.

The process of implementing MBSR as an elective course was given to the wait group after the first intervention group was completed. All of the measures, except the trait anxiety, were administered pre and post intervention. Again, as with the first cohort, significant positive findings occurred across the variables. In the intervention and wait list groups, gender differences in post measure scores were not reported. Overall this was a well designed randomized trial. Limitations included possible bias introduced by the facilitator teaching the elective course and possibly influencing test scores, lack of a control group receiving a placebo effect, and generalization of findings to other groups. Response bias may be present due to self administered questionnaires. Long term outcomes were not measured in either arm of the study.

In a later study, Shapiro, Brown, and Biegel (2007) examined the effects of MBSR on students in mental health counseling using a prospective, nonrandomized

control design. The purposes of the study were to test the efficacy of MBSR in enhancing mental health of therapists in training, examine how MBSR achieves its effects, and explore the relationship between mindfulness practice and psychological outcomes. Eighty-three graduate students from a counseling psychology program were recruited during one semester to participate in the study by enrolling in one of three required courses for their graduate degree. Twenty-two students enrolled in the MBSR course and 61 students enrolled in two cohort groups that received education on stress management, psychological theory, and research methods. The cohort groups received three hours of education each week while the MBSR group attended two hours per week. Only 42 of the 61 students in the cohort groups completed all psychometric measures. A large number of students were female ($N = 54$) and the mean age was 29.2 years.

The MAAS and PSS were used as psychometric measures. In addition, the Positive and Negative Affectivity Schedule (PANAS) was used to measure psychological distress and well being. The Reflection Rumination Questionnaire (RRQ) was used to measure one's rumination over matters, and the Self Compassion Scale (SCS) was used to measure self kindness, common humanity, and mindfulness. Students did not differ at baseline in the cohort groups or the MBSR group, except that most of the students in the control groups were in their first year of graduate school compared to one third of the MBSR group. Participants in the MBSR group demonstrated a statistical significant improvement in scores on the PANAS, PSS, RRQ, SCS, and MAAS in comparison to the

control groups. No statistical significant effects were found related to the total amount of mindfulness practice time as measured by individual, daily logs of minutes for sitting meditation, yoga, body scan, and mindfulness activities on changes in distress and well being on the PANAS tool.

The strengths of this study were the larger sample size compared to other studies and the large number of measures used for well being. This study contributed to further research knowledge in MBSR for students in health care professions. The limitations of this study were the lack of randomization and the limited male participants. Bias may have been introduced as these courses were required in order to graduate. No follow up assessment was completed on these groups to measure long term results from these courses. Measures were obtained in all groups at the end of the semester when exams were given and may have influenced measures of distress and anxiety.

A study using a mixed quantitative and qualitative design using the MBSR program was conducted on baccalaureate, Canadian nursing students to examine the effects on stress (Young, Bruce, Turner, & Linden, 2001). Fifteen students were recruited for the MBSR program and 15 students for a no treatment control group. Focus groups, the Antonovsky's Orientation to Life questionnaire, and a symptom checklist were used before, during, and after the program time period. Themes that emerged from the focus group in the MBSR group included: (a) increased control over their reactions to stress; (b) greater clarity about their response to demands; (c) change in perception of time and

sense of urgency; (d) change in physical symptoms; and (e) appreciation and connectiveness with the group experience. There were no statistically significant differences in well being between the MBSR group and the control group which the authors attributed to the small sample size.

The strengths of this study included the utilization of a focus group, mixed design, and identification of themes. The limitations of this study included lack of randomization, small sample size, and inability to generalize findings. Little information was given about the size of the focus group, transcription of data, coding of themes or validity of findings.

In the last study on students, a qualitative design was utilized (Christopher, Christopher, Dunnagan, & Schure, 2006). An elective semester long, graduate course for mental health or family counseling students was offered that included stress reduction techniques, some of the MBSR program (yoga, meditation, QiQong, and the body scan), Tai Chi, and didactic content on Eastern Medicine. A focus group was conducted with 11 participants and used field notes, transcription of data, and identification of themes. Inductive content analysis identified themes through the consensus of all of the researchers. The data were transformed to produce integrative explanations of the students' experience. Students identified an increase in presence, connection, and availability after completing the course. Differing opinions on practice time, journaling, and class content were found.

The strengths of this study were the generation of further knowledge about MBSR and stress reduction techniques. One limitation of this study was the difficulty determining the relationship between MBSR and the findings due to the course containing other content. It was unclear who facilitated the focus group and whether bias was introduced. No mention was made as to how the focus group was conducted and time allowed for questions. The focus of this qualitative study was on the evaluation of the course versus MBSR components.

MBSR Research with Nurses and other Health Professionals

Two research studies focused on nurses and nursing assistants working in hospital settings and demonstrated a statistical significant increase in mindfulness and significant decrease in emotional exhaustion (Cohen-Katz et al., 2005; MacKenzie et al., 2006). In the study by Cohen-Katz and colleagues, 27 participants were recruited and randomized to either MBSR or a wait list. Statistically significant differences occurred between the intervention group and the wait list on the mean scores post intervention for mindfulness. The within-group analysis on the intervention group demonstrated statistical significant reductions in emotional exhaustion on the Maslach Burnout Inventory (MBI) scale immediately post intervention and 3 months later.

In a sample of 30 nurses and nursing assistants, MacKenzie et al., (2006) conducted a randomized control pilot to study the efficacy of a condensed version of MBSR utilizing the works of Jon Kabat-Zinn (1990) and the authors own personal

experience compared to a wait-list control group. The intervention group included four 30 minute group sessions. Measures of burnout, work satisfaction, stress and relaxation were completed at baseline and post training. Repeated measures analyses of variance (ANOVA) were performed on the effects of group participation over time on the subscales of burnout, sense of coherence, life satisfaction, relaxation and work satisfaction. Statistical significant effects were found in emotional exhaustion, depersonalization, and job related personal accomplishments between the intervention group and the wait list. No statistically significant findings were obtained for work satisfaction or sense of coherence.

An increase in empathy was not detected in some research studies (Galantino et al., 2005) but was found in other research studies on health professionals (Beddoe et al., 2004; Shapiro & Schwartz, 1998). The themes of increased empathy were found in qualitative studies on health care professionals who took the MBSR program (Cohen-Katz et al., 2005; Christopher et al., 2006). These research studies show promise for utilizing MBSR as an intervention for nursing. Nurses go into nursing to give empathetic care and commitment to be there for patients and families. Giving care through being present is both joyful to nurses as well as patients. The stress of the work life in acute care settings may change the perspective of nurses and challenge their personal values.

Many hospitals are trialing techniques to improve the work environment and conditions utilizing quality improvement and efficiency methods to help remove barriers

for delivery of high quality care. However, changing systems and improving the work environment are only a few means to enhance nursing practice and improve patient care. According to Miller and Dell Smith (1993), personal control over difficult situations begins with identification of the stressor and accepting responsibility to manage stress. Reframing the stress and viewing the whole situation with objectivity helps to manage the situation. More self care programs and tools are needed in hospital environments to guide nurses in their management of stress and development of their inner self. These programs may lead to improvement in nursing practice, personal health of the nurse, and overall retention of the nursing workforce.

The findings of these studies are useful in guiding the development of intervention programs for staff nurses to assist in increasing nurse satisfaction, reducing medical error, and improving the overall health and well being of nurses. The MBSR program may be a useful intervention for nursing management to incorporate in every day practice for staff nurses, orientation programs, and continuing education. This study aims to increase our knowledge in the field of mindfulness as it relates to potential benefits to nurses and their work performance and effectiveness.

Synthesis of Current Knowledge on MBSR

Mindfulness practices have their roots in the philosophical Buddhist teachings and practices in Tibetan culture (Kabat-Zinn, 1990). The program of MBSR produces many psychological and physical outcomes that benefit participants' overall state of well being.

Twelve research studies were identified and reviewed of which four were randomized control trials on the outcomes of MBSR for health professionals (Cohen-Katz et al., 2005; MacKenzie et al., 2006; Shapiro et al., 1998; Shapiro et al., 2007). Only six studies were found on health professional staff working in clinical fields (Cohen-Katz et al., 2005; Cohen-Katz et al., 2005; Galantino et al., 2005; MacKenzie et al., 2006; Schenstrom et al., 2006; Shapiro et al., 2005) while six studies were on student populations (Beddoe et al., 2004; Christopher et al., 2006; Rosenzweig et al., 2003; Shapiro et al., 1998; Shapiro et al., 2007; Young et al., 2001). Two of the six studies reviewed on staff working in clinical fields were from the same trial with different arms of the study (Cohen-Katz et al., 2005). Two of the authors focused on nurses or nursing assistants working in health care settings (Cohen-Katz et al., 2005; MacKenzie et al., 2006).

In summary, several studies showed promising outcomes in staff and students currently working in health care. The studies that focused on nurses and nursing assistants working in hospital settings demonstrated a statistical significant increase in mindfulness and significant decrease in emotional exhaustion (Cohen-Katz et al, 2005; MacKenzie et al., 2006). Mackenzie and colleagues (2006) showed improvement in life satisfaction, job accomplishments, and general state of well being in health care staff, whereas no statistically significant improvement in work satisfaction was identified in this study. Statistically significant increases in mindfulness and well being were also

found by Schenstrom et al. (2006). Increase in empathy was not determined in the study on staff in health care by Galantino et al. (2005). Themes of increased empathy were found in the qualitative studies by Cohen-Katz et al. (2005). Increase in emotional exhaustion was determined in two studies on health care staff and showed significant improvement after MBSR (Mackenzie et al., 2006; Galantino, 2005).

In the studies on students in health care professions, several outcomes were found. Increase in empathy was found in students in health care by Beddoe and colleagues (2004) and Shapiro and colleagues (1998) in contrast to no statistically significant increase in empathy in staff in health care found by Galantino and colleagues (2005). In the qualitative study on students in health care by Christopher and colleagues (2006), the theme of empathy was found. Decrease in anxiety and depression were also found in several of the studies on students (Beddoe et al., 2004; Rosenzweig, 2003).

None of the studies in this review mentioned negative effects of MBSR. However, a small amount of research has shown negative consequences of meditation and mindfulness activities (French, Schmid, & Ingalis, 1975; Kennedy, 1976). In conclusion, MBSR programs show promise to increase empathy, mindfulness, and decrease stress or emotional exhaustion in health professionals. These outcomes are meaningful to health care staff as well as patients. The value of providing MBSR to nurses who work in acute care may provide short term and longer term benefits to the nurse. The prospects of reducing nursing burnout, increasing compassion for patients and families, and improving

overall work conditions through MBSR programs are compelling thoughts to foster nursing retention and practice.

Conceptual Framework

The conceptual framework for this research study is based on several philosophical and psychological concepts. The philosopher, Martin Heidegger and his work on presence and consciousness, serve as the starting point for these viewpoints (1962). According to Heidegger, the phenomenology of “being” is core to the experience between people and among people and ‘presence’ as described by both Jean-Paul Sartre (1943/1984) and Martin Heidegger is an existential phenomenon. This conceptual understanding of presence is basic to the understanding of mindfulness and relationships with others and self. Heidegger defines mindfulness as seeing, being and doing, and further elaborates that mindfulness is awareness and understanding. According to Heidegger, beings show being through their *authentic* coming to presence. The interpretation of meaning in life depends upon the reality of being. Heidegger describes *being* as the unique quality or spirit of a person and can be experienced by sharing one’s presence. Heideggerian hermeneutics describe the human way of being as interpretive. *Being* is later described by nursing author Nelms (1995) as letting be present and presence. According to Nelms’ Heideggerian hermeneutical analysis (1995), the essence of nursing practice lies within the concepts of presence.

In Newman's nursing theory (1994), health is an expansion of consciousness or 'being'. According to Newman, the interconnectedness of one with the universe is ongoing and each person is evolving their own pattern. Newman (2008) asserts that nurses must let go of personal judgments and sense the whole in order to see patterns in patients. Nurses must be in the present moment to experience a relationship with a patient (Newman, 2008). According to Newman (2008), the mission of nursing is to help the client find meaning and the nature of nursing is the caring, pattern recognizing relationship between the nurse and the client (p. 52). The present moment is timelessness and precious for therapeutic healing of self and patient.

The core of a therapeutic relationship between nurse and patient is being present for the patient. Being authentic and present promotes a healthy relationship with the patient and for oneself. Heidegger (1962) asserts our existence is primarily relational and our self is defined through our interactions with the world around us. Newman's theory of health as expanding consciousness supports the need to be present and utilize interventions to promote nursing presence. According to Newman, outcomes such as nurse satisfaction are enhanced with therapeutic presence.

The registered nurse possesses factors of mindfulness, empathy, and serenity which may lead to excellence in nursing practice and optimal patient outcomes. This researcher believes these factors are a way of being in the world and relate to presence. Excellence in nursing practice may be reflected in greater work satisfaction, less burnout,

and improved work performance. Patient outcomes may become optimal through safer care and higher patient satisfaction when nursing practice excels. This researcher believes the factors of mindfulness, empathy, self compassion, and serenity are inherent characteristics and can be nurtured in oneself.

Reacting to one's inner feelings and outer experience can be an internal struggle for the nurse and affect the internal characteristics of mindfulness, empathy, self compassion, and serenity that are inherent within the nurse. The fundamental concern in nursing management is to explore how nurses can be present with patients and benefit the patient and themselves. The qualities of mindfulness, empathy, self compassion, and serenity are primary to the nurse's capacity to be therapeutic. Of utmost importance, these attributes may enhance nursing practice and improve patient care. Personal health of the nurse may be improved through an increase in presence. The therapeutic relationship of nursing "being" creates a circle of life and healing. Based on these beliefs, this author presents a conceptual framework incorporating these major concepts and therapeutic relationships for reflection and incorporation into nursing practice (Figure 1).

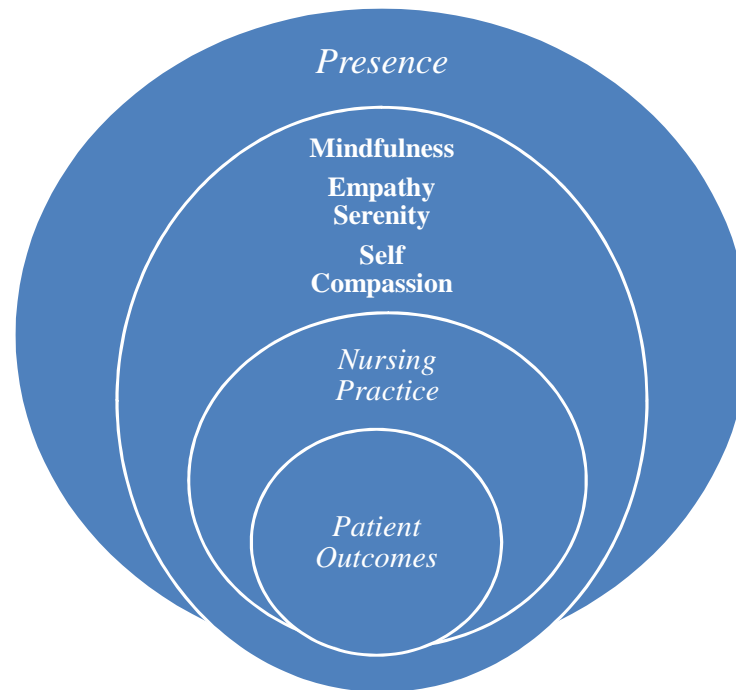


Figure 1. Nursing Practice: Factors Affecting Practice and Patient Outcomes.

Psychology offers subject matter on presence by using this concept in mindfulness therapy. In 1976, Kabat-Zinn developed the MBSR program using

mindfulness therapy to increase *attentiveness* and *awareness* in self and others and improve overall health (Germer et al., 2005). Kabat-Zinn (1990) further delineated the link between mindfulness and presence by describing these concepts as interconnected. The awareness and being in the present moment from MBSR complement the middle range theory of caring in nursing (Swanson, 1991). According to Swanson, caring behaviors that invoke “being with” a patient are core to nursing practice. To “be with” a patient requires availability and empathy on the part of the nurse. Mindfulness may also be highly linked to compassion and empathy which have been shown to create healing through their actions, intentions and thoughts (Schmidt, 2004). The practice of mindfulness may bring about relaxation and positive outcomes for the individual.

Kabat-Zinn (1990) provides the program of MBSR to foster our relationships with others through presence, awareness, nonjudgmental thoughts, and loving kindness. The meaning of life through ‘being’ is not lost through distraction of past or future thoughts. For nurses, this mental and physical connection may augment their personal health and promote work satisfaction. Nursing practice and the relationship between nurse and patients may be enhanced.

By being more fully aware of the experience and nonjudgmental, a buffer is created to process one’s thoughts and feelings (Teasdale, 1999). This may create a more empathetic response. The states of awareness and attentiveness have been shown in some studies to increase empathy (MacKenzie et al., 2006). Childs (2007) proposes the state of

presence creates an open environment, experience and relationship. According to Childs, mindfulness is a crucial foundation to therapeutic relationships and is an opportunity often missed in clinical practice and thus its health benefits are not fully realized. MBSR may be a program to nurture these factors and enhance work satisfaction.

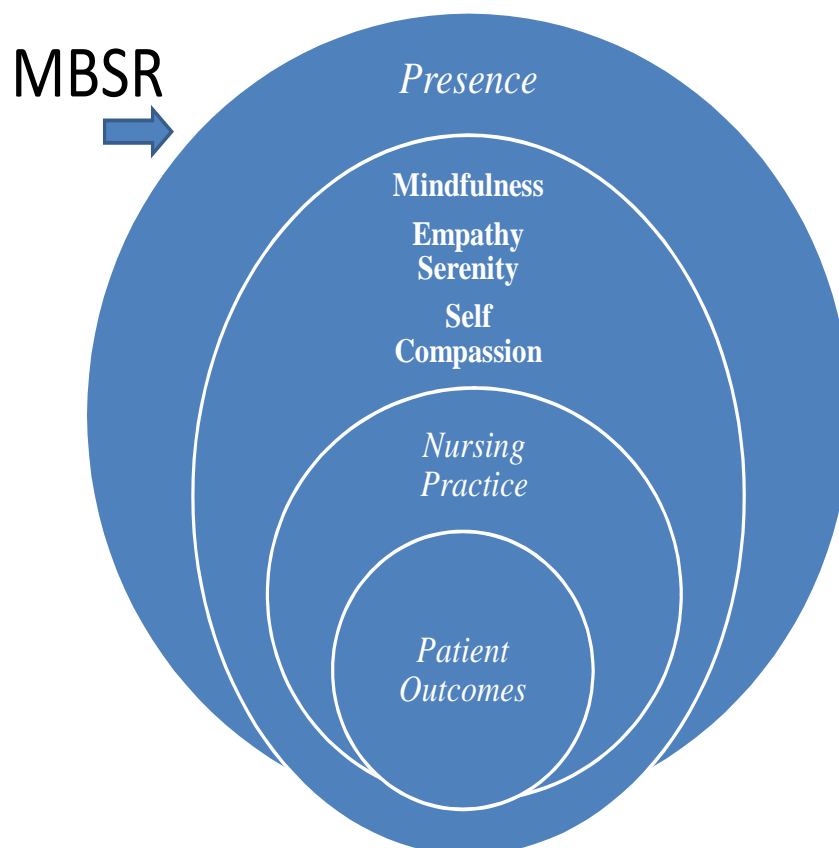


Figure 2. MBSR Intervention on Nursing Practice

Conceptual Definitions

For the purposes of this research study, conceptual definitions are defined by this researcher.

Mindfulness - is the state of being aware, present, attentive, and in the moment. Mindfulness is a nonjudgmental way of being. The state of mindfulness can be attained through education, mentoring, and practice.

Empathy - is a feeling of concern for others. If one is empathetic, one is able to understand and respond to others in a nonjudgmental manner.

Self Compassion - is being kind to self and accepting the negative things that happen in this world with a perspective that they happen to everyone.

Serenity - is a state of inner peace that manifests as gentleness, gratitude and nonjudgmental behavior. Serenity is also defined as acceptance, forgiveness, and unconditional giving.

Work Satisfaction - satisfaction with work is defined as liking ones' job and feeling an accomplishment over the work performed.

Job Burnout - feeling overwhelmed, emotionally exhausted and uncaring about ones' work are feelings of job burnout. As a result, behavior of someone who experiences job burnout may include an impersonal manner.

Incidental overtime - overtime equal to or less than one hour after the end of a work shift and missing a meal break are defined as incidental overtime.

Study Aims

Clinical work in hospital settings has been described as challenging for nurses and may contribute to burnout and turnover. Increasing mindfulness, empathy, self compassion, serenity, and work satisfaction enhance the personal health of nurses and promote healing intentions for patients. The concept of caring for self promotes a healing attitude and increases mindfulness (Schmidt, 2004). The study aims for this research study are designed to test the effects of MBSR on several factors. Specific objectives of this research study and the hypotheses include:

Aim 1: Determine the effects of MBSR intervention on mindfulness, self compassion, empathy, serenity, and work satisfaction in registered nurses.

Hypothesis 1: Mindfulness, self compassion, empathy, serenity, and work satisfaction will be greater post MBSR intervention relative to baseline in registered nurses.

Aim 2: Determine the correlation between the variables of mindfulness and self compassion, empathy and serenity in registered nurses.

Hypothesis 2: Mindfulness will be positively associated with self compassion, empathy and serenity in registered nurses.

Aim 3: (Exploratory): Determine the effects of the MBSR intervention on the job performance measure of shift incidental overtime in registered nurses.

Hypothesis 3: Incidental overtime will decrease from baseline in registered nurses.

Aim 4: (Exploratory): Evaluate job burnout post MBSR intervention relative to baseline in registered nurses.

Hypothesis 4: Burnout will decrease following the MBSR program in registered nurses.

The long term goals of this researcher are to increase self compassion and serenity in nurses and improve work satisfaction. The secondary goals are to increase mindfulness, empathy and retention in nursing. Intervention programs for improving the personal health of nurses need further exploration as they may be imperative for long term retention of nurses in acute care settings.

CHAPTER THREE:

Methods

Aims

The overall aims of the current study were to determine whether an MBSR intervention would have psychological benefits on registered nurses and improve the overall work performance. The idea for the study originated with this researcher's desire to improve the work setting for RNs working as staff nurses and the nursing care given to patients. The premise for this study was further shaped through input of the dissertation committee.

Research Design

A quasi-experimental, longitudinal, pretest and post test, correlational design targeting a sample of registered nurses working in a single hospital campus setting in the upper Midwest was used for this study. The primary goals of this research study were to test the effects of the MBSR intervention on registered nurses and to describe outcomes post intervention including standardized measures of mindfulness, empathy, self compassion, serenity, and work satisfaction. In addition, work performance was assessed 3 months prior, during, and 3 months post intervention using the measure of incidental overtime. An exploratory aim evaluated job burnout post intervention to determine if there was a decrease in burnout as compared to pre intervention.

Study Setting

This study was conducted at Abbott Northwestern Hospital in Minneapolis, Minnesota. Abbott Northwestern Hospital is a large non-profit, 619 bed tertiary care hospital which is part of the Allina Hospitals and Clinics system. Abbott Northwestern Hospital employs 1600 RNs of which 1400 are contract nurses with the Minnesota Nurses Association. Of the 1600 RNs, approximately 5% are male nurses.

Sample

The sample frame for the study comprised a convenience sample of RNs working at the Abbott Northwestern Hospital campus. An attempt was made to heavily recruit bedside nurses from all units; however, this study was open to all registered nurses who work at the Abbott Northwestern campus. All nurses recruited for the MBSR program were employees of Allina Hospital and Clinics and had a comparable orientation upon hire. Eligible nurses worked in patient care units, hospital clinics, or educational services. Direct care nurses at Abbott Northwestern Hospital float between patient care units but are assigned primarily to one community of like patient care units. The turnover on each of these units is similar, averaging less than 10 % per year.

The total number of nurses that work at Abbott Northwestern Hospital campus setting is approximately 1600. The target sample for this study was 50 registered nurses. The study over recruited 83 RNs to account for potential dropouts. A beginning sample

of 71 RNs made the commitment to the 8 week MBSR intervention through written consent for this research study. A final sample of 61 nurses completed the MBSR course. Nurses were recruited from all patient care units, clinic settings, and the education department. Nurses were given the option to attend the same MBSR class given at four different times during the week according to their personal needs and time schedule.

Power Analysis

Means and standard deviations were obtained for all of the measures used in this study from prior research utilizing these tools, and post intervention detectable difference for each instrument was obtained (Table 1). An *a priori* power analysis was completed prior to enrollment. Sample size was calculated on the basis that a sample of 50 participants would have 80% power to detect at $p < .05$. A power analysis using 80% was used to determine the greatest probability of detecting results for this study. The sample size of 50 was deemed by this researcher to be a reasonable and achievable number of nurses to recruit.

Table 1. Effect Sizes of Tools – a priori analysis using 80% power (alpha = 0.05, two tailed), (N = 50)

Measure	Mean (SD)	Detectable difference for paired t-tests
Brief Freiburg Mindfulness Inventory	37.2 (5.6)	3.2
Self Compassion	18.3 (3.8)	2.2
Brief Serenity Scale	3.4 (0.1)	.70
Interpersonal Reactivity Index (IRI)		
Emotional Concern	11.7 (3.8)	1.9
Fantasy	18.8 (5.2)	2.6
Personalization	12.3 (5.0)	2.5
Perspective	17.9 (4.9)	2.4
Work satisfaction overall mean score	4.2 (.6)	.3
<i>Subscales</i>		
Pay	2.7 (1.1)	.54
Interaction between doctor and nurse	3.7 (1.2)	.59
Organizational Policies	3.7 (.93)	.46
Tasks	3.9 (1.1)	.54
Professional Status	5.5 (.8)	.39
Autonomy	4.9 (1)	.49
Team	5.4 (.9)	.44
Maslach Burnout Inventory		
Emotional Exhaustion	17.9 (6.4)	.74
Depersonalization	5.7 (3.9)	.66
Personal Accomplishment	19.8 (4.6)	.59

Inclusion and Exclusion Criteria

To qualify for the study, persons were required to be: (a) adult, 21 or older; (b) Registered Nurse; (c) English-speaking; (d) literate- able to read the course materials; (e) no self disclosed current diagnosed psychiatric illness; (f) able to attend weekly classes; (g) interested in enrolling in the intervention; (h) willing to complete an informed consent process; (i) willing to complete study data collection forms; and (j) employed by Abbott Northwestern Hospital or RNs working on the Abbott Northwestern campus.

Persons were excluded from participation if they (a) had previously participated in the MBSR program; (b) were regularly practicing mindfulness meditation; (c) expressed uncertainty they could attend the intervention on a regular basis; (d) intended to relocate in the next 6 months, or terminate from work agreement. The criteria were chosen to avoid bias from previous exposure to mindfulness activities and psychological distress that could influence job performance.

Recruitment

The principal investigator intended to recruit a minimum of 50 registered nurses, based on the power analysis performed prior to the start of the study, to participate in one of four simultaneously managed intervention groups consisting of the MBSR program taught by the same instructor on different days and times of the week (Table 2).

Table 2. MBSR Schedule and Timeline

Groups	3mos prior	Pretest	Intervention	Post test (8wks)	3mos Post
A ₁ (Wednesday morning)	O ₁	O ₂	X ₁	O ₃	O ₄
A ₂ (Wednesday evening)	O ₁	O ₂	X ₁	O ₃	O ₄
A ₃ (Thursday morning)	O ₁	O ₂	X ₁	O ₃	O ₄
A ₄ (Thursday afternoon)	O ₁	O ₂	X ₁	O ₃	O ₄

Recruitment occurred three weeks prior to the start of the intervention. Direct and indirect means of recruitment were used for this study. Flyers advertising the MBSR program and research objectives were posted in unit report rooms and bulletin boards throughout the hospital and clinics. In addition, flyers were handed to staff or sent via email to staff. The Chief Nursing Officer mentioned this research study in her weekly newsletter and encouraged staff to participate. The principal investigator spoke at the Nursing Practice Council at Abbott Northwestern and to the MNA co-chairs about the study. If staff were interested in the study, they were directed to call the principal investigator for further information. To assist with recruitment, both co-investigators made rounds and encouraged staff to enroll by calling the principal investigator. A total of 83 nurses inquired about the study during the recruitment phase.

When registered nurses called the principal investigator, they were screened for inclusion and exclusion criteria. Nurses were given more information about the study and if interested and met enrollment criteria, a written consent was obtained. At this time, the nurse volunteered for one of the groups for participation in the MBSR program based on their schedule and personal choices. The nurse was informed they could attend any class session within the same week but were encouraged to stay with the same group as much as possible.

Instruments

There were seven main data collection instruments for the study that were used to obtain information from the nurses. Data collection occurred at multiple points across the study (Table 3). The study instruments included measures of mindfulness, self compassion, serenity, empathy, work satisfaction, burnout, and demographic variables. In addition, data were collected from routine hospital reports on incidental overtime by patient care unit, not by individual nurse.

Baseline data included subject characteristics including gender, highest level of education, years of experience as an RN, shift predominantly worked, and number of hours in a pay-period worked. The reason for this data collection was to determine if the groups were similar in characteristics. The following instruments were utilized:

Brief Freiburg Mindfulness Inventory (BFMI). The mindfulness concept may be nurtured through meditation such as in the MBSR program. The Freiburg Mindfulness

Inventory (FMI) is a 30 item tool developed to measure the concept of mindfulness and developed by Buchheld, Grossman, and Walach (2001). Items are ranked on a 4-point Likert type scale from rarely to almost always. Buchheld and colleagues report an internal consistency of Cronbach's alpha = .93 with a mean score change of 1.0 deviation.

The brief form FMI is a psychometrically sound 14 item scale with an internal consistency of Cronbach's alpha of .86 based on the original 30 item Freiburg Mindfulness Inventory scale. In a study by Walach, Buchheld, Buttenmiller, Kleinknecht, and Schmidt (2006), the Brief Freiburg Mindfulness Inventory was utilized with 117 subjects of diverse backgrounds. The range of scores on the BFMI was from 18-52. The 14 items used in this tool were considered the core of mindfulness. A total score was recommended to be reported for the degree of mindfulness by these researchers and will be reported in this study.

The mindfulness concept may be an outcome variable or a moderating variable. The BFMI tool views mindfulness as one-dimensional. The aspects measured in the BFMI include: (a) mindful presence; (b) openness to experience; (c) non-judgmental acceptance; and (d) insight (Walach et al., 2006). However, it is recommended that factors not be reported individually and a total score be given.

Self Compassion Scale (SCS). The SCS is an established and well-researched scale designed by Neff in 2003. It evaluates 26 items examining 6 dimensions of self

compassion: self kindness, common humanity, mindfulness, self judgment, isolation, and over-identification. The first three factors are components leading towards a higher self compassion. The latter three factors of this tool are considered to negatively affect one's self compassion. A 5- point Likert scale is used to rate each of the 26 items ranging from never = 1 to very often = 5. Together the components are scored using reverse coding for the latter three constructs. High scores indicate higher self compassion. Self compassion may be viewed as a single overall score or separately through each of the six subscales.

Neff (2003) explains that the concept of self compassion is also closely related to mindfulness through awareness and promotion of perspective. Research has shown the SCS has an adequate factor structure and demonstrates satisfactory concurrent, convergent and discriminate validity, test retest reliability, and strong internal consistency with an alpha of 0.93 for the scale as a whole (Neff et al., 2006), and 0.75 – 0.86 (Neff & McGehee, 2009). The tool has been tested in several studies with similar reliability shown (Leary et al., 2007). Pearson's correlation coefficients were calculated between the SCS and other instruments measuring similar constructs to determine construct validity.

Brief Serenity Scale. Serenity is an important construct to measure dimensions of spirituality (Kreitzer et al., 2008). The Serenity Scale is an established tool developed by Roberts and Aspy (1993) and evaluates 40 items including 9 distinct factors in the 40 item version: inner haven, acceptance, belonging, trust, perspective, contentment, present centered, beneficence, and cognitive restructuring (Roberts & Aspy, 1993). The Serenity

Scale has been tested in research studies and established as internally consistent and reliable (Cronbach's alpha = .93) in a population of older male and female hospital volunteer workers (Kruse, Heinermann, Moody, Beckstead, & Conley, 2005).

The Brief Serenity Scale was developed by Kreitzer and colleagues (2008) from the original tool and with the assistance of Dr. Belinda Boyd-Wilson and her team of researchers in New Zealand (Kreitzer et al., p. 2). A tool of 22 items was created that included items with a correlation of .40 or higher. This 22 item tool includes all the items from Roberts and Asp's (1993) original factors of inner haven, trust, and most from the acceptance factors. Two items are included for the perspective factor. The construct validity of the Brief Serenity Scale was evaluated using factor analyses, tests of convergent and discriminate validity (Kreitzer et al.). Internal consistency reliability was high (Cronbach's alpha = .95) and three factors explained 58.7 % of the total variance: (a) acceptance; (b) inner haven; and (c) trust. According to Kreitzer and colleagues, higher serenity scores were positively associated with positive affect and mindful awareness. The states of acceptance, inner haven, and trust are dimensions of spirituality.

Interpersonal Reactivity Index (IRI). The IRI is a 28 item tool developed by Davis (1983) and is used to measure empathy. It has four subscales which analyze fantasy, personal distress, empathetic concern, and perspective taking. This tool has been used on health professionals to measure empathy (Galantino et al., 2005). The 7 questions in the empathetic concern subscale are used to assess one's compassion (Frazier & Kaler,

2006). Each of the other subscales includes 7 questions each as well. A 5-point Likert scale is utilized ranging from 0 = does not describe me well to 4 = describes me very well. Research has determined the reliability for three of the four subscales: empathetic concern (.76); personal distress (.70); and perspective taking (.74) (Beven, Malone, & Hall, 2004).

Maslach Burnout Inventory (MBI). The MBI is a 22 item tool developed by Maslach and Jackson (1981), and has been used extensively nationally and internationally to measure job burnout. The dimensions are organized in subscales which are emotional exhaustion, depersonalization, and lack of personal accomplishment. Feelings of being overextended or exhausted by work are measured by the emotional exhaustion subscales. Negative attitudes and feelings toward others at work are measured by depersonalization. The tendency to describe oneself as negative is identified in personal accomplishment.

The tool was originally designed to be used in human services including nursing services. Each subscale is scored separately. A 7-point Likert type scale is used for scoring with never = 0 and 6 = every day. Internal consistency was reported by Cronbach's alpha, including .83 for emotional exhaustion, .74 for personal accomplishment, and 0.77 for depersonalization (Maslach & Jackson, 1981).

Index of Work Satisfaction (IWS). The IWS questionnaire developed by Stamps (1997) has been widely used to measure work satisfaction in nursing (Ma et al., 2003). Work satisfaction is defined as the perceived importance of factors pertinent to work

satisfaction and the level of satisfaction (Shader et al., 2001). Subscales on the IWS include pay, autonomy, task requirements, organizational policies, interaction, and professional status.

Overall instrument reliability has been previously reported at .85 with a Cronbach's alpha for each of the components ranging from .70 to .90 (Stamps, 1997). An overall mean score is obtained as well as mean scores for each of the subscale components in the tool. A 7-point Likert scale is used ranging from 1 = agree to 7 = disagree. A group score is computed to first rank the importance of the subscales. The component weighting coefficients are calculated for each subscale for the total group of nurses. The frequency distribution of responses to work satisfaction is calculated. A total work satisfaction mean score may be obtained by multiplying each weighted coefficient and the mean score for each subscale. However, it is recommended to report the subscales rather than the total component score to determine the significance of specific work satisfaction factors (Stamps).

Incidental Overtime – overtime less than one hour post shift was collected on each patient care unit where the majority of staff nurses were recruited. This is the standard measurement used at Abbott Northwestern Hospital to measure incidental overtime. Overtime was collected through the electronic time and attendance system called KRONOS, an automated workforce management system used by many businesses. Allina Hospitals and Clinics employees use their identification badge to log in or out of

the KRONOS system for work. Nursing management and administrative coordinators verify the entry of the employee's attendance for accuracy each day and at the end of a pay cycle.

The KRONOS system generates data by employee for the payroll department for the purposes of pay and benefits. KRONOS reports are run by both the human resource and finance department for managers to view employee records of attendance, sick time, overtime, and use of benefit time. Employees may also access these reports. A monthly report of overtime is created by the finance department for hospital administration. The KRONOS system is considered by Abbott Northwestern as a reliable system to measure pay and benefit time.

Table 3. Instruments and Timeline

Instrument	3mos prior	Baseline	Completion	3mos post
Brief Freiburg Mindfulness Inventory		X	X	
Self Compassion Scale		X	X	
Brief Serenity Scale		X	X	
Interpersonal Reactivity Index		X	X	
Maslach Burnout Inventory		X	X	
Index of Work Satisfaction		X	X	
Shift Incidental Overtime	X	X	X	X

Mindfulness Based Stress Reduction Program

The program used for this study was based on Kabat-Zinn's MBSR program (1990). One instructor taught all of the classes. The instructor was a licensed marriage and family therapist for 24 years and a founder of a mindfulness practice center in Minneapolis, Minnesota. The instructor has taught MBSR for over 16 years and was trained professionally with Kabat-Zinn in 1993.

The MBSR program for this research study was modified by a reduction of time per class to 2 hours versus 2.5 hours. Participants were told the content that was missing in class and asked to read this at home. A 7 hour retreat was offered to participants between week 6 and 7. Participants were encouraged to listen to Kabat-Zinn's compact disks daily to guide their practice of mindfulness and read each chapter in his book.

The MBSR program for this research study included sessions in learning and practicing meditation and yoga, didactic presentations, group discussions, and homework assignments (Appendix G). The mindfulness techniques used in this program included formal meditation and informal meditation. The formal meditation utilized sitting meditation, a body scan, and Hatha yoga. Posture and breathing exercises were emphasized. Nurses were taught to sit upright, focus attention on one's breath, and when their attention wandered to refocus on the breath. Nurses were also taught to apply these techniques during walking meditation and lying meditation. Informal meditation included applying mindfulness to activities of daily living such as eating.

Data Collection Procedures

At the beginning of the research study, the data collected included the demographic information and construct tools. The demographic information was self reported by each participant. Each participant received a set of numerically coded surveys that measured the constructs for this study. Surveys were completed prior to the start of the first class and collected by the principal investigator. These surveys were completed in a private space without the presence of the investigators or research assistant. The initial surveys were reviewed for completion by the principal investigator but participants were not asked to enter data points that were missing. This was due to receiving surveys immediately before the start of the class, and subsequently not enough time was available to review each individual survey before class start time.

Attendance to each MBSR class and retreat was self recorded weekly by each participant and verified by the principal investigator or co-investigators. If participants missed a class, this was recorded by the principal investigator on the attendance sheet. Many participants made up classes by attending an alternate time during the week. This make up time was recorded by the principal investigator.

At the last class, the participants were given a 5 minute break and asked to complete the numerically coded surveys. The principal investigator administered the surveys and remained outside the class setting. Upon completion, the principal investigator reviewed each set of surveys with the participant for completion of data. If

information was missing from the survey, the principal investigator asked the participant to complete those questions prior to leaving the class.

Data were collected at several points. Construct measurements were obtained at multiple times: (a) 3 months before the intervention for overtime; (b) immediately prior to the intervention for all data points; (c) at 8 weeks at the last session of MBSR for all data points; and (d) three months post intervention for overtime.

Incidental overtime was obtained from the hospital finance department of Abbott Northwestern Hospital. Data were entered on a spreadsheet by the finance analyst as obtained from payroll reports. The incidental overtime was reported by month and by patient care unit. This information came directly from the time and attendance electronic records kept by the payroll department of Abbott Northwestern Hospital.

To control for random effects and increase consistency across the groups, all groups were assessed within the same time frame and at the same time points. To avoid bias induced by class fatigue from MBSR, a 5 minute break between the final class and the measurements was given to all groups. Measurements were administered by the principal investigator. Data were provided by self report (Table 4).

Table 4. Main Data Collection Forms

Construct	Collection Mode	3mos prior	Baseline	8wks post	3mos post
Demographics	Self report		X		
Mindfulness	Self report		X	X	
Self compassion	Self report		X	X	
Empathy	Self report		X	X	
Serenity	Self report		X	X	
Nurse satisfaction	Self report		X	X	
Burnout	Self report		X	X	
Overtime	Payroll	X	X	X	X

Data Analysis

Data were entered and analyzed with SPSS Version 14 and Excel spreadsheets.

After the data were analyzed for normality, descriptive statistics were used to summarize the nurse demographic data. This study tested the effectiveness of the MBSR program for RNs on specific outcomes. The primary objective was to assess the impact of the MBSR intervention on nurses's perceptions and subjective psychological profiles. Results were analyzed using paired t-tests (within group analysis) for matched results from 53 nurses to measure the pre and post effects of MBSR intervention on study outcomes. Within group analysis was conducted at 8 weeks using $P < 0.05$ for Aim 1. Aim 2 sought to determine the correlation between mindfulness and study outcomes and used multiple regression analysis to assess the relation of mindfulness to specific outcomes. Aim 3

examined the pre and post effects of MBSR on incidental overtime by patient care unit.

Aim 4 examined the trend of job burnout in the group pre-intervention to post intervention utilizing regression analysis and standard error of β for the pre and post measure of incidental overtime.

CHAPTER FOUR:

Research Findings

This chapter presents the results of analyses directed at responding to the study aims. The chapter begins with a description of the demographic characteristics of the study sample. Further descriptives are given of the group of nurses who dropped from the study to identify whether differences were present between those who stayed in the study and those who dropped from the study. Within group analysis of those who completed the study is presented for the outcome variables. Correlation between mindfulness and other outcomes are presented.

Demographic Characteristics

The demographic characteristics of the beginning sample of 71 nurses as well as the completion sample of 61 nurses are presented in Table 5. The characteristics of the sample of 10 nurses who dropped from the study before week 2 are also presented. Similar demographics are found in both the beginning and ending samples. The majority of the nurses were from the cardiovascular and med-surg units at Abbott Northwestern Hospital. Intensive care nurses were included as part of the cardiovascular and med-surg categories depending upon the specialty of the intensive care unit.

Of those that completed the study, 95% were female which is representative of the population of nurses at Abbott Northwestern Hospital. The majority of nurses worked

part time and had greater than 20 years of experience. Most of the nurses worked the day shift; however, an equal percentage of nurses completed the study from the evening and night shifts. Of those nurses who dropped from this research study, the majority worked part time and the day shift. In addition, the majority of dropouts had less than 5 years experience as a nurse.

Attendance at the MBSR classes was self reported and validated by the principal investigator or research assistant. Nurses were asked to sign a class attendance sheet before each class. Sixteen percent of the nurses attended 4 classes, 11% attended 5 classes, 10% attended 6 classes, 30% attended 7 classes and 33% attended all 8 classes.

Table 5. Demographics of Registered Nurses

	Beginning Sample N (%)	Completion Sample N (%)	Dropouts N (%)
Characteristic	N = 71	N = 61	N = 10
Female	67 (94)	58 (95)	9 (90)
Male	4 (6)	3 (5)	1 (10)
Full time	11(15)	10 (16)	1 (10)
Part time	60 (85)	51 (84)	9 (90)
Years of experience			
Less than 5 years	14 (20)	10 (16)	4 (40)
6-10 years	1 (1)	1 (2)	0
11-20 years	19 (27)	17 (28)	2 (20)
Greater than 20 years	37 (52)	33 (54)	3 (30)
Education			
Diploma	4 (6)	4 (7)	0
AD	23 (32)	18 (30)	5 (50)
Bachelors	34 (48)	30 (49)	4 (40)
Masters	10 (14)	9 (15)	1 (10)
Shift worked			
Days	37 (52)	29 (48)	8 (80)
Evenings	11 (15)	11 (18)	0
Nights	12 (17)	11 (18)	1 (10)
Combination	11 (15)	10 (16)	1 (10)
Staff nurse	59 (83)	51 (84)	8 (80)
Non staff nurse	12 (17)	10 (16)	2 (20)
Area Worked			
Behavioral Health	3 (4)	3 (5)	0
Cardiovascular	21 (30)	18 (30)	3 (30)
Med-Surg	26 (37)	23 (38)	3 (30)
Ortho Spine	8 (11)	6 (10)	2 (20)
Clinic	10 (14)	9 (15)	1 (10)
Education Services	3 (4)	2 (3)	1 (10)

Aim 1

The primary aim of this study was to determine the effects of the MBSR program on mindfulness, self compassion, empathy, serenity, and work satisfaction. The number of nurses who completed the MBSR program was 61. Nurses were all assigned a numerical code at the pretest time frame. During the administration of the post tests, 8 nurses were not matched to their pretest numerical code leaving 53 nurses who could be compared to their pretest scores. The 53 nurses became the within group or paired group analysis. Paired t-tests were computed on means and standard deviations in construct scores from baseline to post test after MBSR.

The within group analysis (paired t-tests) showed a positive statistically significant difference in mindfulness, self compassion, and serenity post MBSR intervention (Table 6). Empathy as measured on the Interpersonal Reactivity Index did not show a statistically significant difference post MBSR intervention. Thus the hypothesis that mindfulness, self compassion, and serenity will be greater post MBSR intervention relative to baseline was supported. The hypothesis that empathy will be greater post MBSR intervention relative to baseline was not supported.

Table 6. Within Group Analysis of Mindfulness, Self Compassion, IRI (empathy), and Serenity Pre and Post MBSR (N = 53)

Primary Outcome	Pretreatment M (SD)	Post treatment M (SD)	p value
Mindfulness (total score)	33.2 (6.22)	42.9 (6.64)	<.001
Self Compassion (mean)	2.8 (.54)	3.8 (.64)	<.001
IRI - empathy	64.3 (8.44)	66.6(9.97)	.14
Serenity (mean)	3.0 (.53)	3.7 (.64)	<.001

Note: The higher the score, the higher the degree in the construct.

The subscales of the tools for Self Compassion and Interpersonal Reactivity Index were compared pre and post MBSR intervention. All of the subscales for self compassion were statistically significantly improved post MBSR as compared to baseline (Table 7). The IRI subscales of perspective taking, empathetic concern, and personal distress were statistically significantly improved post comparing post treatment to pretreatment values; the subscale of fantasy was not statistically significantly greater post MBSR compared to baseline (Table 8).

Table 7. Pre and Post Treatment Effects for Self Compassion Subscales (N=53)

Self Compassion Subscale	Pretreatment M (SD)	Post treatment M (SD)	p value
Self Kindness	2.8 (.68)	3.7 (.78)	<.001
Common Humanity	2.9 (.66)	3.7 (.86)	<.001
Mindfulness	3.0 (.65)	3.8 (.72)	<.001
Self Judgment	3.4 (.72)	2.2 (.66)	.01
Isolation	3.2 (.71)	2.1 (.80)	<.001
Over Identification	3.2 (.75)	2.3 (.82)	<.001

Table 8. Pre and Post Treatment Effects for IRI Subscales (N = 53)

IRI Subscales	Pretreatment M (SD)	Post treatment M (SD)	p value
Perspective Taking	17.9 (3.99)	20.1 (4.31)	<.001
Fantasy	15.7 (4.72)	16.5 (5.43)	.26
Empathetic Concern	21.3 (3.62)	22.5 (4.19)	.04
Personal Distress	9.7 (3.95)	7.5 (4.84)	<.001

The primary aim also tested the effect of MBSR on work satisfaction. Using a paired comparison technique, nurses were asked to rank the importance of each subscale of the IWS prior to the start of MBSR and again at the last class. In this sample of nurses, the group ranking of the subcomponents and their subsequent component weighting coefficient did not change from pre to post MBSR program. The components were in this order from highest to lowest: (a) interaction (4.69), (b) autonomy (3.7), (c) task (3.0), (d) pay (3.0), (e) organizational policies (2.9), and (f) professional status (2.7). Nurses felt interaction, autonomy and task were the most important factors for work satisfaction both pre and post MBSR.

An Index of Work Satisfaction score was computed for the group of nurses prior to and post MBSR by multiplying the subcomponent weighting coefficient by the mean subscale score. There was no statistically significant difference in the Index of Work Satisfaction score from baseline, therefore the hypothesis that work satisfaction would be greater post MBSR from baseline was not supported (Table 9). Statistical analysis revealed significant differences pre and post MBSR intervention in the mean scores for the subscales of pay (4.3 and 3.4); autonomy (3.3 and 4.3); and task requirements (3.8 and 3.2). The mean scores for organizational policies, professional status, and interaction were not statistically different from baseline (Table 9).

Table 9. Pre and Post Treatment Effects for Work Satisfaction (N = 53)

Subscale of Work Satisfaction	Weighting Coefficient	Pre test M (SD)	Adjusted Component Score	Post test M (SD)	Adjusted Component Score	p value
Total Index of Work Satisfaction	NA	12.5	NA	12.6	NA	.69
1. Interaction	4.7	3.6 (1.6)	16.8	3.7 (1.6)	17.4	.64
2. Autonomy	3.7	3.3 (1.4)	12.2	4.3 (1.5)	15.9	.001
3. Task Requirements	3	3.9 (2.1)	11.7	3.2 (1.0)	9.6	.01
4. Pay	3	4.3 (1.1)	12.9	3.4 (1.1)	10.2	.001
5. Organizational Policies	2.9	3.9 (1.4)	11.3	4.2 (1.4)	12.2	.07
6. Professional Status	2.7	3.8 (1.4)	10.3	3.9 (2.2)	10.5	.68

Aim 2

The second aim of this study was to determine the correlation between the dependent variable of mindfulness and the independent variables of self compassion, empathy, and serenity. The pretest and post tests from self compassion, empathy, and serenity were used to give a total number of 132 scores to correlate with the pretest and post test scores for mindfulness. A statistically significant positive correlation was

evident between mindfulness and self compassion, and mindfulness and serenity (Table 10). The relationship was weak and non-significant between mindfulness and empathy. The hypothesis that mindfulness will be positively associated with self compassion and serenity was supported. However, the hypothesis that mindfulness will be positively associated with empathy was not supported by the data generated in this study.

Table 10. Correlation of Mindfulness to Constructs of Self Compassion, Interpersonal Reactivity Index (IRI), and Serenity

	Self Compassion (N = 129)	IRI (N = 132)	Serenity (N = 132)
Mindfulness	r value p-value .79 <.001	r value p-value .10 .22	r value p-value .78 <.001

Further analysis revealed a statistically significant positive correlation between mindfulness and the subscales of self kindness, common humanity, mindfulness, and isolation in the variable of self compassion, however, not for the subscale of over identification and self judgment (Table 11).

Table 11. Correlation of Mindfulness to Subscales of Self Compassion (N = 129)

	Self Kindness	Common Humanity	Mindfulness	Self Judgment	Isolation	Over Identification
Mindfulness	r value p-value .78 <.001	r value p-value .62 <.001	r value p-value .72 <.001	r value p-value .89 .31	r value p-value .21 .02	r value p-value .08 .34

In addition, a statistically significant positive correlation between mindfulness and the subscales of perspective taking, emotional concern, and personal distress in the IRI tool were found but not for fantasy (Table 12).

Table 12. Correlation of Mindfulness to Subscales of IRI (N = 132)

	Perspective Taking	Empathetic Concern	Personal Distress	Fantasy
Mindfulness	r value p-value .43 <.001	r value p-value .23 .01	r value p-value -.45 <.001	r value p-value -.06 .46

Aim 3

The exploratory aim of this study was to determine the effects of the MBSR intervention on the job performance measure of shift incidental overtime. Incidental overtime was obtained from four patient care areas where the majority of staff nurses

from this study worked and analyzed from three months prior to the start of the study (January 2009) to three months post MBSR intervention (July 2009). The four patient care areas included all of the patient care units within the Behavioral Health Services (BHS), Cardiovascular (CV), Medical Surgical (M/S), and Orthopedics Spine (Ortho) units. For a point of reference, incidental overtime was also analyzed for the whole nursing department and a single non-nursing department, respiratory therapy. Respiratory therapy department was chosen due to convenience in obtaining the data from the finance department of ANW. Respiratory therapists provide coverage for all of these patient care areas.

Trend lines in incidental overtime were computed for each unit from January 2009 through July 2009 (Figure 3). A downward trend in incidental overtime was seen on all nursing units. However this decline in incidental overtime was not statistically significant (Table 13).

Figure 3. Overtime Over Time (January 2009 – July 2009)

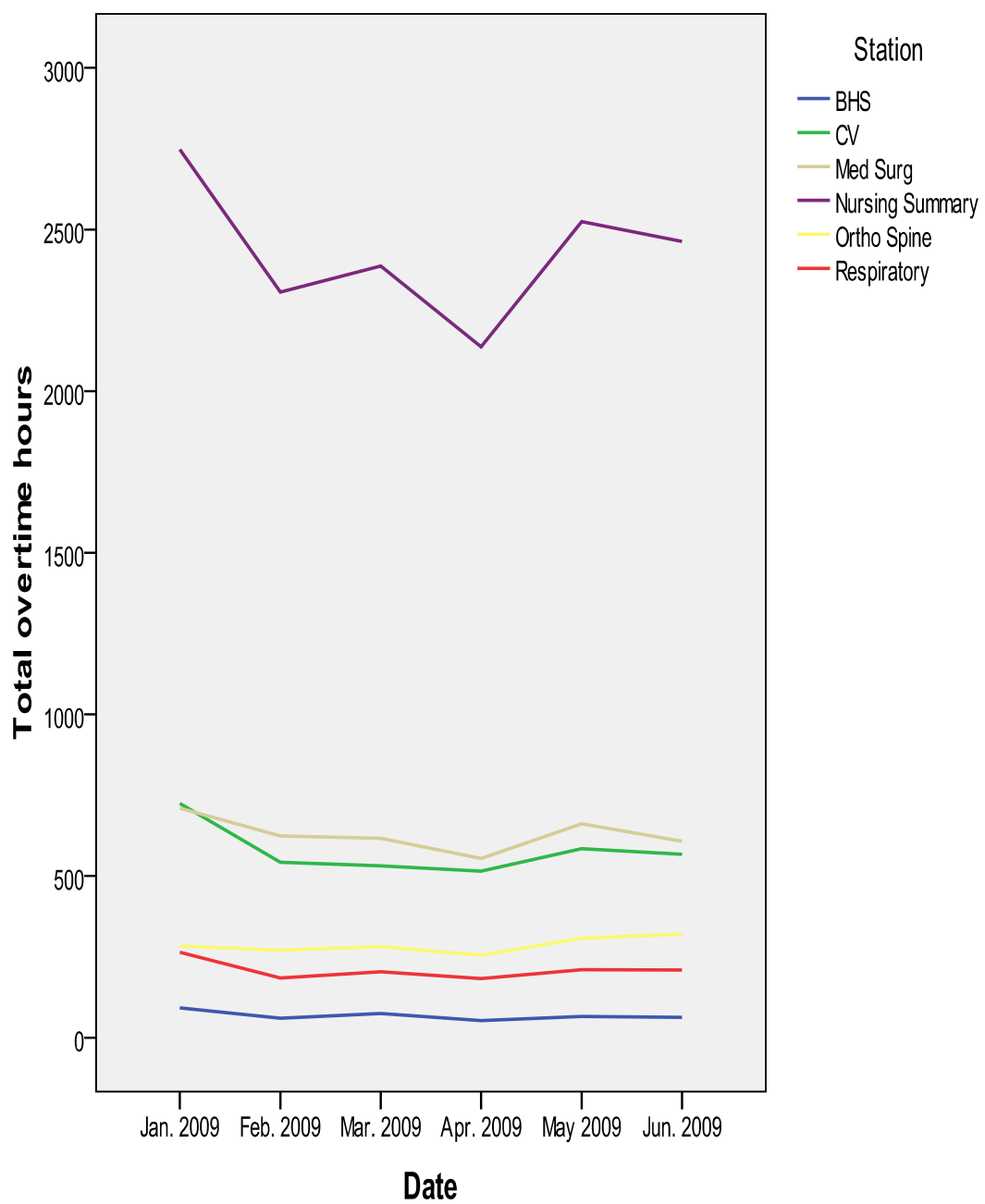


Table 13. Rate of Change in Incidental Overtime for the Study Time

Station	$\beta(\text{se}(\beta))$	t	p-value
BHS	-4.3(3.05)	-1.4	.23
CV	-19.3(17.9)	-1.1	.34
Med surg	-13.2(12.5)	-1.1	.35
Ortho spine	7.7(5.1)	1.5	.20
Respiratory	-6.3(7.2)	-.88	.43
Total	-29.1(53.3)	-.55	.61

Additional information on incidental overtime was examined from January 2007 through July 2009 to determine if a downward trend was occurring before the study as well as during this research period of time (Figure 4). There was a statistically significant reduction in the incidental overtime of 2.5 hours per month from January 2007 through July 2009 in Behavioral Health Services ($p < .001$). There was no statistically significant reduction in the incidental overtime in other departments (Table 14).

Figure 4. Overtime Over Time (January 2007 – July 2009)

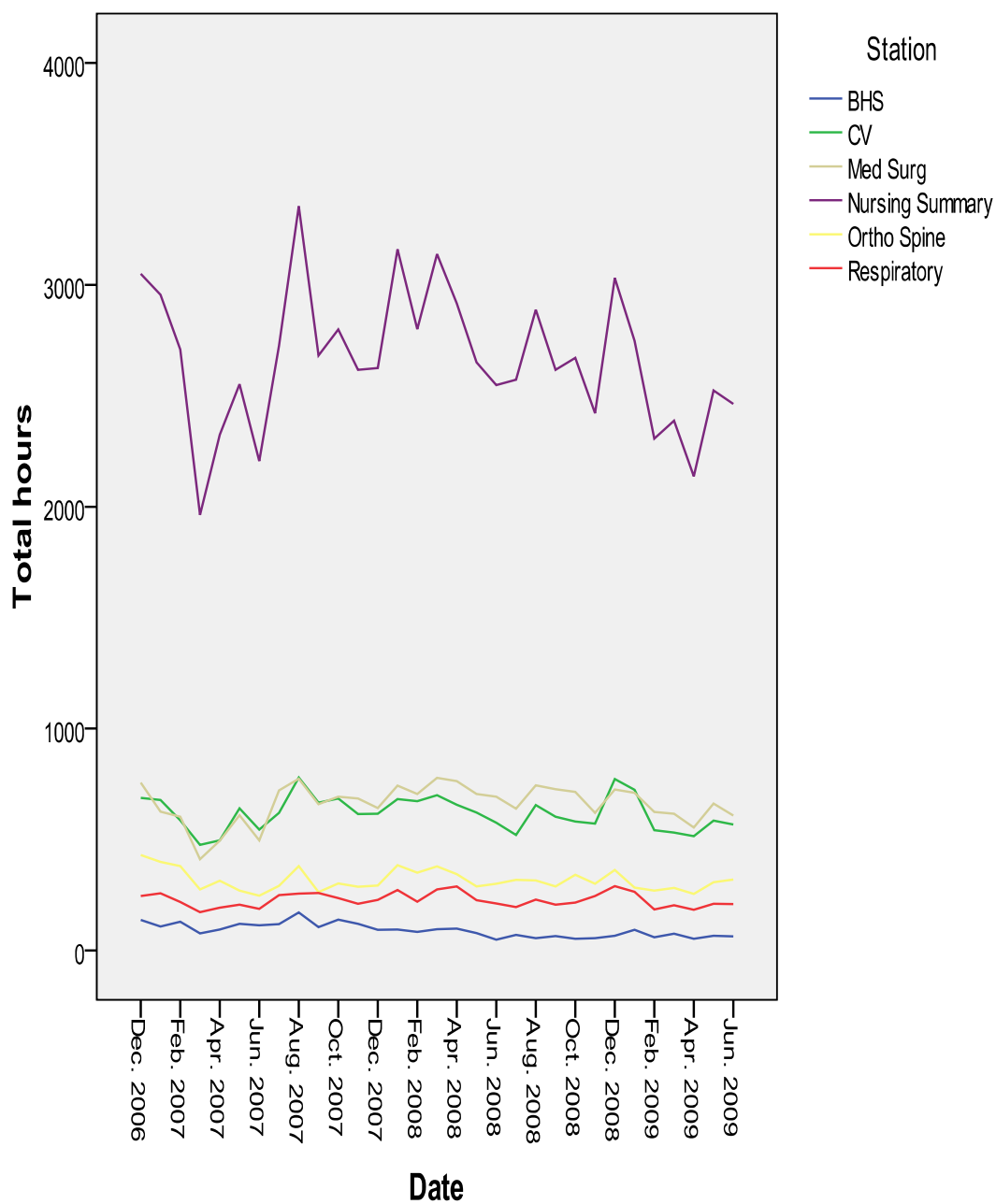


Table 14. Rate of Change in Incidental Overtime for a Two Year Period

	Beta(se(beta))	p-value
BHS	-2.5 (.42)	<.001
CV	-1.2 (1.6)	.46
M/S	1.6 (1.8)	.37
Nursing summary	-6.6(6.3)	.30
Ortho spine	-1.5(.91)	.10
Respiratory	-.26(.65)	.69

Aim 4

The final aim of this study was to evaluate job burnout using the Maslach Burnout Inventory post MBSR intervention relative to baseline. Improvement in each of the subscales was statistically significant post MBSR intervention (Table 15). The hypothesis that burnout would decrease post MBSR intervention was supported.

Table 15. Pre and Post test Effects of Maslach Burnout Inventory Subscales (N = 53)

Primary Outcome	Pretreatment M (SD)	Post treatment M (SD)	p value
Personal Accomplishment	39.4 (4.7)	41 (4.9)	.001
Emotional Exhaustion	20.4 (10.1)	19.2 (10.2)	.001
Depersonalization	5.5 (2.5)	4.6 (2.9)	.001

CHAPTER FIVE:

Discussion

This chapter discusses the research findings from this study and reviews the results in the context of the existing literature on the effects of MBSR on health professionals. Conclusions and recommendations for future research on nursing practice are presented.

Aim 1

For the first research question, the effects of MBSR intervention on mindfulness, self compassion, empathy, serenity, and work satisfaction were examined in registered nurses. The hypothesis specified that mindfulness, self compassion, empathy, serenity, and work satisfaction would be greater post MBSR intervention relative to baseline. In this research study on registered nurses, statistically significant increases were observed from baseline for mindfulness, self compassion, serenity, and some of the work satisfaction subscales (pay, autonomy, and task) post MBSR intervention.

The increases in these measures post MBSR are supported by similar research studies. Cohen-Katz and colleagues (2004), Schenstrom and colleagues (2006), and Shapiro and colleagues (2007) found statistically significant increases in mindfulness in health professionals post MBSR utilizing the Mindfulness Attention Awareness Scale (MAAS). Shapiro and colleagues (2005, 2007) found statistically significant differences

from baseline post MBSR in self compassion in health professionals. In another study by Shapiro and colleagues (1998), statistically significant differences in spirituality post MBSR utilizing the Index of Core Spiritual Experiences tool in health professionals were found.

This study found that the MBSR program successfully increased several concepts this researcher proposed and may enhance nursing practice and improve overall retention. The increase in mindfulness for nurses in acute care settings supports the use of the nursing intervention of presence for patients, families, and others. Mindfulness denotes the ability to be in the moment with others and more aware of one's thoughts and actions. The potential that mindfulness increases the perception of what is happening in patient care and subsequently could promote safer work situations may be critical to nursing practice and higher quality of care.

Increase in self compassion has been shown to be an effective mechanism to care for oneself (Neff, 2003). This research study found that MBSR is an effective mechanism to help nurses increase their self compassion. An increase in self compassion helps nurses to love themselves versus thinking negatively about their actions and thoughts. Through an increase in self compassion, nurses gain an acceptance of themselves and an acceptance of others (Neff, 2003). The increase in self compassion promotes a healthy self for nurses. This research study also found that MBSR increased serenity in nurses. The feelings of peace and inner calmness help to reduce stress reactions. More

importantly, the increase in serenity is another important element that promotes a healthy state for nurses. This healthier psychological state from increase in mindfulness, self compassion, and serenity may help with retention of nurses.

No statistically significant differences were found in this research study on registered nurses for the total score of empathy from baseline to post intervention utilizing the IRI instrument; however statistically significant increases were obtained in the subscales of perspective taking, empathetic concern and personal distress. In similar research studies utilizing the MBSR program as the intervention and the IRI instrument, the total score for empathy was not statistically significantly increased post MBSR (Beddoe & Murphy, 2004; Galantino et al., 2005) using the IRI. The lack of difference in post MBSR measures for empathy from baseline in these studies may be related to the time needed to change one's feelings towards others. Empathy is a factor that develops over time in most people; however, the length of time to statistically influence change has not been studied in nurses.

Shapiro and colleagues (1998) did find an increase in empathy from baseline to post MBSR measures in medical students utilizing the Empathy Construct Rating Scale (E CRS). The differences in results between the study by Shapiro and colleagues and this research study might be explained by the instruments utilized to measure empathy or the sample differences in the studies. The E CRS focuses on measuring the ability to feel another's feelings; the IRI incorporates the fantasy subscale to measure putting oneself

into other's feelings. Shapiro and colleagues utilized a sample of medical students who may have a lower empathy measure at baseline and thus more likely to increase post MBSR.

When the four subscales of empathy were examined in this research study, a statistically significant increase was found from baseline for perspective taking ($p < .001$), personal distress ($p < .001$), and empathetic concern ($p = .04$). The fantasy subscale was not found to be statistically significant from baseline to post MBSR. Cohen-Katz and colleagues (2005) also found a statistically significant difference in post MBSR means for emotional exhaustion and personal achievement. Galantino and colleagues (2005) found a statistical significant difference in means post MBSR in only the emotional exhaustion subscale. Both of these studies support some of the findings in this research study. The subscales of perspective taking, personal distress, and empathetic concern closely measure the ability to relate to another's experience. The fantasy tool measures a unique aspect of being able to view oneself in another's situation. It is possible the objective detachment taught through MBSR assists nurses to relate to other's experience while at the same time separate from the situation.

Beddoe and colleagues (2004) found no statistically significant differences in the IRI subscales post MBSR. An explanation for the difference in findings in this research study may be due to the sample of participants. In the research study by Beddoe and colleagues, nursing students who were mostly in their first year of the program, were

sampled. It is possible that the subscales were significantly different in RNs with experience compared to nursing students due to empirical evidence that empathy can be learned and increases over time (Duan & Hill, 1996).

The total score for the Index of Work Satisfaction measure did not show a statistically significant increase post MBSR from baseline. These results indicate the MBSR program did not influence the nurse's overall satisfaction with work. To compute the total work satisfaction score, the ranking of subscales were considered for the group of nurses in addition to the subcomponent means. The ranking of what nurse felt was important for work satisfaction did not change from pre to post intervention. This is important when considering the change in the individual subscales.

In this sample of nurses, the ranking of importance of the subscales showed interaction, autonomy and task to be the highest subscales. This is different from other nursing research studies that used the IWS as the instrument to measure work satisfaction. In these studies, nurses consistently ranked pay and autonomy as the most important subscales for work satisfaction (Stamps, 1997). Possible explanations for the difference in rankings in this study from others may be due to size of the sample, characteristics of the nurses recruited for this research study, unionized environment, or selection bias of the sample.

The IWS subscales of pay, autonomy, and task did show a statistically significant difference post MBSR intervention in level of satisfaction. Before the MBSR

intervention, nurses in this study were more satisfied with pay than other measures. Post MBSR, nurses were most satisfied with autonomy followed by organizational policies and professional status. This change in satisfaction could be due to the influence of the MBSR program on the ability to influence one's present day practice and standards through mindfulness. In addition, the subscale of pay was not as satisfying post MBSR intervention, as reflected by a decrease in the pay satisfaction score. Nurses in this study also did not score tasks as a high satisfaction measure post MBSR. The move from pay and task as high satisfiers to autonomy as the highest satisfier suggests nurses felt they were able to influence their practice more through autonomous practice than before the MBSR program.

The subscale means changed post MBSR with some increasing while others decreased from baseline. This change in direction could have influenced the overall work satisfaction score. For this reason, Stamps (1997) has encouraged researchers to examine individual subcomponent or factors of work satisfaction rather than the total score.

Aim 2

The second aim examined the correlation between the variables of mindfulness and self compassion, empathy, and serenity. The hypothesis was that mindfulness would be positively associated with self compassion, empathy, and serenity. The research findings did support a strong significant and positive correlation between mindfulness

and self compassion, and mindfulness and serenity at a significance of $p < .001$. A statistically significant correlation between mindfulness and empathy was not found.

In the review of literature on the intervention of MBSR on health professionals, no researchers investigated the correlation between mindfulness and self compassion, serenity or empathy. The findings in this study suggest by increasing mindfulness, both self compassion and serenity will increase. Both of these factors are important to the health of nurses and the care of patients.

Neff (2004) defined self compassion as including the element of mindfulness thus possibly supporting the strong correlation found in this research study. Spirituality encompasses one's relationship with oneself, others, environment, and one's higher being. These relationships are strengthened through awareness and presence. Awareness is an element measured in both the Brief Freiburg Mindfulness Inventory and the Brief Serenity Scale. Thus the statistically significant and positive association found in this research study between mindfulness and spirituality may be founded on the pure characteristics that both concepts share.

In this research study, a statistically significant correlation between the factors of mindfulness and empathy was not found. This lack of significance might have resulted from the instrument used in this study or the small sample size. Of interest is the positive correlation between mindfulness and the empathy subscales of perspective taking, empathetic concern, and personal distress but not the subscale of fantasy.

Aim 3

The third research aim explored the effects of MBSR intervention on the job performance measure of shift incidental overtime. It was hypothesized that incidental overtime would decrease from baseline. The MBSR intervention was implemented from March 25, 2009 through May 12, 2009. Findings in this research study showed a decrease in incidental overtime during this intervention period for all units in the study as well as most units at Abbott Northwestern Hospital. It is inconclusive as to whether MBSR resulted in a reduction of overtime or if other factors were influencing this downward trend. This researcher did not ask for the number of patient days per pay period or census during this time period. A decrease in patient days could influence a decrease in overall nursing hours. The acuity of patients was not measured during this time period and could have affected incidental overtime as well. It is unknown if the group of nurses was the exact same group of nurses from January 2007 through July 2009. A change in staff could have influenced the small drop in overtime during each of these periods.

There were no identified unusual occurrences at Abbott Northwestern Hospital which might have influenced these downward trends in overtime. Of note, the incidence of incidental overtime since 2007 showed a downward trend and a positive change for the hospital operating budget. During the time of the intervention, immediately before and afterwards, there was not an increase in incidental overtime. The benefits of the MBSR

program showed no adverse effect on the financial situation for the hospital as measured by incidental overtime.

Aim 4

The final research aim for this study was to explore job burnout in nurses post MBSR intervention relative to baseline. It was hypothesized that burnout would decrease following the MBSR program. Job burnout did statistically decrease relative to baseline post MBSR. Other research studies found similar decreases in job burnout following implementation of the MBSR program in health professionals (Cohen-Katz et al., 2005; Galantino et al., 2005; MacKenzie et al., 2006). Findings to support use of the MBSR program to reduce stress and job burnout are an important finding as more intervention programs are needed in nursing for overall retention.

Summary of Findings

Many factors affect the clinical practice of nurses, among which are several psychological components examined in this research study. These same psychological factors also affect the overall personal health status of the nurse. The nurses and their practice are pivotal to safe and high quality patient care and outcomes. This present research study examined the short term effects of an 8 week MBSR program on registered nurses in hopes to improve nursing practice and personal health. Findings indicate that participation in MBSR can effectively increase mindfulness, self compassion, serenity, and reduce job burnout. In addition, mindfulness was positively

correlated with self compassion and serenity. Work performance as measured by incidental overtime was not negatively impacted during the intervention of MBSR.

Strengths of the Study

The limitations must be weighed against the strengths of the proposal. Little work has been done to explore programs for stress-reduction or enhancing personal health in groups such as RNs working in acute care, thus, these research findings are likely to have important implications as a potential intervention for these groups. The sample size for the study is powered at 80% and should reveal statistically meaningful results. Other strengths include wide access to study subjects and necessary data, efficiency of recruitment and analysis, and low attrition rates.

Limitations of the Study

Although this study found many statistically significant results consistent with the hypotheses, there are a number of features that might be interpreted by reviewers as limitations. Mindfulness-based stress reduction has been trialed with RNs only for a short period of time. It is unknown how acceptable and useful this type of intervention will be to nurses over the long term. This study was not a controlled or randomized trial, and the sample was a self selected group of nurses who were interested in mindfulness training. Both of these latter factors introduce sampling bias into the study and inhibit generalization of findings.

The study sample is adequate but limited to one hospital in a Midwestern geographic area and demographic characteristics studied, thus limiting generalizations. The study sample is limited in gender due to only 5% of the workforce being male, limiting interpretation. It was not within the scope of this research study to measure the long term effects of MBSR. The end points for the constructs of empathy, self compassion, serenity, work satisfaction, and burnout were only observed immediately upon completion of this study. It is unknown if these constructs would have remained the same over the long term and assist nurses deal with future work stress. It is possible the nurses in this study wanted to please this researcher and answered the questions accordingly. Experimenter effects were minimized but not totally eliminated. All assessment measures were self reported and open to response bias.

The attrition rate for this research study was 7% and was low when taken into consideration the varying work schedules of nurses at this hospital. Despite this low number, the attrition rate may have affected the results of this study. It is unclear how the nurses who dropped from the study would have measured on the instruments and influenced the overall results in this study. It is also possible those nurses who chose to participate in this study experienced the greatest amount of work stress and had the most desire to change their nursing practice, thus influencing the overall findings.

Further limitations of this study included lack of a comparison group to measure the efficacy of MBSR to no treatment or other forms of stress management programs.

The lack of control introduces selection bias and may have influenced overall results. The effects determined in this study may not be specific to the MBSR intervention or generalized across stress management techniques.

This study was conducted in a Midwest hospital, thus potentially limiting the generalization of results to other geographical areas or populations. Despite the biases introduced in this study, the convenience sample is a cost effective means for research studies. The MBSR program did show it was an effective intervention to improve the factors of mindfulness, self compassion, serenity, and some subscales of work satisfaction in nurses. With the ever increasing psychological and physical stress inherent in the clinical practice of nursing, disconcerting consequences may be avoided and the health and well-being of nurses improved through the MBSR program.

Ethical Considerations

Ethical dilemmas may surface during the research phase of studies on health professionals. The researcher may undoubtedly find a healthcare worker who is experiencing high levels of stress, anxiety or depression at a data collection point in a short term or longitudinal study. Ethically, the researcher has a responsibility to inform the study participant of available programs and services. Providing this information would potentially threaten the internal validity of the study.

During this research study, two participants appeared more stressed than other nurses. This researcher gave the Employee Assistance Program (EAP) telephone number

to the facilitator of the MBSR program. The facilitator for the MBSR program discussed the behaviors with the participants and offered the Employee Assistance Program phone number to them. No other issues arose during the research study.

Implications for Nursing Practice

The clinical practice of nurses working in hospital settings may lead to high turnover in the profession of nursing. An important aspect of concern related to nursing turnover, is the impact of work stress from clinical practice on the health status of the individual nurse. Finding interventions that may enhance nursing practice and minimize or eliminate work stress are critical to the overall improvement in nursing practice in clinical settings and personal health of the nurse. The research findings in this study demonstrated a reduction in job burnout and improvement in specific psychological factors – mindfulness, self compassion, and serenity. Each of these psychological factors may contribute to a positive health status for the individual nurse. The increase in work satisfaction subscale of autonomy may contribute to overall retention of nurses in hospital settings. More importantly, this increase in autonomy may have resulted from the nurse's ability to focus and be more aware of their surroundings. The program of MBSR increased awareness for nurses and enabled the nurse to function with presence for patients and families.

Incidental overtime on the patient care areas demonstrated a downward trend from January 2007 through July 2009 and did not show an increase during the study time.

This measure included nurses who were not in the research study. It is inconclusive if MBSR affected incidental overtime in the research sample of nurses because a group measure was used versus individual measures. As nurses face increasing amount of work pressure, it is not uncommon to find nurses working additional time caring for patients. The interweaving of providing care to multiple patients, partitioning of care for each patient to different parts of the shift, and numerous problem solving of patient care issues are components of nursing care that influence work time. The MBSR program demonstrated an increase in mindfulness, helping nurses to focus on the present moment. Understanding the influence of mindfulness on work performance needs to be further understood. The potential to redirect nurses to focus on one thing at a time versus multitasking may promote greater attention to patient care.

According to Newman and Maylor (2002), improvement in nurse satisfaction leads to an increase in patient satisfaction and overall improvement in the quality of care. The Center for Medicare Services requires hospitals to report their patient satisfaction for public knowledge and for reimbursement of hospital care (2009). The two factors of nurse satisfaction and patient satisfaction are so strongly correlated (Newman and Maylor) that hospital leadership spends considerable amount of time working to improve employee engagement to boost the patient satisfaction measures. More importantly, the significant increase in the measure of satisfaction with autonomy of practice found in this

research study promotes more control over nursing practice and empowerment of nurses to make a difference in the lives of patients and families.

Recommendations for Future Research

The findings from this study raise questions for future research. First the generalizability of findings from this study is limited; thus this study should be replicated with similar cohorts of nurses and other groups of nurses; randomization and control group would add strength. It would be of interest to study the use of MBSR in specialty groups alone, such as the critical care units. Critical care units are high stress areas with higher than usual turnover.

It would also be interesting to study the effects of MBSR on new graduate nurses as they are transitioning into the role of the RN and where turnover has been documented to be high. New graduate nurses do not necessarily have advanced critical thinking skills and the ability to know what to focus on. MBSR should be explored as an intervention to help new graduate nurses focus and develop plans of care for patients.

The MBSR program includes several techniques that support the increase in mindfulness, self compassion, serenity, and some work satisfaction subscales attained in this study. Further research should examine the independent effects from the individual components of the MBSR program on nurses. It is possible the Hatha yoga program or the meditation skills alone could have influenced the study results. It is difficult to

determine which one of the techniques had the greatest effect and may help with nursing practice and retention.

Patient outcomes may be affected when nursing practice is enhanced. This study demonstrated mindfulness positively affects nursing practice through an increase in mindfulness and nurse satisfaction. Future research should investigate the effects of mindfulness on patient outcomes as nursing satisfaction has increased. If nurses are more mindful, it would seem patient safety would be improved. Less medication errors, patient falls, pressure ulcers, and other nurse sensitive indicators for quality might improve. Further research is needed to explore the correlation of the factors of work satisfaction and patient satisfaction after the implementation of the MBSR program.

This study explored the short term effects of the 8-week MBSR program on nurses. Longer term effects from this program should also be explored. In addition, the physiological outcomes of the MBSR program on nurses should be explored. It would be interesting to know if MBSR decreases heart rate and blood pressure as well as cortisol levels related to stress. These factors are important for nursing practice as improving them would enhance the overall health of the nurse and possible lead to greater retention.

Investigating if MBSR could significantly reduce turnover in hospital work environments is important to further investigate. Examining the long term impact of MBSR on specific measures should also be considered for future research. Measuring

stress in hospital nursing practice and examining the impact of the MBSR program on stress would be another research aim that could be studied.

The research findings in this study demonstrated that the length of the MBSR course could be shorter as demonstrated by the class design in this study. Investigating the right amount of class time to promote mindfulness, self compassion, serenity, and work satisfaction is important for future studies to consider. Nurses who dropped from the study, voiced to this investigator that their lives were very stressful and they did not have the time to attend classes, nor could they flex their work schedules as much as they wanted. Developing a program to suit the work life of a nurse would lend to greater attendance and potentially increase in self compassion, serenity, and other subscales of work satisfaction.

The dropout rate might be reduced if the MBSR program could be shorter.

The sample of nurses who dropped from the study was small; however, it would be of interest to know more about this sample and what programs would meet their needs. The MBSR program is one stress management program of many that could be implemented.

Future research is needed to explore methods to increase empathy in nurses. This study did not determine an increase in the total measure of empathy from baseline. It would be of interest to replicate this study utilizing another instrument to measure empathy and other techniques that might improve this measure.

More research is needed to explore the staff nurse attributes in relation to the constructs of mindfulness, self compassion, empathy, serenity, and job burnout. These factors were measured in this study; however, statistical tests were not performed due to the scope of this study. Data are available to identify if education, experience in nursing, work agreements and type of shift are correlated with these concepts.

The potential to improve patient safety and outcomes by decreasing multi-tasking needs further exploration through nursing research. Nurses are asked to care for multiple patients and learn to prioritize care needs. Many times nurses are caring for one patient while thinking of what needs to be done for another. The program of MBSR teaches one to focus and may be an effective means to decrease medication error, patient falls, pressure ulcers, and other nurse sensitive indicators. Further nursing research is needed to examine if nurses should change their practice to focus on one thing at a time versus juggling many aspects of care at one time.

Work performance as defined by a reduction in incidental overtime demonstrated a downward trend in this study. This downward trend in overtime may be the result of other factors in the work environment. It is important to further study work performance and examine the effects of MBSR on the individual nurse versus the group of nurses. The MBSR program demonstrated an increase in mindfulness which helps nurses to focus on the present moment and utilize stress reduction techniques applicable to the components of nursing practice. Focusing on one thing at a time was not an added expense to the

patient care unit budgets. The MBSR program may be a cost effective intervention that needs further exploration in lieu of today's rising health care costs in hospital settings. Along with this finding is the potential to redirect nurses to focus on one thing at a time versus multitasking. Focusing promotes greater attention to the moment and could lead to safer care.

Conclusions

Improving the environment for nursing practice and care given to patients in acute care settings are the specific goals of this researcher. Finding a program that could help nurses feel more satisfied about their practice was the basis behind doing this research. Nurses need to feel good about the care they give in order to stay engaged and grounded in the profession of nursing. The alarming turnover rate for first year graduate nurses is enough to cause concern about hospital nursing practice. The findings of this research study support the utilization of the MBSR program as an intervention for nurses to improve nursing practice, the personal health of nurses, and potentially improve patient care in this Midwestern hospital setting. These findings are limited to this setting and selection of nurses.

The conceptual model of increase in mindfulness affecting nursing practice through enhanced self compassion and serenity, and decrease in job burnout is supported through these research findings and needs to be applied as an intervention for hospital nursing practice. Statistical significant increases in mindfulness, self compassion,

serenity, empathetic concern, perspective taking, autonomy at work, and the significant decrease in personal distress and job burnout from baseline measures are noteworthy findings in this research study. According to Buddhist teachings, mindfulness leads to enlightenment for an individual and groups of people (Krishnamurti, 1979). Our minds are full of chatter and thoughts which can have no meaning to the present circumstance. Approaching life in a mindful manner helps one to detach and observe reality without mindless chatter and judgment. The Buddhist philosophy teaches us this mindful way of being promotes happiness for ourselves and others. This way of being increases satisfaction with life and ability to effectively cope with life events. Life is too short to allow one moment to pass unnoticed. Each breath of life is a gift to not go unnoticed.

Sometimes being unmindful can cause pain for others. Patient dissatisfaction often occurs when caregivers are not being mindful of the patient and family. Far too often, caregivers forget there is a vulnerable person in the hospital bed who needs the attention and awareness of hospital personnel. Treating the patient as an individual with respect and dignity requires one to be mindful of what is really important in the delivery of care. A nurse could have difficulty making a difference in a patient's life if they were not mindful of the patient as an individual in need.

The increase in self compassion gained through the MBSR program in this study is extremely important to the overall health of the nurse and the ability to relate to others. Nurses tend to be critical of themselves and place unreasonable expectations on

themselves. Despite education and experience, nurses with low self compassion may feel incompetent around others. If the profession of nursing is going to advance and stand among others as a desirable career, nurses need to gain an increase in self compassion. This feeling of inferiority does not support growth and the ability to interact with physicians and other health professionals. Self compassion is also an important ingredient in self esteem (Neff, 2003). The self esteem of nursing should be elevated so others may view nurses with respect and understand how vital nurses are to patient care and hospital operations.

An important finding in this research study was the increase in serenity of the nurse. Attaining a state of inner peace and calmness allows one to gain insight into the purpose of life and also to emit this peaceful way of being to others. When one finds calmness in the mind and body, the spirit flourishes. This connection between mind, body, and spirit are so crucial to our personal growth and connection with a universal presence. It also helps nurses to connect with others in a deeper fashion and give holistic care to patients and families.

This study contributes to the current understanding of effects of MBSR on RNs and how nursing practice may be enhanced. The findings provide support for stress management programs for nurses in acute care settings. Mindfulness may play an important role in patient safety as well. Enhancing nursing practice, elevating the self compassion of nurses, and incorporating a program that can lead to overall retention of

nurses should not be understated as important elements in organizational development for hospitals. Hospital administrators need to focus on patient care first and better financial outcomes will follow. Nurses are the largest body of caregivers in hospital settings affecting patient care. The concept of mindfulness enriching nursing practice needs incorporation into quality of care for patients in hospital settings.

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APPENDIX A

IRB APPROVALS

Research Subjects Protection Program
 Institutional Review Boards
 PO Box 43
 Internal Mail Route J0105
 Minneapolis, MN 55440-0043
 612-262-4920
 Fax 612-262-4059

February 24, 2009



Sue Penque, RN, MSN
 8860 178th Street W
 Lakeville, MN 55344

Re: **2598-1E**
The Effects of Mindfulness-Based Stress Reduction on Registered Nurses

Dear Ms. Penque,

Thank you for your letter dated February 23, 2009, IRB Application, and revised consent form in response to the stipulations of the Abbott Northwestern Hospital Institutional Review Board (IRB) as described in my letter of February 23, 2009. The requested corrections and clarifications have been made. Therefore, you are now fully approved and may start to screen and enroll participants into the above referenced study. This final approval applies to Protocol dated January 24, 2009, and consent form received February 24, 2009. A copy of the consent form bearing the Institutional Review Board (IRB) approval stamp is enclosed for your records. Please use a copy of the consent form bearing the IRB approval when obtaining signatures for consent. The IRB file number has also been stamped on the upper right-hand corner of the consent form.

Please inform the IRB immediately of any changes or modifications to the protocol, consent form or supporting documents prior to initiation. This includes protocol amendments, changes in the number of participants, etc. In addition, all subjects enrolled must fulfill all inclusion/exclusion criteria; any exceptions must have prior approval from the IRB. You must notify the IRB if any participants experience serious adverse events or events that occur at a frequency or intensity greater than that described in the approved consent form.

It is your responsibility to submit an annual Continuing Review Form to this office. Your study must be renewed on or before February 17, 2010. The Continuing Review Form is available on the Allina web site at <http://www.allina.com/ahs/research/rsf/page/forms>. If your study has been completed or terminated prior to that date, please submit a final summary of your project in addition to the Continuing Review Form.

In any future correspondence with the IRB, please refer to the assigned study number, the principal investigator's name and the name of the board that reviews this study.

On behalf of the IRB I wish you success with your research. If you have any questions or concerns please call the IRB administrative office at (612) 262-4920.

Sincerely,

Ellen Stewart
 IRB Manager

UNIVERSITY OF MINNESOTA

Twin Cities Campus
02/24/2009

Susan J Penque
School of Nursing
5-140 WDH
Minneapolis Campus

Research Subjects' Protection Program
(RSPP)

Office of the Vice President for Research

1525 Mayo Memorial Hall, 10th
120 Delaware Street S.E.
Minneapolis, MN 55455

Office - 612-626-5654
Fax - 612-626-6862
www.research.umn.edu/subjects
Email: rspp@umn.edu or irb@umn.edu

RE: "MBSR Effects on Registered Nurses"
IRB Code Number: 0901M58389

Dear Ms. Penque

The referenced study was reviewed by expedited review procedures and approved on February 24, 2009. If you have applied for a grant, this date is required for certification purposes as well as the Assurance of Compliance number which is FWA00000312 (Fairview Health Systems Research FWA01000325, Gillette Children's Specialty Healthcare FWA 00064003). Approval for the study will expire one year from that date. A report form will be sent out two months before the expiration date. IRB approval of this study includes the consent form and recruitment materials received January 30, 2009.

Please note that the following items are now required on each page of the consent form: IRB code number, correct pagination, and consent form version date (the date the consent form specific to this study revised). This will be required at the time of continuing review.

Supply final approval from Allina's IRB. Note, the study may not begin until final approval from the aforementioned site is obtained by the researcher.

The University of Minnesota understands that the Principal Investigator is using Allina consent forms as the population of subjects targets nurses at these clinics. Notify the University of Minnesota IRB office if any changes are made to the study and/or to study consent forms.

The IRB would like to stress that subjects who go through the consent process are considered enrolled participants and are counted toward the total number of subjects, even if they have no further participation in the study. Please keep this in mind when calculating the number of subjects you request. This study is currently approved for 100 subjects. If you desire an increase in the number of approved subjects, you will need to make a formal request to the IRB. The code number above is assigned to your research. That number and the title of your study must be used in all communication with the IRB office.

As the Principal Investigator of this project, you are required by federal regulations to inform the IRB of any proposed changes in your research that will affect human subjects. Changes should not be initiated until written IRB approval is received. Unanticipated problems and adverse events should be reported to the IRB as they occur. Research projects are subject to continuing review and renewal. If you have any questions, call the IRB office at 612-626-5654. On behalf of the IRB, I wish you success with your research.

Sincerely,



Felicia Mroczkowski, CIP
Research Compliance Supervisor
FM:sgk
CC: Ruth Lindquist, Sue Scndelbach

APPENDIX B

CONSENT FORM

Mindfulness Based Stress Reduction (MBSR) Effects Study on Registered Nurses

Investigator: Sue Penque MSN, RN, University of Minnesota School of Nursing, student

Co-Investigators: Sue Sendelbach RN, PhD, CCNS, Abbott Northwestern Hospital
Clinical Scientist

Ruth Lindquist RN, PhD, University of Minnesota School of Nursing, Professor

You are invited to participate in a research study of the effects of a stress reduction program on nurses. You were selected as a possible participant in this study because you are a nurse at ANW or work on the ANW campus, between the ages of 21-64, have not taken this program before, and are working as a staff nurse providing direct patient care. You volunteered either because you read a flyer about this study or heard about it through discussions at nursing staff meetings at ANW. We ask that you read this form and ask any questions you may have before agreeing to be in the study.

BACKGROUND AND PURPOSE

Turnover in nursing is reaching alarming rates. Retention of nurses is important to reduce turnover in the profession. Factors related to nurses leaving the profession include work stress and job burnout. Clinical work may increase stress, and decrease feelings of overall well being for health professionals. Due to these factors, nurses need to have tools to deal with work stress. Self care strategies are needed to assist nurses to successfully cope with the work and manage their overall health. Mindfulness Based Stress Reduction (MBSR) is a program that teaches one how to decrease stress and increase feelings of being present. This may be an effective program for Registered Nurses to decrease stress and increase feelings of overall well being.

This study is being conducted by Susan Penque RN, PhD Candidate, University of Minnesota, School of Nursing; Ruth Lindquist RN, PhD, University of Minnesota, School of Nursing and Sue Sendelbach RN, PhD, Clinical Nurse Scientist at ANW.

Study Purpose

The purpose of this study is to evaluate the Mindfulness Based Stress Reduction (MBSR) program effects on Registered Nurses. MBSR is not experimental; it is a formal,

standardized stress reduction program that has been administered to thousands of persons, developed by Jon-Kabat Zinn. The purpose of this study is to determine whether participation in MBSR is effective in helping Registered Nurses improve overall well being and job performance. This study is designed to evaluate the potential use of a stress reduction program for RNs in acute care settings and determine if this program may be used for self care of RNs.

Study Overview

Your participation in this study will be for a period of eight weeks. If you participate in this study, you will be enrolled in a MBSR program based on your choice of day and time the program meets. There will be a total of approximately 80 participants attending one of several groups taught by the same instructor. Each group has an 8 week period of participation for two hours per week. You will be asked to attend the weekly two hour sessions for eight weeks and practice 30 minutes of homework per day. If you participate in the program, you will be able to attend an additional 7 hour session at week 6 of the program that teaches additional mindfulness content such as walking meditation. The content and techniques utilized are not experimental since the material and processes have been used for health professionals and patients to reduce stress.

Please read this form and ask any questions you may have before agreeing to be in the study. It is important that you read and understand the following explanations, which describes the research subjects' rights. Also below, we describe the procedures, benefits, risks, discomforts and precautions associated with this study. We also describe the alternative procedures that are available to you and your right to withdraw from the study at any time. The investigators do not have any financial interest in this study and this study does not have any outside funding to report.

Research Subject's Bill of Rights

People who volunteer to participate in an experiment (also called a research study or clinical trial) need to understand what is expected of them and why the research is being done. As you think about whether or not to volunteer, it is important that you know you have rights in place to help protect you. These rights, listed below, will be further explained as you read this informed consent document.

If you are asked to participate in a research study, you have the right to:

- be told the purpose and details of the research study,
- have the drugs or devices (tools or pieces of equipment) used in the research study described,
- have the procedures of the research study and what is expected of you explained,
- have the risks, dangers and discomforts of the research study described,

- have the benefits and advantages of the research study described,
- be told of other drugs, devices or procedures (and their risks and benefits) that may be helpful to you,
- be told of medical help available to you should you be negatively affected because of the research study,
- have a chance to ask questions about the research study,
- quit the research study at any time without it affecting your future treatment,
- have enough time to decide whether or not to take part in this research study and to make that decision without feeling forced or required to participate, and be given a copy of this signed and dated informed consent form

STUDY PROCEDURES

Once the research team has determined that you are qualified to participate in the study, participants will be enrolled in a study group until the groups are filled. Prior to participation you will complete short surveys. At the last class of MBSR, you will complete the short surveys again. You will keep a daily log of your sleep patterns.

Participants will attend an eight week course on Mindfulness Based Stress Reduction at ANW. This eight week class consists of a two hour weekly class for eight weeks and a 7-hour day of mindfulness. You will be asked to practice homework 30 minutes per day for the eight weeks of the course. This introductory course is based on Jon Kabat-Zinn's model in his book, *Full Catastrophe Living*. Mindfulness-based stress reduction (MBSR) is ideal for anxiety, depression, chronic pain and illness, cardiac disease, the demands of care-giving, life-threatening illness, grief, spiritual emptiness and balancing everyday stress. Participants learn and practice the basic skills and begin to experience their impact on everyday life, health and well-being. Each session involves walking, eating, sitting and/or yoga, meditation, instruction and group discussion. The instructor for this course has trained professionally with Jon Kabat-Zinn and has years of experience with MBSR training.

Participants will complete a brief history and a set of questionnaires combined in one survey. The survey items assess such things as demographic information, mindfulness, compassion, serenity, self compassion and burnout. The survey will take approximately 15-30 minutes to complete. These questionnaires will be completed at the beginning of the study and at eight weeks, after the MBSR has concluded. Data will be collected that measures overtime and medication error on each of the patient care units three months before, during the program, and after the study for three months. The data will not identify individual nurses but represent the total overtime and total medication errors that occur on the patient care unit.

We will ask all participants for basic information about work experience, education, medications used, medical conditions, and demographic information (like age, marital status).

Surveys will be kept in a locked cabinet. Each participant's survey will be assigned a numerical code and the name of the participant will be kept separate from the data collection form. Data will be assigned a numerical code so individuals will not be identified. Only personnel directly involved in the research will have access to the data.

Overtime data will be obtained for the past three months, during the study and for three months post study by each patient care unit from ANW administration. This information will be obtained from the financial records of ANW. This data will be kept in a locked file in a locked office. The data will be collected by ANW administration.

No information that could identify you will be used when the results of this study are published or presented. Any quotes used in publications will be done in such a way as to protect the identity of the source.

RISKS AND DISCOMFORTS

All participants will be asked to complete short questionnaires to report information about themselves that you may consider private or personal. You do not have to answer all questions. This presents a possible risk of privacy and every measure will be implemented to keep the information private, secure and confidential.

BENEFITS

As no benefit is guaranteed, you may or may not benefit directly from participation in this study. Your participation will provide information that may in the future benefit others and will help us refine the procedures and conduct of our future studies in this area.

ALTERNATIVES

You may choose not to participate in this study.

COSTS

What charges will be paid by the study?

All testing, materials, classes and services performed for your participation in this study will be provided without charge to you. Your time to attend the program will not be paid.

COMPENSATION

You will not be paid for participating in this study. Every effort will be made by your nurse manager to get you out of work on time in order to attend the workshops. Schedules will accommodate your attendance at these workshops.

CONFIDENTIALITY

Every reasonable effort will be made to keep your records of this study confidential. Your identity and employee data, and other information that is obtained in this trial are confidential, except as required by law. This information will not be revealed to any person, except personnel involved with the study at ANW

If the results of the trial are published, your identity will remain confidential.

VOLUNTARY PARTICIPATION/WITHDRAWAL

Your participation in this research study is voluntary. Your decision whether or not to participate in this study will not affect your current or future relations with the University of Minnesota or ANW. If you decide to participate, you are free to withdraw at any time without affecting those relationships.

You can refuse to participate or you can withdraw from this study at any time for any reason.

Confidentiality

The records of this study will be kept private. In any publications or presentations, we will not include any information that will make it possible to identify you as a subject. To these extents, confidentiality is not absolute.

Protected Health Information (PHI)

No protected health information will be used for this study.

Contacts and Questions

The researchers conducting this study are Sue Penque, PhD Candidate, 612-760-3947, Dr. Ruth Lindquist at 612-624-5646 and Sue Sendelbach RN, PhD 612-863-3637. You may also contact the Allina/ANW Institutional Review Board at 612-262-4920. You may ask any questions you have now, or if you have questions later, you are encouraged to contact them at the numbers listed above.

If you have any questions or concerns regarding the study and would like to talk to someone other than the researcher(s), you are encouraged to contact the Fairview Research Helpline at telephone number 612-672-7692 or toll free at 866-508-6961. You

may also contact this office in writing or in person at University of Minnesota Medical Center, Fairview-Riverside Campus, 2200 Riverside Avenue, Minneapolis, MN 55454.

STATEMENT OF CONSENT

This research study and related procedures have been explained to me to my satisfaction. I understand that my participation in this study is voluntary and that I may withdraw my consent at any time without penalty, prejudice or loss of benefits to which I am entitled. I have been given the opportunity to ask questions and all of my questions have been answered. I will be given a signed copy of this consent form for my records. You will be given a copy of this form to keep for your records.

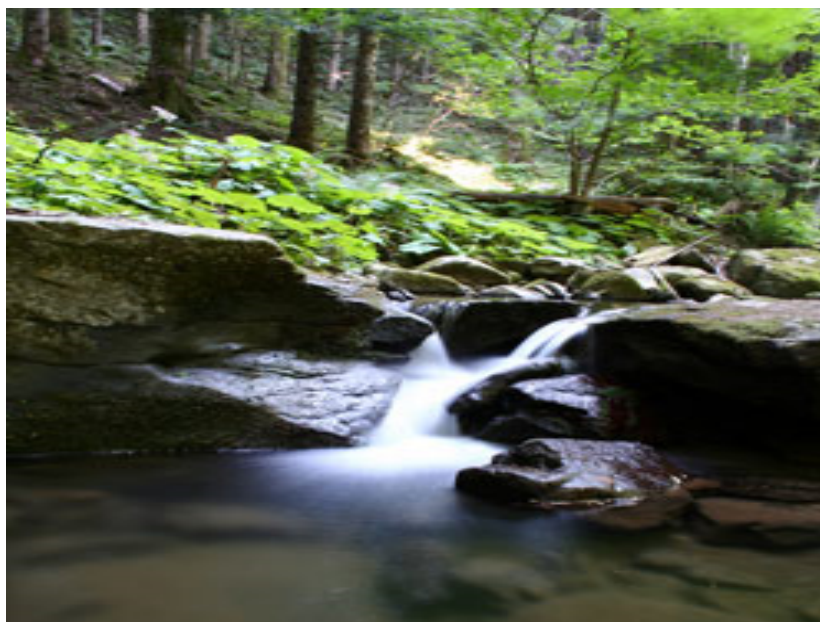
I have read the consent form.

Signature of Subject _____ Date _____

Signature of Investigator _____ Date _____

APPENDIX C
RECRUITMENT FLYER

Recruitment for Mindfulness Study (MBSR)



Looking for ways to **manage stress**, possibly **sleep better**, **feel better** overall? Then consider enrolling in this study.

- PURPOSE:** To explore the effects of a program of Mindfulness-Based Stress Reduction on overall sense of well being and sleep patterns.
- WHAT:** Participate in an 8 week course on Mindfulness-Based Stress Reduction (MBSR), two hours per week; as part of participation, survey assessments of overall sense of well being will be completed. Daily logs of sleep patterns will be reviewed for themes. Measures of incidental overtime and med error will be examined by patient care units if applicable.
- WHO:** **RNs who work at ANW or on the ANW campus. RNs in clinic settings.**
- WHEN:** You may Pick **one session** for 8 weeks beginning the week of 3/25 and **you may rotate between sessions if your schedule changes.**

Session 1 **Wednesdays – 8am-10am (begins March 25th) 1st Class, Northfield Room, Commons**

Session 2 **Wednesdays – 7pm-9pm (begins March 25th) 1st Class, Ed Building 101**

Session 3 **Thursdays - 12:30-2:30pm (begins March 26th) 1st Class. Ed Building 105**

Session 4 **Thursdays - 4-6pm (begins March 26th) 1st Class, Ed Building 105**

Plus an all-day optional retreat on Friday, 5/1 or Saturday, May2nd, 9 a.m.- 4 p.m, Place - TBD.

****These sessions all take place MOSTLY on the ANW campus or Allina Commons. Workshop costs, books, CDs and materials are free to study participants. Yoga mats are given as part of the class. Time to attend course is not paid.**

Course Instructor: Judith Lies MS, LMFT, MBSR Instructor

Participants will be accepted until the course is filled. For questions regarding this study please contact:

CALL NOW BEFORE ENROLLMENT is full.

Sue Penque RN, MSN, University of Minnesota School of Nursing

Cell- 612-760-3947 or Home – **952-435-3945** or

Sue Sendelbach PhD, RN, CCNS - 612-863-3637

APPENDIX D MBSR SCHEDULE

Day	Date	Location
Wed	25-Mar	Northfield Allina Commons
Wed	1-Apr	Room 105, Education Bldg., Abbott Northwestern
Wed	8-Apr	Piper Bldg 6th Floor
Wed	15-Apr	Ed Bldg Rm 105
Wed	22-Apr	Owatonna Room, Allina Commons
Wed	29-Apr	Ed Bldg Rm 101
Wed	6-May	Founders Mall across from McDonalds
Wed	13-May	Ed Bldg Aud A
MBSR Wednesdays Class Starts 7PM		
Day	Date	Location
Wed	25-Mar	Ed Bld 101
Wed	1-Apr	ED Bldg Aud A
Wed	8-Apr	ED Bldg Aud A
Wed	15-Apr	ED Bldg Aud A
Wed	22-Apr	ED Bldg Aud A
Wed	29-Apr	ED Bldg Aud A
Wed	6-May	ED Bldg Aud A
Wed	12-May	ED Bldg Aud A
MBSR Thursdays Class Starts 12:30PM		
Day	Date	Location
Thursday	26-Mar	ED Bldg 105
Thursday	2-Apr	ED Bldg 105
Thursday	9-Apr	Main Lobby E1220
Thursday	16-Apr	ED Bldg 105
Thursday	23-Apr	6th Floor Piper
Thursday	30-Apr	ED Bldg 105
Thursday	7-May	Northfield, Commons
Thursday	14-May	Northfield Commons
MBSR Thursdays Class Starts 4PM		
Day	Date	Location
Thursday	26-Mar	ED Bldg 105
Thursday	2-Apr	ED Bldg 105
Thursday	9-Apr	Main Lobby E1220
Thursday	16-Apr	ED Bldg 105
Thursday	23-Apr	ED Bldg 105
Thursday	30-Apr	ED Bldg 105
Thursday	7-May	Northfield Commons
Thursday	14-May	Main Lobby E1220
Sat May 2nd Retreat - Allina Commons Minnesota Room		
Fri May 1st TBD		

APPENDIX E INSTRUMENTS

Number: _____

Date: _____

Brief Freiburg Mindfulness Inventory

The purpose of this inventory is to characterize your experience of mindfulness. Please use the last 2 days as the time-frame to consider each item. Provide an answer for every statement as best your can. Please answer as honestly and spontaneously as possible. There are neither 'right' nor 'wrong' answers, nor 'good' or 'bad' responses. What is important to us is your own personal experience.

	1	2	3	4
	Rarely	Occasionally	Fairly often	Almost always
I am open to the experience of the present moment	1	2	3	4
I sense my body, whether eating, cooking, cleaning or talking	1	2	3	4
When I notice an absence of mind, I gently return to the experience of the here and now	1	2	3	4
I am able to appreciate myself	1	2	3	4
I pay attention to what's behind my actions	1	2	3	4
I see my mistake and difficulties without judging them	1	2	3	4
I feel connected to my experience in the here-and-now	1	2	3	4
I accept unpleasant experiences	1	2	3	4
I am friendly to myself when things go wrong	1	2	3	4
I watch my feelings without getting lost in them	1	2	3	4
In difficult situations, I can pause without immediately reacting	1	2	3	4
I experience moments of inner peace and ease, even when things get hectic and stressful	1	2	3	4
I am impatient with myself and with others	1	2	3	4
I am able to smile when I notice how I sometimes make life difficult	1	2	3	4

Reference:Walach, H., Buchheld, N., Buittenmuller, V. (2006). Measuring Mindfulness – The Freiburg Mindfulness Inventory. *Personality & Individual Differences*, 40, 1543-1555. This reference was obtained with written permission via email from Dr. Walach for use and reprint.

Self Compassion Scale:

HOW I TYPICALLY ACT TOWARDS MYSELF IN DIFFICULT TIMES

Please read each statement carefully before answering. To the left of each item, indicate how often you behave in the stated manner, using the following scale:

- | Almost
never | | | | | Almost
always |
|-------------------------|----------|----------|----------|----------|---|
| 1 | 2 | 3 | 4 | 5 | |
| _____ | | | | | 1. I'm disapproving and judgmental about my own flaws and inadequacies. |
| _____ | | | | | 2. When I'm feeling down I tend to obsess and fixate on everything that's wrong. |
| _____ | | | | | 3. When things are going badly for me, I see the difficulties as part of life that everyone goes through. |
| _____ | | | | | 4. When I think about my inadequacies, it tends to make me feel more separate and cut off from the rest of the world. |
| _____ | | | | | 5. I try to be loving towards myself when I'm feeling emotional pain. |
| _____ | | | | | 6. When I fail at something important to me I become consumed by feelings of inadequacy. |
| _____ | | | | | 7. When I'm down and out, I remind myself that there are lots of other people in the world feeling like I am. |
| _____ | | | | | 8. When times are really difficult, I tend to be tough on myself. |
| _____ | | | | | 9. When something upsets me I try to keep my emotions in balance. |
| _____ | | | | | 10. When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people. |
| _____ | | | | | 11. I'm intolerant and impatient towards those aspects of my personality I don't like. |

- _____ 12. When I'm going through a very hard time, I give myself the caring and tenderness I need.
- _____ 13. When I'm feeling down, I tend to feel like most other people are probably happier than I am.
- _____ 14. When something painful happens I try to take a balanced view of the situation.
- _____ 15. I try to see my failings as part of the human condition.
- _____ 16. When I see aspects of myself that I don't like, I get down on myself.
- _____ 17. When I fail at something important to me I try to keep things in perspective.
- _____ 18. When I'm really struggling, I tend to feel like other people must be having an easier time of it.
- _____ 19. I'm kind to myself when I'm experiencing suffering.
- _____ 20. When something upsets me I get carried away with my feelings.
- _____ 21. I can be a bit cold-hearted towards myself when I'm experiencing suffering.
- _____ 22. When I'm feeling down I try to approach my feelings with curiosity and openness.
- _____ 23. I'm tolerant of my own flaws and inadequacies.
- _____ 24. When something painful happens I tend to blow the incident out of proportion.
- _____ 25. When I fail at something that's important to me, I tend to feel alone in my failure.
- _____ 26. I try to be understanding and patient towards those aspects of my personality I don't like.

References: Neff, K. (2003) Development & Validation of a Scale to Measure Self Compassion. *Self & Identity*, 2, 223-250. This instrument was obtained with written permission from Dr. Neff and for reprint purposes.

INTERPERSONAL REACTIVITY INDEX

The following statement inquire about your thoughts and feelings in a variety of situations. For each item, indicate how well it describes you by choosing the appropriate letter on the scale at the top of the page: A, B, C, D, or E. When you have decided on your answer, fill in the letter on the answer sheet next to the item number. **READ EACH ITEM CAREFULLY BEFORE RESPONDING.** Answer as honestly as you can.

ANSWER SCALE:

A	B	C	D	E
DOES NOT DESCRIBE ME WELL				DESCRIBES ME VERY WELL
_____	1.			I daydream and fantasize, with some regularity, about things that might happen to me
_____	2.			I often have tender, concerned feelings for people less fortunate than me
_____	3.			I sometimes find it difficult to see things from the “other guy’s” point of view.
_____	4.			Sometime I don’t feel very sorry for other people when they are having problems
_____	5.			I really get involved with the feeling of the characters in a novel
_____	6.			In emergency situations, I feel apprehensive and ill-at-ease
_____	7.			I am usually objective when I watch a movie or play, and I don’t often get completely caught up in it
_____	8.			I try to look at everybody’s side of a disagreement before I make a decision
_____	9.			When I see someone being taken advantage of, I feel kind of protective towards them
_____	10.			I sometimes feel helpless when I am in the middle of a very emotional situation

- _____ 11. I sometimes try to understand my friends better by
imagining how things look from their perspective
- _____ 12. Becoming extremely involved in a good book or movie is
somewhat rare for me
- _____ 13. When I see someone get hurt, I tend to remain calm
- _____ 14. Other people's misfortunes do not usually disturb me a
great deal
- _____ 15. If I'm sure I'm right about something, I don't waste much
time listening to other people's arguments
- _____ 16. After seeing a play or movie, I have felt as though I were
one of the characters
- _____ 17. Being in a tense emotional situation scares me
- _____ 18. When I see someone being treated unfairly, I sometimes
don't feel very much pity for them
- _____ 19. I am usually pretty effective in dealing with emergencies
- _____ 20. I am often quite touched by things that I see happen
- _____ 21. I believe that there are two sides to every question and try
to look at them both
- _____ 22. I would describe myself as a pretty soft-hearted person
- _____ 23. When I watch a good movie, I can very easily put myself
in the place of a leading character
- _____ 24. I tend to lose control during emergencies
- _____ 25. When I'm upset at someone, I usually try to "put myself
in his shoes" for a while
- _____ 26. When I am reading an interesting story or novel, I imagine
how I would feel if the events in the story were happening
to me
- _____ 27. When I see someone who badly needs help in an
emergency, I go to pieces
- _____ Before criticizing somebody, I try to imagine how I would

_____ 28. feel if I were in their place

Reference: Davis, M. (1983). Measuring individual differences in empathy: Evidence for a multidimensional approach. *Journal of Personality and Social Psychology*, 44, 113-126.

Permission obtained through written email exchange with Dr. Davis for reprint and use in this study..

Brief Serenity Scale

INSTRUCTIONS: The following items describe experiences (thoughts and feelings, or actions). Below are numbers that describe how often you have the experience. "1" means *never*, "5" means *always*, or you may select 2, 3, or 4. The lower the number, the less often you have the experience. There are not "right" answers, only answers that best describe you. Do not think about the statement too long. Give the answer you think of first, based on how things have been with you in the last 4 weeks.

Never 1	2	3	4	Always 5	
					a. I am aware of an inner source of comfort, strength, and security
					b. During troubled times, I experience an inner source of strength
					c. I trust that life events happen to fit a plan which is larger and more gentle than I can know
					d. I see the good in painful events that have happened to me
					e. I experience peace of mind
					f. I am forgiving of myself for past mistakes
					g. I take care of today and let yesterday and tomorrow take care of themselves
					h. In problem situations, I do what I am able to do and then accept whatever happens even if I dislike it
					i. I accept situations I cannot change
					j. I try to place my problems in the proper perspective in any given situation
					k. I am aware of an inner peace
					l. I experience an inner quiet that does not depend on events
					m. I find ways to share my talents with others
					n. When I get upset, I become peaceful by getting in touch with my inner self
					o. I attempt to deal with what is, rather than what was, or what will be

- _____ p. Even though I do not understand, I trust in the ultimate
goodness of the plan of things
- _____ q. I experience an inner calm even when I am under pressure
- _____ r. I feel that I have done the best I could in life
- _____ s. I can feel angry and observe my feeling of anger and separate
myself from it and still feel an inner peace
- _____ t. I trust that everything happens as it should
- _____ u. I feel forgiving of those who have harmed me
- _____ v. I feel serene

Reference: Kreitzer, MJ, Gross, C., Waleekhachonloet, O., Reilly Spring, M., & Byrd, M. (2009).
The Brief Serenity Scale. *Journal of Holistic Nursing*.

*Permission granted from above authors for use in this study and for reprint.

Work Satisfaction

The Index of Work Satisfaction Questionnaire ©

Part A (Paired Comparisons)

Listed and briefly defined below are six terms or factors that are involved in how people feel about their work situation. Each factor has something to do with "work satisfaction". We are interested in determining which of these is **most important** to you in relation to the others.

Please carefully read the definitions for each factor as given below:

- **Pay** -- dollar remuneration and fringe benefits received for work done
- **Autonomy** -- amount of job related independence, initiative, and freedom, either permitted or required in daily work activities.
- **Task Requirements** -- tasks or activities that must be done as a regular part of the job
- **Organizational Policies** -- management policies and procedures put forward by the hospital and nursing administration of this hospital
- **Interaction** -- opportunities presented for both formal and informal social and professional contact during working hours
- **Professional Status** -- overall importance or significance felt about your job, both in your view and in the view of others

Instructions: These factors are presented in pairs on the next page. A total of 15 pairs are presented: this is every set of combinations. No pair is repeated or reversed. For each pair of terms, decide which one is *more important* for your job satisfaction or morale, and check the appropriate box. For example, if you feel that Pay (as defined above) is more important than Autonomy (as defined above), check the box for Pay.

It will be difficult for you to make choices in some cases. However, please do try to select the factor which is more important to you. Please make an effort to answer every item; do not go back to change any of your answers.

Part B (Attitude Questionnaire, Continued)

Remember: The more strongly you feel about the statement, the further from the center you should circle, with agreement to the left and disagreement to the right. Use 4 for neutral or undecided if needed, but please try to use this number as little as possible.

	Agree			Disagree			
1. My present salary is satisfactory.	1	2	3	4	5	6	7
2. Nursing is not widely recognized as being an important profession.	1	2	3	4	5	6	7
3. The nursing personnel on my service pitch in and help one another out when things get in a rush.	1	2	3	4	5	6	7
4. There is too much clerical and "paperwork" required of nursing personnel in this hospital.	1	2	3	4	5	6	7
5. The nursing staff has sufficient control over scheduling their own shifts in my hospital.	1	2	3	4	5	6	7
6. Physicians in general cooperate with nursing staff or my unit.	1	2	3	4	5	6	7
7. I feel that I am supervised more closely than is necessary.	1	2	3	4	5	6	7
8. It is my impression that a lot of nursing personnel at this hospital are dissatisfied with their pay.	1	2	3	4	5	6	7
9. Most people appreciate the importance of nursing care to hospital patients.	1	2	3	4	5	6	7
10. It is hard for new nurses to feel 'at home' in my unit.	1	2	3	4	5	6	7
11. There is no doubt whatever in my mind that what I do on my job is really important.	1	2	3	4	5	6	7
12. There is a great gap between the administration of this hospital and the daily problems of the nursing service.	1	2	3	4	5	6	7
13. I feel I have sufficient input into the program of care for each of my patients.	1	2	3	4	5	6	7
14. Considering what is expected of nursing service personnel at this hospital, the pay we get is reasonable.	1	2	3	4	5	6	7
15. I think I could do a better job if I did not have so much to do all the time.	1	2	3	4	5	6	7
16. There is a good deal of teamwork and cooperation between various levels of nursing personnel on my service.	1	2	3	4	5	6	7

Part B (Attitude Questionnaire, Continued)

Remember: The more strongly you feel about the statement, the further from the center you should circle, with agreement to the left and disagreement to the right. Use 4 for neutral or undecided if needed, but please try to use this number as little as possible.

	Agree			Disagree			
17. I have too much responsibility and not enough authority.	1	2	3	4	5	6	7
18. There are not enough opportunities for advancement of nursing personnel at this hospital.	1	2	3	4	5	6	7
19. There is a lot of teamwork between nurses and doctors on my own unit.	1	2	3	4	5	6	7
20. On my service, my supervisors make all the decisions. I have little direct control over my own work.	1	2	3	4	5	6	7
21. The present rate of increase in pay for nursing service personnel at this hospital is not satisfactory.	1	2	3	4	5	6	7
22. I am satisfied with the types of activities that I do on my job.	1	2	3	4	5	6	7
23. The nursing personnel on my service are not as friendly and outgoing as I would like.	1	2	3	4	5	6	7
24. I have plenty of time and opportunity to discuss patient care problems with other nursing service personnel.	1	2	3	4	5	6	7
25. There is ample opportunity for nursing staff to participate in the administrative decision-making process.	1	2	3	4	5	6	7
26. A great deal of independence is permitted, if not required, of me.	1	2	3	4	5	6	7
27. What I do on my job does not add up to anything really significant.	1	2	3	4	5	6	7
28. There is a lot of "rank consciousness" on my unit: nurses seldom mingle with those with less experience or different types of educational preparation.	1	2	3	4	5	6	7
29. I have sufficient time for direct patient care.	1	2	3	4	5	6	7
30. I am sometimes frustrated because all of my activities seem programmed for me.	1	2	3	4	5	6	7
31. I am sometimes required to do things on my job that are against my better professional nursing judgment.	1	2	3	4	5	6	7

Part B (Attitude Questionnaire, Continued)

Remember: The more strongly you feel about the statement, the further from the center you should circle, with agreement to the left and disagreement to the right. Use 4 for neutral or undecided if needed, but please try to use this number as little as possible.

	Agree				Disagree		
32. From what I hear about nursing service personnel at other hospitals, we at this hospital are being fairly paid.	1	2	3	4	5	6	7
33. Administrative decisions at this hospital interfere too much with patient care.	1	2	3	4	5	6	7
34. It makes me proud to talk to other people about what I do on my job.	1	2	3	4	5	6	7
35. I wish the physicians here would show more respect for the skill and knowledge of the nursing staff.	1	2	3	4	5	6	7
36. I could deliver much better care if I had more time with each patient.	1	2	3	4	5	6	7
37. Physicians at this hospital generally understand and appreciate what the nursing staff does.	1	2	3	4	5	6	7
38. If I had the decision to make all over again, I would still go into nursing.	1	2	3	4	5	6	7
39. The physicians at this hospital look down too much on the nursing staff.	1	2	3	4	5	6	7
40. I have all the voice in planning policies and procedures for this hospital and my unit that I want.	1	2	3	4	5	6	7
41. My particular job really doesn't require much skill or "know how".	1	2	3	4	5	6	7
42. The nursing administrators generally consult with the staff on daily problems and procedures.	1	2	3	4	5	6	7
43. I have the freedom in my work to make important decisions as I see fit, and can count on my supervisors to back me up.	1	2	3	4	5	6	7
44. An upgrading of pay schedules for nursing personnel is needed at this hospital.	1	2	3	4	5	6	7

This instrument was purchased from Dr. Stamps and Market Street Research for use in this study and for reprint purposes related to this study only.

Demographics of Participant

Name _____ PHONE NUMBER WHERE YOU CAN BE REACHED _____

Patient Care Unit _____

Years of Experience as an RN _____

Highest level of education _____

Shift predominantly worked (i.e. days, evenings, nights) _____

Number of hours worked in a pay period _____

Gender _____

Have you ever taken MBSR?

Are you currently participating in meditation practices?

Are you currently being treated for psychiatric illness?

Can you attend for 8 consecutive weeks of the MBSR program?

Telephone number you can be reached at _____ time of the day best to be reached _____

Appendix F. Authorization for Use of Tools

Market Street Research, Inc.

31 Trumbull Rd
 Northampton, MA 01060
 (413) 584-0465

a-5

Invoice

DATE	INVOICE N...
2/27/09	3463

BILL TO
Sue Peaque 9650 178th Street, W. Lukeville, MN 55044

PAID

TERMS	DUE DATE
On receipt	2/27/09

DESCRIPTION	AMOUNT
IWS Questionnaire	30.00
Scoring Manual	60.00
FedEx Delivery	25.00
<i>[Faint handwritten notes and signatures]</i>	
This invoice is permission to use the Index of Work Satisfaction Questionnaire.	Total \$115.00

CPP Permission



Sample Item Request Form

 Lakeville, MN 55044

35-3945 _____ Fax Number _____

@gmail.com _____ CPP Customer Number _____

on of the instrument for which sample items are needed: MBI-TISS _____

ed in: (circle one) Dissertation Thesis Research Project

Publication _____ MBSR Effects on RNs

Terms and Conditions for Research Use

Inc. ("CPP") the following terms and conditions will apply:

request sample items for the assessment requested. Only these sample items may be used and only the one-time use specifically described above.

the contact line supplied by CPP whenever sample items appear.

request will not include any commercial or for-profit use of the sample items.

request is provided with this permission.

requester is responsible for any misuse of the sample items you use pursuant to this agreement. CPP is not responsible for any misuse of the sample items.

requester is responsible for any misuse of the sample items.

requester is responsible for any misuse of the sample items as provided by CPP and used by you pursuant to this agreement remain the property of CPP.

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Sue Penzance

5/12/2009 _____
 Date

requester is responsible for any misuse of the sample items as provided by CPP and used by you pursuant to this agreement remain the property of CPP. requester will not modify, translate, alter, or change the sample items in any way. requester is responsible for any misuse of the sample items as provided by CPP and used by you pursuant to this agreement remain the property of CPP.

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Permission obtained through written email with Dr. Neff

Letter received from Dr. Neff

Please feel free to use the Self-Compassion Scale in your research. You can e-mail me with any questions you may have. I would also ask that you please e-mail me about any results you obtain with the scale, and would appreciate it if you send me a copy of any article published using the scale. The appropriate reference is listed below.

Best,

Kristin Neff, Ph. D.

Associate Professor

Educational Psychology Dept.

University of Texas at Austin

1 University Station, D5800

Austin, TX 78712

e-mail: kristin.neff@mail.utexas.edu

Ph: (512) 471-0382

Fax: (512) 471-1288

Appendix G. Mindfulness Based Stress Reduction Class Content



Seeds of Mindfulness

*Mindfulness Based Stress Reduction
Meditation and Yoga
for
Health and Wellbeing*

Judith Lies, LMFT
HEARTWOOD Mindfulness Practice Center
3706 E. 34th Street, Minneapolis 55406

www.seedsofmindfulness.com