A RANDOMIZED CONTROLLED TRIAL OF THE EFFECTS OF MEDITATION ON
HOME CARE NURSES’ WORK STRESS

By

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ABSTRACT

The increase of community home care nurses' work stress has been identified as more acutely ill patients discharged into the community create greater demand based on larger case loads with more complex case management. Surprisingly, no research to date has evaluated stress reduction interventions which claim to protect community home care nurses' from the long-term effects of work stress. The purpose of this study was to evaluate the efficacy of a stress reduction intervention using meditation to decrease home care nurses' symptoms of work stress. These symptoms were defined as anxiety, fatigue and reduced spiritual well-being. The study design was a randomized controlled trail. From a sample of convenience, 27 subjects were randomly assigned to an intervention (n=13) and wait-list control group (n=14). The intervention group attended a 5 hour meditation class once a week for 4 weeks. The wait-list group was given no specific instructions. Home care nurses' (HCN) symptoms of work stress were measured pre-intervention and 4 weeks post intervention using the Spielberger's, State and Trait Anxiety scale, the SF-36 Vitality sub-scale, and the JAREL Spiritual Well-being scale. There was a statistically significant decrease in HCN's trait- anxiety (p=0.014) and fatigue levels (p=0.016) at a 0.05 level of significance. Although, there was a decrease in state anxiety (p=0.48) and an increase in the JAREL spiritual well-being measures (p=0.11), the differences were not statistically significant. The findings suggested that meditation has the potential to shift home care nurses' appraisal of stressful situation from being a threat to being a challenge, thereby reducing symptoms of work stress, such as trait anxiety and fatigue. Implications for practice and research are discussed.
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CHAPTER ONE: BACKGROUND

Recent nursing research has reported that nurses’ work environments are typified by funding cutbacks, heavy patient loads, and lack of support staff, which have increased stress in nursing practice (Baumann et al., 2001; Bergen & Fisher, 2003; Healy & McKay, 1999; Spence Laschinger et al., 2001; Zboril-Benson, 2002). As a result of these working conditions, nurses suffer higher levels of injury and absenteeism than do any other professional employees in Canada (Akyeampong & Usalcas, 1998; Baumann et al.; Bergen & Fisher; Canadian Nurses Association, 2003; Healy & McKay; RNABC, 2000a; Spence Laschinger et al.; Zboril-Benson). Patients are being discharged from the hospital early in their recovery period which creates demands on community home care nurses (HCNs) to care for large case-loads with higher acuity (acutely ill) levels. These patient characteristics require longer home care nursing visits and more complex case management (Baumann et al.; Maclellan, 1990a; Walcott-McQuigg & Ervin, 1992). Consequently, the work stress literature reports that home care nurses are exhibiting stress symptoms that include anxiety, fatigue, and reduced spiritual well-being (Bergen & Fisher; Cole, 1992; Goodwin, 1987; Hardy, Shapiro, & Borril, 1997; Keidel, 2002; Maclellan, 1990 a,b,c; West, Jones, & Savage, 1988; Vaughan, 1995; Zboril-Benson).

Nurses’ work conditions have resulted in the Registered Nurses Association of British Columbia (RNABC), presently known as the College of Registered Nurses of British Columbia (CRNBC), expressing concerns about the health and well-being of the nursing community. Hence, the RNABC has recommended nursing employers provide support systems that enable staff to meet the RNABC Standards for Nursing Practice in the area of Self-regulation (RNABC, 2000b). Self-regulation is a term used by the RNABC to indicate that health professionals “assume primary responsibility for maintaining competence...by ensuring...fitness to practice as
a professional nurse” (RNABC, 2000b, p. 20). For instance, some nursing employers offer stress management courses to assist their staff to meet standard #6: Self-regulation - Indicator #4, which mandates nurses to “maintain their own physical, mental, and emotional well-being” (RNABC, 2000b, p. 20). Employers also provide nurses with certificates to prove they have attended workshops or education courses, such as meditation intervention for stress management, with the aim of maintaining physical, mental, emotional, and spiritual fitness that support meeting competence requirements each year. The initiative for reducing work stress must come from both individual self-care, as well as employer-supported interventions, to effectively reduce nurses’ experience of work stress (Bergen & Fisher, 2003). Although the self-regulation protocol is in effect, the efficacy of workshops and courses must be measured to determine whether they are assisting nurses to maintain their fitness to practice.

Nurses’ work stress has been identified and studied by many researchers (Beddoe & Murphy, 2004; Bergen & Fisher, 2003; Bruce et al., 2002; Cole, 1992; Freedy & Hobfoll, 1994; Godbey & Courage, 1994; Godwin, 1987; Gray-Toft, 1980; Hardy, Shapiro, & Borril, 1997; Johansson, 1991; Keidel, 2002; McLeroy et al., 1984; Maclellan, 1990abc; Murphy, 1983; Randolph, Price, & Collins, 1986; Tsai & Crockett, 1993; von Beyer & Krause, 1983; West, Horan, & Games, 1984; West, Jones, & Savage, 1988; Zboril-Benson, 2002); surprisingly, few research studies have evaluated interventions to reduce work stress (O’Henley, Curzio, & Hunt, 1997; Murphy, 1996; McLeroy et al., 1984). The literature on work stress management identified meditation as an intervention that showed promise as an economical and accessible resource that individuals can use to influence their appraisal of stressful situations. By changing their appraisals, employees can reduce work stress symptoms such as anxiety, fatigue, and decreased spiritual well-being (Astin, 1997; Bruce et al.; Kabat-Zinn, 1990; Marsh et al., 1999;
Shapiro, Schwartz, & Bonner, 1998; Tsai & Crockett). No research to date has specifically studied the effects of meditation on symptoms of work stress within a home care nursing population. Therefore, this study proposes to evaluate whether meditation decreases home care nurses’ symptoms of work stress.

1.1. Significance

Every week 8.5% of the nursing workforce in Canada is absent due to illness, translating to more than 2,400 nurses absent in BC (Health Care in Canada, 2000; RNABC, 2000a). Increased illness rates lead to nurses transferring to part-time or casual positions, taking early retirement if available, or leaving the profession, causing a shortage of full-time nurses working in the health care system (Baumann et al., 2001; Healy & McKay, 1999). Reports from the Registered Nurses Association of British Columbia (RNABC, 2000a) noted that nursing employers have had difficulty retaining and recruiting nursing staff, which is predicted to become a significant problem in creating a critical nursing shortage within the next ten years. Similarly, the Canadian Nurses Association (CNA, 2003) anticipates a nursing shortage of 78,000 Registered Nurses (RNs) by the year 2011 and 113,000 RNs by the year 2016. As a result of the nursing shortage, CNA staff calculate that Canadian RNs work “almost a quarter of a million hours of over-time every week, the equivalent of 7,000 full-time jobs per year” (CNA, 2003, p. 28). Staff shortages and over-time hours contribute to injury and absentee rates (Bergen & Fisher, 2003; Healy & McKay, 1999; Spence Laschinger et al., 2001; Zboril-Benson, 2002). If these outcomes are ignored and structural factors are not changed, the increased and prolonged stress will reduce the health of our Canadian nurses, which will reduce the effectiveness of the health care system.

A Canadian national health survey of work stress in healthcare workers (Sullivan, Kerr & Ibrahim, 1999) reported that nurses who work for employers that encourage health and positive
psychosocial work environments may have decreased injury and absenteeism rates. Furthermore, the RNABC (2000b) mandates nurses and their employers to use interventions that increase self-awareness of physical, emotional, and mental needs so that corrective actions can be implemented so that the negative effects of stress do not undermine the nursing population (Bergen & Fisher, 2003; Jamal & Baba, 2000).

Nurses' work environments have increased the stress experienced by nurses in nursing practice (Bergen & Fisher, 2003; Healy & McKay, 1999; Zboril-Benson, 2002), and have resulted in nurses exhibiting stress symptoms that include anxiety, fatigue and reduced spiritual well-being (Bergen & Fisher; Cole, 1992; Godwin, 1987; Hardy, Shapiro & Borril, 1997; Keidel, 2002; MacLellan, 1990a, b, c; Marsh et al., 1999; Vaughan, 1995; Zboril-Benson). Until systemic changes are made in the work environment, nursing personnel will continue to experience stressful situations resulting in symptoms of stress, while having few resources to protect themselves from the long-term effects of work stress.

The literature on work stress reduction has identified meditation as an intervention that can decrease symptoms of work stress (Murphy, 1996; McLeroy, 1984). Meditation techniques have been introduced in the workplace so that workers can maintain their spiritual well-being as an inner resource for guidance and can shift their appraisal of stressful situations from being a threat to being a challenge, thereby reducing symptoms of work stress (Astin, 1997; Shapiro, 1994; Shapiro, Schwartz, & Bonner, 1998; Tsai & Crockett, 1993; Vaughan, 1995). Researchers suggest nurses, who are provided with stress reduction intervention, such as meditation, benefit by reduced symptoms of work stress, which will support retention of experienced nurses in difficult and demanding work environments (Sullivan, Kerr, & Ibrahim, 1999). Meditation may increase nurses' well-being by reducing symptoms of work stress, maintaining their fitness to
practice, and increasing the retainment and recruitment of nurses to work for supportive employers.

1.2. Problem Statement

Although studies have shown the effects of meditation on employees' work stress reduction, few rigorous studies have been conducted with nurses, and none have been carried out with home care nurses (HCNs) (O’Henley, Curzio, & Hunt, 1997). Because the effect of meditation in reducing symptoms of work stress in HCNs is unknown, it is important to offer HCNs meditation techniques and to determine whether or not the meditation techniques can significantly reduce symptoms of work stress.

1.3. Statement of Purpose

The purpose of this study was to evaluate the effects of a stress reduction intervention, using Level 1 TIP meditation, to decrease symptoms of home care nurses' work stress, namely, anxiety, fatigue and a reduced spiritual well-being.

1.4. Theoretical Framework: Lazaurs and Folkman’s Theory of Stress Appraisal and Coping

This study used Lazarus and Folkman’s (1984) theory of stress, appraisal, and coping as a theoretical framework. In Lazarus and Folkman’s (1984) Transactional Model of Stress Appraisal and Coping, stress is viewed as a transaction between individuals and their environment (See Figure 1). Within Lazarus and Folkman’s model, stress is defined as:

A particular relationship between the person and the environment that is appraised by the person as taxing or exceeding her resources and endangering his well-being (Lazarus & Folkman, 1984, p. 19).
The evaluative process by which an individual judges the significance of a transaction with the environment is called cognitive appraisal.

1.4.1. Cognitive Appraisal: primary, secondary, and reappraisal

Cognitive appraisal is the process by which a person will make a primary appraisal and secondary appraisal followed by reappraisal of a situation (Lazarus & Folkman, 1984) (See Figure 1). In primary appraisal, individuals focus on their evaluation of the situation in three ways: (a) irrelevant (no investment in the outcome), (b) benign-positive (the outcome is perceived as positive), and (c) stressful (the individual appraises the situation as being important and is invested in the outcome). In the third category of primary appraisal, the stressful situation
can be appraised as: (a) harm/loss (some damage is sustained), (b) threat of harm (harm/loss is anticipated but has not taken place yet), (c) challenge (focus on potential for growth or gain) (Lazarus & Folkman). Both threat and challenge stress appraisals can initiate coping efforts. Stressful situations, appraised as a challenge, are characterized by positive emotions such as eagerness, excitement, and exhilaration; whereas, stressful situations, appraised as threats, are characterized by negative emotions such as fear, anxiety, and anger.

Once individuals appraise a situation as a threat or a challenge, they must decide how to manage the situation depending on what is at stake and their available resources. The secondary appraisal occurs when an individual evaluates which coping options are available by taking into account the resources and strategies available to maintain well-being (Lazarus & Folkman, 1984). The reappraisal of the situation will depend on new information gathered from the internal and external environment that might influence the person’s initial appraisal of the situation (Lazarus & Folkman) (See Figure 1). The difference between appraisal and reappraisal is that the latter occurs after the initial appraisal and is a modification. The reaction of the individual to a stressful event depends upon the meaning given to the event. Something personal must be at stake in the transaction to give rise to stress, which shapes the emotional and behavioural response of that person with a desire for resolution (Lazarus & Folkman).

1.4.2. Coping

Once the desire for resolution is realized, individuals draw upon their coping mechanisms. Lazarus and Folkman (1984) defined coping as: “constantly changing cognitive and behavioural efforts to manage specific external and internal demands that are appraised as taxing or exceeding the resources of the person” (p. 141). Any attempts made by a person to avoid, minimize, or deal with the effects of stress are part of the coping process. Effective coping
requires individuals to respond in some way that develops their understanding or awareness and that either neutralizes the appraisal of the stressor or helps the individual appraise the stressor as a challenge, which implies change on an individual level (Matteson & Ivancevich, 1987) (See Figure 1). For example, a HCN who normally visits 7 to 8 patients in an 8-hour shift, arrives at work to find 12 patients are scheduled for her to visit. The nurse attempts to manage the external demand by appraising the stressor as a challenge and chooses a behaviour that will neutralize the stressor by reassigning the extra patients to available support staff or by telephoning to cancel four patients’ visits. The nurse mediates the stress process and takes care of herself by giving up the unrealistic expectation that she can visit 12 patients and shifts her behaviour towards an action that neutralizes the stressor.

Coping serves two functions. First, problem-focused coping allows a person to manage or alter the stressful situation causing distress by using internal and external strategies such as altering cognition or acting to change the environment. Second, emotion-focused coping, allows individuals to regulate or reduce the emotional response associated with a stressful situation by changing the way they attend to the stressful situation, i.e., by vigilance or avoidance. In the case of meditation, emotion-focused coping efforts are directed inward to change the meaning of the event or to increase the understanding of the event (Lazarus & Folkman, 1984). The meditation participant, in changing the meaning or increasing the understanding of an event, mitigates the experience of stress even though the actual conditions of the situation have not changed (Lazarus, 1993).

1.4.3. Resources

According to Lazarus and Folkman (1984), coping is determined by a person’s primary and secondary cognitive appraisal of a situation, as well as their immediate available resources.
Resources are defined as “some thing a person readily draws upon... in order to cope ... and mediate stress” (p. 158). Lazarus and Folkman categorize positive beliefs, existential beliefs about God or some natural order of the universe, as a psychological resource (See Figure 1). Existential beliefs or inner resources, such as faith in God, Spirit, Ultimate Other, fate, or some natural order in the universe are general beliefs that assist people to create meaning out of life, and maintain hope, even in the face of traumatic experiences (Lazarus & Folkman). An inner resource, such as belief or faith in God, Ultimate Other or some natural order in the universe, can assist a person to sustain coping efforts and may further assist a person to perceive a higher purpose and, therefore, to persevere even if the actual conditions of the stressful situation remain unchanged (Coleman & Holzemer, 1999). Therefore, according to Lazarus and Folkman (1984), an inner psychological resource can mitigate the stress process thereby influencing the extent to which primary appraisal of harm/loss, threat, or challenge will be experienced.

Researchers promote meditation training as a technique that may strengthen their connection to their inner resource by virtue of accessing guidance from Ultimate Other/God/Source of all Love. By accessing regularly their connection to Ultimate Other/God/Source of all Love, they may increase their self-awareness of what they are experiencing, feeling, thinking, or how they are responding in the moment with the stressful situation. This increase awareness provides a conscious perspective, new information that may alter their appraisal of stress to a challenge as opposed to a threat, thus alleviating stress symptoms such as anxiety, fatigue and reduced spiritual well-being (Astin, 1997; Kabat-Zinn, 1990; Murphy, 1983; Shapiro, Schwartz, & Bonner, 1998; Tsai & Crockett, 1993).
1.4.3.1. Meditation and Transactional Model of Stress Appraisal and Coping

Lazarus and Folkman’s (1984) Transactional Model of Stress Appraisal and Coping theoretically explains how the regular practice of meditation may assist participants in accessing and strengthening their inner resources (i.e., connection to Ultimate Other/God/Source of all Love) and abilities to be receptive to their internal guidance. Being receptive to their internal guidance may change the meaning and understanding of a stressful event, through increased self-awareness, to transform their appraisal of a stressful situation from a threat to a challenge (Astin, 1997; Kabat-Zinn, 1990; Randolph, Price, & Collins, 1986; Shapiro, Schwartz, & Bonner, 1998; Fitzgerald, 1989). Regular practice of meditation may assist a person to move from a stress-induced habitual reaction to a more positive position of being able to take action to neutralize stressful situations (Kabat-Zinn, 1971). Accessing internal resources which can increase self-awareness can influence how individuals discern their relationship with the stressful situation so they can understand what they are experiencing in the moment. Meditation has the potential to connect the participants to their Ultimate Other/God/Source of all Love and so they can be receptive to valuable personal information that may influence their appraisal of a stressful situation to being a challenge (Kabat-Zinn). By being consciously receptive (i.e., listening) to the guidance of an individual’s Spirit or to an interconnectedness to the Ultimate Other/God/Source of all Love, the individual may clearly see or feel what may not have been consciously realized before (Vaughan, 1995). Nurses in home care environments may, therefore, benefit from the use of meditation to access inner resources that can positively change their appraisal of stressful situations and to protect themselves from the long-term effects of stress.
1.4.3.1.1. Shifts in Nurses' Appraisal of Work Environments

Through the practice of meditation, nurses can access their inner resources and may change their appraisals of stressful work environments from a threat to a challenge. If they appraise the stressful work environment as a challenge, they may be able to consciously choose different actions instead of responding in habitual re-actions (Bruce et al., 2002; Tsai & Crockett, 1993). Responding to a challenge mitigates the stress process and reduces symptoms of stress, namely anxiety, fatigue and decreased spiritual well-being (Astin, 1997; Shapiro, Schwartz, Bonner, 1998; Tsai & Crockett).

The theoretical framework suggests that some people may experience less stress than others because of their appraisal of their situations. Individuals' thought patterns, in terms of changing meaning or understanding of an event, has a profound effect on their appraisal of stressors in their lives (Lazarus & Folkman, 1984; Folkman & Moskowitz, 2000; Furnham, 1997; Kabat-Zinn, 1990; Mikhail, 1981; Richards & Folkman, 2000). These changes in the meaning or understanding of an event interact with their inner resources to affect how individuals respond to stressors. This, in turn, influences their choices and abilities to make changes to support or hinder their health (Kabat-Zinn, 1990; Goodwin, 1987). In other words, the stressful event itself does not cause distress, but the views or appraisals of an event by individuals influences their reactions to the stressor in a manner that might precipitate the stress response (Ivancevich & Matteson, 1988).

The theoretical framework would incorporate meditation as an activity which changes the meaning or understanding of an event, increases access to their inner resource (Ultimate Other/God/Source of all Love), and increases the likelihood of noting early signs of physical, psychological, emotional, and spiritual effects of stress, such as anxiety, fatigue and reduced
Awareness of these factors can influence individuals' perceptions or appraisals of their relationship to stressful situations so that they can appraise them as challenges, as opposed to threats. Perceiving situations as challenges opens up individuals to different choices or actions. The first chapter has provided the background to the problem, significance, problem statement, statement of purpose, and theoretical framework. The second chapter presents an analysis and synthesis of the work stress literature.
CHAPTER TWO: LITERATURE REVIEW

In this chapter, the literature on work stress is summarized and synthesized to reflect the state of the science. To present the literature in context, work stress is discussed in four sections. The first section defines the concept of work stress, and describes its relation to the stress and coping theory, and general symptoms of work stress. The sub-sections of that section discuss anxiety, fatigue, and reduced spiritual well-being. In particular, reduced spiritual well-being as a symptom of work stress will be discussed, as well as the approaches to reduce work stress. The second section delineates work stress in the field of nursing and symptoms of work stress for nurses. The third section reviews the technique of meditation, and illustrates how varying forms of meditation such as Transcendental Meditation and Mindfulness Meditation reduce work stress. The remaining sub-sections investigate the use of meditation to reduce nurses' work stress and describe Level I Training In Power (TIP) meditation as a potential approach to assist nurses in managing work stress. This chapter concludes with a discussion of using Level I TIP meditation as an intervention technique to assist the home care nurses to reduce work stress and to improve their quality of life.

2.1. Work Stress

Work stress is defined as a person's psychological and physical response to stressor conditions that is a consequence of any action, situation, or event, perceived to exceed the resources of a person, which results in an appraisal of threat or harm within the work environment (Lazarus & Folkman, 1984; Matteson & Ivancevich, 1987). Work stress has been conceptualized as a negative consequence of challenging organizational settings, which is experienced at an individual level (Matteson & Ivancevich). To understand the concept of work stress, the concept of stress must be discussed. The concept of stress was originally borrowed
from the field of physics and applied to human subjects by Selye (Mason, 1975). Selye (1956) studied stress as an adaptive physiological response of the body to protect itself from outside and environmental stressors. Selye defined stress as a specific syndrome that consisted of changes caused by events which were interpreted as threatening to an individual. Stress has also been viewed by others as a common response to outside stressors, which threatens the balance of an individual and leads to physiological and behavioural responses ending in exhaustion (Hobfoll, 1989).

Stress has been investigated within a homeostatic model where it is defined as a state of disharmony or imbalance (Chrousos & Gold, 1992; Hobfoll, 1989). Disharmony of an organism exists when its homeostasis or equilibrium is threatened by intrinsic or extrinsic disturbing forces that alter the organism’s balance (Chrousos & Gold; Hobfoll). Chrousos and Gold equate the state of balance and harmony to health, whereas illness or disease is equated to imbalance or disharmony. The work stress literature regards any imbalance between perceived demands and perceived ability to meet these demands as unsuccessful coping (Lee & Wang, 2002). Unsuccessful coping results in symptoms of stress, reduced health, and disease; whereas successful coping can address imbalance (Chrousos & Gold; Lee & Wang).

The concept of work stress has been described in relation to healthy working populations for almost 75 years, since the First World War (Ream & Richardson, 1996). Research in work stress has been ongoing for over 20 years. Numerous books have been written (Beehr & Bhagat, 1985; Bond, 1986; Handy, 1990; Jacobson & McGrath, 1983; Long & Kahn, 1993; Matteson & Ivancevich, 1987; Quick, Murphy, & Hurrell, 1992) and journals have been developed that are devoted to occupational stress research (for example, Work & Stress, Journal of Organizational Behaviour).
Research indicates that stress in the work place has contributed to organizational inefficiency, high staff turnover, illness and injury resulting in absenteeism, decreased quality of life, decreased quality of patient care, decreased job satisfaction, and increased costs of health care (AbuAlRub, 2004; Bourbonnais et al., 1998). The costs associated with work stress are of great concern since research reports claim that stress-related illnesses cost approximately $13,000 a year for every employee across any profession (Bruhn, Chesney, & Salcido, 1995). In 1999, Ontario hospital data indicates $39,000,000 was spent on sick time for nurses alone (Shamian et al, 2001). More recently, Vancouver Coastal Health Authority reported that time lost due to illness cost an estimated $30,000,000 in 2001 (VCHA, 2003).

2.1.1. Work Stress and Stress and Coping Theory

Within Lazarus and Folkman’s (1984) Transactional Stress and Coping Theory, work stress is conceptualized as a process that involves a transaction between individuals and their work environment, wherein the effects of work stress on the individuals' emotions and behaviour are influenced by their appraisal of the stressful situation and their coping skills to address the situation. According to Lazarus and Folkman, individuals' experience of stress is influenced by their past experience, coping skills, and perceptions. Thus, employees use problem-focused and emotion-focused coping. Problem-focused coping is used by the employee to manage or alter the stressful situation. Alternatively, emotion-focused coping is used to regulate or reduce the emotional response by using mechanisms to change the way a person attends to the stressful situation. i.e., by avoidance, changing the meaning, or increasing the understanding of the event thereby mitigating the experience of stress (Lazarus & Folkman, 1984; Lazarus, 1993).
2.1.2. Symptoms of Work Stress

Work stress has serious negative effects on the functioning and productivity of workers. It affects employees physically, emotionally, cognitively, and socially (Fisher & Abrahamson, 2002). Researchers have reported relationships between work stress and physical stress symptoms that include cardiovascular disease, gastrointestinal problems, increased risk of cancer, decreased immune system functioning, hypertension, elevated serum cholesterol, fatigue, and sleep difficulties (Beehr & Bhagat, 1985; Fisher & Abrahamson, 2002; Matteson & Ivancevich, 1987). Reports of emotional stress symptoms of work stress have included depression, anxiety, irritability, dissatisfaction with job, and boredom (Fisher & Abrahamson, 2002). Indications of cognitive stress symptoms include difficulties with concentration, decreased attention span, lack of creativity, and lack of enthusiasm (Fisher & Abrahamson; Matteson & Ivancevich; Bergen & Fisher, 2003). If symptoms of work stress are not addressed, the result may be burnout, a term that refers to a state of physical, emotional, and mental exhaustion (Fisher & Abrahamson; Shamian et al., 2004). Two of the most common acute symptoms of work stress that have been used in several work stress studies are anxiety and fatigue (Baumann et al., 2001, Carrington et al., 1980; Healy & McKay, 1999; Maclellan, 1990a; McLeroy et al.; Reynolds et al., 1993; Spence Laschinger et al., 2001; Zboril-Benson, 2002).

2.1.2.1. Anxiety

The concept of anxiety has been studied as a symptom of work stress since the second world war (Grinker, 1966). Grinker observed that persons who experienced mild levels of anxiety during stressful situations were engaged in more efficient activity. On the other hand, during times of extreme stress when individuals experienced excessive amounts of anxiety, they regressed both psychologically and physiologically (Grinker). Excessive anxiety levels
produced perceptual inefficiency, poor work performance, and a tendency to overreact in non-threatening situations (Grinker). The concept of anxiety has been commonly associated with work stress as an indicator of stress and as a precursor for further stress responses (Fisher & Abrahamson, 2002; Spielberger, 1966). Furthermore, anxiety measures are often used in stress reduction research as a measurable symptom of stress (Spielberger, 1972).

Lazarus and Folkman (1984) described anxiety as a signal of danger that triggers defense mechanisms or modes of coping. Anxiety has also been characterized as a subjective feeling of apprehension, nervousness, and worry or a perception of situations as threatening or dangerous to a person's well-being (Spielberger, 1972; 1983). While mild levels of anxiety may increase productivity, higher levels of anxiety may interfere with cognitive functioning and concentration (Spielberger, 1972). Fisher and Abrahamson (2002) reported that high levels of anxiety could be debilitating and put a person at greater risk for clinical depression and negative health effects such as muscle tension, sleep disturbance, decreased concentration, irritability and fatigue. Of these negative health effects of high stress levels, fatigue is one of the most common symptom of work stress used as a variable to measure work stress levels.

### 2.1.2.2. Fatigue

The concept of fatigue in healthy working populations has been studied for almost 75 years (Fisher & Abrahamson, 2002). Researchers have regarded fatigue as interfering with the efficiency and productivity of the industrial work force (Aaronson et al., 1999). Prolonged fatigue has affected employees' abilities to function in work settings and contributed to absenteeism and work disability (Bultmann, Kant, van Amelsvoort, van den Brandt, & Kasl, 2001). Factors that have increased the risk of fatigue are poor physical health, abnormal
psychiatric functioning, negative coping strategies, illness beliefs, lack of energy and vitality, and social and work role factors (Hardy, Shapiro & Borrill, 1997).

Fatigue has frequently been conceptualized as an outcome variable of work stress (Fisher & Abrahamson, 2002) and included as a dimension of stress in several instruments that have measured symptoms of stress such as the Center for Management Research Questionnaire that measures sleep and fatigue (Alexander et al., 1993); the Performance Index that measures level of physical energy (Peters, Benson, & Porter, 1977); the Profile of Mood States (POMS) that measures fatigue-inertia affective states (Rosenzweig, Reibel, Greeson, & Brainard, 2003); the Health Status Profile - SF-36 that measures energy and vitality (Bruce et al., 2002; Hardy et al., 1997; Ware & Sherbourne, 1992); and the Work Environment and Job Stress Survey that measures work energy (Murphy, 1983). Reductions in scores of fatigue have been used in these studies to indicate a decrease in stress levels.

2.1.2.3. Reduced Spiritual Well-being as a Symptom of Work Stress.

Recently, some theoretical work has explored another symptom of work stress, reduced spiritual well-being. To date, only theoretical discussions of the spiritual symptomatology of work stress have been reported (Vaughan, 1995), though the concept of spiritual well-being has been clearly identified as having indirect effects on reducing symptoms of stress (Astin, 1997; Chiu et al., 2002; Marsh et al., 1999; Shapiro et al., 1998). The majority of the work stress literature identifies spiritual well-being as having a mediating or a direct effect on reducing symptoms of stress (Astin, 1997; Chiu et al., 2002; Marsh, Beard, & Adams, 1999; Shapiro, Schwartz, & Bonner, 1998). Nevertheless, Vaughan, one of the pioneers in transpersonal psychology, has observed that one of the indicators or symptoms of work stress (burnout) is a state of “spiritual aridity” and that “effective treatment may call for spiritual renewal or
awakening of the soul" (p. 112). If individuals perceive the work environment as threatening or harmful to their well-being, their presence at work may lead to the deterioration of their physical, emotional, mental, and spiritual health (Astin; Shapiro, Schwartz, & Bonner; West, Horan, & Games, 1984).

A review of the work stress and health promotion literature also indicated a relationship between spiritual well-being and work stress. The term *spiritual well-being* is conceptualized in terms of a *connectedness* (Astin, 1997; Hawks et al., 1995; Waite, Hawks, & Gast, 1999), or a *relationship* with a Higher Power (Hawks et al.; Shapiro et al., 1998), Source (Vaughan, 1995) or Ultimate Other (Hungelmann, Kenkel-Rossi, Klassen, & Stollenwerk, 1989, Marsh et al., 1999). Lazarus and Folkman (1984) emphasized the importance of individuals' *inner resources*, such as belief in a Higher Power, Source of all Love, God, or Ultimate Other, to affect their appraisal or perception of the work environment when managing work stress. The concept of spiritual well-being refers to a person's *connection* to a Higher Power, Source, God, or Ultimate Other (Burkhardt, 1989; Dyson, Cobb, Forman, 1997; Reed, 1992; Vaughan). Having a connection to one's spirituality has the potential to alter a person's appraisal by having an internal resource to call upon for guidance, direction, and support (Fehring, Miller, & Shaw, 1997). Furthermore, it has been theorized that a person undergoing a stress reaction may experience spiritual detachment from Spirit, Source, God or Ultimate Other (Arnold, 1989; Vaughan; Wright, 2003). Thus, spiritual detachment or disconnection produces a symptom of work stress termed, *reduced spiritual well-being*. Conversely, a person with increased spiritual well-being would be likely to appraise a situation as being a challenge and, in turn, be less likely to manifest adverse reactions of stress (Astin; Shapiro et al.).
Vaughan (1995) stated that when individuals identify with their Spirit, they are drawn first into relationship and ultimately into union with Spirit and when a person's Spirit is separated from its Source "... it suffers the pain of separation" which reflects a state of "spiritual aridity" (p. 113). Vaughan theorizes that "spiritual aridity" is a symptom of work stress, which can manifest as reduced spiritual well-being. Theoretically, as a result of exposure to ongoing, high levels of work stress, a person could experience a separation (disconnectedness) from the Source of all Love, God, or Ultimate Other, and reveal the symptom of work stress described as spiritual aridity (reduced spiritual well-being) (Vaughan).

In support of this theory, Arnold (1989) wrote that, when people experience stress, the "human spirit becomes detached from the temporal essence of the body, mind, and emotions, each acting independently of the other" ...resulting in an "imbalance and erosion of the Spirit embodied in the stress reaction" (p. 324). Both Vaughan (1995) and Arnold described the negative consequence of work stress in relation to a reduction of spiritual well-being as "spiritual aridity" or "spiritual detachment," respectively. Reduced spiritual well-being can be conceptualized as a detachment or disconnectedness to the Source, God, or Ultimate Other which may require spiritual interventions such as meditation, to re-awaken or re-connect individuals to increased spiritual well-being, thus reducing a symptom of stress (Vaughan; Arnold).

### 2.1.3. Approaches to Reducing Work Stress

Murphy (1996) conducted a critical review of the literature on the health effects of worksite stress management interventions from 1974-1994. The interventions included muscle relaxation, biofeedback, meditation, cognitive and behavioural skills training, and combinations of these methods. All of the stress interventions were effective in decreasing work stress. Of those studies, six used meditation as a stress reduction intervention (Murphy). Meditation
produced the most consistent results in decreasing indicators of stress. The studies demonstrated that regular meditators had lower post-training levels of state and trait anxiety, as well as improved coping ability and task performance (Alexander et al., 1993; Gray-Toft, 1980; Larsson, 1987; Peters, Benson, & Peters, 1977; Peters, Benson & Porter, 1977). Despite the small number of studies and the use of different meditation techniques, Murphy was struck by the significant decrease in all measures of stress levels with the use of meditation and, thus, encouraged the use of meditation as an inexpensive intervention that could be easily adapted and learned at the worksite. Murphy (1996) argued that meditation is ideal as a worksite stress management intervention.

McLeroy, Green, Mullen, and Foshee (1984) conducted a review of 19 research studies from 1980-1983 that assessed the effects of health promotion in worksites. All but one study used individually-oriented interventions for stress reduction and management. Fifteen of the studies used relaxation techniques that included meditation combined with other treatment protocols such as stress education, coping and cognitive restructuring, and biofeedback. The researchers reported that all quasi-experimental evaluations of worksite stress reduction programs (pre and post-treatment measures) demonstrated positive effects for stress management. In particular, the data suggested that stress reduction worksite programs using relaxation techniques, including meditation, were effective in reducing both physiological and psychological indicators of stress, such as muscle tension, use of medications, anxiety, fatigue, use of health services, and blood pressure. Unfortunately, the studies indicated a decrease in program effects across a 3-6 month follow-up which was attributed to the subjects' failure to practice the stress reduction skills. McLeroy et al. suggested that stress programs in the worksite
incorporate components to encourage maintenance of skills to sustain reduced stress outcomes across time.

2.1.4. Work Stress in Nursing

A national survey of healthcare workers reported nurses have the highest psychological demands of work, heaviest work load, and highest occupational stress levels when compared with other healthcare professionals in Canada (Sullivan, Kerr, & Ibrahim, 1999). Nurses currently experience physical demands at work such as high work load, inadequate staffing, irregular scheduling, insufficient time to complete patient care, and lack of support staff (Baumann et al., 2001; Healy & McKay, 1999; Maclellan, 1990a; Reynolds, Taylor, & Shapiro, 1993; Shamian et al., 2004; Spence Laschinger et al., 2001; Zboril-Benson, 2002). The literature indicates that nurses have been exposed to ongoing work stressors for the last ten years and that nurses' well-being has been negatively affected. As a result, nurses have taken more sick leave, experienced increased injury, and have often left the nursing profession entirely or opted for early retirement (Akyeampong & Usalcas, 1998; Baumann et al.; Bergen & Fisher, 2003; CNA, 2003; Healy & McKay; Spence Laschinger et al., 2001; Zboril-Benson).

According to Beehr and Bhagat (1985) three factors determine if the stressor condition is placing significant demands on an employee to result in stress: importance, uncertainty and, duration. Importance refers to the individual’s perception of having a large positive or aversive effect on their outcomes. For example, individuals may perceive losing their life due to a terminal illness as being more important than losing a job. Uncertainty refers to a lack of clarity about what will happen in a given situation. The more importance and uncertainty associated with an event, the greater is the stress. Duration relates to the length of time attributed to dealing with, or the time used to resolve, a stressful situation (Beehr and Bhagat). When employees are
exposed to prolonged duration of stressful situations even the most fit employees will become exhausted (Matteson & Ivancevich, 1987). For example, the shortage of relief staff nurses and the uncertainty of when more relief staff will be available might be more stressful to nurses than if they knew for certain whether relief staff will be available the next day. In the latter situation, a nurse could make plans to manage her patient load knowing that the added demand is for a short duration. Knowing that help would be available, a nurse could understand that the stress has an end-point. In a situation where the nurse has been left with uncertainty, imagining that the added demand would be for an indefinite period of time could have more importance, which would lead to increased stress.

2.1.4.1. Symptoms of Work Stress in Nursing

Literature that examines nursing work stress and its relationship to employee health has shown that job stress results in a variety of physiological, psychological, and spiritual consequences for nursing employees (Marsh, Beard, & Adams, 1999; Matteson & Ivancevich, 1987; McLeroy et al., 1984; Murphy, 1996; Vaughan, 1995). The realities of the health of nursing populations fit with those findings. Two of the most common, acute symptoms of work stress that have been apparent in nurses are anxiety and fatigue (Baumann et al., 2001, Carrington et al., 1980; Healy & McKay, 1999; Maclellan, 1990a; McLeroy et al.; Reynolds et al., 1993; Spence Laschinger et al., 2001; Zboril-Benson, 2002).

Researchers have reported high levels of anxiety in the nursing population and have used anxiety as a outcome variable to measure the effects of stress reduction interventions (Bruce et al., 2002; Freedy & Hobfoll, 1994; Godbey & Courage, 1994; Johansson, 1991; Gray-Toft, 1980; McLeroy et al., 1984; Murphy, 1983; Randolph et al., 1986; Tsai & Crockett, 1993; Tyler, Carroll, & Cunningham, 1991; Tyler & Cushway, 1992; von Baeyer & Krause, 1983; West,
Horan & Games, 1984). Many nurses have been exposed to unrelenting stressors in their work environment that may or often give rise to ongoing states of stress and anxiety (Fisher & Abrahamson, 2002). Nurses could utilize stress reduction interventions in their daily clinical practice to address high levels of anxiety before any debilitating, negative health effects developed. Depending on the intensity and duration of the threat causing ongoing demands on a person's physiological state, other symptoms of fatigue or lack of vitality have also developed (Spielberger, 1985).

Given that nurses have been exposed to ongoing stressors in their work environment, it is reasonable to hypothesize that the constant levels of work stress would cause a heightened stimulation to their nervous systems, causing fatigue or lack of vitality (Spielberger, 1985). Energy levels and vitality, as dimensions of general health, are directly affected by a person's work stress (Hardy et al., 1997). Research about fatigue within healthcare professions has reported that nurses, compared with other occupations, endured the highest levels of fatigability (onset of symptoms after exertion) (Hardy et al.). Hardy et al.'s study on nurses' work stress reported that high work demands and lack of support were associated with fatigue and high levels of psychological stress (i.e., anxiety). The most frequently used measure of fatigue in the nursing population is the Health Status Profile (SF-36V2) scale (Bruce et al., 2002; Hardy et al.)

Recently, the concept of reduced spiritual well-being as a symptom of work stress has been theorized, but not yet examined, as an outcome variable of work stress for nurses (Astin, 1997; Chiu et al., 2002; Marsh et al., 1999; Shapiro et al., 1998). In a study by Marsh et al. the importance of spiritual well-being in the reduction of work stress within a nursing population was investigated. The purpose of the study was to confirm the mediational (indirect) effect of spiritual well-being and hardiness on job stress and burnout among nurses. The study tested
Neuman's Systems Model (1995), which views the total person as an integrated composite of mind, body, and spirit, with spirit consciously or unconsciously controlling the mind.

Using Neuman's Systems Model, Marsh et al. (1999) hypothesized that spiritual well-being would decrease burnout among nurses. The study was a non-experimental, model-testing design consisting of a sample of 208 volunteer registered nurses. All subjects completed the Stress Diagnostic Survey (measure of job stress); the JAREL Spiritual Well-Being Scale (measure of spiritual well-being); the Personal Views Survey (measure of hardiness); and the Maslach Burnout Inventory (measure of burnout) (Marsh et al.). There was a correlation between higher nurses' spiritual well-being, and lower scores of burnout. Neuman's model fit the observed data and the results supported the hypothesis that spiritual well-being is important in decreasing job stress and burnout in nurses. The authors recommended that spiritual well-being should be considered as a factor in reducing burnout and job stress in nursing populations (Marsh et al.). Preliminary research on work stress reduction found a correlation between the practice of meditation and increased spiritual well-being (Astin, 1997; Shapiro et al, 1998).

2.1.5. Review of Meditation and Effects on School and Work Stress

Dr. Kabat-Zinn (1990), highlighted meditation as an intervention that might strengthen a person’s inner resources. Kabat-Zinn described meditation as a door into direct experiences of wholeness, connectedness, and interconnectedness with self, others and a Higher Power. The awareness of feeling whole could serve as a resource that might influence a person’s appraisal of a stressful experience, thus mediating symptoms of stress (Kabat-Zinn). Researchers in the stress and coping literature have suggested that individual level interventions, such as meditation, are important approaches to reduce the experience of work stress (Astin, 1997; Kabat-Zinn, 1990; Lazarus & Folkman, 1984; Shapiro et al, 1998). Through the enhancement of individuals'
internal resources, such as spiritual well-being, meditation practitioners would decrease their experience of adverse effects of prolonged exposure to occupational stress (Astin; Kabat-Zinn; Lazarus & Folkman; Shapiro et al.).

To determine the status of the research on work stress and meditation, a comprehensive literature search was done using computer data bases such as Medline, Pubmed, CINHAL, EBSCOhost, PSYCHInfo, as well as a manual search through journals associated with psychology, counseling psychology, psychiatry, nursing, medicine, and reference lists from related articles. The search involved key words including meditation, stress, stress reduction, stress management, occupational stress, work stress, and burnout. The search resulted in a small number (10 articles) of studies published between 1977 and 2004 that used some form of meditation as a stress management intervention in workplace or health care settings. Studies that were reviewed met the criteria defined below. Only articles published in peer-reviewed journals in the English language were examined. The inclusion criteria for the literature review were: (a) an acceptable level of methodological rigor; (b) a statement of the research purpose, questions, objectives, method, analysis and results; (c) inclusion of a demographic profile of sample groups; (d) and linkage of meditation to stress reduction and management in a work site or health care setting. Excluded from the literature review were unpublished data and clinical sample populations.

2.1.6. Conceptual Definition of Meditation

According to work stress researchers, (Matteson & Ivancevich, 1987), a multitude of meditational practices have been used. Passive forms of meditation, include contemplation, praying, listening to music or watching a sunset; whereas, active forms of meditation include yoga, walking, exercise, or in the case of Level 1 TIP meditation, being visually active within the
meditation, moving from one image to another. Any activity that primarily facilitates a quieting of the mind or redirects the mental focus from one that is external to one that is internal can be considered meditation (Matteson & Ivancevich). Meditation is a generic name that has been given to introspective approaches of many Eastern religions and is similar to prayer and devotion in the Judeo-Christian practices (Lichstein, 1988).

The practice of meditation dates back approximately 2,500-3,000 years to Hinduism in India (Bishop, 2002; Lichstein, 1988; Walsh, 1984). In the East, meditation was used to achieve contemplation and wisdom, altered states of consciousness, and relaxation (Lichstein). Research findings on the use of meditation in Western cultures have indicated that meditation practice, thought to come from Eastern traditions, is often perceived to be in conflict with Christian religious beliefs (Schopen & Freeman, 1992; Shapiro, 1994). Ironically, meditational practice in Western society was introduced as a form of prayer (Brown-Saltzman, 1997) and used in the early Christian church by the “Desert Fathers” who silently repeated the “kyrie eleison” until they achieved a state of “nomindedness.” As well, Christian mystics, such as Teresa of Avila, Bernard of Clairvoux, Catherine of Siena, Francis of Assisi, and John of the Cross, were said to have practiced some form of Christian meditation involving the repetition of the word God, or Love or repeating a prayer to Jesus Christ (Schopen & Freeman, 1992).

By separating meditation practice from its prayerful roots, Western science has studied its effects as a generic, replicable technique. Meditation has been used, and its effects studied, in the context of scientific and psychological frameworks (Shapiro, 1994). The literature on work stress has indicated that two types of meditation have been predominately used as stress reduction interventions: Transcendental Meditation (TM) or Dr. Benson’s (1992) secular form of TM called Relaxation One Meditation (ROM) to induce a relaxation response, and Mindfulness
Meditation (MM), within a stress reduction program called Mindfulness-Based Stress Reduction (MBSR), developed by Dr. Kabat-Zinn (Bishop, 2002; Grossman, Niemann, Schmidt, Walach, 2004; Kabat-Zinn, 1990; McLeroy et al., 1984; Murphy, 1996). To understand the concept of meditational practice in the stress literature, it is useful to describe these common techniques of meditation.

2.1.6.1. Transcendental Meditation (TM)

One of the more popular forms of meditation used in work site research has been Transcendental Meditation (TM) (Murphy, 1996). TM is a mental technique developed by Maharishi Mahesh Yogi that requires the participant to maintain a passive mental attitude while concentrating on a single object like the breath or repeating a word or a sound (mantra) (Orme-Johnson et al., 2002). Focusing on a fixed object or breath quiets the mind and brings back the wandering attention to focus on the chosen object or breath to induce altered states of consciousness (Bogart, 1991; Harris, Thorensen, McCullough, & Larson, 1999; Lichstein, 1988). The attempt by researchers to replicate the technique has led them to focus on the content of meditation technique, which has moved it away from its historical, religious or philosophical context (Shapiro, 1994). Therefore, during the 1950-60's a secular version of TM, called Respiratory One Meditation (ROM), was developed by Dr. Herbert Benson and has been used in research studies to induce a relaxation response to correlate the practice of meditation (use of the mind) with improved health outcomes (physical connection) (Ameling, 2000; Benson & Stuart, 1992; Kass et al., 1991; Murphy, 1996).

From Benson’s mind and body connection theory, a new era of scientific research developed in favor of a more holistic, phenomenological approach to meditation (Benson & Stuart, 1992). In the last 25 years, some research has demonstrated that meditation increases the
interconnectedness between the mind and body. Meditation has been explored as an intervention to mediate stress by eliciting a relaxation response resulting in the absence of the symptoms of stress (Grossman, Niemann, Schmidt, Walach, 2004; Kutz, Borysenko, & Benson, 1985; Lepuschitz & Hartman, 1996; Kelly, 1996; Perez-De-Albeniz, & Holmes, 2000; Teasdale et al., 2000; Kabat-Zinn, Lipworth, & Burney, 1985; Speca et al., 2000; Bishop, 2002; Shapiro, 1992; Roth & Creaser, 1997; Tsai & Crockett, 1993). Eliciting the relaxation response through focused-breathing meditation was found to increase the practitioner’s awareness of tensions in the mind and body (Benson & Stuart). Increased awareness of tensions within individuals could then lead them to learn to control their physical reaction to stress and to release tension (Benson & Stuart). Meditation, therefore, has served as a centering device that cultivated the ability to relax and slow down, thus relieving tension and anxiety. Individuals can appraise their situation from a place of clarity and calm, prior to strategizing a plan of action to alleviate the stressful situation. Early quantitative studies in stress reduction, with worksite volunteers, laid the foundation for examining the use of meditation to achieve significant decreased symptoms of work stress (Peters, Benson, and Porter, 1977).

Peters, Benson, and Porter (1977) documented the effects of TM on physical energy levels of employees (N=140), within a manufacturing company. All employees were randomly assigned to four groups. Groups A and B were asked to take two, 15-minute rest breaks daily, while group C and D took no special relaxation breaks to control for the potential effects of repeated measurements, special attention, and taking time to relax each day. Treatment group A practiced the meditation while group B sat quietly, and volunteer group C received no instructions. A fourth group of non-volunteers, group D, served as a control group that received no instructions. Using five self-report measures that included a Symptoms Index, an Illness
Index, a Performance Index (measuring the level of physical energy), a Sociability-Satisfaction Index, and a Happiness-Unhappiness Index, (Peters, Benson, & Porter) the responses of participants were gathered. After eight weeks, the researchers reported the daily use of TM (relaxation technique) by the meditation intervention group resulted in fewer symptoms of anxiety, fewer illness days, increased physical energy (p<.01), and better employee performance (p<.05) when compared with controls. Peters, Benson, and Porter's study indicated that TM utilized in the work setting could serve as a practical and inexpensive method for participants to cope with everyday stresses at a manufacturing worksite.

Carrington et al. (1980) built on the study by Peters, Benson, and Porter (1977), by comparing the effects of three different meditation techniques: Progressive Muscle Relaxation (PMR), Benson's Respiratory One Meditation (ROM), and a Clinically Standardized Meditation (CSM) on the stress levels of employees of a telephone company (N=154). The employees were randomly assigned to two groups: treatment and no treatment (control) group. Baseline measures of Cattell's 16 Personality Factor Inventory (16 PF), Derogatis' SCL-90R Distress Inventory, the General Severity Index (GSI), and the Positive Symptom Total (PST) (Carrington et al.) were taken at pre-intervention, and 6-weeks and 5.5-months post-intervention. At six-weeks post-intervention, the investigators reported a reduction of symptoms in the CSM intervention group, compared to the ROM, PMR, and control groups. At 5.5-months, the meditation groups reported significant decreases in symptoms of stress, such as depression, somatization, hostility, interpersonal sensitivity, and anxiety (p<.001), as measured by the SCL-90R when compared with the PMR or control group. A comparison of the three meditation-relaxation groups revealed that the ROM and CSM subjects improved significantly more than the controls, according to the GSI (p< 0.05) and PST (p< 0.05) and symptoms scales of anxiety (p <
The PMR group, however, did not improve significantly compared to the control group. Carrington et al. recommended that meditation training can be used as a safe and inexpensive, non-invasive stress-management technique to prevent or treat stress symptoms in work settings.

Alexander et al. (1993) conducted a three-month prospective study evaluating the effects of the TM technique on stress reduction and employee health in two comparable automotive industry settings (N= 45). Employees at each site were self-selected into experimental or no-treatment control groups. Since no significant differences were present within each site or between sites, the data from both locations were combined in one overall analysis, to gain statistical power, and to compare results across sites. The findings demonstrated that regular use of TM significantly decreased symptoms of stress such as trait anxiety (p=.006) and fatigue levels of employees (p=.0025), as measured by the Center for Management Research Questionnaire (CMRQ), in comparison to the control group. The authors recommended that meditation in the workplace serve as a valuable approach to reduce symptoms of stress and enhance employees' inner resources in managing stress (Alexander et al.). The researchers suggested that meditation is easy to implement, is effective in reducing symptoms of stress, and has potential cost-savings as a result of the health benefits (Alexander et al.).

These three TM studies were conducted with some rigor, because they used pre and post-measures, treatment and control groups, and in some cases, tightly controlled designs. They supported meditation as an effective approach to significantly decrease symptoms of work stress, such as anxiety and fatigue. The researchers reported that the use of different meditation techniques, Clinically Standardized Meditation (CSM) and the Respiratory One Method, (ROM), significantly decreased symptoms of work stress compared to other techniques, namely, Progressive Muscle Relaxation (PMR).
2.1.6.2. Mindfulness Meditation (MM)

Unlike TM, where individuals maintain their concentration on the breath or a repetitive word (mantra), Buddhist Vipassana meditation, also known as Mindfulness Meditation (MM) or insight meditation, allows practitioners to focus alertly and freely observe their thoughts, images, and emotions that drift into the mind from a detached, non-judgemental position (Harris, Thorensen, McCullough, & Larson, 1999; Kabat-Zinn, 1990; Kutz, Borysenko, & Benson, 1985; Shapiro et al., 1998).

A secular form of MM was adapted and studied by Dr. Jon Kabat-Zinn (1990) over 20 years to reduce stress in clinical (having a medical diagnosis) and non-clinical (no medical diagnosis) populations by offering a stress reduction program. Kabat-Zinn used a program called Mindfulness-Based Stress Reduction (MBSR) that systematically trained participants in the use of mindfulness meditation. It is a self-regulatory approach to reduce stress and manage emotions (Kabat-Zinn; Bishop, 2002), with the underlying assumption that if we can change the way we see or appraise a situation then we can change the way we respond (Grossman, Niemann, Schmidt, & Waalach, 2004; Kabat-Zinn).

MM is a technique that can “cultivate a deeper understanding of and openness to spirituality” (Shapiro et al., 1998, p. 583). Moreover, being open to spirituality can assist the meditation participants to “acknowledge their thoughts...” and to “be open to view or appraise their stress as a challenge instead of a threat” (Shapiro et al., p. 595). Participants in MM have also used their increased awareness of self to attend to their body’s signs of stress such as anxiety and fatigue (Grossman, Niemann, Schmidt, & Waalach, 2004). MM can also counter-balance the effects of reduced spiritual well-being resulting from stress (Shapiro et al.). It has enabled
individuals to assess their response to situations and to strategize to manage the stressors (Bruce et al., 2002; Grossman, Niemann, Schmidt, & Waalach).

2.1.6.2.1. Mindfulness Meditation and Reduced School and Work Stress

To develop insight in the area of school and work stress and the promotion of spiritual well-being through meditation, researchers investigated the effects of MM on psychological symptoms of stress and spiritual well-being. Astin (1997) examined the effects of Mindfulness-Based Stress Reduction (MBSR) on stress levels and spiritual experiences of health care students in behavioural medicine (N=28). Subjects were randomly assigned to treatment and wait-list control groups. After eight weeks, the researchers compared the pre- and post-SCL-90-R scores and reported a significant decrease in anxiety levels (p<.02) in the experimental subjects compared to the wait-list control group. Astin also examined the relationship between spirituality, health, and well-being using the Index of Core Spiritual Experiences Measure (INSPIRIT). His study demonstrated significant increase of spiritual experiences (p<.03) in the treatment group compared to the wait-list control group. Although a significant increase was seen in the spiritual experience scores on the INSPIRIT measure, it did not correlate significantly with decreased symptomatology of stress. The results of the study suggest that the meditation-based stress reduction (MBSR) program is effective in decreasing psychological stress levels such as anxiety, and that spiritual well-being can be fostered (Astin).

In 1998, Shapiro, Schwartz, and Bonner examined the effects of the MBSR program on the stress levels and spirituality of medical and premedical students. Subjects were randomly assigned to matched intervention and wait-list control groups (N=78). The intervention group was divided into two classes. Participants in the intervention and wait-list control groups were given measures before and shortly after the seven week mindfulness-based intervention. The
results of the study showed significantly decreased state (p<.05) and trait (p<.002) anxiety levels (using Spielberger’s STAI measure of anxiety) in the intervention group compared with the wait-list control group. The intervention group also demonstrated higher scores in spirituality (p<.02), as indicated by the INSPIRIT measure. In contrast to Astin’s (1997) findings, this study found that higher scores in the INSPIRIT correlated positively with decreased state anxiety. The study findings suggested that MM training could be an effective health promotion intervention to reduce stress and anxiety in medical and premedical students and enhance spiritual well-being (Shapiro et al.).

More recently, Davidson et al. (2003) conducted a randomized, controlled trial on the effects of mindfulness-based stress reduction (MBSR) program on brain and immune function, which was applied in a work environment with healthy employees (N = 48). The researchers measured brain electrical activity (EEG and EOG eye movements) on all subjects before the MBSR 8-week course (Time 1) and immediately following (Time 2), and then 4 months following the course (Time 3). Of the (N = 48) subjects that were recruited in the study, only (N = 41) subjects completed some of the measures for at least two of the assessments. All of the subjects’ brain electrical activity was recorded prior to random assignment to intervention (N =25) and control groups (N=16). In addition, during the assessment, the EEG of each subject was recorded during a 1-minute period before and a 3-minute period after subjects wrote about one of the three most positive and negative experiences in their life. After each of the writing periods, the subjects were administered the Positive and Negative Affect Scale (PANAS) state and trait form, along with Spielberger’s State-Trait Anxiety Inventory (Davidson et al.). Also, blood was drawn from each subject at 3-5 weeks. All subjects were vaccinated with influenza vaccine at the end of 8 week meditation program, and then blood was drawn again at 8 to 9
weeks after vaccination to examine antibody titers in response to the vaccine. The wait-list control group was offered the 8-week MBSR program after the completion of the last assessment. The researchers used MANOVAs to analyze the differences between the meditation intervention and wait-list control groups at Time-1, Time-2 and Time-3 assessment periods.

The findings indicated that, based on the Speilberger State-Trait Anxiety Inventory, there was a significant reduction in anxiety for subjects in the meditation group from Time 1 to Time 2 \[ t (20) = 2.86, p < .01 \]. The Positive and Negative Affect Scale (PANAS) showed no significant differences in the Group x Time interaction. The results of the brain electrical activity indicated no group differences at baseline (Time 1) for any region of the brain. There was a significant Group x Time interaction \[ F (1,37) = 5.14, p < .05 \] for the Time 1-3 comparison of brain electrical activity and a marginally significant Group x Time interaction \[ F (91,33) = 2.82, p = .10 \] for Time 1 – Time 2 comparison. At Time 2 and Time 3, meditators showed significantly greater relative left-sided activation compared with the wait-list control group \( p < .05 \) for each time period. The significant increase in left-sided anterior activation in meditators compared with non-meditators indicated a brain pattern associated with both reductions in anxiety and negative affect, as well as increases in dispositional positive affect. Research has suggested that the neural basis of emotion regulation of left-sided anterior activation is associated with more adaptive responding to negative and stressful events and faster recovery after a negative provocation (Davidson et al., 2003).

The results of the vivo measure of immune function indicated that meditators displayed a significantly greater rise in antibody titers from the 4th to 8th week blood draw compared with the controls \[ t (33) = 2.05, p < .05 \]. The subjects in the meditation group, who showed a greater increase in left-sided anterior activation from Time 1 to Time 2, also displayed a significant
correlation between the increase in brain activity and the rise in antibody titers ($r = .53, p < .05$) compared to a lack of significant relationship between these variables for subjects in the control group ($r = .26$). The findings of Davidson et al.’s study suggests, for the first time, that MBSR program decreased state-trait anxiety, increased left-sided activation (associated with positive affect) and increased immune function (rise in flu vaccine antibody titer), with healthy employees within a work environment.

The studies on mindfulness meditation done by Astin (1997), Shapiro et al. (1998), and Davidson et al. (2003) all demonstrated rigor by randomizing subjects into intervention and control groups, and using pre and post-measures of symptoms of stress. These designs increase confidence that meditation is effective in reducing symptoms of stress in students and working population. Furthermore, these studies demonstrated a relationship between increased spirituality and decreased symptoms of stress. The findings that meditation increased spirituality and decreased symptoms of stress indicate that further investigation of this relationship is necessary to build this area of knowledge.

Regardless of the form of meditation used in the studies, meditational practice assisted participants in changing their focus from external stimuli to internal thoughts, perceptions, and feelings (Bogart, 1991; Harris, Thorensen, McCullough, & Larson, 1999; Kabat-Zinn, 1990; Lichstein, 1988). This change of focus appeared to produce an altered state of awareness or consciousness as participants became more present with what they experienced in the moment within the body, mind, emotion, and spirit (Kabat-Zinn). The change of focus from the external to internal can open participants to alternative perceptions of the self or a different awareness, consciousness, and to a deeper awareness and understanding of self; thus meditation can provide a different way of thinking about their stressful situations (Shapiro et al., 1998). Meditation
appears to have been effective in decreasing school and work stress symptoms because it provided a technique for participants to appraise their stressful situations as a challenge rather than as a threat. This process has resulted in decreased symptoms of stress such as anxiety, fatigue, and reduced spiritual well-being (Astin, 1997; Kabat-Zinn, 1990; Shapiro et al., 1998).

Research on the stress reduction effects of meditation has also been investigated in health care workers. Work stress in nursing literature has identified meditation as an intervention that can assist nurses to decrease their symptoms of work stress (Murphy, 1996; Randolph et al., 1986; Tsai & Crockett, 1993).

2.1.7. Meditation and Reducing Work Stress in Nurses

Job stress can result in a variety of physiological, psychological, and spiritual consequences for health care workers, including nurses (Astin, 1997; Beddoe & Murphy, 2004; Murphy, 1996; Shapiro et al., 1998). Individual level interventions such as meditation can help nurses access their inner resources, change their appraisal, and reduce symptoms of work stress such as anxiety, fatigue and reduced spiritual well-being (Beddoe & Murphy; Murphy; Shapiro et al.). The following studies provide evidence to support the use of meditation as a stress reduction intervention within nursing populations.

In Randolph, Price, and Collins’ (1986) study, nurses (n=72) in three medical centers attended a burnout prevention training workshop. The workshop was designed for nurses as a stress reduction intervention that used meditation with cognitive materials. The nurses were grouped into a control or intervention group (the researchers did not specify if randomization was used), wherein each participant filled out self-report SCL-90R questionnaires pre- and post-intervention. When compared to the control group at six weeks post-intervention, the intervention group had a significant reduction in symptoms of stress such as depression,
somatization, obsessive-compulsive qualities, feelings of interpersonal inadequacy, and hostility. A reduction of anxiety, phobic behaviour, paranoid sensitivity, and psychoticism was also found, but the differences in these variables were not statistically significant. Although Randolph et al. (1986) claimed the two-day burnout prevention workshop significantly reduced stress-related symptoms in a nursing population, the degree to which the meditation component of the burnout prevention program contributed to the reduction of stress related symptoms is unknown. Future studies on work stress reduction may be able to build on this area of knowledge by specifically examining the effects of the meditation component on the symptoms of work stress.

Tsai and Crockett (1993) used a randomized controlled trial to examine the use of a relaxation training program, which consisted of three components: (a) a presentation on sources of work stress, (b) relaxation methods to cope with stress, (c) and meditation and imaging treatment emphasizing the underlying cognitive process of meditation to decrease stress levels in nurses in an acute care setting. The researchers randomly assigned 137 nurses to a treatment group that received the 3 component relaxation training program and a control group that received equal contact hours with a discussion of theory. The researchers used a pre- and post-test measures with follow-up at weeks two and five. Using the Chinese General Health Questionnaire (CGHQ) measure, the researchers reported that nurses who participated in the 3 component relaxation training, which included information on nurse work stress, meditation and relaxation, reported significantly reduced perceptions of their stress levels, ie. self-reported anxiety levels in the treatment group at weeks two and five (p< .05). Based on Lazarus and Folkman’s (1984) Transactional Theory of Stress, Appraisal, and Coping, which is the framework for their study, the researchers concluded that relaxation training that combined information on nurse work stress, meditation and relaxation techniques helped nurses to appraise
their work environments as being challenging, as opposed to threatening, thus reducing the nurses’ experience of stress. Although Tsai and Crockett reported that the relaxation training program, which included meditation and imaging relaxation training, was effective in decreasing work stress levels in a nursing population, the same criticism made in Randolph et al.’s (1986) study is also applicable here. The different components of the relaxation training program were not individually evaluated; hence, it is difficult to determine which component contributed to a decrease in symptoms of work stress.

Bruce, Young, Turner, Vanderwal, and Linden (2002) conducted a quasi-experimental design pilot project that reported the effects of a Mindfulness Based Stress Reduction program (MBSR) on the health of student nurses (N=30). The nursing students were randomized into intervention and control groups. Psychological symptoms of stress were measured pre- and post-intervention using the Health Status Profile that measures energy and vitality (SF-36V2), Symptom Checklist-90-R that measures symptoms of stress (SCL-90-R), and Orientation to Life Questionnaire (OLQ) that measures sense of coherence (Bruce et al.). Visual Analog Scales (VAS) was used to assess subjects’ perceived stress and the impact of intervention on their anxiety, energy and vitality and appraisal of stress. Results indicated that the treatment group had a significant reduction in anxiety levels, as measured by the SCL-90-R symptom checklist, and a significant increase in energy and vitality (d = 0.9), as measured by SF-36V2 health status profile (d = 0.4), when compared to the wait-list control group. The VAS, indicating student nurses’ subjective perceptions of stress, showed that student nurses developed an “awareness of their overall responses to stress” and as a result, were able to begin altering their way of thinking or perceiving life events toward “managing stress rather than getting lost in it” (Bruce et al., 2002, p. 247). This study illustrated that meditation was psychologically beneficial to nursing
students. In addition, subjects reported that through the meditation program they developed an enhanced awareness of their physical, emotional, and mental responses to stress that “empowered them to manage their stress” (Bruce et al., 2002, p. 250).

Building on Bruce et al.’s (2002) study, Beddoe and Murphy (2004) conducted a pilot study exploring the effects of a mindfulness-based stress reduction (MBSR) course on stress and empathy with a convenience sample of baccalaureate nursing students (N=16). The nursing students participated in the 8 week MBSR course, as well as using guided meditation audiotapes at home, and journal assignments recording their meditation experience. A pre-test and post-test design was used without a control group. Stress levels were measured with the Derogatis Stress Profile (DSP) and empathy levels were assessed by the Interpersonal Reactivity Index (IRI) (Beddoe & Murphy). The pilot study results indicated a significant decrease in the DSP anxiety scale between pre-test and post-test means (p < .05). Results of the four dimensions of the IRI scale were not statistically significant, but the results indicated a strong decrease in the Fantasy Scale and Personal Distress Scale mean scores and high mean scores with an increase of the Perspective Taking and Empathic Concern Scales dimensions. Analysis of the descriptive data revealed 75% of the subjects found breath awareness a successful coping strategy to decrease stress, 75% reported greater self-confidence, and 69% indicated an increase in their ability to be assertive and express their needs and feelings as a result of the MBSR training. Moreover, 87% of the participants indicated they were able to correct negative health habits and behaviours and were able to “take better care of themselves”. Thirteen of the sixteen participants also reported feeling an “increased ability to handle stressful situations” (Beddoe & Murphy). The findings of this pilot study illustrated that nursing students may experience reduced anxiety, greater well-being, and improved coping skills as a result of using mindfulness mediation.
Analysis of the stress and coping literature indicates that meditation, such as Transcendental Meditation™ and Mindfulness Meditation (MM), changes practitioners’ appraisals of stressful situations to decrease symptoms of work stress such as anxiety and fatigue, and to increase spiritual well-being (Astin, 1997; Bruce et al., 2002; Shapiro et al., 1998). Despite reports of high levels of work stress in the nursing population (Baumann et al., 2001, Healy & McKay, 1999; Shamian et al., 2004), no research to date has specifically studied the effects of meditation on the symptoms of work stress that include reduced spiritual well-being as an outcome variable within a population of registered nurses employed in community home care. This study used an active meditation, called Level 1 Training in Power (TIP) Meditation that was developed to assist people with busy minds, like nurses, to access their internal Wisdom and Knowingness through meditation.

2.1.7.1. Level 1 Training in Power (TIP) Meditation to Reduce Nurses’ Work Stress

Level 1 TIP meditation was developed by a social worker and counselor, Faye Fitzgerald in the late 1980s to assist clients to increase their self awareness and understanding of their life situations (Fitzgerald, 1989). Fitzgerald observed that her clients, who were predominantly of the Western culture, had difficulty using meditation systems that involved a clearing or making still the thoughts in their minds. Fitzgerald’s clients reported that their minds were “too busy” thinking of thoughts of their busy every day lives, like unfinished work, chores to be done, bills to pay and so forth. Therefore, Fitzgerald developed a meditation system specifically for the busy Western mind that required the meditators to actively engage their minds in creating familiar images that would lead them to a position of being able to ask and receive information from their Internal Wisdom and Knowingness.
The Level 1 TIP meditation course is a standardized program that focuses on training the potential subjects in an active meditation. The Level 1 TIP meditation classes are modeled after a variety of different meditation disciplines. One of the foundational features of Level 1 TIP meditation is to ensure the participant is in a correct and centered state to meditate. A correct and centered state is achieved by first using a yoga technique called hand *mudra* (energy seal) to focus the energy internally by positioning the thumb, index finger and middle finger together. This yoga hand *mudra* focuses the energy internally rather than sending the energy out in all directions (Finger & Bingham, 2000). Then the meditation participants are guided to take 3 deep breaths as a tool to focus the mind from the external into an internal awareness, as well as, to start the movement of energy into the body (Hendricks, 1995).

A key component of being in a correct and centered state is the meditation participants make a conscious intention to connect to whatever they perceive as the Ultimate Other/Higher Power/God/Source of all Love and a conscious intention to connect to the earth (Brennan, 1993; Fitzgerald, 1989). The participant establishes a conscious connection or loving relationship to the Ultimate Other/Higher Power/God/Source of all Love and to the earth by sending and receiving Love to and from the Ultimate Other/Higher Power/God/Source of all Love and to the earth (nature) to assist in grounding the meditator’s consciousness into his body. The participants are taught a technique to clear their energetic space around them with intention before applying a shielding system of Love using the universal energy or chi as a form of energetic protection similar to how martial arts disciplines use energy or chi for defense (Shaw, 1989). With their connection to the Higher Power and to the earth, their energetic field cleared and energetic shielding in place, the participant is now in a correct and centered state of mind to
start the visual imagery and body scan exercises influenced by the Silva Method of visualizations (Silva & Miele, 1977).

The meditation classes are geared to facilitate awakening and remembering the healing and intuitive gifts that all human beings possess, and more importantly, to deepen and strengthen the connection between self and the Ultimate Other/Higher Power/God/Source of all Love, thus promoting spiritual well-being. Level 1 TIP meditation is an active meditation that uses foundational concepts of self-love, self-first and free will to foster a self-care frame of mind as participants observe themselves and achieve insight and self-awareness (Fitzgerald, 1989).

Participants can learn to cultivate an awareness of self-love by loving and accepting the self, and by putting the self first. The concept of free-will cues the participants to use their right of free-will to choose a conscious, active response to situations instead of falling into familiar, habitual reactions (Fitzgerald). The foundational concepts are vital in creating a loving, impartial, and receptive stance in practitioners to receive guidance, nurturance, and assistance from their connection to the Ultimate Other/Higher Power/God/Source of all Love (Fitzgerald; Kabat-Zinn, 1990; Silva & Miele, 1977; Silva & Stone, 1989).

The Level 1 TIP meditation was chosen as the stress reduction intervention in this study because Faye Fitzgerald, and Level 1 TIP teachers generously volunteered to teach and assist the subjects in the study. Level 1 TIP meditation cultivates a self-care frame of mind or intention that nurses can utilize at work to observe themselves and to increase self-awareness of their own care needs. The increased self-awareness may help nurses to detect and recognize early signs of stress such as fatigue, anxiety, and reduced spiritual well-being, and take action to prevent the long-term ill effects of work stress (Kabat-Zinn, 1990). Early detection and recognition of stress provides nurses with vital information to change their appraisal of stressful situations from being
a threat to being a challenge. This change encourages an active position to plan and execute actions to manage the stressful situation, thus reducing symptoms of work stress (Bruce et al., 2002; Goodwin, 1987; Kabat-Zinn, 1990). No research has been done using Level 1 TIP meditation as a work stress reduction intervention. Nurses in the community must manage their patient caseloads, work with patients' family and caregivers, as well as manage their own lives and family responsibilities. Often, nurses are so busy taking care of their patient caseloads and meeting the needs of others, they overlook their own self-care needs (Goodwin, 1987). Therefore, researchers need to expose nurses to strategies, such as Level 1 TIP meditation, that may assist them to focus on their self-care needs and change their appraisals of stressful situations from being threats to being challenges to reduce symptoms of work stress.

2.2. Conclusion

This chapter has described the work of researchers who treat work stress as an individual experience in which individuals' appraisal of stressful situations influence their emotions and behaviour to address the stressful situation. It has also described the use of meditation as a valuable intervention to significantly reduce symptoms of work stress and strengthen inner resources that can be used for work stress management. The chapter has included comments about nursing experience, wherein although nurses experience high work stress, few studies evaluate interventions to reduce symptoms of work stress within the nursing population. The chapter explores the use of Level 1 TIP meditation as an intervention to reduce symptoms of work stress, such as, anxiety, fatigue, and reduced spiritual well-being, with registered nursing population working in the community. The next chapter describes the research design, method and procedures.
CHAPTER THREE: METHODS

This chapter presents the research design and question, hypotheses, conceptual definitions, recruitment procedures, ethical considerations, sample selection criteria, treatment administration, intervention and measures. Information regarding gaining demographic data, data collection, data management, assumptions, and issues of rigor are also included.

3.1. Research Design

A pilot study using a randomized controlled trial (RCT) design was conducted in the Fraser Health Authority, British Columbia. The RCT design was selected for this study because it provides the greatest amount of control possible on the effects of extraneous factors that may intrude on the specific cause and effect of the meditation intervention on nurses’ symptoms of work stress (Burns & Grove, 1997). The study involved the random assignment of community-based registered nurses to an intervention and a wait-list group with a pre-test and post-test approach. A randomized clinical trial design was chosen to examine the difference between a group that was exposed to the effects of meditation (independent variable and treatment) on symptoms of work stress (outcome variables – state and trait anxiety, fatigue, reduced spiritual well-being) and a control group that was not exposed to the intervention.

3.2. Research Question

The research question for this study was:

Does meditation decrease home care nurses’ symptoms of work stress such as anxiety, fatigue, and reduced spiritual well-being?

3.3. Hypotheses

The study has three directional hypotheses:
1. Nurses who participate in the Level 1, TIP meditation program will report significantly lower anxiety levels at four weeks following the intervention than the wait-list group.

2. Nurses who participate in the Level 1, TIP meditation program will report significantly lower fatigue levels at four weeks post intervention than the wait-list group.

3. Nurses who participate in the Level 1, TIP meditation program will report significantly higher scores on a measure of spiritual well-being at four weeks post intervention than the wait-list control group.

3.4. Conceptual Definitions

The conceptual definitions of work stress, Level 1 meditation, spiritual well-being, state anxiety, trait anxiety, and fatigue are discussed to provide the theoretical meaning of each concept.

3.4.1. Work Stress

Work stress is a psychological (ie. anxiety), spiritual (ie. reduced spiritual well-being) and physical (ie. fatigue) response to stressor conditions that occur when any action, situation, or event is perceived to exceed the resources of a person, which results in an appraisal of threat or harm within the work environment (Arnold, 1989; Lazarus & Folkman, 1984; Matteson & Ivancevich, 1987; Vaughan, 1995).

3.4.2. Level 1 TIP Meditation

Level 1 TIP Meditation is conceptually defined as a unique meditational activity that actively engages the participant to use familiar visual imagery to make a connection between the self, Ultimate Other/God/Source of all Love and nature (earth). The interconnectedness of
participants with the Ultimate Other/God/Source of all Love is an inner resource that can provide guidance to help change their appraisal of stressful situations, as well as to increase self-awareness of their thoughts and feelings. The increased self-awareness provides practitioners with vital information about their feelings and position to make conscious, planned choices to respond and manage stressful situations (Fitzgerald, 1989).

3.4.3. Spiritual Well-being

Spiritual well-being is “a sense of harmonious interconnectedness between self, other, nature, and Ultimate Other, which exists throughout and beyond time and space” (Hungelmann, Kenkel-Rossi, Klassen, & Stollenwerk, 1989, p. 394). People identify themselves as having spiritual well-being through communication and having a connectedness with Ultimate Other/God/Source of all Love and nature to foster a harmonious interconnected relationship with Ultimate Other/God/Source of all Love (Hungelmann et al., 1989). Theoretically, when exposed to ongoing, high levels of stress, a person experiences a separation (disconnectedness) from the Ultimate Other/God/Source of all Love and reveals the symptom of work stress described as spiritual aridity (reduced spiritual well-being) (Vaughan, 1995).

3.4.5. State Anxiety

Also called acute anxiety (A-State), state anxiety is a subjective and conscious “transitory emotional state” . . . that is characterized by feelings of tension, apprehension, nervousness and worry (Spielberger, 1972). These transitory emotional states can vary in intensity and fluctuate over time” and may also evoke complex emotional reactions that may cause individuals to interpret specific situations as personally threatening . . . and who will respond to the threat with an elevation in state anxiety (Spielberger).
3.4.5. Trait Anxiety

Trait anxiety refers to the “enduring personality traits or disposition of a person that influences her tendencies to perceive the world in a certain way and react to or behave in a particular manner” (Spielberger, 1983). Trait anxiety (T-Anxiety) refers to “relatively stable” individual who have the tendency to perceive stressful situation as dangerous or threatening and responds to stressful situations with elevated state anxiety (Spielberger, 1983).

3.4.6. Fatigue

Fatigue is an individual’s perception of limitations in physical functioning when performing activities of daily living (i.e., bathing, dressing) and a lack of energy/vitality, which is conceptualized as feeling tired and worn down all the time (Jenkinson, Wright, & Coulter, 1993; McHorney, Ware, & Raczek, 1993).

3.5. Procedures

Randomization for the pilot trial was completed with the assistance of a biostatistician from the Center for Health Evaluation and Outcome Sciences (CHEOS) who provided a predetermined randomization procedure. The researcher created a master list of numbers, 1-100. Each participant recruited to the study was randomly assigned a number on the master list which was later used as the participant’s identification number. A research assistant from the Surrey Cancer Agency, not otherwise associated with the study, stratified the participants according to work and meditation experience before she used the predetermined randomization procedure to assign participants (using numerical identification) to the intervention or control group.
3.5.1. Ethical Considerations

The randomization procedure was established and included in the ethics proposal. The researcher obtained ethical approval from the University of British Columbia (UBC) Behavioural Research Ethics Board in September 2004 and from the Academic Development and Clinical Innovation for Fraser Health Authority in September 2004. The researcher met with Home Care Health Managers of each health unit (four health units in total), from October to November 2004 to request their approval for recruitment and to discuss the study process.

All subjects received a letter of information (See Appendix A) about their rights to refuse or withdraw from the study with no effect on their employment with FHA. All participants were assured they were under no obligation to participate in the study and could withdraw from the study at any time. The researcher gave a recruitment presentation at each health unit where participants were given the opportunity to ask questions about the study, before giving consent to participate in the study. Informed consent was obtained from each participant (See Appendix B).

Confidentiality of the subjects was safeguarded by removing subject names and using numerical identifiers in the questionnaires and the statistical files. All names were kept separate from the data. Names were accessed only for initial coding purposes and follow up phoning. A master list of subjects and associated coding numbers was kept by the researcher in a locked filing cabinet. A password-secured computer program was used to store and analyze the coded data. All coded raw data were stored in a locked file cabinet and will be shredded within 5 years. Intervention participants were given the phone numbers of meditation teaching assistants they could call with any questions or concerns related to the mediation system. The participants were to contact their assigned meditation teaching assistant. All teaching assistants were instructed to limit their telephone interactions with the subjects to include only information about the
meditation process ie. teaching assistants were careful to not influence the subjects with their own experiences and focus on the subject’s experience.

3.5.2. Sample

The study used a sample of convenience drawn from community home care nurses (HCNs) and community long term care (LTC) registered nurse case managers who were actively working in the Fraser Health Authority (FHA), located in the lower mainland of British Columbia.

3.5.2.1. Inclusion Criteria

A homogeneous sample was ensured by using sampling criteria that included: (a) being a community home care nurse or long term care registered nurse case manager; (b) having at least one year work experience (full-time, part-time, or casual) as a community-based registered nurse; (c) holding a current license to practice nursing in British Columbia; (d) having at least a diploma or degree or greater; and (e) being willing to participate in the study.

3.5.2.2. Exclusion Criteria

The study excluded nurses who were: 1) not able to attend the meditation classes (of four to five hours in duration); and 2) who were currently being treated for any mental health problems.

3.5.2.3. Stratification of Sample

Stratified sampling was used to control for variables that had the potential to affect sample representativeness, specifically work experience and experience with meditation techniques. The researcher stratified subjects’ work experience into two forms: (a) 1-5 years and (b) 6 years or more nursing work experience. Subject’s meditation experience was also stratified into two forms: (1) Experienced practitioners – those who practice their meditation techniques one or more times a week, (2) Inexperienced practitioners – those who have had minimal or no prior
experience with meditation. In order to protect the study from researcher bias, the sample was randomized using the predetermined randomization procedure and stratified by an outside research service.

3.5.2.4. Power Analysis and Sample Size

The majority of the studies using meditation as a work stress reduction intervention have had small sample sizes (Murphy, 1996; McLeroy et al., 1984). For this study to have the statistical power necessary to detect differences in the groups, a power analysis was undertaken in consultation with a statistician. According to Berkowitz, (personal communication April 21, 2004), the required sample size is derived from a power analysis of a two-group comparison of means, based on a two-sample t-test. In this study, the comparison will be between the mean pre and post-change in the intervention group and the mean pre and post-change in the control group. In the absence of pilot data on anticipated changes in the outcome measures of anxiety, fatigue, and spiritual well-being, the concept of Cohen's "effect size" was used to indicate a small (.2), medium (.5), or large (.8) effect size (Huck, 2000). A medium effect size ($= 0.5$) was chosen to describe a difference between means of approximately one-half a standard deviation. The groups required 64 subjects per group to detect a medium effect size, which would be considered clinically relevant (J. Berkowitz, personal communication, April 21, 2004).

3.5.2.5. Gaining Access to Subjects

Access to subjects was obtained through the Fraser Health Authority (FHA and nursing leadership within the health units. In each of the four health units, two managers and two Clinical Resource Nurses (CRN) were available to assist with recruitment of subjects and the distribution of information letters (See Appendix A), consent forms (See Appendix B), poster and flyers (See Appendix C), and questionnaires (See Appendix D, E, F, G). Three health units
had been relocated and another health unit was in the process of implementing changes to work patterns. Due to the changes to the nurses’ work environments, the CRNs that were actively implementing these changes were not available to assist with the study. In their stead, health managers agreed to assist with recruitment and distribution of flyers, information letters, consent forms and questionnaires.

Subjects were recruited by using posters and flyers, and explanations offered through group meetings. The researcher requested permission from managers and nursing team leaders to attend staff meetings from October 2004 until December 2004 to explain the study. Approximately 300 nurses were invited to attend a meeting at their health units where the proposed study was discussed for the purpose of recruitment of subjects. The researcher had flyers and study information letters with contact numbers on hand for interested nurses to read during the presentation. The researcher was experienced in the clinical use of the meditation technique and, therefore, was able to offer explanations.

Of the 300 home care nurses and long term care nurse case managers who were invited to participate in the study, only twenty-nine (n=29) community registered nurses agreed to participate in the study. Twenty seven nurses completed the study. Two home care nurses withdrew from the study prior to completing the questionnaires due to the time constraints associated with their work schedules. Unfortunately, the small sample size (n=27) was not enough to achieve power at the .05 testing level. The projected power calculation required a sample size of (n=65/group).

A research assistant stratified the subjects for work and meditation experience, then randomly assigned the twenty seven participants to either the intervention group (n=13) or the wait-list (n=14) control group. Due to the lack of resources, the researcher notified all of the
participants of their assigned group by telephone and therefore she was no longer blinded to the
randomization of study group. Unfortunately, two of the intervention subjects with meditation
experience were not able to attend the intervention classes (one due to illness and the other due
to a scheduling conflict). They were subsequently assigned to the control group. Despite efforts
to stratify subjects with meditation experience into the intervention and control groups, all 4
subjects with meditation experience were in the control group. The group assignment was
recorded on the subject’s questionnaire and consent forms. The subjects in the intervention
group were requested to not share their group allocation information with anyone to control for
contamination. All documents were stored in a locked filing drawer.

The researcher confirmed that every participant was appropriately notified and ensured that
only the participants in the intervention group attended the meditation classes by comparing the
master list with the meditation class attendance sheet. Four weeks post-intervention, she
contacted the participants by telephone to remind them to complete the second set of
questionnaires that were distributed by the health unit contacts into their individual work file
folders. Participants in both the intervention group and control group completed the second set
of questionnaires and completed forms were collected by the health unit contacts and picked up
by the researcher within one to two weeks.

Those assigned to the intervention group were given information about parking, what to
bring to class (ie. writing material, water, snacks), and when and where to attend the intervention
classes. The intervention participants were encouraged to speak of the meditation techniques
only with participants within the intervention group and asked not to share information obtained
in the meditation classes with other nurses to control for contamination.
3.5.2.6. The Wait List Control Group

The wait-list control group was not given any instructions. The wait-list control group was offered the intervention after all post-intervention measures were collected by the researcher at 6-8 weeks after the intervention group completed the meditation classes.

3.5.3. Treatment Administration

The researcher met with the CRN or Manager in each health unit prior to commencing the study, to explain the process of completing the measures. The measures were distributed by the CRN or Manager one week before and four weeks after the intervention to all subjects. The pre-intervention measures were called Pre-training (time 1) and the post-intervention measures were called Post-training (time 2). The researcher monitored subjects in the control group to ensure that none received the intervention.

3.5.4. Intervention

The intervention consisted of a 4.5 to 5 hour didactic and experiential session once a week for four weeks. The classes were held on Tuesday evenings in February 2005, a day the participants suggested would be most appealing. Also, the participants requested the class to start one hour after work to ensure an early class completion time. On a few occasions, some of the participants were caught in traffic and arrived late causing a 15-30 minute delay to the class start time which meant the class finished later. Late classes were a concern to nurses who had to work the next day. The teacher was careful to keep class discussion in check to ensure the classes ended at an appealing time for the nurses. The classes were held at a centrally located college campus classroom. The parking was convenient and refreshments and snacks were made available during the fifteen-minute breaks approximately every hour and a half.
Four classes were provided to the intervention group so they could practice the meditation techniques with assigned teaching assistants. In addition to the lecture style information on meditation, the subjects also worked in small groups of two to three subjects per group, facilitated by a teaching assistant, to practice the meditation and to give participants an opportunity to ask questions and dialogue with each other about their experiences. In addition to these sessions, each subject was encouraged to practice meditation twice daily for 15-30 minutes at home and journal their experience of the meditation technique during the week. Each subject handed in a one page report to the teacher at the beginning of each class. The participants were encouraged to maintain their practice of the meditation for 4 weeks post intervention on their own. The participants in the study devoted a total of 20 hours of class time to learn the intervention and approximately 15-30 hours of meditation practice for one month following the intervention. The Level 1 TIP teacher and researcher read the reports to determine if the participants were able to practice the meditation and to determine who continued with the meditation practice and who did not.

3.6. Measures

The operational definition of the measures used to determine some symptoms of work stress were: spiritual well-being, state anxiety, trait anxiety and fatigue. These measures are discussed.

3.6.1. Spiritual Well-Being

Spiritual well-being is operationalized as a score on the JAREL Spiritual Well-Being Scale (Hungelmann, Kenkel-Rossi, Klassen, & Stollenwerk, 1996). The name of this measure, JAREL, uses the initials of first names of the four authors: JoAnn Hungelmann, Eileen Kenkel-Rossi, Loretta Klassen, & Ruth Stollenwerk, 1996). The JAREL Spiritual Well-being Scale
determines the degree of spiritual well-being in a healthy or clinical population. The JAREL scale is a broad measure of spiritual well-being rather than being focused on religion (Hungelmann et al., 1989) (See Appendix D). In this scale, spiritual well-being is identified through the presence of a Faith and Belief Dimension (spiritual beliefs, purpose in life, relationship between spiritual beliefs and lifestyle, prayer, belief in a supreme power, and life after death) and a Life-Satisfaction and Self-Actualization dimension (goal-setting, acceptance of life situations, loving relationships with others, and self-esteem). It is also defined as the absence or low levels of spiritual well-being (reduced spiritual well-being) as identified by lack of belief in a supreme power, difficulty in forgiving others, and inability to accept change in life or to make decisions regarding one’s life (Hungelmann et al., 1989).

This scale is made up of 21 items with Likert scales ranging from 6 (strongly agree) to 1 (strongly disagree). Endorsement of positively worded statements and non-endorsement of negatively worded statements of spiritual well-being is given a higher score. The higher the score on this measure, the higher the level of spiritual well-being. Validity was supported through developing items based on a literature review, and concepts from a grounded theory study in the initial development phase, and review of the scale by a panel of experts. Reliability was supported through the test-retest method and internal consistency. The test-retest Pearson product-moment correlation was $r = 0.88$ and the Cronbach’s alpha was 0.85 (Hungelmann et al.). This score has been used in a healthy nursing population in the community (Marsh et al., 1999) and can be applied to subjects from any age group or gender, economic level, or spiritual denomination that holds a belief in an Ultimate Other/God.
3.6.2. State Anxiety

State anxiety was operationalized using the State Anxiety Inventory (STAI Form Y-1) (Spielberger, 1983). This instrument is a long-established measure that has been used in many work stress studies (Alexander et al., 1993; Davidson et al., 2003; Murphy, 1983; Shapiro et al., 1998). State anxiety scale measures how respondents feel “in the moment” or the transitory emotional state of a person at a given moment in time and at a particular level of intensity (Spielberger). It is designed to measure an adult’s perception of current levels of anxiety and consists of 20 multiple-choice, self-report items written at a fifth-grade reading level that can be completed in six minutes. The STAI Form Y-1 instrument has responses from Likert rating scales with responses one (not at all) to four (very much so). Total scores range from 20-80. Higher scores indicate higher anxiety (Spielberger, 1985) (See Appendix E). The test-retest reliability for the State Anxiety Scale ranges from a median reliability coefficient of .31 to .33, which reflects the situational influence on state anxiety. Construct validity of the scale has been assessed by relating it to the Multiple Affect Adjective Checklist (Pearson’s r = .52) and the Institute for Personality and Ability Testing (IPAT) Anxiety Scale (Pearson’s r = .75) (Spielberger, 1985).

3.6.3. Trait Anxiety

Trait anxiety was operationalized using the Trait Anxiety Inventory (STAI-Form Y-2) (Spielberger, 1983). This instrument has been used extensively in clinical and experimental research to identify adult subjects with high ongoing levels of anxiety and evaluate the immediate and long-term outcomes of stress management interventions (Alexander et al., 1993; Davidson et al., 2003; Murphy, 1983; Shapiro et al., 1998). The trait anxiety scale measures how respondents generally feel in a given situation. The T-Anxiety scale is made up of twenty self-
report items that assess "how people generally feel" and can be completed in six minutes. The T-Anxiety STAI Y2 Form has respondents indicate how they generally feel by rating the frequency of their feelings of anxiety on a Likert scale from one (almost never); two (sometimes); three (often); and four (almost always) (See Appendix E). The scores range from 20 -80 with higher scores indicating higher anxiety levels (Spielberger). The higher the trait anxiety score, the higher the tendency of a person to respond to situations with elevated anxiety intensity. The test-retest reliability for the T-Anxiety scale has ranged from r =.73 to .86 (Spielberger). The alpha coefficients for the T-Anxiety scale were uniformly high, with a median coefficient of .90 for working adults (Spielberger). The construct validity of the T-Anxiety scale was assessed by comparing it with the Institute for Personality and Ability Testing (IPAT) showing Pearson's r =.85 correlation and the Taylor Manifest Anxiety Scale (TAMS) showing Pearson's r =.73 correlation (Spielberger).

3.6.4. Fatigue

Fatigue is operationalized using the Short-Form-36 energy/vitality subscale (SF-36). The SF-36 subscale has been well-researched and is designed to measure an adult's perception of current levels of fatigue (Bruce et al., 2002; Coakley et al., 1998; Hardy et al., 1997) (See Appendix F). The SF-36 energy/vitality subscale includes four items: 1) Did you feel full of life? 2) Did you have a lot of energy? 3) Did you feel worn out? 4) Did you feel tired? Responses are made on a six-point Likert scale from one (all of the time) to six (none of the time). The internal reliability of this scale was substantiated by a Cronbach's alpha of 0.85 from the Oxford Health Life Survey (Jenkinson et al., 1993) and with an alpha of .86 from the workforce of National Health Service Trusts Survey (Hardy et al.).
3.7. Demographic Data

Demographic questions to obtain data that had the potential to influence the subject’s experience of the meditation intervention were developed by the researcher based on the literature review (See Appendix C). The following demographic variables were included: sex, age, work experience, meditation experience, psychotherapy treatment, spiritual or religious affiliation, and education.

3.8. Details of Data Collection

The researcher mailed the questionnaires to the study contact (Clinical Resource Nurse or manager) of each health unit. The CRN or Manager (if the CRN was not available) was responsible for distributing the questionnaires into each subject’s hanging folder. After one week the CRN or manager collected the completed forms. The researcher retrieved the completed forms from each health unit. Subjects who had not completed the questionnaires at that time were instructed to mail their completed forms to the researcher. The CRN or Manager was blinded to the group to which the subject was randomly assigned.

At baseline (Time 1) each subject completed the: 1) consent form, 2) demographic form, 3) JAREL Spiritual Well-being Scale, 4) STAI-State and Trait Anxiety Scale, 5) Short Form-36 energy/vitality (SF-36V2) sub-scale. The treatment group (n=13) was taught the meditation intervention by a volunteer for a 4 week period. At four weeks post-intervention (Time 2), the researcher mailed the second set of questionnaires to the CRN or Manager of each health unit. The CRN or Manager distributed the questionnaires and collected completed questionnaire forms one week after distribution. The researcher picked up the completed forms at each health unit. Subjects who had not completed the questionnaires one week post distribution, mailed completed forms to the researcher within 1-6 weeks. Three subjects were away on vacation and
subsequently completed and mailed their 2nd set of questionnaires upon their return. All (n=27) subjects completed and mailed in the second set of questionnaires.

The wait-list group was provided with two opportunities to learn the meditation intervention, at two and ten weeks after completion of the 2nd set of questionnaires. A second meditation class was offered to the control group to accommodate subjects who could not attend the first scheduled meditation class due to their vacation time.

3.8.1. Journal Entries

The subjects in the intervention group wrote journal data of their meditation experience every week. The researcher collected the one page journal data once a week for 3 weeks and read the journals to determine the subjects’ reactions to the meditation (subjects did not hand in journals at the first mediation class).

3.9. Data Management

Data was entered into the SPSS 11.0 statistical analysis program. The researcher limited data entry to sessions of two hours, to reduce errors. A backup of the database was made after each data entry period. It was stored on a CD disk and kept in a secured file drawer. Random data checks were made weekly to check for the accuracy of data entry. The original data forms were stored in a locked file drawer in the researcher’s personal office. The data will be retained for 5 years before being destroyed.

3.10. Statistical Analysis of Data

To ensure matched randomization between the wait-list control group and the intervention group, an initial analysis of the groups was planned before the intervention was offered. Due to the small number of subjects participating in the study (N=27), statistical power was not achieved; therefore, a preliminary analysis of the data was not necessary. The study was
considered a pilot project due to the lack of statistical power. A statistician was hired to analyze the numerical data and construct frequency tables for each of the demographic and background variables such as: age, gender, work experience, meditation experience, psychotherapy experience, spiritual and religious affiliation and education level to show trends or relationships between the groups. The frequency tables showed the frequency of distribution or occurrence of the variables that appeared in the control and intervention groups (Huck, 2000).

Scale scores (the outcome measures) were derived using the published scoring methods for each instrument, including, where necessary, reverse coding of negatively oriented items. Any missing values were replaced by the mean of the other items in the scale for a respondent. Descriptive statistics were compiled for each scale item to ensure no out-of-range responses. The descriptive statistics illustrated the characteristics and distributions of the data. The minimum (min) and maximum (max) scores, mean and standard deviation (SD) of each scale score were computed. The pre and post values of each scale were completed, as well as changes between pre and post value. The level of statistical significance was set at $p < .05$ (one-tailed) for analyses.

Histograms were used to portray the data in a frequency distribution and were used to confirm normal distributions for each scale. Normal distribution is defined by the data's mean and standard deviation (normal curve is symmetrical and has the appearance of a bell-shaped curve). Normal distributions allow the researcher to use parametric statistics (Huck, 2000).

Hypotheses testing was carried out using the paired t-test at the $p < .05$ level of significance. This procedure decreased the risk of creating a *type I error* where a null hypotheses is rejected when it is actually true, meaning there is no difference or no association between groups is rejected when there is a difference between groups. The alpha level ($p = .05$)
determines the chance of rejecting a true null hypothesis is 5 out of 100 (Burns & Grove, 1997; Huck, 2000). In decreasing the probability of making a type I error, the risk of creating a type II error is increased especially when the sample size is small, as indicated in this study. A type II error occurs when there is a difference or an association between groups but the hypotheses is falsely rejected (Huck, 2000).

The hypotheses for this study were tested with paired t-tests. In the paired t-test, the samples are dependent samples (measured before and after the intervention) where the same treatment group that received the meditation intervention was measured post-intervention (Sanders, Smidt, Adatia, & Larson, 2001). A dependent means t-test is the test used when there are two experimental conditions (intervention and control groups) and the same subjects took part in both conditions of the experiment (Field, 2000). The t-test is a robust test since it identifies the exact t-value to obtain the most exact p value. This p value of the t-test can be compared to the level of significance (p < 0.05) to determine if this t value is significant. One-tailed, directional paired t-tests was performed on the scores of the pre and post-intervention group and the scores of the pre and post-control group to determine if the meditation caused a significant change in the mean of state anxiety, fatigue, and spiritual well-being and to determine any significant variation (Sanders et al., 2001). The one tailed, paired t-tests was carried out separately within each study group (control and intervention) to compare pre- and post-intervention with respect to each scale.

Finally, a two-way analyses of variance (ANOVA) was carried out to adjust for differences in Meditation Experience, and separately for Work Experience. ANOVA is useful for analyzing situations in which there are several independent variables. It explains how the independent
variables interact and their effect on the dependent variable (Field, 2000). ANOVA reduces the probability of making a type I error (Field, 2000).

3.10.1. Journal Data Analysis

The subjects in the intervention group submitted a weekly journal for 3 weeks during the meditation intervention. Content analysis was used to classify the journal data into key themes divided into negative and positive experience during the meditation intervention (Burns & Grove, 1997).

3.11. Assumptions

This study is based on the following assumptions:

1. Nurses experience work stress;
2. Nurses will be willing to use meditation as a stress reduction intervention;
3. Nurses have a belief in an Ultimate Other/God/Source of all Love;
4. Nurses who can change the way they appraise a situation can change the way they respond to a situation.

3.12. Issues of Rigor

Rigor was addressed in this study by using precise measurement methods and valid and reliable measures. The internal consistency reliability of the measures was statistically analyzed using the Cronbach’s alpha. The Cronbach's alpha for: a) the State Anxiety measure ranged from 0.89 to 0.91, b) the Trait Anxiety measure ranged from 0.93 to 0.95, c) the SF 36 Vitality measure ranged from 0.79 to 0.83, d) the JAREL Spiritual Well-being measure ranged from 0.85 to 0.85. Cronbach’s alpha results that are equal to or greater than 0.8 is considered acceptable for clinical measures to indicate the scales have sufficient homogeneity (Huck, 2000).
Rigor was also addressed with the study sample. The sample of convenience was stratified and randomized into intervention and control groups by a research assistant that was otherwise not involved in the study.

3.12.1. Internal Validity

According to Burns and Grove (1997), the internal validity of a study refers to the degree to which the changes in the dependent variables, in this case anxiety, fatigue and spiritual well-being, can be ascribed to the independent variable, specifically exposure to meditation. This pilot study was considered to have strong internal validity because the design was a randomized, controlled trial, a design used to test the efficacy of therapeutic interventions (Burns & Grove). The following threats to internal validity were considered in this study:

3.12.2. Maturation

Maturation in research is a threat related to the growing experience of the sample during the study. Since all subjects were employed with the Fraser Health Authority and were exposed to the same kind of influences over the course of the study, there is an assumption that maturation affected both groups similarly (Burns & Grove, 1997).

3.12.3. Selection Bias

The randomization of the subjects to experimental and control groups was done by a research assistant who was not involved in the recruitment for or the conduct of the study which reduced selection bias (Burns & Grove, 1997). The study sample was a sample of convenience where the nurses volunteered for the study, which may have introduced selection bias, because the nurses were interested in this form of self-help.
3.12.4. Diffusion of Treatment

This internal threat to validity occurs when the control group gains access to information regarding the treatment intervention (Burns & Grove, 1997), in this case Level 1 TIP meditation. To control for the threat of diffusion, the subjects were asked to refrain from sharing any information about their experience during the course of the study outside of the meditation classes. The subjects were also blinded to the outcome variables being measured to reduce the chance of their altering appraisals to achieve the outcomes.

3.12.5. External Validity

The external validity of a study is concerned with the extent that study findings can be generalized beyond the study sample (Burns & Grove, 1997). The researcher considered the following external threats to validity:

3.12.6. Interaction of Selection and Treatment

The study might have attracted a sample of volunteers who were either interested in or already exposed to a form of meditation. To control for the selection of volunteers, the sample was stratified to include their possible exposure to meditation. Also, subjects who did not complete the study were asked to provide a verbal or handwritten note commenting on their reasons for discontinuing their participation to determine the selection differences (Burns & Grove, 1997). One subject completed one class and three subjects completed two classes. These four subjects were left in the intervention group. It was important to capture all intervention subjects' response to the meditation since it makes for a more rigorous test of the study findings. Two subjects who signed up for the study withdrew prior to completing the questionnaires due to time constraints of their work schedules. Another two subjects who had meditation experience
were reassigned to the control group due to illness and a conflict in work schedules. This resulted in all subjects with meditation experience being assigned to the control group.

3.12.7. Interaction of Setting and Treatment.

The setting where the study takes place can interact with the study treatment (Burns & Grove, 1997). Bias may exist in health authority settings, where nursing studies are encouraged, so that subjects are treated differently by the administration. To control for this threat, the meditation intervention was taught outside of office hours, and at a neutral location away from the work site.


The work circumstances of the subjects at the time the study was conducted may have influenced the treatment (Burns & Grove, 1997). One of the health units had amalgamated three health units into one large health unit prior to initiation of recruitment. This structural change may have increased the work stress levels of the nurses as they dealt with the change in work location, change in management, change in nursing colleagues, and change in their travel time to and from work. The other two health units were introducing changes that added extra responsibilities to the community registered nurses’ case management work load. These events may have increased the work stress of the subjects and affected the findings of the study.


In an attempt to reduce the Hawthorne Effect, where subjects respond in a certain manner because they are aware of being involved in a research study, subjects were blinded to the dependent variables being measured. The researcher changed the titles of each measure to conceal the variable being measured to reduce the chance of influencing the subjects’ response to each measure.
3.13. Summary

This chapter described the study design, research questions, hypotheses, conceptual definitions, procedures, ethical considerations, sample, intervention, measures, data collection, data management, data analysis, assumption, and criteria for rigor. The study findings will be discussed in the next chapter.
CHAPTER FOUR: FINDINGS

This chapter presents the findings of the study. The chapter begins by describing and comparing the sample demographic characteristics. The results associated with the primary question, hypothesis outcomes and analysis of journal data are also reported.

4.1. Sample Characteristics: Demographic Information

The demographic information provided by the nurses was analyzed to provide a picture of the sample characteristics. There were no significant differences between the frequency distributions or counts of the categorical variables (such as: age, gender, work experience, meditation experience, psychotherapy experience, spiritual and religious affiliation and education level) in the control and intervention groups (See Table 1).

At baseline (Time 1), the participant’s ages ranged from 25-68 years (M = 45.1, SD = 10.1) (see Table 1). Approximately, 17% of the subjects were between the ages 25-35, 21% of subjects were between the ages 36-46 and approximately 52% of the subjects between the ages 47-57 years old. The majority of the subjects were female (89%); only 10% were males. Over 58% of the participants had over 6 years of community registered nursing experience, while the remaining 41% had less than 6 years of community-based nursing experience. Most of the subjects (86%) reported they had no recent meditation experience; only 14% practiced a form of meditation more than once per week. However, all four subjects with meditation experience were in the control group and all subjects in the intervention group did not have any previous meditation experience, which may have affected the study results. None of the subjects were currently undergoing psychotherapy at the time of the study. Sixty-five percent of the participants reported having spiritual or religious affiliation while 34% of the subjects had none. More than half of the 34% of
subjects with no spiritual and religious affiliation were in the control group. The education level of the participants was predominantly University degree graduates (66%), with 24% being college graduates. Chi-square and cross-tabs analysis were done to show there were no significant differences between the groups following randomization, except on meditation experience (chi-square = 4.33, p = .037). All subjects with meditation experience were in the control group.

4.1.1. Sample Characteristics During the Intervention

At the time of randomization, 13 subjects were assigned to the intervention group and 14 subjects to the wait-list control group. The intervention group attended four classes over a 4 week period. After the first week, one subject withdrew from the intervention. The subject indicated that the intervention was not suitable for her personality and value system. By the third class, another two subjects withdrew from the intervention due to physical illness and a fourth subject withdrew due to a personal emergency. A total of nine subjects received the intervention. None of the wait-list control group attended the intervention while the study was being conducted. Only four of 14 subjects in the wait-list control group chose to complete the meditation intervention following the second data collection point (Time 2).

Table 1. Frequency Tables for Baseline Demographic and Background Variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Control (N=15)</th>
<th>Intervention (N=14)</th>
<th>Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age in years</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25-35</td>
<td>2</td>
<td>3</td>
<td>17%</td>
</tr>
<tr>
<td>36-46</td>
<td>4</td>
<td>2</td>
<td>21%</td>
</tr>
<tr>
<td>47-57</td>
<td>7</td>
<td>8</td>
<td>52%</td>
</tr>
<tr>
<td>58-68</td>
<td>2</td>
<td>1</td>
<td>10%</td>
</tr>
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Table 1. Continued. Frequency Tables for Baseline Demographic and Background Variables

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<th>Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Male</td>
<td>1</td>
<td>2</td>
<td>10%</td>
</tr>
<tr>
<td>Female</td>
<td>14</td>
<td>12</td>
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</tr>
<tr>
<td>Work Experience</td>
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<td>&lt;6 years</td>
<td>6</td>
<td>6</td>
<td>41%</td>
</tr>
<tr>
<td>6 years or &gt;</td>
<td>9</td>
<td>8</td>
<td>59%</td>
</tr>
<tr>
<td>Meditation</td>
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<td></td>
</tr>
<tr>
<td>Experience:</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Practice meditation</td>
<td>4</td>
<td>0</td>
<td>14%</td>
</tr>
<tr>
<td>&gt; 1x/wk</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>No recent experience</td>
<td>11</td>
<td>14</td>
<td>86%</td>
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<td>Psychotherapy</td>
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</tr>
<tr>
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<td>14</td>
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</tr>
<tr>
<td>Spiritual and Religious Affiliation</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>8</td>
<td>11</td>
<td>65%</td>
</tr>
<tr>
<td>No</td>
<td>7</td>
<td>3</td>
<td>34%</td>
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Table 1. Continued. Frequency Tables for Baseline Demographic and Background Variables

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<th>Statistics</th>
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<tr>
<td>College completed</td>
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</tr>
<tr>
<td>University course</td>
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<td>1</td>
<td>1%</td>
</tr>
<tr>
<td>University degree</td>
<td>9</td>
<td>10</td>
<td>66%</td>
</tr>
<tr>
<td>Post-graduate degree</td>
<td>1</td>
<td>1</td>
<td>7%</td>
</tr>
</tbody>
</table>

4.2. Descriptive Statistics

Descriptive statistics compiled for each scale item illustrated that there were no out-of-range responses. Only one missing value was noted and was replaced by the mean of the other items in the scale for a respondent. The descriptive statistics of the meditation intervention group from Time 1 (pre-intervention) illustrated that subjects' scores were as follows: (1) the Spielberger STAI State Anxiety (Mean = 39.92), (2) the Spielberger STAI Trait Anxiety (Mean = 43.62), (3) the SF-36 vitality scale (Mean = 12.00), and (4) the JAREL spiritual well-being scale (Mean = 90.23). At Time 2 (post-intervention) the meditation intervention subjects' scores were: (1) the Spielberger STAI State Anxiety (Mean = 33.62), (2) the Spielberger STAI Trait Anxiety (Mean = 34.46), (3) the SF-36 vitality scale (Mean = 15.08), and (4) the JAREL spiritual well-being scale (Mean = 95.15) (Table 2).
Table 2. Study Group 1 Intervention

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>t-stat</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRSTAINS</td>
<td>Pre: STAI Anxiety – State</td>
<td>13</td>
<td>39.92</td>
<td>9.74</td>
<td>2.54</td>
<td>0.013</td>
</tr>
<tr>
<td>POSTAIS</td>
<td>Post: STAI Anxiety - State</td>
<td>13</td>
<td>33.62</td>
<td>10.29</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PRSTAITY</td>
<td>Pre: STAI Anxiety- Trait</td>
<td>13</td>
<td>43.62</td>
<td>10.51</td>
<td>3.64</td>
<td>.002</td>
</tr>
<tr>
<td>POSTAITY</td>
<td>Post: STAI Anxiety – Trait</td>
<td>13</td>
<td>34.46</td>
<td>11.72</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PRVITAL</td>
<td>Pre: SF-36 – Vitality (Raw)</td>
<td>13</td>
<td>12.00</td>
<td>2.94</td>
<td>-3.09</td>
<td>.005</td>
</tr>
<tr>
<td>POVITAL</td>
<td>Post: SF-36- Vitality (Raw)</td>
<td>13</td>
<td>15.08</td>
<td>3.45</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PRJAREL</td>
<td>Pre: JAREL Spir. Well-being</td>
<td>13</td>
<td>90.23</td>
<td>17.88</td>
<td>-1.23</td>
<td>.12</td>
</tr>
<tr>
<td>POJAREL</td>
<td>Post: JAREL Spir. Well-being</td>
<td>13</td>
<td>95.15</td>
<td>18.55</td>
<td></td>
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</tr>
</tbody>
</table>

N= # of subjects, SD= standard deviation, t-stat= t-test statistics, p-value= probability value

The descriptive statistics of the control group from Time 1 (pre-intervention) illustrated that subjects' scores were as follows: (1) the Spielberger STAI State Anxiety (Mean = 40.21), (2) the Spielberger STAI Trait Anxiety (Mean = 39.00), (3) the SF-36 vitality scale (Mean=12.36), and (4) the JAREL spiritual well-being scale (Mean = 95.21). At Time 2 (post-intervention) the control group subjects’ scores were: (1) the Spielberger STAI State Anxiety (Mean = 34.11), (2) the Spielberger STAI Trait Anxiety (Mean = 36.43), (3) the SF-36 vitality scale (Mean=13.00), and (4) the JAREL spiritual well-being scale (Mean = 94.79) (Table 3).
Table 3. Study Group: 2 Control

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>t-stat</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRSTAIS</td>
<td>Pre: STAI Anxiety – State</td>
<td>14</td>
<td>40.21</td>
<td>9.17</td>
<td>3.87</td>
<td>.001</td>
</tr>
<tr>
<td>POSTAIS</td>
<td>Post: STAI Anxiety -State</td>
<td>14</td>
<td>34.11</td>
<td>8.13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PRSTAIT</td>
<td>Pre: STAI Anxiety - Trait</td>
<td>14</td>
<td>39.00</td>
<td>9.02</td>
<td>1.85</td>
<td>.044</td>
</tr>
<tr>
<td>POSTAIT</td>
<td>Post: STAI Anxiety –Trait</td>
<td>14</td>
<td>36.43</td>
<td>8.41</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PRVITAL</td>
<td>Pre: SF-36 – Vitality (Raw)</td>
<td>14</td>
<td>12.36</td>
<td>2.53</td>
<td>-1.42</td>
<td>.090</td>
</tr>
<tr>
<td>POVITAL</td>
<td>Post: SF-36- Vitality (Raw)</td>
<td>14</td>
<td>13.00</td>
<td>2.45</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PRJAREL</td>
<td>Pre: JAREL Spir. Well-being</td>
<td>14</td>
<td>95.21</td>
<td>11.79</td>
<td>.24</td>
<td>.41</td>
</tr>
<tr>
<td>POJAREL</td>
<td>Post: JAREL Spir. Well-being</td>
<td>14</td>
<td>94.79</td>
<td>11.58</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

N= # of subjects, SD= standard deviation, t-stat= t-test statistics, p-value= probability value

The change scores were computed. Positive changes in the STAI scales indicated reduced anxiety at Time 2 (post-intervention). The pre-post mean change scores illustrated a positive change in the Spielberger STAI State Anxiety (Mean = 6.20) that was not statistically significant. The mean change scores in the Spielberger STAI Trait Anxiety were positive, and statistically significant (Mean = 5.74). The mean change scores in the SF-36 vitality scale, indicated a statistically significant increase in vitality (Mean=9.07). The mean change scores in the JAREL spiritual well-being scale were negative (Mean = -2.15), but not statistically significant (See Table 4).
Table 4. Two-sample t-test to compare Groups with respect to Pre-Post Change

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>t-stat</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHSTAIS</td>
<td>Change (Pre-Post):</td>
<td>1 Int</td>
<td>13</td>
<td>6.31</td>
<td>8.96</td>
<td>.07</td>
<td>.48</td>
</tr>
<tr>
<td>POSTAS</td>
<td>STAI Anxiety – State</td>
<td>2 Ctl</td>
<td>14</td>
<td>6.11</td>
<td>5.91</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PRSTAIT</td>
<td>Pre: STAI Anxiety– Trait</td>
<td>1 Int</td>
<td>13</td>
<td>9.15</td>
<td>9.06</td>
<td>2.34</td>
<td>.014</td>
</tr>
<tr>
<td>POSTAIT</td>
<td>Post: STAI Anxiety –Trait</td>
<td>2 Ctl</td>
<td>14</td>
<td>2.57</td>
<td>5.20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PRVITAL</td>
<td>Pre: SF-36 – Vitality (Raw)</td>
<td>1 Int</td>
<td>13</td>
<td>-3.08</td>
<td>3.59</td>
<td>-2.28</td>
<td>.016</td>
</tr>
<tr>
<td>POVITAL</td>
<td>Post: SF-36- Vitality (Raw)</td>
<td>2 Ctl</td>
<td>14</td>
<td>-.64</td>
<td>1.69</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PRJAREL</td>
<td>Pre: JAREL Spir. Well-being</td>
<td>1 Int</td>
<td>13</td>
<td>-4.92</td>
<td>14.46</td>
<td>-1.25</td>
<td>.11</td>
</tr>
<tr>
<td>POJAREL</td>
<td>Post: JAREL Spir. Well-being</td>
<td>2 Ctl</td>
<td>14</td>
<td>.43</td>
<td>6.61</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

N= # of subjects, SD= standard deviation, t-stat= t-test statistics, p-value= probability value

4.3. Primary Research Question

Does meditation decrease home care nurses’ symptoms of work stress that is anxiety, fatigue, and reduced spiritual well-being? To determine if the meditation intervention significantly the STAI state and trait anxiety, SF-36 vitality and the JAREL Spiritual well-being scales in the intervention group, a two-sample, one-tailed, directional paired t-test was used. The directional hypothesis was tested using the probability-value hypothesis –testing or (p-value) based on the t-distribution procedure to determine if the changes in the intervention group supported the hypothesis. P-values of less than 0.05 indicated statistical significance.

4.3.1. Hypothesis 1a-Trait Anxiety and 1b-State Anxiety:

1a. Nurses who participate in the Level 1, TIP meditation program will report significantly lower *state-* anxiety levels at four weeks following the intervention than will the wait-list group.
Nurses who participated in the meditation intervention had lower STAI- Anxiety- State scores ($t = .07, p = 0.48$) at four weeks following the intervention than to the wait-list control group (See Table 4). The difference was not statistically significant. ANOVA was run separately with the meditation experience ($p = .995$) and work experience ($p = 0.86$) as independent factors. No significant differences were found ($p > 0.05$). The ANOVA test confirmed that meditation and work experience had no significant effect on the group effect (See Table 5). Based on the statistical t-test and ANOVA results the meditation intervention had no significant effect on STAI- Anxiety-State of the intervention group compared to the wait-list control group. Hypothesis 1a was rejected (See Figure 2).

Figure 2. STAI Anxiety - State: Pre vs Post, by Study Group

1b. Nurses who participated in the meditation intervention reported a statistically significant decrease in STAI –Anxiety-Trait scores ($t = 2.34, p = .014$) (See Table 4 and Figure 2). No significant difference were found when ANOVA was run with the meditation experience
(p = .492) and work experience (p = 0.892) as independent factors. The ANOVA test confirmed that meditation and work experience had no significant effect on the group differences (See Table 5). The meditation intervention significantly decreased STAI- Anxiety-Trait in the intervention group compared to the wait-list control group. Hypothesis 1b was supported (See Figure 3).

**Figure 3. STAI Anxiety – Trait: Pre vs Post, by Study Group**

![Figure 3](image)

4.3.2. **Hypothesis Two**

2. Nurses who participate in the Level 1, TIP meditation program will report significantly lower fatigue levels at four weeks post intervention than will the wait-list group.

Nurses who participated in the meditation intervention reported significantly higher energy/vitality levels (lower fatigue levels) in the SF-36 energy/vitality scores ($t = 2.34, p = 0.14$) at four weeks than the wait-list control group (See Table 4, See Figure 4). No significant differences were found when ANOVA was run with the meditation experience ($p = .929$) and
work experience (p = 0.361) as independent factors. The ANOVA test confirmed that meditation and work experience had no significant effect on the group differences (See Table 5). Based on the statistical t-test and ANOVA results, the meditation intervention significantly decreased fatigue in the intervention group compared to the wait-list control group. Hypothesis number two was supported (See Figure 4).

Figure 4. SF-36 Energy/Vitality (Raw): Pre vs Post, by Study Group

![Diagram showing mean scores for Intervention and Control groups]

4.3.3. Hypothesis Three

3. Nurses who participate in the Level 1, TIP meditation program will report significantly higher scores on a measure of spiritual well-being at four weeks post intervention than will the wait-list control group.

Nurses who participated in the meditation intervention reported higher mean scores on the JAREL Spiritual Well-being scale (t = -1.25, p = .11) than the wait-list control group. The
results were not statistically significant (See Table 4, See Figure 5). No significant differences were found when ANOVA was run with the meditation experience (p = .848) and work experience (p = 0.611) as independent factors. The ANOVA test confirmed that meditation and work experience had no significant effect on the group differences (See Table 5). Based on the statistical t-test and ANOVA results the meditation intervention had no significant effect on spiritual well-being in the intervention group compared to the wait-list control group. Hypothesis number three was rejected (See Figure 5).

**Figure 5. JAREL- Spiritual Well-being: Pre vs Post, by Study Group**
Table 5. ANOVA for Meditation Experience and Work Experience of each Variable

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Description</th>
<th>Factor</th>
<th>F</th>
<th>Factor p value</th>
<th>Group Effect p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHSTAIS</td>
<td>Change-(Pre-Post):STAI State Meditation Exp</td>
<td>0.000</td>
<td>0.995</td>
<td>0.949</td>
<td></td>
</tr>
<tr>
<td>CHSTAIS</td>
<td>Change-(Pre-Post):STAI State Work Exp</td>
<td>0.031</td>
<td>0.861</td>
<td>0.942</td>
<td></td>
</tr>
<tr>
<td>CHSTAIS</td>
<td>Change-(Pre-Post):STAI Trait Meditation Exp</td>
<td>0.487</td>
<td>0.492</td>
<td>0.025</td>
<td></td>
</tr>
<tr>
<td>CHSTAIS</td>
<td>Change-(Pre-Post):STAI Trait Work Exp</td>
<td>0.019</td>
<td>0.892</td>
<td>0.031</td>
<td></td>
</tr>
<tr>
<td>CHSTAIT</td>
<td>Change-(Pre-Post):STAI Trait Meditation Exp</td>
<td>0.008</td>
<td>0.929</td>
<td>0.048</td>
<td></td>
</tr>
<tr>
<td>CHSTAIT</td>
<td>Change-(Pre-Post):STAI Trait Work Exp</td>
<td>0.868</td>
<td>0.361</td>
<td>0.035</td>
<td></td>
</tr>
<tr>
<td>CHVITALP</td>
<td>Change-(Pre-Post):Vitality (Pet) Meditation Exp</td>
<td>0.038</td>
<td>0.848</td>
<td>0.241</td>
<td></td>
</tr>
<tr>
<td>CHVITALP</td>
<td>Change-(Pre-Post):Vitality (Pet) Work Exp</td>
<td>0.265</td>
<td>0.611</td>
<td>0.223</td>
<td></td>
</tr>
</tbody>
</table>

F = sampling distribution of degrees of freedom, p values = probability values of significance.
4.4. Findings of Journal Data Analysis

Content analysis was used to classify the intervention group's journal data into key themes divided into negative and positive experience during the meditation intervention. The findings of the journal data analysis was as follows:

Key themes with negative experiences to meditation:

- difficulty to find time or justify the time to meditate (10 of 13 subjects),
- difficulty sitting still (only 1 subject),
- difficulty keep thoughts from wandering (7 of 13 subjects),
- difficulty visualizing exercises in the meditation (7 of 13 subjects),
- difficulty or reluctant to receive information from their Spirit (3 of 13 subjects),
- difficulty with distractions from family responsibilities, interruptions (4 of 13 subjects).
- difficulty with new perspectives and concepts (2 of 13 subjects)

Key themes with positive experiences to meditation:

- able to gain insight into their emotional and mental responses to stressful situations (12 of 13 subjects),
- learned not to take on other peoples negativity (9 of 13 subjects),
- felt more relaxed (12 of 13 subjects),
- able to focus better (6 of 13 subjects),
- felt more in control of their thoughts and reactions to stress (7 of 13 subjects),
- increased efficiency at work and with personal responsibilities (9 of 13 subjects),
- able to transfer benefits of meditation to the workplace and better able to deal with difficult clients (3 of 13 subjects),
- more motivated to take care of self (ie. eat better food, start to exercise) (3 of 13 subjects),
- increased awareness of their bodies cues of stress and were able to let go of stress (9 of 13 subjects),
- able to have a sharp clarity to know the truth and shift their attitude to release stress (3 of 13 subjects),
- less reactive in stressful situations (4 of 13 subjects),
- able to be more forgiving of self (1 subject),
- felt they were worthy of love (4 of 13 subjects),
- felt it easier to meditate with increased practice (6 of 13 subjects)
- able to get information from their Spirit/Ultimate Other/God/Source of all Love (5 of 13 subjects),
- felt more present and connected with their family (4 subjects),
- increased energy (10 of 13 subjects),
- felt happier, calmer, peaceful (6 of 13 subjects).
- able to sleep better (2 of 13 subjects)

4.5. Summary of Findings

This chapter described the sample demographic information, sample characteristics during the intervention, descriptive statistics for each measure, answered the primary question, tested the three directional hypotheses and illustrated the findings of the journal data analysis. The next chapter will discuss the study findings, implications for nursing practice, research, education and recommendations for future research.
CHAPTER FIVE: DISCUSSION

In Chapter Five, primary study outcomes are discussed within the context of the literature. Limitations of the study, conclusions drawn from the findings, implications of findings for nursing practice, research and education are outlined. Recommendations for further research are offered.

5.1. Discussion of Findings

The findings are discussed in relationship to the research problem, in comparison with previous research, in relation to the study's framework and the theoretical knowledge base. The study limitations are also discussed.

5.1.1. Review of Findings

The meditation intervention group showed a statistically significant decrease Trait Anxiety (p=0.014) and Fatigue levels (Vitality p=0.016) compared to the control group. The intervention group had lower State-Anxiety (p=0.48) levels compared to the wait-list group, however, the difference was not statistically significant. The meditation intervention group had higher levels of Spiritual Well-being (p=0.11) than the wait-list control group but the results were not statistically significant.

5.1.1.1. Findings in Relationship to the Research Problem

The study findings illustrated that meditation was effective in the reduction of two symptoms of nurse work stress: trait anxiety and fatigue. Although the study findings showed that the intervention group had decreased State anxiety (Time 2 mean = 33.62) and increased Spiritual Well-being (mean = 95.21) compared to the control group (state anxiety Time 2 mean = 34.11; Spiritual well-being, Time 2 mean = 94.79), the study results were not statistically significant. Given that these groups were not matched for meditation experience, all the
experienced meditators were in the control group, and that the control group started from a higher mean score (Spiritual Well-being, Time 1, mean = 95.21), than the intervention group (Spiritual Well-being, Time 1, mean = 90.23), it is not surprising that the intervention group failed to show a statistically significant difference on the Spiritual Well-being variable (p = 0.11) (See Figure 5). No other studies have been identified since the onset of this trial that tested the symptoms of work stress in community-based home care nurses.

The study report offers preliminary evidence that meditation was effective in reducing work stress symptoms such as trait anxiety and fatigue in a population of community-based home care nurses. Because the sample size was very small, further research with larger sample sizes would be required before any results could be generalized to the community-based home care nurses in British Columbia.

5.1.1.2. Findings Compared to Previous General Research

The findings that the meditation intervention was effective in reducing nurses' symptoms of work stress, specifically trait anxiety and fatigue, are consistent with previous research that also used meditation as a work stress reduction intervention. The study findings that support the use of meditation in reducing anxiety in non-clinical populations are consistent with Astin (1997) and Shapiro, Schwartz & Bonner's (1998) studies which demonstrated that meditation was effective in reducing pre-medicine and medical student's state and trait anxiety. Furthermore, the study findings were consistent with Carrington’s et al. (1980) findings with telephone employees and Alexander’s et al. (1993) study with automotive industry employees, where meditation significantly decreased anxiety levels (Alexander et al.; Astin; Carrington et al.; McLeroy, Green, Mullen, & Foshee’s 1984; Murphy, 1996; Peters, Benson & Porter, 1977;
It is possible that this study did not detect a decrease in state anxiety because of the small sample size (N = 27).

In this study, meditation increased spiritual well-being, but the difference was not statistically significant. In contrast, Astin (1997) and Shapiro, Schwartz and Bonner’s (1998) studies showed that meditation significantly increased spiritual experiences of medical students. Despite Astin’s (1997) study showing significant increase in spiritual experiences (p < 0.03) in the meditation treatment group compared to the control group, increased spiritual experience was not significantly correlated with decreased stress symptomatology. On the other hand, Shapiro, Schwartz and Boner’s (1998) study demonstrated a significant increase in spiritual experience (p < .02) which positively correlated with decreased state anxiety.

It is difficult to explain the failure to detect a relationship in increased spiritual experience and decreased stress symptomatology in some previous work. The lack of consistency demonstrates the importance of further exploration of these relationships. The lack of consistency between observed changes in spiritual wellbeing and trait anxiety in this study may be a result of the small sample size and the fact that all the subjects with meditation experience were in the control group, thus the probability of failing to reject the null hypotheses, increases the risk of a type II error (Sanders et al., 2001).

5.1.1.3. Findings Compared to Previous Nursing Research

The findings of this study demonstrated that meditation significantly decreased trait anxiety levels of community-based home care nurses in the work environment, which supports previous nursing research by Tsai and Crockett (1993), Bruce et al. (2002) and Beddoe and Murphy (2004). In contrast, Randolph, Price and Collins’ (1986) nursing study reported a decrease in anxiety levels following meditation but the results were not statistically significant.
Each of the nursing studies cited above used a different measure of anxiety. Tsai and Crockett used the Chinese General Health Questionnaire measure. Beddoe and Murphy used Derogatis Stress Profile anxiety scale. Randolph, Price and Collins and Bruce et al. used the SCL-90 R symptom checklist. The present study used Spielberger's state and trait anxiety scale as used in many other work stress reduction studies (Alexander et al., 1993; Davidson et al., 2003; Murphy, 1983; Shapiro et al., 1998). Despite the fact that different anxiety measures were used, each measure was reliable in school and work environments. Randolph, Price and Collins' test results showing a non-significant decrease in anxiety may have been a result of using a "mini-meditation" instead of an in-depth meditation intervention, which was used in the other nursing studies.

There are differences in the subject population recruited for each of the previous nursing studies compared to the present study. This study recruited community-based home care nurses, whereas Tsai and Crockett and Randolph, Price and Collins (1986) recruited nurses working in acute care hospitals, and Bruce et al. (2002) and Beddoe and Murphy recruited nursing students.

All previous nursing research using meditation as a stress reduction intervention had small sample sizes (N <72), except for Tsai and Crockett (1993) who had 137 subjects. Despite the small sample size of this study, the findings contribute to previous literature by demonstrating that meditation may be useful in decreasing anxiety and fatigue levels of community-based home care nurses' work stress.

Previous studies of school and work stress have used different forms of meditation to decrease nurses’ symptoms of stress. This study used an active meditation intervention called, Training in Power Level 1 meditation. In contrast, Tsai and Crockett (1993) used a contemplative meditation, Transcendental Meditation, Bruce et al. (2002) and Beddoe and
Murphy (2004) used insight meditation called Mindfulness Meditation, and Randolph, Price and Collins (1986) used visual imagery called "mini-meditations".

Of the four previous nursing studies using meditation as a school and work stress reduction intervention, both Tsai and Crockett’s (1993) and Randolph, Price and Collins’ (1986) studies used meditation in conjunction with other stress reduction components (presentation on work stress, relaxation methods and imaging treatments, physiological self-regulation techniques and cognitive information about stress). One of the criticisms of using multi-component programs has been that it is difficult to determine which component contributed to the decrease in nurses’ work stress. This present study contributed to the literature by using only one meditation intervention to measure the effects on home care nurses’ work stress.

Despite the different forms of meditation used, the meditation practices all allowed the subjects to change their focus from the external to an internal awareness. This shift in focus allowed a different perspective which may have changed their meaning or understanding of a stressful event, thus influencing their appraisal of a stressful situation or experience to change from a threat to a challenge (Astin, 1997; Beddoe & Murphy, 2004; Bruce et al., 2002; Shapiro et al., 1998; Tsai & Crockett, 1993).

The findings of this present study also demonstrated that meditation significantly decreased fatigue (increased energy/vitality) levels of community-based home care nurses in the work environment. These findings are consistent with previous nursing research done by Bruce et al. (2002). This study built on previous indications that meditation can be useful for addressing stress symptoms by using the same energy/vitality SF-36V2 subscale that was used by Bruce et al. thus producing comparable findings for nursing students and working nurses.
This study’s findings were congruent with Bruce et al.’s (2002) reports that meditation used by nursing students assisted the students to develop an increased awareness of their physical, emotional, mental responses to stress, which enabled them to alter their appraisal of stressful situations from a threat to a challenge and mitigate the stress process (Bruce et al.). This study contributes further to previous research by introducing the concept of using meditation to increase spiritual well-being by strengthening nurses’ internal resource of accessing and strengthening their connection to Ultimate Other/God/Source of all Love to draw guidance to reframe their appraisal of a stressful situation from a threat to a challenge.

5.1.1.4. Findings linked to Theoretical Framework

The findings of the study illustrated that meditation was effective in decreasing trait anxiety and fatigue and showed an upward trend in increasing spiritual well-being. The theoretical framework and knowledge base for this study was Lazarus and Folkman’s (1984) Transactional Model of Stress Appraisal and Coping. This model theoretically explained how meditation can connect the participants to their Ultimate Other/God/Source of all Love as an internal resource that may guide them to change the meaning and understanding of a stressful event by increasing self-awareness of their thought patterns, thus influencing their appraisal of a stressful situation from a threat to a challenge (Kabat-Zinn). This study supports the use of Lazarus and Folkman’s (1984) Transactional Stress and Coping Theory to explain how meditation may assist nurses to change the meaning or increase the understanding of a stressful event from a threat to a challenge, thereby mitigating the experience of stress.

5.1.1.5. Discussion of Findings of Journal Data Analysis

The findings of meditation intervention group’s journal data analysis showed that the intervention group felt more connected to an Ultimate Other or Source of all Love, were worthy
of love, felt more forgiving of themselves, felt a sense of love and tenderness toward themselves, changed their meaning and understanding of a stress event through increased self awareness, increased their ability to discern truth and let go of responsibility for others, and were more aware of their emotions. They were also more able to concentrate their thoughts to enhance their mental faculties, increase their awareness of their environments, gain insight in not taking on other peoples negativity, focus, control their thoughts, emotions and responses to stressful situations, deal with difficult clients and situations, decrease their emotional reactions to stressful situations, increase their motivation to look after their health, let go of stress and attend to their bodies' feelings associated with stress, and manage multiple demands. All of those abilities contributed to their reports of changing their appraisal of stressful situation from threat to challenge and transferring the benefits of meditation to their workplaces so that they felt more relaxed, calm, peaceful, and happy. The home care nurses' journals demonstrate how the meditation operated in their lives which supports Lazarus and Folkman’s (1984) view of how meditation can connect the participants to their Ultimate Other/God/Source of all Love as an internal resource that may guide them to change the meaning and understanding of a stressful event by increasing self-awareness of their thought patterns, thus influencing their appraisal of a stressful situation from a threat to a challenge.

Other finding of the journal data analysis illustrated that some of the nurses in the intervention group experienced some challenges with the meditation: 1) they had difficulty making time “to meditate before work”; 2) they experienced difficulty in the first week to sit still and meditate; 3) they had difficulty in the first two weeks to keep their focus during meditation because they were too “tired” at the end of the day and would fall asleep during the meditation”; 4) they felt frustrated when they were not able to visualize in the meditation and felt their
thoughts “going elsewhere”; 5) they found it difficult to “justify the time to meditate” and felt “self indulgent” i.e. “time to meditate verses time with family” and 6) they found noise interruptions easily disrupted their meditation and would “lose track” of their place in the meditation. These reported challenges may have affected the nurses’ commitment to continue practicing the meditation more frequently. Past research reported that the regular use of meditation significantly decreased symptoms of stress (Alexander et al., 1993).

Most of the nurses in the intervention group found that as the weeks progressed, they found it “easier to meditate” and their “focus increased” and were starting to “incorporate time to meditate” into their daily lives. These findings are similar to Bruce et al. (2002) findings where nursing students found that the meditation techniques were not integrated into their lives immediately, but by the end of the 8 week course the students were able to trust themselves more and their own experiences.

5.1.2. Limitations of the Study

The study was conducted in the Fraser Health Authority (FHA). The FHA is only one of five Health Authorities in British Columbia (B.C.) and is therefore reflective of a small portion of community-based registered home care nurses in BC. The study did not address any structural features in nurses’ working environments that are contributing to their work stress. The small sample size limited the clinical significance of the results. Due to the small sample size, the results of the study should not be generalized to home care nurses in B.C. The study is limited by the small, self selected population of nurses who may have been interested in learning a meditation system and who may have perceived themselves as being challenged with work stress. Another limitation to the study is ‘hypothesis guessing,’ where subjects have knowledge that meditation is being studied as a stress reduction intervention and this knowledge could
influence their behaviour and possibly alter their appraisals to achieve the outcomes (Burns & Grove, 1997).

Despite the randomization of subjects into intervention and control groups, cross contamination may limit the study since the HCNs worked together in the same health units. The intervention group nurses may have talked with or have been overheard by the control group nurses when discussing the intervention. There may also be a maturation bias with the nurses who participated in the meditation intervention over the four weeks may have altered the climate of the health unit. These changes may have also affected the control group before they completed the post-intervention measures.

Other limitations are that despite efforts to control for historical internal validity by stratifying subjects with meditation experience into the intervention and control groups, two subjects with meditation experience who were randomized into the intervention group could not attend the meditation class and were defaulted to the control group. Subjects that were exposed to other forms of stress reduction and meditation prior to the study may have affected the control group’s results. The researcher was aware of the subjects’ group allocation and was also responsible for collecting the data and undertaking the data analysis. This could have created some bias.

5.1.3. Conclusions

The study findings show preliminary information to support that meditation was effective in reducing trait anxiety and fatigue symptoms of community-based home care nurses’ (HCN) work stress in British Columbia (B.C.). The study findings also demonstrate a non-significant decrease in state anxiety and increase in spiritual well-being in the meditation intervention group compared to the control group.
5.2. Implication for Nursing Practice

This study found statistical significance in reducing two symptoms of home care nurses' (HCN) work stress, despite a small sample size and with an over representation of meditators in the control group. The study has implications for nursing practice. Community-based HCNs are experiencing stress symptoms such as trait anxiety and fatigue. Community-based HCNs in B.C. can respond to meditation as a form of stress reduction. These finding supports the College of Nurses' of BC, formally known as the RNABC’s guidelines for nurses to maintain their physical, emotional and mental self-care to ensure their fitness to practice.

The nurses in this study were able to use meditation as a stress reduction intervention during stressful work situations to reframe and change the nurses’ appraisal of a stressful situation from a threat to a challenge. Because the study did not address any structural features, the implications of the findings for nursing practice are limited. It is not adequate to encourage nurses’ to take care of themselves and maintain their fitness to practice without addressing the structural causes of stress in their working environments.

5.3. Recommendations for Nursing Research

Although this study found significant results in terms of meditation reducing symptoms of work stress, further study should use longitudinal designs to assess the long-term effects and frequency of practice of the meditation intervention on symptoms of work stress. It was not within the scope of this study to determine whether the home care nurses continued to practice the meditation intervention after the study was completed. Future research would be useful to determine if reduction of some symptoms of work stress can be maintained with long term meditation use. Research using other meditation techniques, such as mindfulness meditation, has shown that individuals who continued meditating following an intervention were able to
maintain health benefits for up to four years (Kabat-Zinn et al., 1992). It would be interesting to conduct future research that compared the effects of other meditation techniques, such as, Transcendental Meditation (TM), Mindfulness Meditation (MM) and Level 1 Training in Power (TIP) meditation systems on nurses' symptoms of work stress. Lastly, although the findings in this study demonstrated increased spiritual well-being in home care nurses after the meditation intervention, the results were not significant. Reduced spiritual well-being as a symptom of work stress is a fairly new concept. Future research with larger sample sizes is warranted to build our knowledge base around the effects of meditation on reduced spiritual well-being as a symptom of stress.

5.4. Implications for Nursing Education

In addition to the implications for nursing practice and research, there also are implications for education. The study findings revealed that meditation was an effective work stress management tool that decreased some symptoms of work stress in professional nurses by changing their appraisal of a stressful situation from a threat to a challenge and therefore they were in a positive position to take action to neutralize stressful situations. Because these limited results show the benefits of meditation to reduce symptoms of work stress, meditation may be a valuable stress management intervention that could be offered in a nursing curriculum. Ongoing support groups at work or nursing schools to review meditation techniques and debrief stressful situations could be offered to provide support and opportunity for growth for students by listening and learning from each others experiences. Nurses who are able to be more present and caring with the self may be able to be more present and caring with others.
5.5. Dissemination of Findings

As part of the dissemination of the findings, participants will be sent a one-page summary of the study’s outcomes. The researcher will present the study outcomes to interested staff at the Fraser Health Authority (FHA) health units, university faculty and students. The researcher will also make a presentation of the study results to the Directors of the Board of Training in Power: A Spiritual Journey of Service Organization. The study will be noted among the Registered Nurses Foundation of British Columbia and Sigma Theta Tau International Nursing Society websites with acknowledgement of funding received.

Initiatives will be taken to present the findings at international, national and provincial professional nursing conferences. For example, abstracts will be submitted for presentation to the Sigma Theta Tau International Honor Society of Nursing: 17th international nursing research congress, Vancouver Research Network for Spirituality and Healing: 4th International Multidisciplinary Conference on Spirituality and Health, and UBC: Ethel Johns Research Forum. Study results will also be forwarded for consideration for publication to appropriate research, nursing, holistic health and other disciplinary journals. The completed thesis will be made available for distribution through academic library systems.

5.6. Summary and Conclusions

Guided by past research studies using meditation as a stress reduction intervention and by Lazarus and Folkman’s Theory of Stress Appraisal and Stress, this study was conducted to test the effects of meditation on community home care nurses’ symptoms of work stress, namely, anxiety, fatigue and a reduced spiritual well-being. The nursing subjects were stratified and randomly assigned to either an intervention or a control group, and weekly meditation reports were gathered for three weeks from the intervention group until the meditation classes were
completed. Randomized controlled trial (RCT) design was used to examine the difference between group effects of meditation on symptoms of work stress—state and trait anxiety, fatigue, and reduced spiritual well-being. The data was analyzed using a one-tailed, directional paired t-tests and ANOVA. There were statistically significant differences in terms of decreased trait anxiety and fatigue scores of the intervention group compared to the wait-list control group and non-significant differences in state anxiety and spiritual well-being. The ANOVA test confirmed that meditation and work experience had no significant effect on group differences. The meditation intervention used in this study has the potential to offer nurses strategies to deal with workplace stress in a context where structural features are not addressed. The meditation used in the study should be compared with other forms of meditation including a longitudinal assessment approach with larger sample size of community-based home care nurses and with nurses in other environments, such as acute care hospitals.
REFERENCES


Wright, S. (2003). Feel the burn: the way to overcome burnout is not to retreat from your suffering but to face up to its spiritual causes. Nursing Standard, 17(25), 25.

Appendix D

JAREL Spiritual Well-being Scale

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Moderately Disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Moderately Agree</th>
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</table>

1) Prayer is an important part of my life
2) I believe I have spiritual well-being
3) As I grow older, I find myself more tolerant of others
4) I find meaning and purpose in my life
5) I feel there is a close relationship between my spiritual beliefs and what I do
6) I believe in an afterlife
7) When I am sick I have less spiritual well-being
8) I believe in a supreme power
9) I am able to receive and give love to others
10) I am satisfied with my life
11) I set goals for myself
12) God has little meaning in my life
13) I am satisfied with the way I am using my abilities
Appendix D (Continued)

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<tbody>
<tr>
<td>(1)</td>
<td>Strongly Disagree</td>
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<tr>
<td>(2)</td>
<td>Moderately Disagree</td>
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<tr>
<td>(3)</td>
<td>Disagree</td>
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<td>(4)</td>
<td>Agree</td>
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<td>(5)</td>
<td>Moderately Agree</td>
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</tr>
<tr>
<td>(6)</td>
<td>Strongly Agree</td>
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</tbody>
</table>

14. Prayer does not help me in making decisions.............. 1 2 3 4 5 6
15) I am able to appreciate differences in others............... 1 2 3 4 5 6
16) I am pretty well put together............................... 1 2 3 4 5 6
17) I prefer that others make decisions for me.................. 1 2 3 4 5 6
18) I find it hard to forgive others............................. 1 2 3 4 5 6
19) I accept my life situations.................................. 1 2 3 4 5 6
20) Belief in a supreme being has no part in my life........... 1 2 3 4 5 6
21) I cannot accept change in my life............................ 1 2 3 4 5 6
Appendix E

Spielberger STAI Anxiety-State and Trait Scale

<table>
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<tr>
<th></th>
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<th>Not at all</th>
<th>(2)</th>
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<th>(3)</th>
<th>Moderately So</th>
<th>(4)</th>
<th>Very Much So</th>
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<tbody>
<tr>
<td>1.</td>
<td>I feel calm</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
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<tr>
<td>2.</td>
<td>I feel secure</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
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<td></td>
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<tr>
<td>3.</td>
<td>I am tense</td>
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<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
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<tr>
<td>4.</td>
<td>I feel strained</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<tr>
<td>5.</td>
<td>I feel at ease</td>
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<td>2</td>
<td>3</td>
<td>4</td>
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<tr>
<td>6.</td>
<td>I feel upset</td>
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<td>2</td>
<td>3</td>
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<tr>
<td>7.</td>
<td>I am presently worrying over possible misfortunes</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<td>8.</td>
<td>I feel satisfied</td>
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<td>2</td>
<td>3</td>
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<td>9.</td>
<td>I feel frightened</td>
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<td>3</td>
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<td>10.</td>
<td>I feel comfortable</td>
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<td>2</td>
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<td>11.</td>
<td>I feel self-confident</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<tr>
<td>12.</td>
<td>I feel nervous</td>
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<td>2</td>
<td>3</td>
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<tr>
<td>13.</td>
<td>I am jittery</td>
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<td>2</td>
<td>3</td>
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<td>14.</td>
<td>I feel indecisive</td>
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<td>2</td>
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<td>15.</td>
<td>I feel relaxed</td>
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<td>16.</td>
<td>I feel content</td>
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Appendix E. (Continued)

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<th>Moderately So</th>
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<th>Very Much So</th>
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</table>

17. I am worried......................................................... 1 2 3 4
18. I feel confused...................................................... 1 2 3 4
19. I feel steady......................................................... 1 2 3 4
20. I feel pleasant....................................................... 1 2 3 4
21. I feel nervous and restless......................................... 1 2 3 4
22. I feel satisfied with myself......................................... 1 2 3 4
23. I wish I could be as happy as others seem to be................ 1 2 3 4
24. I feel like a failure................................................... 1 2 3 4
25. I feel rested........................................................... 1 2 3 4
26. I am “calm, cool, and collected”................................... 1 2 3 4
27. I feel that difficulties are piling up so that I cannot overcome them... 1 2 3 4
28. I worry too much over something that really doesn’t matter...... 1 2 3 4
29. I am happy............................................................... 1 2 3 4
30. I have disturbing thoughts............................................ 1 2 3 4
31. I lack self-confidence................................................ 1 2 3 4
32. I feel secure............................................................ 1 2 3 4
33. I make decisions easily................................................ 1 2 3 4
Appendix E. (Continued)

<table>
<thead>
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34. I feel inadequate ......................................................... 1 2 3 4
35. I am content ................................................................. 1 2 3 4
36. Some unimportant thought runs through my mind and bothers me ....... 1 2 3 4
37. I take disappointments so keenly that I can’t put them out of my mind 1 2 3 4
38. I am a steady person ......................................................... 1 2 3 4
39. I get in a state of tension or turmoil as I think over my recent concerns
   and interests ................................................................. 1 2 3 4
Appendix F

Short Form-36 Vitality Subscale

<table>
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<tr>
<th></th>
<th>All of the time</th>
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<th>Most of the time</th>
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<th>A good bit of the time</th>
<th></th>
<th>A little of the time</th>
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<th>None of the time</th>
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1) Did you feel full of life? ........................................ 1 2 3 4 5
2) Did you have a lot of energy? ................................. 1 2 3 4 5
3) Did you feel worn out? ................................. 1 2 3 4 5
4) Did you feel tired? ................................. 1 2 3 4 5
Appendix G

Demographic Questionnaire

Subject #: ________________________________________________________________

Male ___ Female ___ Age: _________________________________________________

Health Unit: _____________________________________________________________

Position Title: ___________________________________________________________

*Please use a check mark to answer the following questions:*

1. Home Care Nursing Work Experience:
   - One to Five years ___; Six or more years ___

2. Meditation Experience:
   - I practice a form of meditation one or more times a week ___
   - I have no recent experience with meditation ___

3. Are you currently undergoing psychotherapy or being treated by a mental health professional? Yes ___ or No ___

*Please answer the following question:*

4. Write your spiritual or religious affiliation._________________________________
   or Write no spiritual or religious affiliation if applicable ______________________

5. What is your highest level of education?
   - College completed ( )
   - University courses ( )
   - University degree ( )
   - Post-graduate degree ( )