Multiple Perspectives: Health Effects Of A Mindfulness-Based Stress Reduction Intervention In The Yukon

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Abstract

This quasi-experimental study explores health related change in Yukon adults who participate in a mindfulness-based stress reduction program (MBSR). Participants (n=30) were randomly assigned to wait-list control or intervention and 23 participants were purposively assigned to a non-equivalent control group (NECG).

Participants provided demographic data, blood pressure/pulse readings, completed the Mindful Attention Awareness Scale (MAAS), Symptoms of Stress Inventory (SOSI), Index of Core Spiritual Experiences (INSPIRIT) and Multi-Dimensional Health Locus of Control (MHLC). Qualitative measures included participant diaries and individual interviews. Mean SOSI scores decreased significantly in the intervention group, $p<0.05$, and NECG, $p<0.05$, during the first program. A significant decrease in participant stress symptoms was noted by third parties, $p<0.01$. Qualitative data suggest MBSR can be a useful tool for self care associated with improved coping. Design limitations prevent the assumption of causality but further investigation of the relationship between MBSR and health related change is warranted.

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Chapter One - Introduction

Excessive stress has adverse effects on both physical and mental health. While promoting adaptation over the short term, excess production of stress hormones has been linked to suppression of the immune system, increased risk of obesity, gastrointestinal disorders, heart disease and addiction. Stress overload is a precursor to anger, panic, anxiety and depression. Early effects of stress tend to be psychological with later manifestations, physiological (Massion & Bowes, 1999; Merz et al., 2002; National Institutes of Health, 2002; Sternberg & Gold, 1997).

Challenging incoming information or stimuli causes the central nervous system to respond. These stimuli may be external, internal, psychological or physical. The brain's stress response triggers a cascade of molecular, cellular and behavioral changes impacting all body systems. These changes provide a protective function during acute stress, but if activated over time can be hazardous. The fight or flight reaction is the main physiologic response involving the release of epinephrine, norepinephrine, beta-endorphin, aldosterone and cortisol into circulation. Physiological functions such as blood pressure, heart rate, blood sugar and vascular tone are altered by the body to cope with stress (Gilbert, 2003; Selhub, 2002).

Fighting or fleeing can be inappropriate responses to modern day stressors, which are often related to daily events and relationships. There is growing evidence that how we see ourselves and others, our stress management style and genetic make-up, can cause or exacerbate health problems (Jacobs,

2001; Sternberg & Gold, 1997). It is important to do further clinical research to examine educational and behavioral approaches that may mitigate the effects of stress and disease.

Why does stress deserve our attention?

In Canada, current stress is considered a correlate of mental health status (Stephens, Dulberg & Joubert, 1999). Sixteen percent of Canadians report that stress affects their lives (Stephens, et al., 1999). Those reporting high levels of stress are much more likely to experience distress and depression, than those reporting low levels. Distress is defined as a state characterized by symptoms of anxiety and depression, while depression is considered a mood disorder characterized by pervasive sadness and sometimes a sense of helplessness, hopelessness, irritability and physical symptoms such as fatigue (Stephens et al.,1999).

In the United States 75 to 90 percent of physicians' visits are stress related according to data provided by the National Mental Health Association (Massion & Bowes, 1999). Excessive stress can lead to lost productivity, absenteeism and employee turnover in the workplace. In addition to the myriad personal costs are expensive treatments for stress-related conditions including antidepressants and anxiolytics, medications to treat sleep disturbances, anti-hypertensive drugs and over the counter products for gastrointestinal upsets (Astin, 1997; Stephens & Joubert, 2001).

What can we do about stress?

Our health care system currently offers few opportunities to learn effective strategies for coping with stress. Methods of promoting relaxation, including various forms of meditation, make up one promising behavioral intervention. Mindfulness-based stress reduction (MBSR) as a complement to appropriate medical attention has been found helpful in a variety of conditions and settings.

One premise of MBSR is the belief that how we think and act can have an effect on our physical health and on our ability to recover from illness and injury (Kabat-Zinn, 1990). Another premise is that we each have an array of inner resources that can be mobilized to assist us in healing and learning promoting a self-regulatory approach to health (Proulx, 2003). This approach is set apart from traditional medical models in attending to what people have in common in a medically heterogenous environment. Cultivating mindfulness is considered a central component of a valuable health related change process that is not dependent on a particular belief system or ideology. Benefits are accessible to everyone (Kabat-Zinn, 1996, 1990). Profound personal change can occur with a regular stress reduction practice making this research important (Kabat-Zinn, 1990, 1994, 2005; Santorelli, 1999).

Statement of the problem

There is ample evidence that excessive stress is related to physical and mental health. The body's response to stress can be both helpful and harmful, giving us strength and speed to ward off and flee from an impending threat as well as impacting our health over time (NIH, 2002). Current stress is related to

mental health status in Canada and serious personal and professional consequences can result from ineffective coping strategies (Stephens & Joubert, 2001). A therapeutic method that emphasizes competence and self care for chronically ill or stressed individuals could provide health and economic benefits and warrants further investigation (Majumdar, 2002).

Stress in the Yukon

In the Yukon, data on levels of stress and sources of stress gathered as part of the Yukon Health Promotion Survey (YHPS) revealed that overall, 12 percent of Yukoners indicated that their lives were 'very stressful' while 48 percent found their lives 'somewhat stressful'. Stress seems to be implicated with quality of life. Fourteen percent of Yukoners with 'very stressful' lives report an 'excellent' quality of life while 30 percent of those respondents who report 'not at all stressful' lives have 'excellent' quality of life. Males and females reported similar stress levels. Stress was identified as a factor affecting mental and emotional health. Participants suggest that those who are emotionally and mentally healthy can cope, access resources, make decisions and solve problems more effectively (Government of Yukon, 1993). Overall Yukon stress levels are reported as less than the Canadian average, and both self-rated health and functional health are rated slightly higher than the Canadian average (Canadian Institutes of Health Information, 2003).

Yukoners have expressed the need for alternatives and choice within their health care system (Government of Yukon, 1993; Yukon Health Summit, 1999). Limited access to a range of health services has been identified as adding

personal responsibility for self care and health maintenance for northern women in particular. Lack of health promotion programs has been identified as one deficiency in rural health care services (Madrid, 2003; Ministerial Advisory Council on Rural Health, 2002; UNBC, no date, Watanabe & Casebeer, 2000). Leipert (1999) suggests that ways to assist northern women include supporting their efforts to increase personal responsibility for their health and improving their ability to access both preventive and treatment services.

Mindfulness based stress reduction (MBSR)

Our health care system currently offers few opportunities to learn effective strategies for coping with stress. MBSR is one promising behavioral intervention, considered a generic approach to self-care.

MBSR is:

- a skill-based approach providing training in mindfulness meditation techniques. Practices are taught appealing to participants with different needs and preferences, in a cost-effective group format.
- a vehicle for teaching how to optimize health, live better and cope with chronic conditions. It builds on individual strengths cultivating inner resources to improve overall health and well-being.
- a practice that develops the capacity to change automatic reactions to conscious responses suggesting new ways to think about and cope with stressful situations.
- a complement to professional care strengthening personal resources for healing and reducing resistance to change. By improving overall health

status MBSR may impact health care utilization and ultimately reduce costs (Kabat-Zinn, 1990, 1996; Kabat-Zinn & Chapman-Waldrop, 1988; Salmon, Santorelli & Kabat-Zinn, 1998; Williams, 2001).

The research question

Does participating in a MBSR intervention make a difference for a group of Yukon adults who describe their lives as stressful and self select to attend a course on stress reduction? Using multiple perspectives this study examines changes in health related outcomes and participant experiences as a result of exposure to a MBSR intervention. An exploration of physical, social, emotional, psychological and spiritual dimensions of health are integrated with a thematic description emerging from individual interviews, diaries, evaluations and third parties providing a comprehensive account. The study is an outgrowth of my interest in stress, meditation and health enhancement. It is important for further clinical research to occur to test such programs to determine to what extent they are legitimate health care strategies.

Clarification of terms

Health

Health has been defined within the preamble of the Yukon Health Act, as the physical, emotional, social, mental and spiritual well being of residents of the Yukon in harmony with their physical, social, economic and cultural environments (Government of Yukon, 2003). Providing education and information intended to promote health is based on an underlying assumption that individual health behavior affects health status. A more pragmatic objective is to address the

increasing costs of technology-intensive medicine through prevention and complementary approaches to self managed care (Government of Yukon, 1993).

Stress

While stress is a pervasive topic in our modern world there remains a poor understanding of what it really means (McEwen, 2001). Hans Selye considered the father of modern stress theory, described stress as the nonspecific response of the body to any demand made upon it (Selye, 1974). The concept of stress has evolved to include both psychological as well as physiological processes. Dr. Richard Lazarus proposed that from a psychological perspective stress can be considered a transaction between a person and his or her environment. He considered psychological stress a relationship between the person and the environment that is appraised by the person as exceeding personal resources and endangering well-being (Lazarus & Folkman, 1984).

Self care

The complexity of self care has led it to be described as a concept, theory, process, movement and phenomenon. There is agreement amongst some disciplines on characteristics that pertain to self care. The concept is considered situation and culture specific, involves the capacity to act and to make choices, is influenced by knowledge, skills, values, motivation, locus of control and efficacy and focuses on aspects of health under individual control (Gantz, 1990).

Meditation

There are many ideas and theories about meditation. Schools of meditation use prayer, reflection, devotion, visualization and other ways to calm

and focus the mind (Goldstein & Kornfield, 2001). Meditation has been defined as the self-regulation of attention in the service of self-inquiry and usually involves relaxation, concentration, altered states of awareness, suspension of logical thought processes and maintenance of a self-observing attitude (Perez-De-Albeniz & Homes, 2000). Meditation may lead to physiological, behavioral and cognitive changes that in turn have potential therapeutic benefits (Bogart, 1991).

Mindfulness

Mindfulness can be described simply as the intentional cultivation of nonjudgmental moment-to-moment awareness (Kabat-Zinn, 1996). Underlying this concept are a number of assumptions: humans tend to be unaware of their moment-to-moment experience and often operate on automatic pilot mode; we can learn to pay attention to mental content while disengaging from thoughts and feelings about what is being observed; this ability develops gradually and requires regular practice; observing mental content without judgment may gradually lead to more effective action in the world through acknowledgment and acceptance of situations as they are (Bishop, 2002; Grossman et al., 2004; Hirst, 2003; Shapiro et al., 2006). Martin (1997) defines mindfulness as a state of psychological freedom that occurs when attention remains quiet and limber, without attachment to any particular point of view.

Chapter Two - Review of the Literature

Summary and discussion of related research

Literature for this study spans the fields of health and stress, self care and meditation.

The universe viewed as a mechanical system made up of component parts emerged from the ideas of the 17th century thinker Descartes. This 'Cartesian' paradigm influenced medical thought producing the conceptual foundation of scientific medicine and the biomedical model. The success and achievements of the scientific tradition and biomedicine have radically changed the meaning and purpose of health, and have proven both beneficial and detrimental (Capra, 1991).

Prior to the discovery of antibiotics the belief that the mind played an important role in physical illness was generally accepted by both physician and patient. The idea that the body's own response can influence susceptibility to disease and its course was lost, however, in the rush to discover new medications to treat and cure specific infections and diseases (Sternberg & Gold, 1997). A broader understanding of the chronic diseases currently plaguing our society has led to a recognition of the importance of viewing these diseases in the context of the individual and his or her life (Benjamin, Benson, Gordon & Sullivan, 1997).

While the biomedical model is still dominant change is occurring. Influences include shifts in patterns of disease from acute to chronic, a movement from a cure to a care philosophy, increasing concern about excessive

technology, depersonalized medical care and escalating costs and a broader understanding of health and healing (Lachman, 1996). Effectively utilizing patients' own physical and mental resources for health and healing is the essence of mind-body medicine. Mind-body medicine seeks to help an individual gain control over the various obstacles and effects of disease while maximizing the benefits of self care strategies (Astin et al., 2003; Benjamin, Benson, Gordon & Sullivan, 1997).

Health has been variously described in the YHPS as a holistic concept, a dynamic state of life, capacity or potential and as goal-directed action or coping. Yukoners' understanding of health was revealed in their descriptions of physical, sociological, metaphysical and psychological dimensions. Spirituality, manifesting as both religiosity and spiritual connection, played a role in many respondents' interpretations of health. Emotions and the mental processes that form them were inextricably linked, with participants equating health with the need to pay attention to their mental activity. A consistent element of mental health was identified as the continuing battle with 'stress' (Government of Yukon, 1993).

Stress literature describes biological and psychological stress perspectives. The biological stress perspective focuses on activation of physiological systems that respond specifically to physical and psychological demands. The psychological perspective pays attention to an individual's subjective evaluation of coping abilities when faced with demanding experiences (Cohen, Kessler & Gordon, 1997).

Biological stress perspective

The term stress was used as early as the 14th century to denote hardship, straits, adversity or affliction. By the 19th century the concepts of stress and strain were linked to ill health (Lazarus & Folkman, 1984). Walter Cannon, an American physiologist, studied the stress reaction at Harvard Medical School in the 1930s. He documented the physiological effects of the emergency reaction, defined as an acute physiological reaction that prepares the organism for fighting or fleeing (Jacobs, 2001). Hans Selye credited with the initial research on the effects of stress and emotions on the body studied the fight or flight response in the 1950s. He described the general adaptation syndrome (GAS), a three staged stress response that included the alarm, resistance and exhaustion phases (Cohen, Kessler & Gordon, 1997; Jacobs, 2001; Selye, 1974).

A protection versus damage paradox is one of the hallmarks of the action of the multiple biochemical mediators of stress. Research has shown that adrenalin and cortisol, two important hormones in the physiological response to change or challenge, help mobilize and replenish energy in acute stress. These same hormones can increase fat deposition, hypertension, insulin resistance and cardiovascular disease when the body stores rather than burns off energy obtained from food. The hormones help move immune cells throughout the body to fight off infection in response to acute stress, but paradoxically cause immunosuppression when secreted over many days. Finally, cortisol and adrenalin can promote the creation of memories associated with frightening experiences and helps us avoid similar future scenarios while chronic exposure

to stress hormones actually produces damage to nerve cells and their connections (McEwen, 2001).

Chronic stress

The impact of chronic stress on physical health has been the topic of much new research. The adaptive response to chronic stress is called allostasis. Allostatic load reflects the wear and tear on the body produced by the inevitable need to adapt to an ever-changing world and can predict future health effects. Allostatic load can increase with exposure to multiple stressors, lack of habituation or adaptation and delayed shut-off of each stress response (McEwen, 2001).

Researchers have recently measured a number of subtle physiological transformations occurring as a response to chronic stress. These changes are associated with later cognitive and physical decline in the elderly. Increased risk was found to exist from both large dysregulation effects and from modest dysregulation occurring across multiple systems. This work is opening up a new way to understand the relationship between chronic stress and eventual negative health outcomes (Gilbert, 2003; Karlamangla et al., 2002, McEwen, 2001).

The link between chronic stress and other indices of poor health including poorer immune function and the rate of cellular aging has been explored. Research indicates that while acute stressors are associated with enhanced natural immunity, chronic stressors are related to suppression of both cellular and humoral immune function (Segerstrom & Miller, 2004). Chronic and perceived stress has been linked to cellular aging. Biological factors known to

determine cell senescence and longevity are affected by both perception of life stress and chronic stress in healthy women. These findings point to a greater understanding at the cellular level of how stress may promote earlier onset of age-related and chronic conditions (Epel et al., 2004; The Daily, 2004).

A growing body of research supports the idea that psychosocial stress is a risk factor for cardiovascular disease (CVD) (Merz et al., 2002). Studies have shown that the development of hypertension over ten years was predicted by family history and by blood pressure reactivity interacting with self-reported daily stressors. In addition blood pressure reactivity to mental stress predicted left ventricular mass (Tennant, 2001). The recent INTERHEART study examined participants from around the world and supports these findings. The relationship between stress and CVD was found to be consistent across geographical regions, age and gender (Rosengren et al., 2004).

Psychological stress perspective

The psychological stress perspective emphasizes the dynamic nature of stress. The effort of the body to maintain or restore equilibrium is analogous to the psychological process of coping. The psychological perspective pays attention to a person's subjective evaluation of coping abilities when faced with demanding experiences. Lazarus and his colleagues proposed that stress is a transaction between a person and the environment. Using a cognitive appraisal process, the individual compares the nature of the environmental demands with the resources available to meet them. An event appraised as highly threatening in one situation may be reappraised as less threatening in a subsequent

experience. The individual may learn new information about the event or adopt more effective ways of coping with it (Cohen, Kessler & Gordon, 1997; Lachman, 1996; Lazarus & Folkman, 1984).

Coping

In Lazarus's framework, coping is a behavioral effort to manage or tolerate the appraised stress. Coping is classified as changing the situation for the better through specific actions and the regulation of emotions to manage aspects of the stressful transaction. Lazarus described both problem and emotional based coping styles. Problem-focused coping involves manipulating the environment, confronting the source of stress and changing the potential stressor itself while emotion-focused coping works on the emotional or physiological response directly (Lazarus & Folkman, 1984).

Healthy coping can include changing the way we see ourselves in relation to stressors in our environment. Changing our experience of the relationship can modify the extent to which stressors tax our resources or endanger our well-being. Health and energy, positive beliefs, problem solving skills, social support and material resources are valuable personal resources used in coping. Coping does not always mean overcoming stress as many sources of stress cannot be mastered. Coping under these conditions allows individuals to tolerate, minimize, accept or ignore what cannot be mastered (Kabat-Zinn, 1990; Lachman, 1996; Lamontagne, Mason & Hepworth, 1985; Monat & Lazarus, 1991; Lazarus & Folkman, 1984; Singer & Davidson, 1986). This view of appraisal and coping is congruent with Kabat-Zinn's perspective that highlights

the value of moment-to-moment awareness of thoughts and feelings providing space in an appraisal process for attentive response rather than habitual reaction (Bruce, Young, Turner, Van Der Wal & Linden et al., 2002).

In the Yukon, respondents to the YHPS were aware of and attempted to manage both their experience of stress and their physical and mental health. Participants reported trying to eliminate stress in their lives and attempting to 'cope' with stress, with coping seen as a healthy response to stress (Government of Yukon, 1993). Coping skills along with personal health practices are considered important determinants of health, and are fundamental to the concept of self care (Health Canada, 1997).

Self care

Self care has been defined as the decisions and actions initiated and controlled by the individual, their families and social peers, with the goals of promoting and protecting health, the cure of minor illnesses and the management of chronic conditions (Government of Yukon, 1993). An exploratory study by Health Canada (1997) included a definition of self care that incorporated decisions to do nothing, self-determined actions to promote health or treat illness, and decisions to seek advice in lay, professional and alternative care networks, as well as actions based on that advice.

Traditionally, the individual and family provided much of health care. Modern interest in self care developed in the 1960s with social movements like the women's movement. This movement emphasized issues of autonomy, self-determination and independence. Knowledge of self care reached a broader

public because of the wellness and self-help movements of the 1970s (Health Canada, 1997). A growth in lay knowledge in the 1990s with a desire for increased personal control in health matters and decreasing interactions with health care professionals has supported this trend. Self-help techniques in the form of mind-body interventions are thought to empower an individual's sense of control, which is associated with improved health and longevity (Jacobs, 2001). The ability to exercise self care is important and is positively correlated with self-esteem (Lachman, 1996; Santorelli, 1992).

The self care movement has detractors who are unsure about the current emphasis on self care. They suspect there is a hidden agenda in healthcare reform under the guise of self care and empowerment. Perhaps the government, in an effort to curtail escalating health care costs, has sold the public on the ideology of self care to shift responsibility to the individual. Individuals who fail to participate in self care activities deemed beneficial may be blamed for their ill health. Self care and behavior choice does not occur solely at the level of the individual, however, but is shaped by a combination of factors in the community and larger society. Acknowledging the limits and significant benefits to self care may counter these concerns (Health Canada, 1997; Keeping, 2002).

Increased personal responsibility for health and changing personal behavior may hold the greatest promise for reducing the long-term affects of chronic disease. Herbert Benson of Harvard Medical School proposed a health supporting model of the three-legged stool integrating the legs of pharmaceuticals, surgery and procedures and self care techniques to support

health (Jacobs, 2001). In Canada self care was advanced as one of three mechanisms in a health promotion framework to address the challenges of reducing inequities, increasing prevention and enhancing people's ability to cope with chronic conditions and other health problems (Epp, 1986). Health promotion programs that assist individuals in learning and practicing stress reduction strategies are one example of encouraging healthy coping and self care. Self care has been described as a central facet of the MBSR experience, in the health promotion literature (Cohen-Katz et al., 2004; Health Canada, 1997).

Meditation

In trying to formulate a definition of meditation it is important to consider that all meditative techniques are culturally embedded. Meditative practices with distinctive spiritual, historical or philosophical contexts don't lend themselves to simple generic definitions (Donavon & Murphy, 1999). Meditation has been defined as a group of practices that train attention and awareness, usually with the aim of fostering psychological and spiritual well-being. For most people it is a useful self care technique that brings mental, physical and spiritual benefits and does not require adherence to any particular religion or philosophy. It can positively influence the experience of chronic illness and may be a useful prevention strategy (Bonnadonna, 2003; Haynes, 2004).

A small body of literature reports that some persons experience negative experiences while meditating. Donavon & Murphy (1999) reported a range of negative experiences in their summary of meditation research. These experiences range from anxiety, tension and anger to increased body pain and

insomnia. Those with a history of schizophrenia may experience psychotic episodes with hallucinatory behavior precipitated by meditation practice. Experiencing overwhelming negative and unpleasant thoughts have been reported during meditation (Donavon & Murphy, 1999).

An emphasis on concentration or mindfulness represents two large generic categories of meditation practice. Concentrative approaches cultivate focused attention on a single object. Mindfulness practices start with a degree of focused attention and then expand to include awareness of a range of objects of attention observing them change from moment to moment (Bonadonna, 2003; Kabat-Zinn, Massion, Hebert & Rosenbaum, 1998; Shapiro et al., 2006).

Meditation has been the focus of an increasing number of basic experimental studies over the last decade. Investigation has begun to shift from the level of gross physiology to more detailed points of biochemistry and the voluntary control of internal states, as well as the role of spiritual experiences in both psychology and medicine (Donavon & Murphy, 1999).

Transcendental meditation (TM)

The most prolific research on meditation continues to be on transcendental meditation. TM researchers began describing a waking state distinctly different from normal waking consciousness and the state of sleep. Goleman & Schwartz (1976) compared TM and relaxation for the ability to reduce stress reactions in a laboratory threat situation. Meditators experienced less subjective anxiety than those practicing relaxation (Goleman & Schwartz, 1976). Studies have explored the effects of TM on medical conditions and personality

variables as well as the more subtle biochemical measures of blood chemistry. Currently, researchers are looking at the large scale application of TM in the treatment of drug and alcohol abuse and in such conditions as hypertension (Donavon & Murphy, 1999).

Relaxation response

Herbert Benson described the relaxation response as generic to the onset of meditation and other contemplative practices. This response was seen as a natural reflex mechanism which when practiced regularly, reduced stress and acted as a counterpart to the fight or flight reaction. He proposed a four step process for eliciting the relaxation response including a mental device such as a repeating a word or phrase, a passive nonjudgmental attitude, a comfortable posture that allows decreased muscle tension and a quiet environment (Bonadonna, 2003). Early work demonstrated the effect of the relaxation response on essential hypertension, headache and alcohol consumption. Benson maintains that the practice of meditation is among the new forces we must harness for health and growth (Donavon & Murphy, 1999).

Mindfulness based stress reduction (MBSR)

The work of Dr. Jon Kabat-Zinn at the University of Massachusetts represents another major program of meditation research. Kabat-Zinn combines elements of Vipassana, a form of Buddhist meditation, with Hatha yoga in a MBSR training regime. Mindfulness is described as a contemplative practice that has profound applications in everyday life. Operationally, mindfulness has been defined as the awareness that emerges through paying attention on purpose and

without judgment to the unfolding of experience in the present moment (Kabat-Zinn, 2003).

Mindfulness is considered a universal approach to self-awareness and self observation (Kabat-Zinn, 2002). As a basic attentional stance it underlies all streams of Buddhist meditative practice. The contribution of the Buddhist traditions has been to emphasize ways to cultivate and refine this capacity (Kabat-Zinn, 2003). Mindfulness meditation includes both formal and informal practice. Formal practice refers to regularly taking time solely devoted to the cultivation of mindfulness while informal practice refers to the conscious efforts to bring moment-to-moment awareness into all aspects of one's daily life (Kabat-Zinn, 1996).

The prototype program was developed at the University of Massachusetts Medical Center's Stress Reduction Clinic in 1979. MBSR has been useful in a variety of conditions and settings. The program has been shown to reduce symptoms of anxiety (Kabat-Zinn, 1992; Miller, Fletcher & Kabat-Zinn, 1995) and ameliorate chronic pain conditions (Kabat-Zinn, 1982; Kabat-Zinn et al., 1986). Meditation-based interventions have been used to address binge-eating disorder (Kristeller & Hallett, 1999) fibromyalgia (Kaplan, Goldenberg & Galvin-Nadeau, 1993) severe psoriasis (Kabat-Zinn, Wheeler & Light et al., 1998) addictions (Marcus, Fine & Kouzekanani, 2000; Breslin et al., 2002) and anxiety in patients with heart disease (Robert-McComb et al., 2004; Tacon et al., 2003).

Promising outcomes have been reported in such diverse groups as cancer outpatients (Brown & Ryan, 2003; Carlson et al., 2001; Carlson et al., 2003;

Carlson & Garland, 2005; Saxe et al., 2001; Shapiro et al., 2003; Speca et al., 2000; Tacon, 2003; Tacon, Caldera & Ronaghan, 2004) bilingual inner city dwellers (Roth & Creaser, 1997) pediatric patients (Ott, 2002) solid organ transplant patients (Gross et al., 2004) individuals with traumatic brain injury (Bedard et al., 2003) and caregivers of children with chronic conditions (Minor et al., 2006). MBSR has been helpful in reducing stress in heterogenous patient populations (Reibel et al., 2001; Majumdar et al., 2002; Massion et al.,1995) in undergraduate students (Astin, 1997; Chang et al., 2004) medical and pre-medical students (Shapiro, Schwartz & Bonner, 1998; Rosenzweig et al., 2003) and nursing students (Young, Bruce, Turner & Linden, 2001).

A MBSR intervention was found to produce demonstrable effects on brain and immune function in a group of healthy employees in their work environment. Measuring brain electrical activity before and immediately after the intervention showed significant increases in left-sided anterior activation previously associated with positive affect. Significant increases in antibody titers to influenza vaccine were found in the meditation group compared to the wait-list controls (Davidson et al., 2003). Mindfulness techniques have been combined with cognitive-behavioral therapy and found effective in reducing relapse for depression (Mason & Hargreaves, 2001; Segal, Williams & Teasdale, 2002).

Bishop (2002) in his critical review suggests that MBSR research has suffered from methodological problems that limit the conclusions that can be drawn. Dominated by uncontrolled repeated measures designs some research has used invalid measures and failed to control for concurrent treatments that

might affect outcomes. More recently Baer (2003) conducted a review of mindfulness training as a clinical intervention. She identified the absence of control groups, small sample sizes, the evaluation of the integrity of treatment and clinical significance as key methodological weaknesses with some of the published studies.

A meta-analysis conducted by Grossman et al., (2004) echoed similar methodological problems and asserted that only sound, large-scale research in the future will be able to bridge the gap between methodological deficiencies and the potential promises of mindfulness training that is revealed in a number of positive studies. Despite deficiencies, the literature was seen to clearly slant toward support for basic hypotheses concerning the effects of mindfulness on mental and physical well-being. Consistent and relatively strong levels of effect sizes across very different types of samples indicated that mindfulness training might enhance coping with distress and disability in everyday life as well as under more extraordinary conditions (Grossman, et al., 2004).

Proulx (2003) did an integrative research review to analyze existing knowledge regarding the clinical effects of MBSR programs and to identify gaps in the current knowledge base. Proulx found that MBSR programs are generally clinically effective and cost efficient. She recommends more qualitative research on MBSR experiences to assist in developing a deeper understanding of the role of participant expectations, intention, attention, control, empathy, spirituality and insight in the processes of formal and informal mindfulness meditation practice. Baer, Bishop, and Proulx seem to agree that evidence has accumulated to

warrant more methodologically sound research investigating clinical efficacy of mindfulness training as well as the pathways and mechanisms through which it exerts its effects (Kabat-Zinn, 2003).

Baer (2003) urges caution that by rigorously examining mindfulness-based interventions one does risk overlooking the important elements of the long tradition from which they originate. Valued concepts such as the cultivation of awareness, insight, wisdom and compassion are not easy to evaluate empirically (Baer, 2003). While secularizing mindfulness has been a pragmatic effort to make the intervention more accessible it is possible that something is lost in the separation of mindfulness from important spiritual roots (Dimidjian & Linehan, 2003). This concern is echoed by Kabat-Zinn (2003) who asserts that in clinically reducing the complexity of the practice and subtle elements of a MBSR intervention we may ignore some of the most important, and difficult to define features of the intervention.

Effective and cost efficient group-based psychosocial interventions that facilitate adaptation and adjustment to chronic illness would be highly valued in most health care settings. Roth (2002) determined that participating in an 8-week MBSR intervention in the inner city resulted in a significant decrease in number of chronic care visits suggesting containment of health care costs. An approach that assists individuals to self manage stress and mood disorders commonly associated with chronic illness deserves consideration (Bishop, 2002).

Chapter Three – Methods

Rural health research often requires different approaches compared to research involving large centers or populations, and must draw on a full spectrum of research methods (Watanabe & Casebeer, 2000). The important ability to predict, verify and generalize in science can be complemented by bringing in the human sense of the phenomenon being studied. Rather than one perspective one listens for various perspectives emerging through different voices. Integrating both quantitative and qualitative approaches in the research design is an effort to tell both the 'statistics and the stories' (Elliott & Baxter, 1994; Goering & Streiner, 1996). At times research findings generated by different methods are both complementary and contradictory. Contradiction and tension between findings generated by different methods can be valued and explored and not used to judge whether one set of findings produced under specific conditions are validated by findings produced under different conditions (Meetoo & Temple, 2003).

This mixed methods research uses both between and within methods triangulation (Connelly et al., 1998; Johnson & Onwuegbuzie, 2004; Kimchi et al., 1998). The unit of analysis observed was the individual participant. Descriptive data revealed by program participants was collected to develop a deeper understanding of their experience, observed health effects and changes noted in their ability to manage stress in their lives. Outcomes in physical, emotional, social and spiritual aspects of health were examined. An exploratory approach, combining quantitative and qualitative self reports with 'other' reports allows a

multi faceted examination of the data strengthening research findings. Ethics approval for this research was provided by the UNBC Research Ethics Board on March 16, 2004. (see Appendix A)

The model of qualitative interviewing used was informed and shaded by a feminist perspective. Recognizing the importance of discovering how people understand their worlds and how they create and share the meanings about their lives, the feminist perspective provides a reminder to interview in a way that maintains an ethical relationship with those being studied and respects both parties. Participants need information to make an informed choice to participate and opportunities to ask questions. At the heart of this method is a desire on the part of the researcher to listen to and honor individual stories and the rich data they generate (Ardovini-Brooker, 2002; Reinharz, 1992; Rubin & Rubin, 1995; Status of Women Council, 2003).

Using qualitative description, themes and categories were gathered from the data focusing on word repetitions, analogies, metaphors and stories. Immersed in the raw data, patterns and categories were identified. Reading through transcripts and documents significant comments were noted. Words that occur frequently are often seen as salient in the minds of respondents. Analogies and metaphors have been described as surface phenomena that can reveal underlying principles that produce these patterns. Attending to emerging stories may uncover essential meanings and themes as well as communicate lessons (Rubin & Rubin, 1995). While reflecting on the data, theme titles and categories were written down to examine possible connections, and to create

some order from the array of ideas. Raw data, themes and categories were revisited numerous times to increase confidence that respondent meanings were captured and themes were discarded with more useful ones appearing during this process. Common and unique themes were identified and with referenced examples were compiled in tabular form. Initially each document with the themes and supportive respondent examples was described but later material was integrated so the themes took precedence and examples across documents were incorporated as evidence.

An attempt was made to do justice to the meanings expressed by respondents through a coherent representation of the qualitative data. Using simple methods to manage complex data was an effort to stay close to the data and present a clear picture of what transpired (Chenail, 1995).

Study design

A quasi-experimental design with random assignment was used to pursue this research. The design included elements of a switching replications design with a wait list control group (Trochim, 1999). The design is similar to two pre-test/post-test treatment designs grafted together where the implementation of the intervention is replicated with intervention from T1-T2 and wait-list control group from T2-T3. In addition a non-equivalent control group was added to rule out a history threat to internal validity.

Participants

Thirty (n=30) participants were randomly assigned to either intervention or wait-list control groups through a coin toss. Randomization was breached for two

participants in each program group as they were unable to attend one or the other intervention due to personal or work related reasons. One participant in the second intervention dropped out of the program and was lost to follow-up.

All participants attended individual pre-program meetings with the researcher to explain the nature of the intervention, elicit and respond to any concerns and to obtain base-line blood pressure and pulse readings. No acute medical or psychological difficulties were reported. Of thirty participants, twenty-eight attended these meetings in the weeks prior to the program while two met with the researcher the day of the program due to participant time restraints. Participants agreed to attend the 7-week stress reduction intervention, practice daily, complete a variety of measures including a daily diary and pay a fifty dollar fee for course materials. A purposive sample of twenty-three (n=23) participants were recruited for the non-equivalent control group. All participants were provided with an information sheet describing the intervention and completed a consent form. (see Appendix B)

Participants were recruited through newspaper ads, posters placed in medical clinics, and word of mouth. Local psychologists received a letter outlining the research project and were invited to inform clients who they believed might benefit from the intervention to participate if interested. Participants were not restricted in either changing or obtaining other health care treatments while enrolled in the MBSR program. (see Appendix C)

Apparatus and Materials

Demographic Information Sheet

All participants completed a demographic form prior to the intervention. (see Appendix D) Questionnaire items included questions about gender, marital status, age, level of education, household income, level of stress, sources of stress, blood pressure and quality of life. These questions were derived from demographic questions used in the Yukon Health Promotion Survey (Government of Yukon, 1993).

Symptoms of Stress Inventory (SOSI)

The SOSI (Thompson, 1989) was designed to measure physical, psychological and behavioral responses to stressful situations.(see Appendix H) The 95 SOSI items are rated on a 5-point Likert scale, ranging from "never" to "frequently" producing a total mean stress symptoms score, along with ten subscale scores. Both predictive and concurrent validity have been demonstrated (Brown & Ryan, 2003; Carlson et al., 2003; Speca et al., 2000).

Third party stress index

A stress index (Canadian Mental Association, 2004) was retrieved from the Canadian Mental Health Association web site. A spokesman for the association was unable to describe how "What's your stress index?" was developed and inquiries to UNBC reference librarians found no references to this index in the literature. The self report index was considered to have face validity and was modified to create an 'other' report tool that would allow third parties to easily provide information on participants. Additional questions were added

allowing third parties to write down their observations and comments as well as identify the number of stress symptoms they were observing in participants. (see Appendix N) Third parties were close friends, work mates or family members chosen by participants.

Mindful Attention Awareness Scale (MAAS)

The MAAS Scale was designed to assess individual differences in the frequency of mindful states over time. (see Appendix G) The 15 item MAAS uses a 6-point Likert scale where high scores reflect more mindfulness. A total mindfulness score is computed by summing the item responses and dividing by the number of responses. The MAAS has been found to have convergent, discriminant and construct validity. Although the scale converges with several measures of psychological awareness, the relationships are moderate at best indicating the scale is tapping a distinct construct. Overall, the MAAS-measured mindfulness is broadly connected to well-being though it does not contain well-being-related content (Brown & Ryan, 2003; Cohen-Katz et al., 2005).

Index of Core Spiritual Experiences (INSPIRIT)

The INSPIRIT is a 7-item scale that attempts to quantify aspects of spirituality or spiritual experiences. (see Appendix I) It is designed to assess two characteristic elements of core spiritual experiences including cognitive appraisal of a distinct event that resulted in a personal conviction of the existence of a higher power and the perception of a highly internalized relationship between the person and a higher power. The INSPIRIT appears to have high internal reliability and has been positively correlated with decreases in frequency of

medical symptoms. Cronbach's alpha reliability coefficient for this scale is reported as .90 (Astin, 1997).

Multi-Dimensional Health Locus of Control Scale (MHLC)

The MHLC is used to measure locus of control of health-related behavior. (see Appendix J) This 18- item scale measures three dimensions of locus of control as it pertains to health with 6 items each: an internal health locus (IHLC), powerful others locus (PHLC), and chance locus of control (CHLC). Individuals with an IHLC are thought to be more likely to be a participant in their own well-being and engage in health promoting behaviors than those with an external locus of control. Individuals with PHLC are considered to believe that powerful others control their health status, while those with CHLC demonstrate the perception that one's health is controlled by fate or luck.

This measure has documented acceptable reliability (concurrent and construct) and criterion validity (Tacon et al., 2003; Wallston et al., 1987). The IHLC and the PHLC scales are statistically independent, the IHLC and CHLC are negatively correlated and the PHLC and CHLC are positively correlated. Cronbach's alpha reliability for the MHLC scales ranges from .673 -.767. An initial indication of predictive validity was demonstrated with health status correlating positively with IHLC, negatively with CHLC and did not correlate with PHLC (Wallston & Wallston, 1978).

Blood pressure and pulse

Two blood pressure and pulse readings prior to the program were used to derive a baseline measure for each participant. Further measures were taken at

week three, five and seven throughout the program. The lead researcher collected all blood pressure and pulse data. The equipment used was the Physio logic ^{TM} auto inflate blood pressure monitor which determines the systolic and diastolic pressure as well as the pulse. Blood pressure measurements determined with this equipment are equivalent to those obtained by a trained observer using cuff/stethoscope auscultation method within the limits prescribed by the American National Standard for Electronic or Automated Sphygmomanometers (AMG Medical Inc, 2005) The recommended technique for measuring blood pressure was followed included using an appropriately sized and placed cuff centered over the brachial artery, using a supported bare arm with the antecubital fossa at heart level, and measuring the pressure after participant rested quietly in the seated position with back support, uncrossed legs and no talking (CMAJ, 1999).

Participant practice diaries

Participants recorded observations and logged time spent on meditative practice in practice diaries. (see Appendix K) Diary accounts were used to investigate dose response relationships between amount of meditative practice and changes in other study measures and to allow participants to describe in their own words their experience of the stress reduction program. These records were collected weekly. Of the twenty-nine participants who completed the program twenty-three completed the diaries (23/29 =79.3%) three submitted partially completed diaries (3/29=10.3%) and three did not submit diaries (3/29 = 10.3%)

Individual interviews

Using a purposive sampling strategy a subset of individuals participated in taped interviews before and after the stress reduction program. A semi-structured open-ended approach was used to allow some flexibility to follow the lead of the respondent during the interview process. An interview guide developed by the researcher was utilized. (see Appendix L)

The interview was taped and transcribed with the informed consent of participants. Only a professional transcriber and the lead researcher heard the tapes. The transcriber signed an oath of confidentiality prior to providing the transcription service. (see Appendix M) The decision to tape the interview was to maximize the accuracy of the information collected and to free the interviewer from the need to make comprehensive notes. Taped interviews are stored for a period of five years in a locked cabinet following data analysis and then destroyed.

Initially eight participants agreed to have interviews. Of these, six completed both interviews. One participant declined a second taped interview but agreed to provide some feedback over the telephone following the program. One individual left the program and was lost to follow-up so did not complete the final interview. Of the fourteen audio taped interviews ten were transcribed. The four remaining were reviewed by the researcher with notes taken as poor sound quality made a complete transcription difficult. The completed interviews were thirty to sixty minutes in length.

Post course evaluation

All participants were given the opportunity to complete a written post course evaluation. (see Appendix O) Participants were asked what was most helpful about the program as well as for suggestions for improvements. Individuals had an opportunity to comment on the half day retreat specifically and whether they would recommend the program to others.

Intervention

The intervention occurred over a seven week period and consisted of weekly 2.5 hour group sessions. The program was based on Jon Kabat-Zinn's mindfulness-based stress reduction program (MBSR) (Kabat-Zinn, 2002; Kabat-Zinn & Santorelli, 1999). The program was facilitated by the researcher and two others. All facilitators have a lengthy personal meditation practice and one facilitator has received professional training with Jon Kabat-Zinn and Saki Santorelli towards teacher certification in MBSR. A yoga instructor trained in both physiotherapy and the Hatha yoga tradition taught the yoga segments. A half day retreat during week six provided participants with an opportunity to consolidate their practice.

The weekly sessions consisted of three essential elements: information related to the body mind connection, stress, relaxation and meditation; meditation practice during group sessions and at home; group discussions aimed at exploring barriers to and strategies for effective practice. Participants were provided with two audiotapes for home meditation practice and were encouraged

to practice forty-five minutes daily during the intervention. (see course goals and outline in Appendix F)

There are a variety of limitations to the research to consider. The quasi-experimental wait-list control design included self-selection and purposive sampling strategies. Providing two implementations of the intervention with three facilitators raises the possibility of variability in the presentation which could impact conclusion validity. Conclusion validity is also affected by small sample size and low statistical power. Quantitative measures are primarily paper and pencil self- reports which are open to a variety of influences and the third party stress index has face validity only. All blood pressure and pulse data were gathered by the lead researcher who also analyzed all qualitative data independently. Research partners and participants reviewing and reflecting on components of the qualitative data and emerging themes would provide a reliability check and strengthen the analysis.

Chapter Four - Results

Quantitative Data

Participant Demographic Data

Baseline participant demographic data research groups were comparable on many items. There were differences however. The intervention group had more participants describe life as very stressful (6/15=40%) than the wait-list control group (2/14=14.28%) and the non-equivalent control group (3/23=13%). The intervention group was more likely to have been diagnosed with high blood pressure (6/15=40%) than either the wait-list control group (5/14=35.7%) or the non-equivalent control group (2/23=8.6%). The non-equivalent control group reported a higher quality of life than both the intervention group and the wait-list control group with 13% (3/23) reporting it was the best it could be. They were also more likely to report their health as above average with 26% (6/23) reporting their health as better than others compared to 20% (3/15) for the intervention group and 14.28% (2/14) for the wait-list control group. (see Appendix E for complete participant demographic data)

SOSI

SOSI scores were collected in three measurement waves. The intervention group, the wait-list control group and the non-equivalent control group completed the SOSI both before and after the initial intervention. The wait-list control group and the non-equivalent control group completed the SOSI following the second intervention. The single factor ANOVA showed no

significant differences on SOSI change scores for the three groups throughout the two interventions, F (4, 76) =1.24, ns.

Looking at group differences more closely, a paired t-test showed a significant decrease in total mean stress scores in the intervention group during the first program, t (14) =2.55, p<0.05. Total mean stress scores in the wait-list control group during the same period of time actually increased though the change was not statistically significant, t (12) =2.26, ns. The non-equivalent control group demonstrated a significant decrease in mean stress scores, t (22) =2.3, p<0.05, from T1-T2. (see Table 1)

During the second intervention the wait-list control group demonstrated decreasing mean stress scores approaching significance between T2 and T3, t (11)=1.96, p< 0.05. The non-equivalent control group demonstrated decreasing scores from T2 to T3 as well, t (17) =1.09, ns. (see Table 1 and Appendix Q for complete analysis)

Third party stress index

Twenty-five third party responses were provided prior to the program (25/30=83%) and eighteen responses were returned following the program (18/30=60%). Combining the intervention and wait-list control data a paired t-test suggests a significant change in mean number of stress symptoms from pre-intervention to post-intervention, t (17) =3.27, p<.01. (see Table 1 and Appendix R for complete analysis)

MAAS

A paired t-test illustrated no significant difference between T1 and T2 scores for the intervention group, t (14) =-1.19, ns, and the wait-list control group, t (12) =-0.58, ns.(See Table 1)

The wait-list control group demonstrated no significant change in MAAS scores from T2 to T3 though a change in the predicted direction was noted, t (11) =-1.42, ns. (See Table 1) These samples' average pre- intervention scores were lower than scores observed in both a large US adult sample (M=4.22) and in a small cancer sample (M=4.27) (Carlson & Brown, 2003). (See complete analysis in Appendix T)

INSPIRIT

A paired t-test, t (14) = 0.09,ns, showed no significant change in INSPIRIT scores from T1 to T2 for the intervention group participants. The wait-list control group showed no significant change during the same time period, t (12) =0.64, ns. (See Table 1)

A paired t-test t (10) =-1.47, ns, demonstrated no significant change in INSPIRIT scores during the second intervention for the wait-list participants. (see Table 1 and Appendix U for complete analysis)

MHLC

Inconclusive results were found for pre and post-intervention scores for MHLC in both the intervention and the wait-list control groups on internal (IHLC), chance (CHLC) and powerful other (PHLC) measures. In the intervention group paired t-tests demonstrated no significant changes in IHLC, t(14)=0.38, ns,

CHLC, t(14)=-1.06, ns, and PHLC scores, t(14)=1.33, ns, between T1-T2. The wait-list control group showed similar results. Paired t-tests showed no significant change in IHLC, t (12) =-0.98, ns, CHLC, t (12) = -0.67, ns, and PHLC scores, t (12) =-1.49, ns. (see Table 1)

During the second program (T2-T3) wait-list control group change scores remained non-significant. Paired t-tests demonstrated no significant changes in IHLC, t (11) =0.50, ns, CHLC, t (11) =0, ns, and PHLC scores t (11) =0.41, ns. (see Table 1 and Appendix S for complete analysis)

Blood pressure and pulse

Blood pressure and pulse readings were taken prior to the program to establish a baseline and then again at weeks three, five and seven. The single factor Anova showed no significant changes in systolic blood pressure, F (3, 84) =0.21, ns, diastolic blood pressure, F (3, 84) =0.03, ns, or pulse F (3, 84) =1.83, ns, during the four waves of measurement. (see complete analysis Appendix P)

Practice time

The average daily minutes of practice were calculated as were total minutes of practice. Pearson correlation coefficients were calculated for total minutes of practice and total mean SOSI scores, r=0.10, and total minutes of practice and SOSI change scores, r=0.2. Pearson correlation coefficients were calculated for average daily practice and total mean SOSI scores, r=0.16, and average minutes of daily practice and SOSI change scores, r=0.15. These results suggest there is no apparent relationship between practice time and SOSI changes in this instance. (see Appendix V)

Table 1.

SOSI, 3rd Party Stress Index, MAAS, INSPIRIT, MHLC scores

		Time 1		Time 2		Time 3	
		Mean	SD	Mean	SD	Mean	SD
SOSI	Intervention	1.2	0.42	0.96 **	0.52		
	Wait-list	1.25	0.61	1.27	0.7	0.9 *	0.58
	Non-equivalent	0.75	0.45	0.59 **	0.45	0.46	0.37
3rd Party Stress Index	Pre-intervention	6.83	3.27				
	Post – intervention			4.11***	3.25		
MAAS	Intervention	3.72	0.85	3.90	0.64		
	Wait-list	3.17	1.10	3.33	0.78	3.6	0.74
INSPIRIT	Intervention	2.95	0.62	2.94	0.59		
	Wait-list	2.6	0.7	2.5	0.64	2.75	0.5
MHLC	Intervention						
	IHLC	26.93	4.83	26.4	5.35		
	CHLC	12.26	4.0	13.0	4.46		
	PHLC	12.26	3.10	10.93	3.59		
	Wait-list						
	IHLC	27.0	8.18	28.38	6.67	29.25	4.26
	CHLC	12.53	3.53	14.07	7.57	12.91	5.7
	PHLC	11.07	3.9	12.07	3.94	12.0	5.44

* $p < 0.05$
** $p = 0.01$
***$p < 0.01$

Thematic Qualitative Analysis

Health

Interviewees and third parties described their concepts of health using descriptions that highlighted health's multi-dimensional nature including the integral role of balance and coping as indicators of health. One participant described health as

> this holistic approach, spiritual and mental and physical..and you know what it is? Now that I've been sick it's all of that. It's my spiritual component, it's my, what my body's doing, my physiological component, it's my psychological component. There's a whole great big thing there that encompasses everything. It's not just what your body's doing. It's what your mind is doing with the body and what you're looking for inside for answers...I don't think they are separate. I think they're all intertwined. (23T1:7)

Interviewees introduced the concept of balance when discussing health

> Not running all the time, you know. Not juggling so many things. For me, I need to learn balance in everything. And there has been no balance in my life...Learning that I can make a valuable contribution without sacrificing myself is a healthy place for me to be.... And for me, health would be .... having a much more balanced life. Working at a reasonable amount of work, always wanting to make a positive contribution and having time for myself. (24T1:7)

Coping was a dominant theme in both interviews and third party remarks. One interviewee noted "that's one of my coping mechanisms for stresses is bury my head in the sand and get myself into bed and cover up and sleep. So I don't have to interact or do anything." (23T1:2) This individual elaborated on how it feels when you aren't coping well.

> You're not coping. You don't know what the next step is. You can't make a decision as to what the next step is. That's a terrible feeling, not having control of your life to the point that you can say OK, now do this in your mind. Because you go, I don't know what to do anymore. You know I've

> done everything I can think of. I don't know what to do anymore. And that's a tough place to be. (23T1:9)

One interviewee saw coping well as integral to good health.

> For health, and if I'm well balanced I can, it's just sort of like self reinforcing almost because I'm a better parent, I'm happier, I'm doing things I like so I'm happier and coping well..ya so I feel better. (6T1:4)

Following the program many comments suggested improved overall coping. One participant was noted to be paying "more attention to her stress level than prior to the stress reduction program...she is much better at recognizing that she does not need to take things on." (19:T2) One third party commented "I think overall she is coping very well. Less things bother her now and she accepts the fact that the world will not end if every little thing is not completed today." (15:T2)

Stress

Interviewees explored personal perspectives on stress. They identified tension, overload and imbalance as related to stress. One participant saw stress as essential. "What does stress mean to me? Personally? It's the glue that holds me together. Because I figure that if I didn't have the stress that I have in my life that I'd be a puddle on the floor." (23T1:9)

One individual said

> stress is a word I use to describe a feeling of being overwhelmed by having too much to do or having to do things that I'm not confident in my skills, or I don't know what to do..confusion..and I feel when I feel stressed I can just sort of feel it in my chest and I can just feel my whole body get tense and sometimes I get a sore neck. I know that when I am under stress I'm impatient and not as tolerant. (6T1:6)

This comment which described a feeling followed by uncomfortable physical sensations and behaviors was echoed by another participant who described stress as

> overload. I don't know really how to describe it..it's just a feeling of being overwhelmed. It affects my health in headaches..and just tension in my back, it will practically go into spasms. And then I feel a lot of..just becoming impatient. And just a little bit short with the kids you know. Instead of taking time to explain things I sort of just snap at them. (14T1:4)

Balance, earlier pointing to health, was used by another participant to describe stress as "that balance is out of whack and I can feel that by..it's almost like a raising of tension in my body ... and irritable..I'm very grouchy..quick to be snappy." (27T1:3)

Obstacles

Participants described feelings, thoughts, pain, interruptions, sleepiness, limited time, work and travel as obstacles to stress reduction practices. A discussion of opportunities to practice was closely tied to this theme. One participant reported feeling "irritated by this exercise. Feel anxiety. Falling asleep during practice." (10:1) Another commented, "tough to keep mind slowed down. Different results from flooded with anger, with pain to feeling rested and relaxed." (4:1) A wandering mind was universally reported with distractions, thoughts of work, everyday worries and being driven to action predominating. One individual was "working on getting rid of chatter" (8:1) while another's mind "continued to wander towards angry thoughts." (27:1) One participant was "pre-occupied with thoughts – mostly of work." (7:1)

Pain as an obstacle was also an important theme for some participants. Generalized muscular pain, headaches and back pain were frequently reported. One participant described "stiffness in my neck and headaches – very easily irritated." (14:2) while another person noted "lower back problems make it difficult to fully relax" (1:1)

Awareness of interruptions to their plans to meditate frustrated participants. One reported

> I have no mat for yoga and wooden floors in area of tape player. I feel totally frustrated with this. The tape hums I can't even hear it. The cat's meowing constantly through it. I have a ton of stuff to do. I feel guilty for not doing it when I'm supposed to – adding stress. (6:3)

Sleepiness was reported with one participant observing "end of day again and just can't get from start to finish without falling asleep." (16:1) Parents of young children faced particular obstacles. One individual reported meditating "in bed before my son wakes up at 6 AM – a bit distracted by his presence. Fall asleep on and off – need to be more awake – but different time not possible." (21:1) Another observed "Feeling angry and frustrated. Finding difficulty staying present. Tired – have a cold and a sick child. Can't seem to get around to doing yoga and body scan puts me to sleep." (25:3)

A sense of limited time was expressed repeatedly. Time pressures, feeling too busy and tired, no time for themselves and an unsupportive family were cited as obstacles to practice. One participant shared,

> I have experienced some resentment from time to time because my once busy day is now so full that I am constantly going from waking to sleeping with no discretionary times and even chores aren't getting fit in except as absolutely necessary. (13:1)

Another noted "I don't seem to get the time I need at home with family being noisy," (19:5) while another described "having a hard time relaxing when I have a time frame pressure." (25:4) One participant reported "very high stress, no time for myself – miss the yoga/meditation." (21:5)

Working late, excessive workloads, traveling out of town on short notice all seemed to disrupt the new habit of meditation making it difficult to maintain a routine. One participant reported "unable to meditate today due to workload – worked late into evening – not relaxed – slept poorly if at all," (13:5) while another commented "difficulty concentrating and staying focused for forty-five minutes. Had another stressful day at work." (7:3)

Participants reported opportunities, despite the obstacles. Parents of young children tried to do yoga with their children present, or meditated while awaiting appointments or activities. Those experiencing insomnia used the night time to practice meditation. People with chronic pain used breathing techniques to counter the pain, and those with back pain used yoga exercises to good effect.

Sources of stress

Role stress, in particular parenting, and sleep were key sources of stress identified by interviewees and third parties. A single parent commented, "Yeah it causes me a lot of stress if I think I'm not managing well, like if I'm behaving in a way that if I saw someone else doing that I would think OOOOH." (6T2:7) An adoptive parent of a young child noted

> I mean all we do is eat and sleep and change diapers and play, I still feel really exhausted by the end of the day. I was with her from the minute I woke up in the morning until I was putting her to bed at night, day after

> day, and by the weekend I was just, this was only for three days, I was just like a blubbering mess by Saturday. You know, I often think that I'm keeping on top of it pretty well until, you know, yeah or until she's got the dog food in her mouth and I'm on the phone and then she's biting my finger, you know, and it just all sort of unravels. (27T1:1-5)

Third parties reported parenting stress and work related stressors as problematic. One participant was described as "a single mom with a difficult ex-partner, she hasn't got a lot of spare money; this is a stressful life and bound to show up somewhere as taking some kind of a toll." (6:T1) One participant was seen as coping quite well considering how much stress she had experienced "through work, the union, previous poor management, family issues, sibling relationships to balancing her own care." (19:T1) This third party commented further "she can't continue to keep overflowing her plate for others. Life is too precious." (19:T1)

Lack of sleep was a source of stress for many. One participant stated "I'm up at one, two, three o'clock in the morning. Some of my problem is just getting to sleep at night and some nights my mind; I can't shut my mind down." (23T1:1) One participant's sleep was affected by workplace stress. "If she wasn't working she was thinking about it and it would keep her up at night." (13:T1) Improved sleep led to an improved mood for one participant. "She is sleeping a lot better now which seems to have reduced her stress level. Calm and collected would summarize her current state of mind. This thing appears to have worked!"(16:T2)

Midlife and northern themes were unique to individual interviews. One participant's description of parenting adult children suggested a midlife concern.

> It's what you dream of as your family life and then as you get older and the kids grow up and go out and be on their own and do their own thing you can't maintain that dream so it becomes just a goal that you can't attain and when you really look at your life there are a lot of goals that you didn't attain and that in it's own way can become stressful. (2T1:6)

One parent of a young child found that a northern winter posed a stress while things seemed to improve with the weather.

> Yeah it was the dead of winter. I think it was cold and it was difficult to get out a lot and I think I was just more than anything trying to make a point to get out of the house no matter what....you know, more light and the weather getting warmer and there's not the snowsuit and mitts and all of that you know shortens up that process so it's just easier to go outside and you can actually go outside....you know it's not like you've got that sort of little window when there's some daylight that you can rush out in. (27T1:3)

Self care

'something that is completely just for me'

Self care was a major theme emerging from all qualitative data collected. A variety of categories arose including using stress reduction as a tool for coping with pain and stress, increased self and body awareness, communication and relationships, time, maintaining regular practice, anticipation and guilt.

An increased awareness of the need for self care was identified by many. One individual commented "I am much more aware of my need to take care of myself and feel I have refound myself." (17:6) One participant reported "I had to work my own shifts plus one for a co-worker with a sick baby. I need to value the time I take for myself." (22:3) One participant practiced self care and then was able to take that care out into the world. "Aware of my body's need to relax and spent time breathing and then went to the SPCA to pet animals." (17:4)

Many used the stress reduction techniques as tools for coping with pain and tension. One found the body scan "provides temporary relief from neck and head pain" (14:4) and noted "headaches seem to go away after I do the yoga." (14:2). Another used the body awareness and relaxation techniques "to help relieve back pain and tension when I become aware of it – tools that I can use." (21:6). One participant concluded "I really enjoy the tools this has given me and feel I will continue to use and expand on it." (16:6)

One participant noted that the program offered something,

> that can be used to help deal with stresses in your life....just seeing that there are ways other than medication right? ... decreasing the amount of stress that you have or handling what you've got in a different way, because sometimes you can't make stress go away, so it's just finding a different way or looking at it or a different way of handling it. (23T2:2)

Another participant felt she was experiencing stress the same way "although now I can recognize it better and maybe do something about it. Yeah. Like I can say, okay I'm feeling this, these levels of anxiety. Maybe I should breathe." (6T2:6) As an antidote to pain this individual noted

> it relaxed my body so that I didn't have pain in my neck and shoulders and I didn't get headaches. As a matter of fact I've felt headaches coming on twice towards the end and they went away which never happens. (6T2:9)

One participant reported "understanding exactly how effective meditation/yoga can be in coping with and reducing stress" and learning "to recognize sooner when stressful situations were affecting me." Many identified yoga as especially helpful with one participant commenting, "I found the yoga most helpful. I could visualize the healing with yoga practice. I would like more meditation and yoga in my life!"

Increasing self and body awareness was evidenced in numerous comments from all sources. One individual described

> An interesting experience – had a sore throat this morning but didn't become aware of it until I was meditating. It was right in my face. I had this realization after that I probably wouldn't have become aware of it unless I had been meditating. I believe this is how I operate re: my stress when it comes to back issues – I don't recognize them most of the time until I have a killer headache. (19:4)

Recognition of the connection between stress and headaches was made by other participants.

> Where I carry stress is very evident now. For the first time ever I got rid of a headache without a handful (exaggeration) of Tylenol/Advil. Not a glimmer of a headache today. Feel like I have control over headaches if I catch them early. I think this is an important component for me. (6:6)

An increased awareness of the importance of the relationship between thoughts and stress was recognized by one interviewee in these comments

> I realize more and more how much my own thoughts contribute to my own level of stress, so not necessarily anything external that's happening, but how I perceive these external events and what sort of weight, importance or concern I attribute to them....I think the other part of it is the recognition of how much time I spend dwelling on things that have happened that are already in the past now and there's nothing to be done about them, or things that may happen or may not, you know and how often they actually don't. That I stress and worry about things that never happen. It is very challenging. The energy could be spent so much better on almost anything..... I find sometimes when I get stuck into a mode of thinking that's negative, then you know it becomes a self-fulfilling prophecy. Well I thought this was going to be the way it is and sure enough ... I was right. (laughter) And I like to be. (27T2:4)

Third parties reported observed changes in participants. One participant was described as one who is "always willing to take on extra to help others out. I think she is slowly learning to let others help her and that it is okay for her to take care of herself first." (12:T2) Another participant was described as able to "take

the everyday pressure/stress in her stride" (8:T2) A third party reported one participant was "far more aware of herself and willing to make changes.... I think she is doing incredibly well considering all that is on her plate at this point in her life." (25:T2)

Changes in communication and relationships with partners and children were mentioned, as well as increased sensitivity to needs of clients. One participant reported using the foundations of mindfulness to communicate with her husband "to really talk to him about concerns and issues and clarification. We stopped the blaming and listened to each other!" (12:3) A greater awareness of the tension and stress that clients experienced was observed by a participant who passed on information on how to reduce stress. "I discussed with them their need for time for themselves. I did some relaxation and mindful breathing with them." (17:4)

Prior to the course one participant was described as having a mind "still churning away" (13:T1) who coped overall by "attacking her situation by working harder and longer." (13:T1) Following the course the observation was, "I notice she makes time for her needs and relaxation. I feel she has started to come out of that depression spiral. She is calmer and more reticent to get sucked into issues that elicit a negative emotion." (13:T2) One observer noted an individual was,

> more likely to laugh and communicate easily with others. Usually withdraws when stressed and easily irritated. This is not evident now. Has been able to resume an exercise program. She is more likely to use stress relievers before stress gets the better of her now. (17:T2)

Taking the time for self care and stress reduction practices was an important issue for interviewees. These comments echoed participants' remarks about time as an obstacle to practicing stress reduction. One observed

> the best thing that I got out of there is I don't give enough time to myself. And I found it hard to fit things in. Like I'm thinking, why am I finding it hard to fit things in that are important to me and I still find it hard to find the time in the day to do for me...I need to find the time for me. (23T2:3)

One participant mused

> I think the time, the time was costly....Yeah but gees, you know, I guess it's just a question of do you want to be relaxed? Do you want to be coping well? Or do you want to get more done in a day and do you really want to get more done in a day if your feeling aaayyy, you know, and how well am I doing some of the things like dealing with stress, like dealing with conflict, or you know, parenting and that kind of thing if my neck's sore and my head hurts? As opposed to getting less done but feeling better? (6T2:9)

Another interviewee remarked that

> I just think that the things I've added in make me feel that I'm doing a bit more for myself. You know something that is completely just for me. And that gives a better feeling that at last you're not letting everybody else override what you should be doing for yourself.... I have found that it's less stressful if I do these things for myself. (2T2:2)

Participants began anticipating time to meditate or practice yoga with pleasure. One commented, "I look forward to my time with the tapes! I really want to practice now. I feel refreshed and better after yoga and meditation" (1:3) while another noted, "I look forward to this gift of time and mindfulness each day now." (11:4) One participant acknowledged the support family members offered. "I started looking forward to my meditation time and I find my family recognizes this is an important time and are very respectful in not interrupting me at this time." (16:6)

Feelings of guilt were noticed by some in relation to neglecting their stress reduction practices and conversely a letting go of guilt was noted in enjoying silence and taking time for self care. One individual commented "Not feeling motivated – just guilty! How silly is that? This is for me. I must be obsessed with some problems at work since they totally dominated my mind during this meditation." (6:5) Another described enjoying "the silence and took time for my thoughts without guilt." (31:6)

Group dynamic

The value of shared learning in a group was mentioned by interviewees and in the post course evaluation. One interviewee commented

> It's actually very reassuring that there are other people who are feeling stressed in everyday life. When I talked to other people I realized that my stress is probably not as bad as theirs. I'm not chronically sick, I don't have health problems to the degree that some people do. It's helpful and nice to know that you aren't alone. (14T2: tape)

Another interviewee remarked

> Coming together with a group of people who all want to find a bit of an oasis in their time – that was good because you see that you are not the only one. You've got lots of company out there.....I would see meeting people who you see in your town but you don't know and then finding out there is a similar need is really important so you don't feel quite so alone on the journey. (18T2: tape)

Transformation

Transformation emerged as a theme reflected in the categories mindfulness skills, gratitude, a change of perspective and spirituality. One participant eloquently described a realization about self care and mindfulness.

> For the first two meditations I slowly entered a point of feeling like I was in a cocoon –enveloped, wrapped in a safe comfortable place. As we started the third meditation (loving-kindness) I felt as noted above. But as

> the speaker spoke of 'cradling an infant' I immediately had an image and sensation of how both my children felt as infants when I cradled, rocked and transferred my love and deep feelings to them. This was a very powerful moment for me and not only an emotional transfer but a physical one. My entire body tingled as if in a cold shiver without the shiver. Tears sprang in my eyes and I felt quite emotional – it was just a momentary feeling but those tears rolled down the sides of my face and I was intensely aware of it. I sensed how my children felt but then how I was feeling in this meditative moment as I cradled my own body and gave it the TLC it needs. I think this morning has been the coming together of mindfulness practice and it is a wonderful feeling. (16:5)

A sense of gratitude was illustrated in several comments. One participant noted "starting to stop and notice the moment more often. Glimpses of beauty in scenes I took for granted for so long. The river, downtown scenes, just anywhere." (4:6) Gratitude echoed in the words of one individual who described enjoying "the fresh air and sounds around me. Learning to take time for me...before starting to walk closed my eyes and when opening looked at everything and appreciated what we have. Noticed things that I never saw before." (31:3) Another person described "a welling up inside, heart felt care. Meditation and mindfulness throughout the day." (11:6)

A change of perspective was reflected in some participant observations.

> I've been thinking today about the relationship between physical balance, and balance in life, deeds, words, state of mind. Having done this very basic yoga for only two weeks I know already that I have found something very valuable for my health and well-being. The practice itself is an opportunity to slow down, get quiet, and be mindful of each movement and stretch. Feelings of increased control, strength and flexibility – mainly physical at this point – make movement more enjoyable and lessen fatigue. (13:4)

Following the program some interviewees noticed that their understanding of what health means included an appreciation of the significance of the spiritual aspect. One participant commented

> that health is more of the spiritual than it is of the physical. For the past few years I've heard of body, mind and spirit and I think they should rephrase that and have body last. The spiritual and mindfulness for me are the top two because if you've got that everything else will fall into place. (14T2: tape)

Process

Participants offered many comments on the process of the program in course evaluations highlighting instruction, variety, the environment, more sessions and the retreat. One participant enjoyed "the introduction of a variety of practices which allowed me to discover what works best for me and when (and what didn't work as well)." A participant suggested "possibly more sessions as I think I started to get it more about session five so possibly another one or two sessions." Most found the experience of the silent retreat on week six of the program valuable if a bit unusual. "It was a useful component even though it felt a little strange to be silent among so many people. The remainder of that day was one of the most calm days I have had," commented one participant. (see Appendix W for complete listing of qualitative themes and Appendix X for an inventory of evidence for each theme)

Chapter 5 – Discussion

I set out to explore whether a MBSR intervention made a difference in health related change for a group of Yukon adults who described their lives as stressful and self selected to learn stress reduction strategies. A variety of measures and perspectives were used to investigate relationships associated with a MBSR intervention. Qualitative and quantitative approaches were integrated to illuminate different aspects of the topic and strengthen the research findings.

What I learned

The research suggests that participation in a 7-week MBSR program was associated with a reduction in symptoms of stress in participants from both their perspective and the perspective of third parties. Measures were used to determine whether statistically significant changes occurred during the intervention and a qualitative exploration of participants' experiences and observations were documented. (for qualitative themes and categories see Appendix W and for inventory of evidence see Appendix X) Third party perspectives enhanced and supported some findings while a non-equivalent control group addressed a history threat to internal validity.

Symptoms of Stress Inventory (SOSI).

The intervention group demonstrated decreasing scores on the SOSI during the first intervention with wait-list controls stress scores increasing during the same time period. The wait-list control group reported decreasing stress symptoms during the second intervention. Third party stress index reports

appeared to support this finding though this conclusion has to be weighed against the fact that the scale has face validity only and participants were aware they were being observed during the study period. Significant reductions in mean SOSI scores following MBSR interventions have been observed in participants with early stage breast cancer (Carlson et al., 2003) and cancer outpatients (Speca et al., 2000).

An unexpected finding was decreasing stress scores in the non-equivalent control group. This group entered the research describing themselves as less stressed, with better health and a higher quality of life compared to the intervention and wait-list control group. A possible explanation for symptom change might be a bolstering of interest in stress reduction prior to the intervention and an exploration of other avenues to reduce stress. Differences in this group may have allowed them to seek alternative resources to assist in stress management. Changing symptoms in control groups has been described in a self-referred community group (Elliot & Brown, 2002) and in nurses experiencing stress and burnout waiting for a MBSR intervention. Speculation on why nurses' symptoms improved included the passage of time, seasonal effects, and participants applying to a program at the height of their stress and either adjusting to acute stressors or developing alternate coping strategies over time (Speca et al., 2000).

Mindful Attention Awareness Scale (MAAS).

MAAS scores in both the intervention group and the wait-list control group proved to be inconclusive. The prediction that exposure to a MBSR intervention

would improve participants' reports of personal mindfulness did not occur in this instance. The MAAS has been used in MBSR research measuring changes in diverse groups. Significant improvements, maintained at 3 month follow up, were observed on the MAAS in nurses experiencing a MBSR intervention (Cohen-Katz et al., 2005) and higher MAAS scores were associated with lower mood disturbance and stress symptoms in cancer patients (Carlson & Brown, 2004). Use of a non clinical population and a small sample size may have had an impact on the findings in this case.

Index of Core Spiritual Experiences (INSPIRIT).

Including the INSPIRIT in this study was an attempt to further examine the relationship between health and the variable spirituality. No significant change in INSPIRIT scores was observed in either the intervention or wait-list control group. Numerous studies have shown that spiritual well-being plays a role in health so attempting to measure and interpret these changes is important. Meditation techniques were originally designed to foster spiritual growth, not to manage stress. Some studies suggest that spirituality may exert some influence over health while health likely influences an individual's spiritual experiences making relationships hard to untangle (Astin, 1997; Hawks et al., 1995; Kass et al., 1991; Levin, 1982; Shapiro et al., 1998; VandeCreek, et al., 1995).

Significant changes in INSPIRIT scores have been reported in outpatients eliciting the relaxation response through meditation (Kass et al.,1991) and in relatively happy couples enrolled in a mindfulness-based relationship enhancement intervention directly modeled on Kabat-Zinn's mindfulness

program (Carson et al., 2004). Carson's (2004) research showed changes in INSPIRIT scores were maintained at 3-month follow-up. In this instance a significant relationship between MBSR and spirituality was not detected but deserves further exploration.

Multidimensional Health Locus of Control (MHLC).

Learning an effective set of skills to manage stress would seem to point to enhancement of one's sense of control during stressful events. Those with an internal health locus of control are thought to be more likely to take part in health promoting behaviors that improve their own well-being. A predicted gain in internal health locus of control (IHLC) following this MBSR intervention, however, was not supported by the findings. In fact, no significant changes in MHLC scores were observed in either the intervention group or the wait-list controls. MHLC scores following a MBSR intervention in women with heart disease (Tacon et al., 2003) were unchanged while MHLC scores in women with diagnosed breast cancer exposed to a MBSR intervention (Tacon et al., 2004) changed significantly from pre to post- intervention. Further investigation of MBSR and health locus of control could help clarify the relationship.

Wallston (1978) believes that only in interaction with many contributing factors will beliefs in health locus of control play a significant role in the explanation of health behavior. Contributing factors include health motivation, perceived severity and susceptibility, demographic factors and the value of health as reinforcement. From Wallston's perspective perceived control does not act in

isolation from other important factors (Smith & Wallston, 1992; Wallston & Wallston, 1978; Wallston et al., 1987).

Blood pressure and pulse.

Repeated measures of blood pressure and pulse throughout the two MBSR interventions showed no significant change. The literature reports associations between meditation and reduction in blood pressure and pulse. Transcendental meditation and the relaxation response have both been associated with significant decreases in blood pressure and pulse (Walton et al., 2002; Selhub, 2002). The magnitude of reduced blood pressure using a multi-component cognitive behavioral intervention for stress management has been found to be comparable in some studies to that obtained with weight loss or drugs, while single-component interventions are considered less effective (Spence & Barnett, 1999). The small sample size in this research makes the detection of a relationship challenging. Significant measurable physiological change may take more than seven weeks to occur. Results in this instance were confounded by the fact that a number of participants had already been diagnosed with high blood pressure and were being treated for it in a variety of ways.

Practice time.

Participants logged their practice time throughout the intervention. Average daily practice times and total minutes of practice were not significantly related to SOSI change scores or total mean SOSI scores in this research. Other researchers have looked for dose-response relationships between MBSR practice time and changes in stress symptoms. Dose-response relationships

between home practice minutes and symptom change were observed in solid organ transplant patients (Gross et al., 2004) cancer outpatients (Speca et al., 2000) and couples seeking relationship enhancement (Carson et al., 2004). In contrast, practice time was unrelated to symptom change in a group of volunteers (Astin, 1997) and a group of cancer outpatients exposed to a MBSR intervention (Carlson et al., 2003). The literature seems inconclusive at this point and further research to determine optimum practice times would be helpful, particularly in light of the important relationship between time and self-care identified by this research group.

Self care.

All qualitative measures suggested self care was an important theme emerging from reflections and responses by participants in the MBSR intervention. Participant diaries recorded descriptions of using MBSR strategies as tools for coping with pain and stress, increasing self and body awareness and improving communication and relationships. This supports the finding of decreasing stress symptom scores reported on the SOSI and decreased stress symptoms observed by third parties. Participants also remarked on the importance of maintaining regular practice, anticipating practice times and feelings of guilt related to self care practices. Individual interviews supported much of this data with an additional emphasis on the time required for practicing MBSR. Limited time for self care generally, may negatively impact health related balance identified in participants' definition of health. Third parties observed participants using MBSR as a self care tool, echoing aspects of participant

diaries. The post course evaluations reinforced these findings and recognized the importance of an appropriate atmosphere or climate for learning and practicing MBSR.

Current MBSR research has identified similar themes. Carlson (2004) interviewed MBSR participants and identified self regulation as an important theme. Participants in Carlson's research identified that MBSR provided tools for coping with stress. It was a means for becoming familiar again with their body as well as participating in their own recovery. Practice was seen to create a less reactive response set. Everyday life was identified as a barrier to practice (Carlson, 2004). Santorelli (1992) described deliberate and spontaneous experiences of mindfulness in daily life in a group of beginning meditators. Coping responses and attitudes were described as being generalized in everyday life and were used to manage stress when necessary (Santorelli. 1992).

Cohen-Katz et al., (2005) explored the effects of MBSR on nurse stress and burnout. Self care emerged as a significant category in this qualitative analysis. The theme of caring for others before caring for oneself was highly relevant with reports of participants feeling guilty when caring for themselves. As the program progressed participants reported enjoying the simple pleasures around them and became more aware of their needs and more committed to communicating their needs to others (Cohen-Katz et al., 2005).

Definitions of health.

Interviewees and third party observers described health as a multi dimensional concept highlighting balance and coping as key elements. This understanding echoes responses to the Yukon Health Promotion Research Program emerging from interviews with Yukoners about their beliefs about health. Most Yukoners at that time had a concept of health that included physical, metaphysical, sociological and psychological dimensions. This sample reflects similar ideas. The concept of health balance, referring to the need to develop and retain a balance between the many spheres of health was identified in the YHPS. Balance was explicitly cited as necessary for the achievement and retention of good health (Government of the Yukon, 1993). Changes following the program were noted by participants who described an enhanced awareness of the importance of spiritual health in their personal concepts of health.

Bruce et al., (2002) described the perspectives of student nurses who experienced a MBSR intervention who viewed health in a similar way. Health was described as a balance between the spiritual, mental, physical, social and psychological aspects of their lives. Losing their sense of balance was related to increased stress levels that resulted in physical and psychological symptoms (Bruce et al., 2002).

Definitions and sources of stress.

Definitions of stress emerged in the individual interviews. Interviewees variously described stress as tension, feeling overwhelmed or overloaded, experiencing difficult communication and relationships, having a lack of

resources to meet current demands and a sense of imbalance. Coping with stress was seen as a pathway to health. This is supported in the YHPS data where participants reported a constant awareness of the importance of management of the relationship between stress and their health (Government of the Yukon, 1993).

Sources of stress were described in individual interviews and through the comments of third parties. Role stress, sleep and change were the predominant shared categories that emerged. Role stress was most often described as the stress of parenting in this group of participants. Individuals described midlife and living in the north as additional stressors while third parties identified pain as an important source of stress. The YHPS (1993) reported on Yukoners' perceived sources of stress. At that time work was the most predominant source of stress reported (77%) with family identified as the second most common source (38%). In this sample demographic data showed work (32/44=72.7%) and family stressors (32/44=72.7%) were equal in their reported frequency and represent the most significant sources of stress followed by spouse or partner (14/44=31.8%) school (12/44=27.2%) community (6/44= 13.6%) and friends (4/44=9%). For these participants family is a more significant source of stress than was described fourteen years ago and may reflect larger societal changes.

Group dynamic.

The group dynamic was identified in the qualitative thematic analysis as a positive component of the MBSR intervention for some participants. This was noted where participants described the power of realizing they were not alone in

their experience as well as highlighting the value of sharing their learning experiences with others.

Collective learning and group dynamics were themes reported by Carlson (2004) and presented as motivation and encouragement, sharing a common experience and the group providing a unique understanding of fellow participants' lives. Group support and identification emerged as themes in a qualitative study of mindfulness based cognitive therapy for depression (Mason & Hargreaves, 2001). It has been suggested that the group format may be integrally linked to the teaching of mindfulness when one considers the spiritual traditions that mindfulness originates from. The group or community context has been a vital part of the learning environment in these traditions (Dimidjian & Linehan, 2003).

It is interesting to note that in a study examining the effect of MBSR on rates of skin clearing in patients with moderate to severe psoriasis undergoing phototherapy and photo chemotherapy, the study design had subjects experiencing the intervention in isolation. The potentially mitigating effect of the dimension of social support was absent, yet the intervention was found to be effective (Kabat-Zinn, Wheeler et al., 1998).

Transformation.

Participant diaries and individual interviews revealed a subset of participants who described their MBSR experience as transformative. This emerged through a description of the integration of mindfulness skills, a sense of gratitude and a change of perspective in participant diaries. Mindfulness for these participants seems to have moved from a formal practice into everyday life.

Segal, Williams & Teasdale (2002) assert that lasting changes seem to come when clients shift their perspectives or underlying views rather than simply acquire a new 'bag of tools' of skills and techniques, though acquiring the skills may be the vehicle through which the wider shift occurs.

The idea of transformation has been reported in the qualitative MBSR literature using themes of 'coming to terms' and the development of mindfulness skills (Mason & Hargreaves, 2001) the transformation of individual relationships and the work environment (Cohen-Katz et al., 2005) transformation of professional self-concept (Birnbaum, 2005) and transformation through creation of a new path, feelings of gratitude, and practice as spirituality (Carlson, 2004). The category spirituality emerged spontaneously from some participant comments in this research. This finding is supported by Mason & Hargreaves (2001) who discovered that spiritual development emerged in one study though there was no explicit spiritual content to any course materials or discussions.

Obstacles.

Numerous obstacles to practice were revealed in the participant diaries. Difficult feelings and thoughts, experiences of pain and numerous interruptions were identified. Sleepiness, limited time and the impact of work and travel were noted by participants. Time was a common obstacle reported and was echoed in comments about the importance of taking time for self care in individual interviews. A subset of participants found the obstacles blocked their ability to take up a MBSR practice while the majority discovered opportunities within the

obstacles. These findings are in keeping with obstacles and barriers reported in the literature.

Restlessness, pain, medical issues and dealing with difficult emotions were reported by nurses participating in a MBSR intervention (Cohen-Katz et al., 2005). Initial negative experiences, difficult thoughts, distress and depression have also been described in their work with MBSR participants with a history of depression (Mason & Hargreaves, 2001; Mason, 2002). Obstacles to meditation practice cited by participants in a MBSR intervention for individuals experiencing solid organ transplant consistently fell into the categories of lack of time, difficulty getting motivated, travel, pain, illness and fatigue (Gross et al., 2004). Student nurses exposed to a MBSR intervention experienced frustration and impatience as they attempted to integrate the new skills in their lives along with juggling all their other commitments. Some reported that the program initially increased their stress levels (Young et al., 2001).

What the results mean

The research suggests the value of MBSR as a tool for self care for some and a pathway to transformation for others. The research highlights that participants share a multi-dimensional understanding of health, a broad perspective on stress and experience significant role stress, particularly the stress of parenting. The perception that lack of time is an important factor interfering with individual efforts towards self care stood out. The majority of participants saw stress reduction strategies as practical tools for managing pain and symptoms of stress leading to increased self and body awareness. This

increased awareness alerted participants to their unique experiences of stress fostering the timely use of stress reduction strategies.

The limitations of this study must be addressed. The population under study was self-selected and committed time and money to the program making generalizing findings to the rest of the population limited. The sample included only one male participant. Participants were well motivated to pursue any new learning and committed to stress reduction practices. Conversely, individuals were drawn from a diverse population with a range of physical and psychological concerns which strengthens the ability to generalize findings. Providing two independent implementations of the intervention made for an ethically feasible design and enhanced external validity. MBSR has been observed in a variety of settings and delivered to different groups of people with similar effects, which supports external validity.

In this multiple group design the key internal validity question was the degree to which the study groups were comparable before the study. Participants were randomly assigned to wait-list or intervention. Random assignment was breached in two instances in each intervention group. The non-equivalent comparison group helped rule out a history threat to internal validity. Using multiple observations on different components of health strengthened the construct validity of the research.

Social threats to internal validity can lead to post test differences not directly affected by the intervention itself. The quantitative measures used were primarily participant self-reports so were subject to influences such as

exaggeration, denial or withholding of symptoms. Other types of bias identified in subjective measurements include the personality of the respondent, and variability in the interpretation of response scales (McDowell & Newell, 1987). Research expectancy or effects can be a source of bias in this type of design, as the researcher is also a group facilitator and is in close personal contact with participants. An alternate to the researcher interviewing, collecting pencil and paper data and blood pressure and pulse data could reduce bias in the gathering and interpretation of the results and should be considered for future research. Research partners exploring raw data for categories and themes in conjunction with the researcher would strengthen confirmation of qualitative findings as would theme checking with participants.

Conclusion validity relates to the cause effect relationship found in research. With a small sample size statistical power may be insufficient to detect relationships and this may partially explain why some of the quantitative measures did not reach statistical significance. A larger sample size to increase statistical power could help determine changes in all outcome variables strengthening research findings. The literature has identified that it is difficult to ascertain exactly what is contributing to observed changes in a multi component intervention. The meditation may be affecting outcomes but one could speculate that relaxation, empowerment, cognitive techniques or social support are also potentially beneficial factors in healing (Dimidjian & Linehan, 2003). The group dynamic emerged in the qualitative results as an important component for some participants in this research.

Roemer & Orsillo (2003) have highlighted the multifaceted nature of mindfulness itself. Mindfulness includes attention to present internal and external experience, normalization of negative thoughts and feelings, deep breathing, and a non-judgmental stance. Any or all of these elements could potentially contribute to the clinical effects of the intervention. While attempts to dismantle program elements to determine the active or essential ingredient may be unwise, recognizing alternative explanations for program effectiveness is important.

The placebo effect is another potential confound. Benson & Friedman (1996) offer a fresh perspective on the placebo effect that challenges a traditionally negative connotation. Reframing the placebo effect as 'remembered wellness' better describes its power, acknowledging it as a potent therapeutic asset that should be maximized. Unlike most other therapeutic approaches it has withstood the test of time, is safe and inexpensive and acts synergistically with standard health related strategies (Benson & Friedman, 1996).

Recommendations for future research

This research identified that the effects of exposure to a MBSR intervention were experienced differently by different participants. Future qualitative research could assist in determining the characteristics of those who would most benefit from the intervention. Participants reported lack of time as an important barrier to the use of stress reduction practices. A dose response relationship between practice time and reduction in stress symptoms was not identified in this instance. This finding suggests further exploration of the immediate and long-term effects of less intensive practice.

Participants identified roles stress and particularly the stress of parenting as a significant source of difficulty for them. One previous study has examined parenting stress in exploring the impact of MBSR on caregivers of chronically ill children. Decreased stress symptoms and mood disturbance were observed (Minor et al., 2006). Modifying MBSR interventions specifically for the needs of parents paying particular attention to the issue of time may be a helpful future initiative. Is there value in developing wellness based programs geared specifically for those experiencing parenting stress and focused on stress reduction for parents? What types of on-going support would be most helpful to assist participants who are interested in continuing with their stress reduction practices?

Participants entered the research reporting different levels of stress, health and quality of life. Future research could explore whether these differences on entry resulted in differential outcomes. Third parties reported observing changes in participants' responses to stress and symptoms of stress over the course of the intervention. Exploring whether participants' family members or workmates experience improved relationships or work environments as a result of the intervention would be of interest.

Participants identified the yoga instruction and practice, meditative practice and group dynamic as particularly valuable in this multi-component intervention. Further studies of MBSR could explore whether meditation, yoga or social support and attention are most helpful and for whom. Individual differences, previous history and current needs will likely determine what the

most valuable components are. An in depth examination of emerging themes could help us understand the nature of health related change that can occur as a result of meditative experiences. Follow up research with participants to see whether observed changes were maintained or faded over time would be useful.

While changes in mindfulness as measured by the MAAS were not apparent in this research further investigation of whether participants are in fact becoming more mindful as a result of a MBSR intervention would be of interest. The use of other mindfulness measures could be considered. Increasing participant numbers to ensure sufficient power to detect treatment effects should be considered for both this measure as well as other health related quantitative measures.

Conclusion

The purpose of this research was to explore health related change associated with a MBSR intervention to answer the question 'did MBSR make a difference?' in a group of Yukon adults who describe their lives as stressful. Combined qualitative and quantitative results suggest that MBSR was related to a reduction in symptoms of stress and supported self care efforts in participants. Causality can not be assumed due to design limitations and the exploratory nature of the research. While quantitative measures proved largely inconclusive the rich qualitative data indicate that MBSR was associated with improved coping, in the words of participants. MBSR appears to hold promise as a stress reduction tool that can promote better health. While this research did not determine who is best suited for the intervention or how long observed changes

might last, the preliminary findings warrant further exploration to deepen our understanding of the role MBSR plays in enhancing health outcomes.

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Appendix A

UNBC Research Board Ethics Approval

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA **RESEARCH ETHICS BOARD**

MEMORANDUM

To: Susan Starks

From: Alex Michalos, Chair
Research Ethics Board

Date: March 16, 2004

Re: Ethics Review E2004.0224.016
Mindfulness Based Stress Reduction: Health Effects in a Northern Population

---

Thank you for submitting the above-noted proposal to the Research Ethics Board for review. Approval has been granted.

Good luck in your research.

Sincerely,

Alex C. Michalos, Chair
Research Ethics Board

Appendix B

Information sheet and consent form – Non-equivalent group

Title: Mindfulness-Based Stress Reduction: Health Effects in a Northern Population

My name is Susan Starks. I am a graduate student in the Masters of Science in Community Health program, which is jointly offered by the University of Northern British Columbia and Yukon College. I am conducting a research project under the supervision of Dr. James Tousignant, as part of the requirements towards this degree.

The purpose of this study is to determine the health effects for a group of northerners who participate in a 7-week mindfulness-based stress reduction course. I am particularly interested in learning whether measures of physical, emotional, psychological and spiritual dimensions of health are affected by participation and whether stress reduction affects overall quality of life.

I am being asked to participate in this study as part of a non-equivalent group. I am part of a control group who will not receive the stress reduction course. My participation will help to demonstrate whether those in the stress reduction program experience changes or not. I recognize that it is important that I understand the study before taking part. I should not sign this form unless I understand everything on it. I understand that I can ask questions at any time.

If I take part in this study I will be asked to fill out a questionnaire package in October and December, 2004 and again in March 2005. This package will be mailed to me and will include a stamped self addressed envelope to return the completed form in. It will take approximately 10-15 minutes to complete the forms. The following forms will be included in the package.

- Consent form
- Participant information sheet, which asks about age, gender, economic status, educational background, sources of stress, blood pressure and quality of life.
- Symptoms of Stress Inventory – measures the affects of stress on the body, the mind and on behavior.

Potential Risks

- Completing the forms require personal time and may be inconvenient.
- Some of the questions I will be asked are of a personal nature and may make me feel uncomfortable. I am free to decline to answer questions that I don't wish to answer, or I may stop my participation at any time.

Potential Benefits

- The potential benefit of this study is that it will provide the researcher information on how mindfulness-based stress reduction is related to health
- If I am interested in the results of this study, I will be provided with a summary of results if I indicate that I want it.

Confidentiality and Privacy

My privacy will be protected in the following ways:

- My name will never be used in connection with this study if it is published or presented.
- Participant forms will be coded. The researcher will have a codebook that will link my name to the code. It will be destroyed after results of the study are analyzed.
- No information that identifies me will be shared with anyone without my consent or unless required by law.

Participation and Withdrawal

I understand that taking part in this study is voluntary. I can change my mind about participating at any time, refuse to answer individual questions and it is my choice. There is no penalty to me if I do not answer specific questions or withdraw entirely.

If you have any questions, or think of other information you would like me to have please call Susan Starks at 867-456-3847 or e-mail sstarks@northwestel.net If something happens you don't like and you think something should be done please feel free to call Dr. James Tousignant at 867-667-5383 or the Vice-President Research at 250-960-5820. They will be happy to respond to your ideas.

Informed Consent Form

This consent form, a copy of which has been given to you, is only part of informed consent. It is meant to give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, please feel free to ask. Please take the time to read this carefully and mark your response.

Do you understand that you have been asked to be in a research study?

O Yes

O No

Have you read and received a copy of the attached participant information sheet?

O Yes

O No

Do you understand the benefits and risks involved in participating in this study?

O Yes

O No

Have you had an opportunity to ask questions and discuss this study?

O Yes

O No

Do you understand that you are free to refuse to participate or to withdraw from the study at any time? You do not have to give a reason and there will be no penalty if you refuse to answer specific questions or withdraw entirely.

O Yes

O No

Has the issue of confidentiality been explained to you?

O Yes

O No

Do you understand how the privacy of your response information will be protected?

O Yes

O No

Are you interested in receiving a summary of the study results on completion?

O Yes

O No

This study was explained to me by _____.

I agree to take part in this study.

_____	_____	_____
Signature of research participant	Printed name	Date

I believe that the person signing this form understands what is involved in the study and voluntarily agrees to participate.

_____	_____
Signature of investigator	Date

Information sheet and consent form - Participant

Title: Mindfulness-Based Stress Reduction: Health Effects in a Northern Population

My name is Susan Starks. I am a graduate student in the Masters of Science in Community Health program, which is jointly offered by the University of Northern British Columbia and Yukon College. I am conducting a research project under the supervision of Dr. James Tousignant, as part of the requirements towards this degree.

The purpose of this study is to determine the health effects for a group of northerners who participate in a 7-week mindfulness-based stress reduction course. I am particularly interested in learning whether measures of physical, emotional, psychological and spiritual dimensions of health are affected by participation and whether stress reduction affects overall quality of life.

I am being asked to participate in this study because I am interested in learning more about ways to manage stress in my life. I recognize that it is important that I understand the study before taking part. I should not sign this form unless I understand everything on it. I understand that I can ask questions at any time.

The stress reduction program is offered two and a half hours a week for seven weeks and includes a half-day retreat. I will be taught a variety of mindfulness-based stress reduction techniques and I will be expected to practice these techniques daily during the course.

If I take part in this study I will be asked to fill out a questionnaire package before the course and again when the course ends. It will take approximately 30 minutes to complete the forms. The following measures will be included in the research:

- Participant information sheet, which asks about age, gender, economic status, educational background, sources of stress, blood pressure and quality of life.
- Symptoms of Stress Inventory – measures the affects of stress on the body, the mind and on behavior.
- Mindful Attention Awareness Scale - measures individual differences in moment-to-moment awareness, which is believed to be related to well being.
- Index of Core Spiritual Experiences – designed to identify aspects of spirituality or spiritual experiences believed to be related to well-being.
- Multi-Dimensional Health Locus of Control Scale- measures individual beliefs about how health behavior is controlled.
- Blood pressure and pulse – measures individual differences in blood pressure and pulse during the stress reduction course

If I agree to participate in this study I will also be asked to:

- Complete a daily log describing the type and amount of mindfulness practice I am doing throughout the course
- May be selected to participate in two 45-minute taped interviews, one before the course and one after the course where I can describe in my own words my experience of stress and stress reduction.
- Provide a stress index measure to a close friend, work mate or family member in a position to notice changes in my stress levels. They will complete the form once before the course and once again when it is over.

Potential Risks

- Completing the forms, daily log, personal interviews and mindfulness practice require personal time and may be inconvenient.
- Some of the questions I will be asked are of a personal nature and may make me feel uncomfortable. I am free to decline to answer questions that I don't wish to answer, or I may stop my participation and discussion at any time.

Potential Benefits

- The potential benefit of this study is that it will provide the researcher information on how mindfulness-based stress reduction is related to health
- The potential direct benefit to me is that I will learn better ways to manage personal stress.
- If I am interested in the results of this study, I will be provided with a summary of results if I indicate that I want it.

Confidentiality and Privacy

My privacy will be protected in the following ways:

- My name will never be used in connection with this study if it is published or presented.
- The daily log and participant forms will be coded. The researcher will have a codebook that will link my name to the code. It will be destroyed after results of the study are analyzed.
- Any information I provide in an interview will be used in a way that will not reveal who I am. A record will be kept of which interview belongs to which person but no one will see the list except the researcher. My interview will be heard only by the researcher and the individual who transcribes it who will sign an oath of confidentiality. The interview will be kept in a locked cabinet for the duration of the research project (minimum five years) after which time it will be destroyed.
- No information that identifies me will be shared with anyone without my consent or unless required by law.

Participation and Withdrawal

I understand that taking part in this study is voluntary. I can change my mind about participating at any time, refuse to answer individual questions and it is my choice. There is no penalty to me if I do not answer specific questions or withdraw entirely.

If you have any questions, or think of other information you would like me to have please call Susan Starks at 867-456-3847 or e-mail sstarks@northwestel.net If something happens you don't like and you think something should be done please feel free to call Dr. James Tousignant at 867-667-5383 or the Vice-President Research at 250-960-5820. They will be happy to respond to your ideas.

Informed Consent Form

This consent form, a copy of which has been given to you, is only part of informed consent. It is meant to give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, please feel free to ask. Please take the time to read this carefully and mark your response.

Do you understand that you have been asked to be in a research study?

O Yes

O No

Have you read and received a copy of the attached participant information sheet?

O Yes

O No

Do you understand that any research interviews will be recorded?

O Yes

O No

Do you understand the benefits and risks involved in participating in this study?

O Yes

O No

Have you had an opportunity to ask questions and discuss this study?

O Yes

O No

Do you understand that you are free to refuse to participate or to withdraw from the study at any time? You do not have to give a reason and there will be no penalty if you refuse to answer specific questions or withdraw entirely.

O Yes

O No

Has the issue of confidentiality been explained to you?

O Yes

O No

Do you understand how the privacy of your response information will be protected?

O Yes

O No

Are you interested in receiving a summary of the study results on completion?

O Yes

O No

This study was explained to me by _____.

I agree to take part in this study.

_____ _____ _____

Signature of research participant Printed name Date

I believe that the person signing this form understands what is involved in the study and voluntarily agrees to participate.

_____ _____

Signature of investigator Date

Appendix C

Participant Recruitment Poster

Participants Needed For Research On The Health Effects Of A Stress Reduction Program

We are looking for Yukon adults who describe their lives as somewhat or very stressful to take part in a study of the health effects of participation in a 7 week mindfulness-based stress reduction program. There will be a minimal cost to the participant to cover audiotapes and materials.

As a participant in this study, you would be asked to practice stress reduction techniques daily, fill out a questionnaire package before and after the course ends, complete a daily log and might be asked to be interviewed.

Your participation would involve 6 sessions of approximately 2.5 hours as well as a half-day retreat.

For more information about this study, or to volunteer for this study please contact Diane Emond @ 668-7009. E-mail dianelsemond@hotmail.com. Thank you!

Investigator: Susan Starks, RN, BScN, Graduate student in Community Health Science.

This study has been reviewed by, and received ethics approval through, the University of Northern British Columbia, Office of Research, Research Ethics Board

Participant Recruitment Letter

Dear Sir or Madam

Re: Stillpoint Stress Reduction and Relaxation Program Fall/Winter 04/05

This fall and winter we will be offering two stress reduction programs. They are part of a research project on the health effects of participation in a stress reduction program focused on mindfulness meditation, progressive relaxation and gentle stretching. The programs will be offered at a minimal cost to participants to cover audio tapes and materials, and include six 2.5 hour sessions and one half-day retreat. Participants will have some self-monitoring obligations.

Session 1: October 30 – December 11, 2004

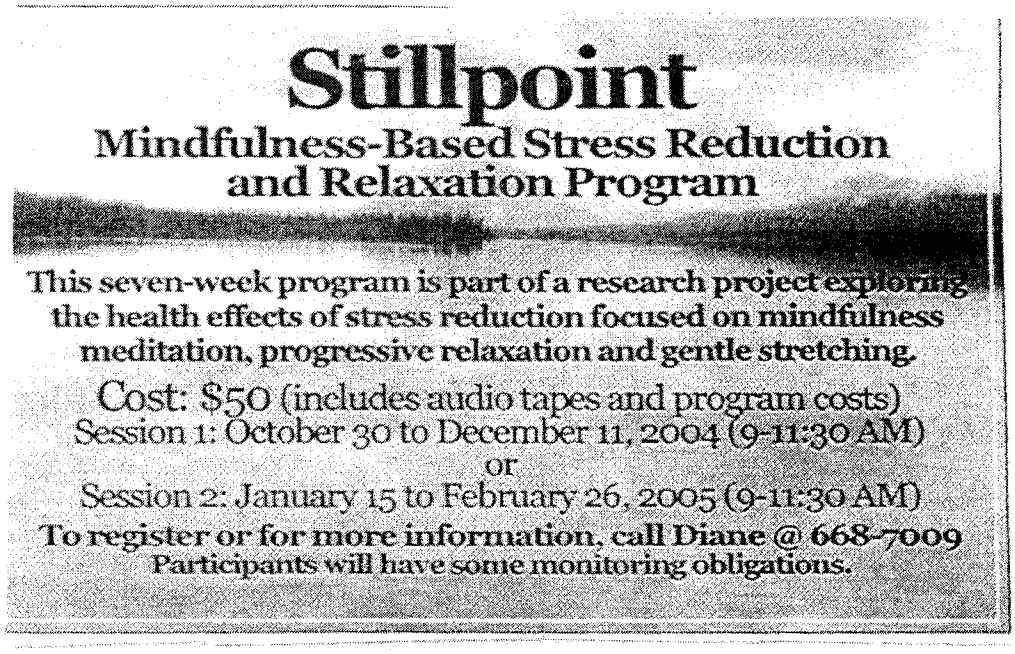
Session 2: January 15 – February 26, 2005

If you know of people that might be interested and could benefit from participation they can register or get more information at 668-7009 or at dianelsemond@hotmail.com.

Sincerely,

Diane Emond

Newspaper Recruitment Ad



Stillpoint

Mindfulness-Based Stress Reduction and Relaxation Program

This seven-week program is part of a research project exploring the health effects of stress reduction focused on mindfulness meditation, progressive relaxation and gentle stretching.

Cost: $50 (includes audio tapes and program costs)
Session 1: October 30 to December 11, 2004 (9-11:30 AM)
or
Session 2: January 15 to February 26, 2005 (9-11:30 AM)

To register or for more information, call Diane @ 668-7009
Participants will have some monitoring obligations.

Appendix D
Demographic Information Sheet

Participant Form

Participant Code _____

Are you ...

O Female

O Male

O Refused

What is your current marital status? Are you....

O Single (never married)

O Living with a spouse or partner

O Separated, widowed or divorced

O Refused

What is your current age? Are you.....

O 15-24

O 25-44

O 45-64

O 65 +

O refused

What is the highest grade level of education you have ever attended or completed?

_____

Which of the following best describes your MAIN activity during the last 12 months. Were you...(mark all that apply)

O Working at a job or business

O Looking for work

O A student

O Retired

O Raising a family or running a household

O Other _____

O Don't know

O Refused

What is your best estimate of your total household income in 2004 before tax deductions? Was it.....

O Less than $10,000

O Between $10,000 – 20,000

O Between $20,000 – 40,000

O Between $40,000 – 60,000

O Between $60,000 – 80,000

O Between $80.000 – 100,000

O More than $100,000

O Don't know

O Refused

Was your income adequate to meet your needs in 2004?

O Yes

O No

O Don't know

O Refused

Would you describe your life as .....

O Very stressful?

O Somewhat stressful?

O Not very stressful?

O Not at all stressful?

O Don't know

O Refused

If your life is very or somewhat stressful which of the following best describes the source of your stress? (check all that apply)

O Spouse or partner (if applicable)

O Family

O Friends

O Community

O Work

O School

O Other (please specify_____)

O Don't know

O Refused

Are you presently diagnosed as having (or have been told by a health care professional) that you have high blood pressure?

O Yes

O No

O Don't know

O Refused

If yes, are you doing anything to control your blood pressure?

O Yes

O No

O Don't know

O Refused

Overall, how would you describe the quality of your life?

1	2	3	4	5
The worst it could be		About average		The best it could be

In general, compared to other people your age, would you say your health is....

1	2	3	4	5
Worse than others		About the same as others		Better than others

What do you do currently to manage stress in your life?_____

Appendix E
Baseline participant demographics

Demographics	Intervention Group 1 (n=15)	Wait-List Group 2 (n=14)	Non-Equivalent Control Group (n=23)
Gender			
Female	14/15=93.3%	14/14=100%	18/23=78.26%
Male	1/15=0.06%	0/14=0%	5/23=21.73%
Marital Status			
Single	2/15=13.3%	1/14=7.14%	5/23=21.73%
Living with spouse or partner	9/15=60%	11/14=78.57%	16/23=69.5%
Separated, widowed or divorced	4/15=26.66%	2/14=14.28%	2/23=8.6%
Age			
15-24	0/15=0%	0/14=0%	3/23=13%
25-44	4/15=26.66%	6/14=42.85%	8/23=34.7%
45-64	10/15=66.66%	7/14=50%	10/23=43.4%
65+	1/15=6%	1/14=7.14%	2/23=8.6%
Education			
High School	2/15=13%	2/14=14.28%	3/23=13%
College	4/15=26.6%	3/14=21.4%	3/23=13%
University	9/15=60%	9/14=64.28%	17/23=73.9%
Main activity in last 12 months			
Working at a job or business	10/15=66.6%	11/14=78.57%	17/23=73.9%
Looking for work	2/15=13.3%	2/14=14.2%	0/23=0%
Student	1/15=6%	2/14=14.2%	8/23=34.7%
Retired	0/15=0%	1/14=7.14%	2/23=8.6%
Raising a family or running a household	4/15=26.6%	8/14=57.14%	8/23=34.7%
Other	Writer, rehab, sick leave	Disability, home schooling, caring for grandchildren	New job, medical leave
Total household income			
Less than $10,000	0/15=0%	0/14=0%	3/23=13%
$20,000-40,000	4/15=26.6%	2/14=14.28%	0/23=0%
$40,000-60,000	2/15=13%	3/14=21.42%	4/23=17.3%
$60,000-80,000	5/15=33.3%	5/14=35.7%	5/23=21.73%
$80,000-100,000	3/15=20%	0/14=0%	2/23=8.6%
>$100,000	1/15=6%	3/14=21.42%	8/23=34.7%
Don't know	0/15=0%	0/14=0%	1/23=4%
Refused	0/15=0%	1/14=7.14%	0/23=0%
Adequate income to meet needs in 2004			
Yes	11/15=73.3%	11/14=78.5%	21/23=91%
No	4/15=26.6%	3/14=21.4%	2/23=8.6%
Life is:			
Very stressful	6/15=40%	2/14=14.28%	3/23=13%
Somewhat stressful	8/15=53.3%	10/14=71.42%	15/23=65.2%
Not very stressful	1/15=6%	2/14=14.28%	5/23=21.73%
Main sources of stress:			
Work	9/14=64%	11/12=91.6%	12/18=66.6%
Spouse or partner	5/14=35.7%	5/12=41.6%	4/18=22.2%
Family	9/14=64%	9/12=75%	14/18=77.7%
Friends	0/14=0%	1/12=8.3%	3/18=16.6%
Community	3/14=21.4%	2/12=16.6%	1/18=5.5%
School	0/14=0%	2/12=16.6%	10/18=55.5%
Other	Health related travel, illness, recent move, ex-partner, losses, change of work	Childhood trauma, SADS, pain	Health, overcommitted to volunteer work, recent move, volunteer work, finances, ex-spouse
Presently diagnosed with high blood pressure			
Yes	6/15=40%	5/14=35.7%	2/23=8.6%

If yes are you doing something to control it?			
Yes	6/6=100%	4/5=80%	2/2=100%
	Intervention Group 1	**Wait List Control Group 2**	**Non-equivalent Group 3**
Quality of life on scale of 1-5			
1 (the worst it could be)	0/15=0%	0/14=0%	0/23=0%
2	3/15=20%	1/14=7.14%	1/23=4.3%
3 (about average)	6/15=40%	6/14=42.85%	5/23=21.7%
3.5	1/15=6.6%	0/14=0%	0/23=0%
4	4/15=26.6%	6/14=42.85%	13/23=56.5%
4.5	1/15=6.6%	1/14=7.14%	1/23=4.3%
5 (the best it could be)	0/15=0%	0/14=0%	3/23=13%
Your health on a scale 1-5			
1(worse than others)	2/15=13.3%	1/14=7.14%	0/23=0%
2	3/15=20%	1/14=7.14%	1/23=4.3%
3 (about the same as others)	3/15=20%	6/14=42.85%	6/23=26%
3.5	0/15=0%	1/14=7.14%	0/23=0%
4	2/15=13.3%	1/14=7.14%	10/23=43.4%
4.5	1/15=6.6%	1/14=7.14%	0/23=0%
5 (better than others)	3/15=20%	2/14=14.28%	6/23=26%

Appendix F

Stress Reduction and Relaxation Program

Program Goals

- Understand the idea of mindfulness and begin to cultivate a daily mindfulness practice
- Appreciate the mind/body relationship and its role in health and illness
- Explore the concept of stress and begin the practice of responding rather than reacting to it
- Learn about and practice a variety of stress reduction methods

Week 1	Welcome/Individual introductions/Program overview Breathing exercise – participants are led through a breathing exercise focused on full, relaxed breathing and guided awareness of bodily sensations while lying down Topic: Stress model – discussion of physical, psychological and behavioral impacts of stress. Introduce the concept of stress reaction/stress response. Body scan – for 45 minutes participants are guided through a gradual sweeping or movement of attention through the body from feet to head focusing on body sensations with periodic suggestions of breath awareness and relaxation while lying down. Discussion of experience in large group. Explanation of homework assignment (practice body scan each day and be aware of stress reactions during the week) and distribution of course workbook/participant diaries and audiotapes for home practice.
Week 2	Guided lying down meditation Discussion of past week of practice/homework assignment Topic: Mindfulness – review of the concept of mindfulness, cranberry eating exercise (mindful eating) Introduction to yoga practice #1- involves simple stretches and postures primarily in the lying position designed to strengthen and relax muscles and increase mindfulness of movement. Discussion of experience in large group. Explanation of homework assignment (alternate yoga practice and body scan and eat at least one meal mindfully this week)

Week 3	Lake meditation – guided lying down meditation Discussion of past week of practice/homework assignment Topic: Foundations of mindfulness practice – discussion of the seven attitudes of mindfulness practice Guided sitting meditation – participants introduced to sitting meditation followed by sitting meditation practice. Discussion of experience in large group. Explanation of homework assignment (alternate yoga practice and sitting meditation and bring your attention to at least one of the attitudes this week)
Week 4	Guided lying down meditation Discussion of past week of practice/homework assignment Topic: Applications of mindfulness – Part 1- using an adult learning approach facilitated group discussion of applications of mindfulness to concerns raised by participants. Introduction to yoga practice #2 – exploration of simple stretches and postures primarily in the standing position. Discussion of experience in large group. Explanation of homework assignment (alternate yoga practice and sitting meditation and practice mindfulness in daily life this week)
Week 5	Guided mountain meditation Discussion of past week of practice/homework assignment Topic: Applications of mindfulness – Part 2 – further discussion of mindfulness applications to issues of mutual concern for group members Walking meditation – a walking form of mindfulness meditation is introduced as a way of extending the practice to different contexts. Discussion of experience in large group. Explanation of homework assignment (practice sitting meditation and allowing/letting be this week)
Week 6	Half-day silent retreat to integrate new skills and learning – all participants maintain silence and refrain from eye contact with each other. Includes yoga, sitting meditation, guided meditation, walking meditation, mindful lunch, closing discussion. Homework (practice variety of formal methods this week)

Week 7	Guided loving kindness meditation Discussion of silent retreat experience and past week of practice/homework assignment Topic: Maintaining practice – general discussion of participants' experience of the program, what aspects of program participants would like to continue, potential obstacles and how to work with them. Each person is charged with the task of developing a personal plan for continued well-being that uses knowledge and skills learned in the program. Keep up the practice and make it your own! Sitting meditation with bells Closing ceremony/Shared stories/readings Program evaluation

Appendix G

MAAS - Day-to-Day Experiences

Instructions: Below is a collection of statements about your everyday experience. Using the 1-6 scale below, please circle the number that indicates how frequently or infrequently you currently have each experience. Please answer according to what really reflects your experience rather than what you think your experience should be. Please treat each item separately from every other item.

1 Almost Always	2 Very Frequently	3 Somewhat Frequently	4 Somewhat Infrequently	5 Very Infrequently	6 Almost Never

I could be experiencing some emotion and not be conscious of it until some time later.	1	2	3	4	5	6
I break or spill things because of carelessness, not paying attention, or thinking of something else.	1	2	3	4	5	6
I find it difficult to stay focused on what's happening in the present.	1	2	3	4	5	6
I tend to walk quickly to get where I'm going without paying attention to what I experience along the way.	1	2	3	4	5	6
I tend not to notice feelings of physical tension or discomfort until they grab my attention.	1	2	3	4	5	6
I forget a person's name almost as soon as I've been told it for the first time.	1	2	3	4	5	6
It seems I am "running on automatic" without much awareness of what I'm doing.	1	2	3	4	5	6
I rush through activities without being really attentive to them.	1	2	3	4	5	6
I get so focused on the goal I want to achieve that I lose touch with what I'm doing right now to get there.	1	2	3	4	5	6
I do jobs or tasks automatically, without being aware of what I'm doing.	1	2	3	4	5	6
I find myself listening to someone with one ear, doing something else at the same time.	1	2	3	4	5	6
I drive on 'automatic pilot' and then wonder why I went there.	1	2	3	4	5	6
I find myself preoccupied with the future or the past.	1	2	3	4	5	6
I find myself doing things without paying attention.	1	2	3	4	5	6
I snack without being aware that I'm eating.	1	2	3	4	5	6

Appendix H

Symptoms of Stress Inventory

This questionnaire is designed to measure the different ways people respond to stressful situations. There are sets of questions dealing with various physical, psychological and behavioral responses. We are particularly interested in the frequency with which you may have experienced these stress related symptoms during the **last week.**

Please circle the most appropriate response to each question.

Sometimes people under stress experience a variety of physical responses. During the past week, have you been bothered by:

		Never	Infreq-uently	Some-times	Often	Very freq-uently
1.	Flushing of your face.	0	1	2	3	4
2.	Sweating excessively even in cold weather	0	1	2	3	4
3.	Severe itching	0	1	2	3	4
4.	Skin rashes	0	1	2	3	4
5.	Breaking out in cold sweats	0	1	2	3	4
6.	Cold hands or feet	0	1	2	3	4
7.	Hot or cold spells	0	1	2	3	4

Have you noticed any of the following symptoms when not exercising?

		Never	Infreq-uently	Some-times	Often	Very freq-uently
8.	Pains in your heart or chest	0	1	2	3	4
9.	Thumping of your heart	0	1	2	3	4
10.	Rapid or racing heartbeats	0	1	2	3	4
11.	Irregular heart beats	0	1	2	3	4

12.	Rapid breathing	0	1	2	3	4
13.	Difficulty breathing	0	1	2	3	4
14.	A dry mouth	0	1	2	3	4

Have you experienced:

		Never	Infreq-uently	Some-times	Often	Very freq-uently
15.	Having to clear your throat often	0	1	2	3	4
16.	A choking lump in your throat	0	1	2	3	4
17.	Hoarseness	0	1	2	3	4
18.	Nasal stuffiness	0	1	2	3	4
19.	Colds	0	1	2	3	4
20.	Colds with complication (e.g. bronchitis)	0	1	2	3	4
21.	Increased asthma attacks	0	1	2	3	4
22.	Sinus headaches	0	1	2	3	4

Have you experienced:

		Never	Infreq-uently	Some-times	Often	Very freq-uently
23.	Spells of severe dizziness	0	1	2	3	4
24.	Feeling faint	0	1	2	3	4
25.	Blurring of your vision	0	1	2	3	4
26.	Migraine headaches	0	1	2	3	4
27.	Increased seizures (convulsions)	0	1	2	3	4

Have you been bothered by:

		Never	Infreq-uently	Some-times	Often	Very freq-uently
28.	Indigestion	0	1	2	3	4
29.	Nausea	0	1	2	3	4
30.	Severe pains in your stomach	0	1	2	3	4
31.	Increased appetite	0	1	2	3	4
32.	Poor appetite	0	1	2	3	4
33.	Loose bowel movements or diarrhea	0	1	2	3	4
34.	Heartburn	0	1	2	3	4
35.	Constipation	0	1	2	3	4

Muscle tension is a common way of experiencing stress. Have you noticed excessive tension, stiffness, soreness or cramping in the muscles in your:

		Never	Infreq-uently	Some-times	Often	Very freq-uently
36.	Abdomen or stomach	0	1	2	3	4
37.	Neck	0	1	2	3	4
38.	Jaw	0	1	2	3	4
39.	Forehead	0	1	2	3	4
40.	Eyes	0	1	2	3	4
41.	Back	0	1	2	3	4
42.	Shoulders	0	1	2	3	4
43.	Hands or arms	0	1	2	3	4
44.	Legs	0	1	2	3	4
45.	Tension headaches	0	1	2	3	4

In your day-to-day activities, have you noticed symptoms of anxiety or restlessness, such as:

		Never	Infreq-uently	Some-times	Often	Very freq-uently
46.	Fidgeting with your hands	0	1	2	3	4
47.	Pacing	0	1	2	3	4
48.	Chewing your lips	0	1	2	3	4
49.	Difficulty sitting still	0	1	2	3	4
50.	Increased eating	0	1	2	3	4
51.	Increased smoking	0	1	2	3	4
52.	Biting your nails	0	1	2	3	4
53.	Having to urinate frequently	0	1	2	3	4
54.	Having to get up in the night to urinate	0	1	2	3	4
55.	Difficulty in falling asleep	0	1	2	3	4
56.	Difficulty in staying asleep at night	0	1	2	3	4
57.	Early morning awakening	0	1	2	3	4
58.	Changes in your sexual relationship	0	1	2	3	4
59.	Working tires you out completely	0	1	2	3	4
60.	Severe aches and pain make it difficult for you to do your work	0	1	2	3	4

Stress is often accompanied by a variety of emotions. During the last week, have you felt:

		Never	Infreq-uently	Some-times	Often	Very freq-uently
61.	Alone and sad	0	1	2	3	4
62.	Unhappy and depressed	0	1	2	3	4
63.	Like crying easily	0	1	2	3	4
64.	Like life is entirely hopeless	0	1	2	3	4
65.	That you wished you were dead	0	1	2	3	4
66.	That worrying gets you down	0	1	2	3	4
67.	You get up tired and exhausted in the morning even with your usual amount of sleep	0	1	2	3	4
68.	You suffer from severe nervous exhaustion	0	1	2	3	4

Have you noticed:

		Never	Infreq-uently	Some-times	Often	Very freq-uently
69.	Worrying about your health	0	1	2	3	4
70.	Stuttering or stammering	0	1	2	3	4
71.	Shaking or trembling	0	1	2	3	4
72.	Being keyed up or jittery	0	1	2	3	4
73.	Feeling weak and faint	0	1	2	3	4
74.	Frightening dreams	0	1	2	3	4

75.	Being uneasy and apprehensive	0	1	2	3	4
76.	You get nervous or shaky when approached by a superior	0	1	2	3	4
77.	You become so afraid you can't move	0	1	2	3	4
78.	You are fearful of strangers and/or strange places make you afraid	0	1	2	3	4
79.	Sudden noises make you jump or shake	0	1	2	3	4

Does it seem:

		Never	Infreq-uently	Some-times	Often	Very freq-uently
80.	That little things get on your nerves	0	1	2	3	4
81.	You are easily annoyed and irritated	0	1	2	3	4
82.	When you feel angry, you act angrily toward most everything	0	1	2	3	4
83.	Angry thoughts about an irritating event keep bothering you	0	1	2	3	4
84.	You become mad or angry easily	0	1	2	3	4
85.	Your anger is so great that you want to strike something	0	1	2	3	4
86.	You let little annoyances build up until you just explode	0	1	2	3	4
87.	You become so upset that you hit something	0	1	2	3	4

In your day-to-day living do you find:

		Never	Infreq-uently	Some-times	Often	Very freq-uently
88.	Your thinking gets completely mixed-up when you have to do things quickly	0	1	2	3	4
89.	You must do things very slowly to do them without mistakes	0	1	2	3	4
90.	You get directions and orders wrong	0	1	2	3	4
91.	You are unable to keep thoughts from running through your mind	0	1	2	3	4
92.	Frightening thoughts keep coming back	0	1	2	3	4
93.	You become frightened for no good reason	0	1	2	3	4
94.	You have difficult in concentrating	0	1	2	3	4
95.	What other ways do you experience stress, tension or anxiety?					

Appendix I

Questionnaire on Spiritual Attitudes and Experiences (INSPIRIT)

The following questions concern your spiritual or religious beliefs and experiences. There are no right or wrong answers. For each question, mark the answer that is most true for you.

1. How strongly religious (or spiritually-oriented) do you consider yourself to be?

   O Strong

   O Somewhat strong

   O Not very strong

   O Not at all

2. About how often do you spend on religious or spiritual practices?

   O Several times per day to several times per week.

   O Once per week to several times per month.

   O Once per month to several times per year.

   O Once per year or less.

3. How often have you felt as though you were very close to a powerful spiritual force?

   O Never

   O Once or twice

   O Several times

   O Often

People have different images and definitions of the higher power that we often call God. Please use your image and your definition of God when answering the following questions.

4. How close do you feel to God?

O Extremely close

O Somewhat close

O Not very close

O I don't believe in God

5. Have you ever had an experience that has convinced you that God exists?

O Yes

O Maybe

O I don't know

O No

6. Indicate whether you agree or disagree with this statement: "God dwells with you".

O Definitely disagree

O Tend to disagree

O Tend to agree

O Definitely agree

7. The following list describes spiritual experiences that some people have had. Please circle the number that indicates if you have had any of these experiences and the extent to which each of them has affected your belief in God.

Spiritual Experience	Never had this experi-ence	Had this experi-ence and it:		
		Did not strength-en belief in God	Strength-ened belief in God	Convinc-ed me of God's existence
A. An experience of profound inner peace	1	2	3	4
B. An overwhelming experience of love	1	2	3	4
C. A feeling of unity with the earth and all living beings	1	2	3	4
D. An experience of complete joy and ecstasy	1	2	3	4
E. Meeting or listening to a spiritual teacher or master	1	2	3	4
F. An experience of God's energy or presence	1	2	3	4
G. An experience of a great spiritual figure (eg. Jesus, Mary, Elijah, Buddha)	1	2	3	4
H. A healing of your body or mind (or witnessed such a healing)	1	2	3	4
I. A miraculous (or not normally occurring) event	1	2	3	4
J. An experience of angels or guiding spirits	1	2	3	4
K. An experience of communication with someone who has died	1	2	3	4
L. An experience with near death or life after death	1	2	3	4
M. Other (specify)_____ _____ _____		2	3	4

Appendix J

Multidimensional Health Locus of Control (MHLC)

Instructions: Each item below is a belief statement about your medical condition with which you may agree or disagree. Beside each statement is a scale which ranges from strongly disagree (1) to strongly agree (6).

For each item please circle the number that represents the extent to which you agree or disagree with that statement. The more you agree with a statement, the higher will be the number you circle. The more you disagree with a statement, the lower will be the number you circle.

Please make sure that you answer **EVERY ITEM** and that you circle **ONLY ONE** number per item. This is a measure of your personal beliefs; obviously, there are no right or wrong answers.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

1 Strongly Disagree	2 Moderately Disagree	3 Slightly Disagree	4 Slightly Agree	5 Moderately Agree	6 Strongly Agree

If I get sick, it is my own behavior which determines how soon I will get well again.	1	2	3	4	5	6
No matter what I do, if I am going to get sick, I will get sick.	1	2	3	4	5	6
Having regular contact with my physician is the best way for me to avoid illness.	1	2	3	4	5	6
Most things that affect my health happen to me by accident.	1	2	3	4	5	6
Whenever I don't feel well, I should consult a medically trained professional.	1	2	3	4	5	6
I am in control of my health.	1	2	3	4	5	6
My family has a lot to do with my becoming sick or staying healthy.	1	2	3	4	5	6
When I get sick, I am to blame.	1	2	3	4	5	6
Luck plays a big part in determining how soon I will recover from an illness.	1	2	3	4	5	6
Health professionals control my health.	1	2	3	4	5	6
My good health is largely a matter of good fortune.	1	2	3	4	5	6
The main thing which affects my health is what I myself do.	1	2	3	4	5	6
If I take care of myself, I can avoid illness.	1	2	3	4	5	6
Whenever I recover from an illness, it's usually because other people (doctors, nurses, family, friends) have been taking good care of me.	1	2	3	4	5	6
No matter what I do, I'm likely to get sick.	1	2	3	4	5	6
It it's meant to be, I will stay healthy.	1	2	3	4	5	6
If I take the right actions, I can stay healthy.	1	2	3	4	5	6
Regarding my health, I can only do what my doctor tells me to do.	1	2	3	4	5	6

Appendix K

Homework Record Form – Session 1

Name: _____

Each time you practice make a note on the homework record form. Include comments on observations or insights that occur during the week.

Day/Date	Type of Practice/Number of minutes	Comments
Saturday Date:		
Sunday Date:		
Monday Date:		
Tuesday Date:		
Wednesday Date:		
Thursday Date:		
Friday Date:		

Appendix L

Interview Guide

First Interview

- Take me through a typical week day in your work-life/home-life? (from when you get up in the morning until you go to bed at night)
- What does health mean to you?
- What do you do to feel good and stay healthy?
- What does stress mean to you?
- Can you describe the sources of stress you experience in your life currently?
- How do you think stress affects your health?
- How do you cope with the stress you are under?
- What do you hope to get out of the MBSR course you will be attending?
- Is there anything about stress that you would like to tell me about that I have forgotten to ask?
- Opportunity for respondent briefing

Second Interview

- Take me through a typical week day in your work-life/home-life?
- When we spoke last you said that health meant....what would you say health means to you now?
- Last time we talked you told me that you do.....to feel good/stay healthy. Is there anything else you would add to that now?
- When we chatted earlier you described stress as meaning.....to you. How would you describe the meaning of stress now?
- Earlier you told me that ....were your main sources of stress. Are there any changes in your main sources of stress?
- How do you cope with the stress you are under now? What role does stress play in your life currently?
- Can you describe what it has been like learning and practicing MBSR?
- In what ways has MBSR been helpful and/or unhelpful for you in coping with the stress in your life?
- What do you think is the most important or useful thing you have learned through participating in this program? Is there anything about MBSR and stress that you would like to tell me about that I have forgotten to ask?
- Opportunity for respondent debriefing.

Appendix M
Oath of Confidentiality

Oath of Confidentiality
Transcription Services

I, Kim Sparks, Sparks Secretarial Services, shall not disclose or make known to anyone not legally entitled to it, any recorded or non-recorded information of an individual or any confidential information obtained through the provision of transcription services.

I understand that this means I will not talk about anything I might learn on these tapes to anyone, unless legally required to.

Signed at Whitehorse, Yukon.

Date May 11/05

Signature K Sparks

Signature of Witness [illegible]

Appendix N

Third Party Stress Index

Participant Code _____

Stress can be hard to understand and sometimes leads to emotional chaos and difficulties with physical health. Habits, attitudes and other signs can alert us to the fact that someone is experiencing stress-related symptoms. This stress index will provide us with important information on how you see your friend/family member is managing stress both before and after participating in a stress reduction program. Your perspective will add to our understanding of how best to assist people in reducing stress.

In your opinion how is your friend/family member coping overall?_____

What do you notice most about the way they handle stress?_____

Any other comments_____

DOES YOUR FRIEND/FAMILY MEMBER FREQUENTLY	YES	NO	NOT SURE
Neglect his/her diet?			
Try to do everything for him/herself?			
Blow up easily?			
Seek unrealistic goals?			
Fail to see the humor in situations others find funny?			
Act rude?			
Make a "big deal" of everything?			
Look to other people to make things happen?			
Complain he/she is disorganized?			
Avoid people whose ideas are different from his/her own?			
Keep everything inside?			
Neglect exercise?			
Have few supportive relationships?			
Use sleeping pills and/or tranquilizers without a doctor's approval?			
Get too little rest?			
Get angry when he/she is kept waiting?			
Ignore stress symptoms?			
Put things off until later?			
Think there is only one right way to do something?			
Fail to build relaxation time into his/her day?			
Race through the day?			
Spend a lot of time complaining about the past?			
Fail to get a break from noise and crowds?			

Adapted from *Coping with Stress – What is Your Stress Index?* Canadian Mental Health Association, Saskatchewan Division

Appendix O

Evaluation Form

Stillpoint Stress Reduction & Relaxation Program Course Evaluation

Please assist us in strengthening and improving our program by completing the following. All your comments and suggestions are welcome.

What did you find most helpful about the entire program?

What improvements would you like to see?

Any comments on the course content and/or the process of the sessions?

Any comments or suggestions regarding the half-day retreat?

Would you recommend this program to others? Yes_____ No _____

Anything else you would like to say.....

Thanks for the feedback!

Appendix P
Blood Pressure and Pulse

Systolic Blood Pressure

Anova: Single Factor

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
Baseline	30	4027	134.2333	475.9092
Week 3	27	3542	131.1852	597.7721
Week 5	25	3301	132.04	427.4567
Week 7	26	3518.5	135.3269	484.9788

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	292.8202	3	97.60675	0.196244	0.898745	3.975686
Within Groups	51726.87	104	497.3738			
Total	52019.69	107				

Diastolic Blood Pressure

Anova: Single Factor

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
Baseline	30	2545	84.83333	205.6609
Week 3	27	2214	82	198.4615
Week 5	25	2126	85.04	184.2067
Week 7	26	2239.5	86.13462	248.5712

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	248.8237	3	82.94122	0.396421	0.755843	3.975686
Within Groups	21759.41	104	209.2251			
Total	22008.23	107				

Pulse

Anova: Single Factor

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
Baseline	30	2352.5	78.41667	199.6739
Week 3	27	2005	74.25926	154.4302
Week 5	25	1841	73.64	178.9067
Week 7	26	1888	72.61538	215.8662

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	557.4218	3	185.8073	0.991168	0.400058	3.975686
Within Groups	19496.14	104	187.4629			
Total	20053.56	107				

Appendix Q
SOSI

SOSI Total Change Scores
Intervention Group, Wait-list Control Group, Non-Equivalent Control Group
(T1-T2 and T2-T3)

Anova: Single Factor

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
Intervention Group (T1-T2)	15	-3.634	-0.24227	0.134805
Wait-list Control Group (T1-T2)	13	0.296	0.022769	0.084818
Wait-list Control Group (T2-T3)	12	-3.01	-0.25083	0.194781
Non-equivalent Control Group (T1-T2)	23	-3.59	-0.15609	0.110277
Non-equivalent Control Group (T2-T3)	18	-1.884	-0.10467	0.165311

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	0.674261	4	0.168565	1.24571	0.298872	3.576531
Within Groups	10.28406	76	0.135317			
Total	10.95832	80				

SOSI Total Scores
Intervention Group
(T1-T2)

t-Test: Paired Two Sample for Means

	Variable 1	*Variable 2*
Mean	1.2078	0.964867
Variance	0.180122	0.280098
Observations	15	15
Pearson Correlation	0.722871	
Hypothesized Mean Difference	0	
df	14	
t Stat	2.556155	
P(T<=t) one-tail	0.011422	
t Critical one-tail	2.624492	
P(T<=t) two-tail	0.022843	
t Critical two-tail	2.976849	

SOSI Total Scores
Wait-list Control Group
(T1-T2)

t-Test: Paired Two Sample for Means

	Variable 1	*Variable 2*
Mean	1.255231	1.277538
Variance	0.384227	0.49092
Observations	13	13
Pearson Correlation	0.910046	
Hypothesized Mean Difference	0	
df	12	
t Stat	-0.27642	
P(T<=t) one-tail	0.393463	
t Critical one-tail	2.68099	
P(T<=t) two-tail	0.786925	
t Critical two-tail	3.054538	

SOSI Total Scores
Non-Equivalent Control Group
(T1-T2)

t-Test: Paired Two Sample for Means

	Variable 1	*Variable 2*
Mean	0.753435	0.596261
Variance	0.208941	0.207863
Observations	23	23
Pearson Correlation	0.73518	
Hypothesized Mean Difference	0	
df	22	
t Stat	2.268823	
P(T<=t) one-tail	0.016718	
t Critical one-tail	2.508323	
P(T<=t) two-tail	0.033436	
t Critical two-tail	2.818761	

SOSI Total Scores
Wait-list Control Group
(T2-T3)

t-Test: Paired Two Sample for Means

	Variable 1	*Variable 2*
Mean	1.153167	0.902333
Variance	0.31618	0.34634
Observations	12	12
Pearson Correlation	0.706733	
Hypothesized Mean Difference	0	
df	11	
t Stat	1.968804	
P(T<=t) one-tail	0.037342	
t Critical one-tail	2.718079	
P(T<=t) two-tail	0.074684	
t Critical two-tail	3.105815	

SOSI Total Scores
Non-Equivalent Control Group
(T2-T3)

t-Test: Paired Two Sample for Means

	Variable 1	*Variable 2*
Mean	0.574278	0.469611
Variance	0.218878	0.14255
Observations	18	18
Pearson Correlation	0.555137	
Hypothesized Mean Difference	0	
df	17	
t Stat	1.092178	
P(T<=t) one-tail	0.144996	
t Critical one-tail	2.56694	
P(T<=t) two-tail	0.289992	
t Critical two-tail	2.898232	

Appendix R

Third Party Stress Index

t-Test: Paired Two Sample for Means

	Variable 1	*Variable 2*
Mean	6.833333	4.111111
Variance	10.73529	10.57516
Observations	18	18
Pearson Correlation	0.415899	
Hypothesized Mean Difference	0	
df	17	
t Stat	3.27352	
P(T<=t) one-tail	0.002239	
t Critical one-tail	2.56694	
P(T<=t) two-tail	0.004479	
t Critical two-tail	2.898232	

Appendix S
MHLC

MHLC Internal
Intervention Group
T1-T2

t-Test: Paired Two Sample for Means

	Variable 1	*Variable 2*
Mean	26.93333	26.4
Variance	23.49524	28.68571
Observations	15	15
Pearson Correlation	0.463331	
Hypothesized Mean Difference	0	
df	14	
t Stat	0.3895	
P(T<=t) one-tail	0.351384	
t Critical one-tail	2.624492	
P(T<=t) two-tail	0.702767	
t Critical two-tail	2.976849	

MHLC Chance
Intervention Group
T1-T2

t-Test: Paired Two Sample for Means

	Variable 1	*Variable 2*
Mean	12.26667	13.06667
Variance	16.06667	19.92381
Observations	15	15
Pearson Correlation	0.769449	
Hypothesized Mean Difference	0	
df	14	
t Stat	-1.06543	
P(T<=t) one-tail	0.152357	
t Critical one-tail	2.624492	
P(T<=t) two-tail	0.304713	
t Critical two-tail	2.976849	

MHLC Powerful Others Intervention Group (T1-T2)

t-Test: Paired Two Sample for Means

	Variable 1	*Variable 2*
Mean	12.26667	10.93333
Variance	9.638095	13.92381
Observations	15	15
Pearson Correlation	0.371599	
Hypothesized Mean Difference	0	
df	14	
t Stat	1.335455	
P(T<=t) one-tail	0.101518	
t Critical one-tail	2.624492	
P(T<=t) two-tail	0.203035	
t Critical two-tail	2.976849	

MHLC Internal Wait-List Control Group (T1-T2)

t-Test: Paired Two Sample for Means

	Variable 1	*Variable 2*
Mean	27.07692	28.38462
Variance	67.07692	44.58974
Observations	13	13
Pearson Correlation	0.811575	
Hypothesized Mean Difference	0	
df	12	
t Stat	-0.98533	
P(T<=t) one-tail	0.171955	
t Critical one-tail	2.68099	
P(T<=t) two-tail	0.34391	
t Critical two-tail	3.054538	

MHLC Internal
Wait-List Control Group
(T2-T3)

t-Test: Paired Two Sample for Means

	Variable 1	*Variable 2*
Mean	29.91667	29.25
Variance	15.35606	18.20455
Observations	12	12
Pearson Correlation	0.387402	
Hypothesized Mean Difference	0	
df	11	
t Stat	0.508747	
P(T<=t) one-tail	0.310489	
t Critical one-tail	2.718079	
P(T<=t) two-tail	0.620978	
t Critical two-tail	3.105815	

MHLC Chance
Wait-List Control Group
(T1-T2)

t-Test: Paired Two Sample for Means

	Variable 1	*Variable 2*
Mean	12.53846	14.07692
Variance	33.9359	57.41026
Observations	13	13
Pearson Correlation	0.267075	
Hypothesized Mean Difference	0	
df	12	
t Stat	-0.67382	
P(T<=t) one-tail	0.256599	
t Critical one-tail	2.68099	
P(T<=t) two-tail	0.513198	
t Critical two-tail	3.054538	

MHLC Chance
Wait-List Control Group
(T2-T3)

t-Test: Paired Two Sample for Means

	Variable 1	*Variable 2*
Mean	12.91667	12.91667
Variance	43.53788	32.62879
Observations	12	12
Pearson Correlation	0.520786	
Hypothesized Mean Difference	0	
df	11	
t Stat	0	
P(T<=t) one-tail	0.5	
t Critical one-tail	2.718079	
P(T<=t) two-tail	1	
t Critical two-tail	3.105815	

MHLC Powerful Others
Wait-List Control Group
(T1-T2)

t-Test: Paired Two Sample for Means

	Variable 1	*Variable 2*
Mean	11.07692	12.07692
Variance	15.91026	15.57692
Observations	13	13
Pearson Correlation	0.814785	
Hypothesized Mean Difference	0	
df	12	
t Stat	-1.49284	
P(T<=t) one-tail	0.080649	
t Critical one-tail	2.68099	
P(T<=t) two-tail	0.161298	
t Critical two-tail	3.054538	

MHLC Powerful Others
Wait-List Control Group
(T2-T3)

t-Test: Paired Two Sample for Means

	Variable 1	*Variable 2*
Mean	12.41667	12
Variance	15.35606	29.63636
Observations	12	12
Pearson Correlation	0.77558	
Hypothesized Mean Difference	0	
df	11	
t Stat	0.418387	
P(T<=t) one-tail	0.341858	
t Critical one-tail	2.718079	
P(T<=t) two-tail	0.683716	
t Critical two-tail	3.105815	

Appendix T
MAAS

MAAS
Intervention Group
(T1-T2)

t-Test: Paired Two Sample for Means

	Variable 1	*Variable 2*
Mean	3.721933	3.903067
Variance	0.732066	0.423558
Observations	15	15
Pearson Correlation	0.730337	
Hypothesized Mean Difference	0	
df	14	
t Stat	-1.19913	
P(T<=t) one-tail	0.12519	
t Critical one-tail	2.624492	
P(T<=t) two-tail	0.250381	
t Critical two-tail	2.976849	

MAAS
Wait-List Control
(T1-T2)

t-Test: Paired Two Sample for Means

	Variable 1	*Variable 2*
Mean	3.172308	3.335846
Variance	1.221069	0.615504
Observations	13	13
Pearson Correlation	0.471563	
Hypothesized Mean Difference	0	
df	12	
t Stat	-0.58414	
P(T<=t) one-tail	0.284973	
t Critical one-tail	2.68099	
P(T<=t) two-tail	0.569945	
t Critical two-tail	3.054538	

MAAS
Wait-List Control
(T2-T3)

t-Test: Paired Two Sample for Means

	Variable 1	*Variable 2*
Mean	3.3255	3.6
Variance	0.669941	0.559109
Observations	12	12
Pearson Correlation	0.638748	
Hypothesized Mean Difference	0	
df	11	
t Stat	-1.42195	
P(T<=t) one-tail	0.091385	
t Critical one-tail	2.718079	
P(T<=t) two-tail	0.18277	
t Critical two-tail	3.105815	

Appendix U
INSPIRIT

INSPIRIT
Intervention Group
(T1-T2)

t-Test: Paired Two Sample for Means

	Variable 1	*Variable 2*
Mean	2.951733	2.942533
Variance	0.392295	0.353829
Observations	15	15
Pearson Correlation	0.799002	
Hypothesized Mean Difference	0	
df	14	
t Stat	0.091767	
P(T<=t) one-tail	0.464092	
t Critical one-tail	2.624492	
P(T<=t) two-tail	0.928183	
t Critical two-tail	2.976849	

INSPIRIT
Wait-List Control
(T1-T2)

t-Test: Paired Two Sample for Means

	Variable 1	*Variable 2*
Mean	2.631846	2.586154
Variance	0.533251	0.423626
Observations	13	13
Pearson Correlation	0.938173	
Hypothesized Mean Difference	0	
df	12	
t Stat	0.645833	
P(T<=t) one-tail	0.265272	
t Critical one-tail	2.68099	
P(T<=t) two-tail	0.530544	
t Critical two-tail	3.054538	

INSPIRIT
Wait-List Control
(T2-T3)

t-Test: Paired Two Sample for Means

	Variable 1	*Variable 2*
Mean	2.591818	2.753636
Variance	0.503316	0.274145
Observations	11	11
Pearson Correlation	0.869282	
Hypothesized Mean Difference	0	
df	10	
t Stat	-1.47912	
P(T<=t) one-tail	0.084953	
t Critical one-tail	2.763772	
P(T<=t) two-tail	0.169905	
t Critical two-tail	3.169262	

Appendix V

Practice Time and SOSI Scores

Correlation

	Total minutes of practice	Total mean SOSI scores	Average daily minutes of practice	SOSI change scores
Total minutes of practice	1			
Total mean SOSI scores	0.106826	1		
Average daily minutes of practice	0.931925	0.166415	1	
SOSI change scores	0.209123	0.131262	0.15925	1

Appendix W

Thematic Qualitative Analysis

Participant Diaries	Individual Interviews	Third Party Stress Index	Post Course Evaluation
	Health Balance Coping Multi-dimensional concept	Health Balance Coping	
	Stress Tension Overwhelmed/overload Imbalance Communication and relationships Lack of resources to meet demands		
Obstacles/Opportunities Feelings Thoughts Pain Interruptions Sleepiness Limited time Work/Travel			
	Sources of stress Role stress Sleep Midlife North	Sources of stress Role stress Sleep Change Pain	
Self Care Tools for coping with pain/stress Increased self/body awareness Communication and relationships Maintaining regular practice Anticipation Guilt	Self Care Tools for coping with pain/stress Increased self/body awareness Time	Self Care Tools for coping with pain/stress Increased self/body awareness Communication and relationships	Self Care Tools for coping with pain/stress Increased self/body awareness Maintaining regular practice Time
	Group Dynamic Not alone		Group Dynamic Not alone Shared learning experience
Transformation Integration of mindfulness skills Gratitude Change of perspective	Transformation Integration of mindfulness skills Spirituality		
			Process Instruction Variety More sessions Retreat Environment

Appendix X

Inventory of Evidence

Participant Practice Diary (PD)
Individual Interviews (II)
Third Party Stress Index (TPSI)
Post Course Evaluation (CE)

PD	Obstacles	Feelings	"irritated by this exercise. Feel anxiety. Falling asleep during practice." (10:1) "tough to keep mind slowed down. Different results from flooded with anger, with pain to feeling rested and relaxed." (4:1) "Hard time doing it slow enough. Was irritated when I started and thought maybe it would decrease. It didn't. Very difficult to slow down." (10:2)
		Thoughts	"working on getting rid of chatter" (8:1) "continued to wander towards angry thoughts." (27:1) "difficulties relaxing my mind" (2:4) "pre-occupied with thoughts – mostly of work." (7:1) "too much sitting and thinking – not enough sitting and not thinking" (13:6) "feeling driven to action and multiple tasks – not mindfulness." (11:4)
		Pain	"my head aches – pons and medulla and cerebellum" (12:1) "stiffness in my neck and headaches – very easily irritated." (14:2) "lower back problems make it difficult to fully relax" (1:1) "I have a sore lower back left side. Sore lower back in general." (6:4)
		Interruptions	"interference by other body systems, heartburn, gas etc., during session. Interference from fire sirens reminded me of sirens in war time for bombs, they went on so long." (3:1) "I have no mat for yoga and wooden floors in area of tape player. I feel totally frustrated with this. The tape hums I can't even hear it. The cat's meowing constantly through it. I have a ton of stuff to do. I feel guilty for not doing it when I'm supposed to – adding stress. "(6:3)
		Sleepiness	"kept falling asleep during body scan" (14:1) "end of day again and just can't get from start to finish without falling asleep." (16:1) "in bed before my son wakes up at 6 AM – a bit distracted by his presence. Fall asleep on and off – need to be more awake – but different time not possible." (21:1) "Feeling angry and frustrated. Finding difficulty staying present. Tired – have a cold and a sick child. Can't seem to get around to doing yoga and body scan puts me to sleep." (25:3) "as up with sick teething baby and exhausted." (27:4)
		Limited time	"I don't seem to get the time I need at home with family being noisy," (19:5) "having a hard time relaxing when I have a time frame pressure." (25:4) "very high stress, no time for myself – miss the yoga/meditation" (21:5) "to find time other than evenings" (27:3) "I have experienced some resentment from time to time because my once busy day is now so full that I am constantly going from waking to sleeping with no discretionary times and even chores aren't getting fit in except as absolutely necessary." (13:1)
		Work/Travel	"unable to meditate today due to workload – worked late into evening – not relaxed – slept poorly if at all," (13:5) "difficulty concentrating and staying focused for forty-five minutes. Had another stressful day at work." (7:3) "found it difficult to keep up when my routine was disrupted (traveling for five days). Having trouble getting back to routine" (6:5) "last-minute trip out of town – did not have anything to play tape on. Tried to do body scan from memory but wasn't that successful." (19:2)

	Opportunity		"hurt my back. Walking is difficult. Breathed into lower back" (12:2) "had a lot of back pain today – yoga really helped." (7:2) "after a brutal day of migraine settled in my body seemed to breathe into the pain – relieving it." (11:2)
	Self Care	Tools for coping with pain/stress	"I had to work my own shifts plus one for a co-worker with a sick baby. I need to value the time I take for myself." (22:3) "provides temporary relief from neck and head pain" (14:4) "headaches seem to go away after I do the yoga." (14:2). "to help relieve back pain and tension when I become aware of it – tools that I can use." (21:6). "what a day! I focused on breathing a couple of times during the day and felt calmer" (16:3) "had a lot of stress in shoulders and neck. At work used deep breathing. Liked it!" (12:4) "Relaxing. Helped me wind down. I was stressed when I started the tape and became more relaxed" (2:2) "I am practicing mindfulness as I walk and can feel the tension leave." (6:2) "I really enjoy the tools this has given me and feel I will continue to use and expand on it." (16:6)
		Increased self/body awareness	"realized I have carried stress all my life" (9:4) "increased calm. More insight into issues. Feeling balanced. Getting in touch with old self." (9:4) "one thing the scan is highlighting to me is areas of my body that I do carry stress (my jaw) which I never realized before" (16:2) "meditation made me feel peaceful and relaxed after feeling unbalanced most of the day. Feels good to be stretching and listening to my body." (25:2) "lots of tension in my mouth, throat and neck. Want to work on relaxing my tongue and opening my throat" (5:1) "trying to know my body. Paying closer attention to body parts and how they feel." (31:1) "no longer at home in my body" (5:2) "mood is improved, as are feelings of strength and coping. Positive overall" (13:1) "I am much more mindful in life and aware of my stress and attention and breathing." (6:3) "interesting experience – had a sore throat this morning but didn't become aware of it until I was meditating. It was right in my face. I had this realization after that I probably wouldn't have become aware of it unless I had been meditating. I believe this is how I operate re: my stress when it comes to back issues – I don't recognize them most of the time until I have a killer headache." (19:4) "Where I carry stress is very evident now. For the first time ever I got rid of a headache without a handful (exaggeration) of Tylenol/Advil. Not a glimmer of a headache today. Feel like I have control over headaches if I catch them early. I think this is an important component for me." (6:6) "I enjoyed the deliberate and gentle quality of movement and the fact that my physical body is gaining strength and flexibility. I felt more resilient this week." (13:2) "I am much more aware of my need to take care of myself and feel I have refound myself" (17:6) "to reduce stress in my life. Dropped a class at school. My decision to drop a class was a good one." (14:6) "Aware of my body's need to relax and spent time breathing and then went to the SPCA to pet animals." (17:4)
		Communication and relationships	"to really talk to him about concerns and issues and clarification. We stopped the blaming and listened to each other!" (12:3) "very helpful." (31:4) "finding a bit more patience with her." (27:2) "I discussed with them their need for time for themselves. I did some relaxation and mindful breathing with them." (17:4)
		Maintaining regular practice	"miss sessions as they bring back the focus, A monthly session would help maintain the practice." (3:6) I'm beginning to realize that this practice will be an ongoing challenge – both in achieving the discipline to maintain a consistent practice and in achieving the quietness of mind I seek." (13:6) "Overall feel it is important to stick to discipline of meditations or yoga several times a week. I really don't know if I will follow through (probably after I start

			getting headaches). The incorporation of mindfulness in my life throughout the day will be easy for me to follow through on." (6:6) "aware of the power of breathing to start and end day – using it more and will consciously do every day." (17:6)
		Anticipation	"I look forward to my time with the tapes! I really want to practice now. I feel refreshed and better after yoga and meditation" (1:3) "I look forward to this gift of time and mindfulness each day now." (11:4) "I started looking forward to my meditation time and I find my family recognizes this is an important time and are very respectful in not interrupting me at this time." (16:6)
		Guilt	"Not feeling motivated – just guilty! How silly is that? This is for me. I must be obsessed with some problems at work since they totally dominated my mind during this meditation." (6:5) "I didn't listen to any tapes this week and feel some guilt" (7:6) "missed again today – feeling guilty when missing" (27:2) "the silence and took time for my thoughts without guilt." (31:6)
	Transform-ation	Integration of mindfulness skills	"much more positive overall! More glimpses of the present moment, being mindful in the moment and working on accepting what I can't control." (4:5) "For the first two meditations I slowly entered a point of feeling like I was in a cocoon –enveloped, wrapped in a safe comfortable place. As we started the third meditation (loving-kindness) I felt as noted above. But as the speaker spoke of 'cradling an infant' I immediately had an image and sensation of how both my children felt as infants when I cradled, rocked and transferred my love and deep feelings to them. This was a very powerful moment for me and not only an emotional transfer but a physical one. My entire body tingled as if in a cold shiver without the shiver. Tears sprang in my eyes and I felt quite emotional – it was just a momentary feeling but those tears rolled down the sides of my face and I was intensely aware of it. I sensed how my children felt but then how I was feeling in this meditative moment as I cradled my own body and gave it the TLC it needs. I think this morning has been the coming together of mindfulness practice and it is a wonderful feeling." (16:5)
		Gratitude	"starting to stop and notice the moment more often. Glimpses of beauty in scenes I took for granted for so long. The river, downtown scenes, just anywhere." (4:6) "fresh air and now snow. What a blessing" (5:3) "snow on trees is spectacular. The moon is bright and the yard is lit up. It is very peaceful." (12:4) "More aware of eating and feeling grateful for what I have. Feeling grateful for food" (17:3) "it is amazing how food tastes so much more delicious when you eat slowly and concentrate on what you are eating. It is an enjoyable experience to feel the different textures, shapes and really taste the different flavors." (8:2) "the fresh air and sounds around me. Learning to take time for me...before starting to walk closed my eyes and when opening looked at everything and appreciated what we have. Noticed things that I never saw before." (31:3) "a welling up inside, heart felt care. Meditation and mindfulness throughout the day." (11:6)
		Change of perspective	"I've been thinking today about the relationship between physical balance, and balance in life, deeds, words, state of mind. Having done this very basic yoga for only two weeks I know already that I have found something very valuable for my health and well-being. The practice itself is an opportunity to slow down, get quiet, and be mindful of each movement and stretch. Feelings of increased control, strength and flexibility – mainly physical at this point – make movement more enjoyable and lessen fatigue." (13:4) "I just realized that even though I have added change/stress in my life I'm sleeping much better at night this week. This week had its usual fullness and stress but now as I reflect I realize that a couple of things that happened I believe I reacted differently to and I like to think that some of the foundations of mindfulness were and are 'in practice' now. Patience, acceptance and letting go – felt right and positive."(16:4)

II	Health	Balance	"I think generally when I'm feeling the healthiest there's a good balance between all of those different aspects that we've come to be familiar with, you know, with your physical state and your emotional state and your spiritual state, and things aren't severely out of whack in any one of those particular areas. I mean it's always a challenge to keep that balance. I don't know if I've ever actually done it but, you know, the closer you sort of get to that place, sort of the more healthy I think I feel generally overall." (27T1:2) "Not running all the time, you know. Not juggling so many things. For me, I need to learn balance in everything. And there has been no balance in my life...Learning that I can make a valuable contribution without sacrificing myself is a healthy place for me to be. And to accept that I am a valuable human being outside of what I do. And I think I intellectualize that but I haven't really got it here. There's a part of me that still, from a very early age, believes that I am what I do. And how much I do. And for me, health would be getting past that and having a much more balanced life. Working at a reasonable amount of work, always wanting to make a positive contribution and having time for myself." (24T1:7) "I feel healthy when I feel I'm balanced and not overwhelmed with stuff." (6T1:3)
		Coping	"that's one of my coping mechanisms for stresses is bury my head in the sand and get myself into bed and cover up and sleep. So I don't have to interact or do anything." (23T1:2) "You're not coping. You don't know what the next step is. You can't make a decision as to what the next step is. That's a terrible feeling, not having control of your life to the point that you can say OK, now do this in your mind. Because you go, I don't know what to do anymore. You know I've done everything I can think of. I don't know what to do anymore. And that's a tough place to be." (23T1:9) "when I was younger I coped a whole lot better than I do now. My coping skills..I guess I have the same skills – but it doesn't seem to work the same way and I've needed to look in a lot of different directions because I'm the type of person that wants to deal with it. I can cope with my life but I need to change some of those coping skills." (2T1:6) "For health, and if I'm well balanced I can, it's just sort of like self reinforcing almost because I'm a better parent, I'm happier, I'm doing things I like so I'm happier and coping well..ya so I feel better." (6T1:4)
		Multi-dimensional concept	"Health to me is the whole overall picture like how I'm feeling, mentally, emotionally and physically" (14T1:2) "To me personally it's a feeling of well-being, to be able to control symptoms that I have with my allergies and my blood pressure and also cholesterol and sugars to so it's just if I can I'm healthy when I'm feeling good and when I've got all the things under control."(2T1:2) "this holistic approach, spiritual and mental and physical..and you know what it is? Now that I've been sick it's all of that. It's my spiritual component, it's my, what my body's doing, my physiological component, it's my psychological component. There's a whole great big thing there that encompasses everything. It's not just what your body's doing. It's what your mind is doing with the body and what you're looking for inside for answers...I don't think they are separate. I think they're all intertwined." (23T1:7) "a tunnel vision type of thing. I see it as an overall thing. That could go all the way from my physical, emotional, spiritual, how I view the world, whether it's healthy for me. As long as it doesn't infringe on other people and theirs doesn't infringe on me and we have a certain amount of space where we can grow and be comfortable then to me that's healthy." (9T1: tape) "keeping yourself as fit as you can with what you have. You may not be a walker or a runner but as long as you are doing something for yourself all of the time you have a little bit of health." (18T1: tape)
	Stress	Tension	"what does stress mean to me? Personally? It's the glue that holds me together. Because I figure that I didn't have the stress that I have in my life that I'd be a puddle on the floor." (23T1:9)
		Overwhelmed/ overload	"stress is a word I use to describe a feeling of being overwhelmed by having too much to do or having to do things that I'm not confident in my skills, or I don't know what to do..confusion..and I feel when I feel stressed I can just sort of feel it in my chest and I can just feel my whole body get tense and sometimes I get a sore neck. I know that when I am under stress I'm impatient and not as tolerant." (6T1:6) "overload. I don't know really how to describe it..it's just a feeling of being

			overwhelmed. It affects my health in headaches..and just tension in my back, it will practically go into spasms. And then I feel a lot of..just becoming impatient. And just a little bit short with the kids you know. Instead of taking time to explain things I sort of just snap at them. "(14T1:4)
		Imbalance	"that balance is out of whack and I can feel that by..it's almost like a raising of tension in my body and physical and irritable..I'm very grouchy..quick to be snappy." (27T1:3)
		Communication and relationships	"people and things putting unreasonable demands on me and as far as people goes it would mean people being negative with me, trying to manipulate and control me – that's stress. Stress could mean not having your basic needs met too. Not feeling heard and not having your social needs met." (9T1: tape)
		Lack of resources to meet demands	" I don't feel like I have any resources to meet it. You know how you usually rise up to meet the stress and it takes a little bit out of you but I don't have any resources left. I feel completely tapped out and so when something happens like I have to go look for financial assistance say for the first time in my entire life, and never thought I'd be there, that's a stressful incident and you know, the whole identity crisis that goes with being a workaholic to knowing you're in trouble to crashing to the point where you can't do anything about it sort of thing is very stressful. So I don't find, even a small stress or like somebody phoning me that I, you know, I'm not real big right now on phones, like everything's happened, like I used to be really social; now I'm kind of nesting in." (24T1:3)
	Sources of stress	Role stress	"family stresses can be mild, moderate or severe. It depends on what's going on and when you've got four kids, there's stress everyday. I mean, you're never without it." (23T1:9) "Yeah it causes me a lot of stress if I think I'm not managing well, like if I'm behaving in a way that if I saw someone else doing that I would think OOOOH." (6T2:7) " I mean all we do is eat and sleep and change diapers and play, I still feel really exhausted by the end of the day. I was with her from the minute I woke up in the morning until I was putting her to bed at night, day after day, and by the weekend I was just, this was only for three days, I was just like a blubbering mess by Saturday. You know, I often think that I'm keeping on top of it pretty well until, you know, yeah or until she's got the dog food in her mouth and I'm on the phone and then she's biting my finger, you know, and it just all sort of unravels." (27T1:1-5) "That can be stressful sometimes..my daughter usually goes right into it and my son will usually say "I'm not doing it." My husband teaches my son usually at night because he is the hardest to teach because he has ADHD." (18T1: tape) "My family like my sisters and my mom feel that I'm doing really great but I don't feel they see the me. The real me. Most of the time they're seeing this and my responsibility is huge for my family because I'm the oldest daughter and that puts me in a really responsible role and my family are all back east and so therefore that's just another aspect of life that you have to deal with on a daily basis and I'm really afraid for when my mom goes then I'm going to be the executor. (2T1:6)
		Sleep	"I'm up at one, two, three o'clock in the morning. Some of my problem is just getting to sleep at night and some nights my mind, I can't shut my mind down." (23T1:1) "I find on weekends I sleep better without as much help as I do during the week because I don't have to get up in the morning and I'm always afraid..for some stupid reason..that oh you know I'm not going to get any sleep so you know it affects my sleep..and on the weekend you can sleep in and so therefore you don't have to worry about it." (2T1:3) "known the night before depending on how well I slept..so if I've slept and managed to take enough medication to dull the pain to help me sleep then the next day I start off with stiffness and being sore but not a lot of pain." (18T1: tape) "raised to be proud of never sleeping. I mean our family was, you know, like I slept five hours a day as a kid and that was something to be proud of." (24T1:9)
		Midlife	"Having my kids living in other parts of the country and being up here I think is a stress because you can't get the family together and their lifestyles are so busy that it is even hard for all of us to get together at any one time....If I go to Winnipeg I'm not in Vancouver and if I go to Vancouver I'm not in Winnipeg.

			It's what you dream of as your family life and then as you get older and the kids grow up and go out and be on their own and do their own thing you can't maintain that dream so it becomes just a goal that you can't attain and when you really look at your life there are a lot of goals that you didn't attain and that in it's own way can become stressful. And the thing is that while I'm working it's fine because I have the northern allowance and I can go out and I can see them but I'm looking at if I retire in the next year that will cut my income by however many percent I'm being cut by and won't have a northern allowance so how am I going to accomplish what I want to accomplish that way?" (2T1:6) "Like when you hit your forties, like I've talked to a lot of friends and when you hit your forties you want to deal with all the crap that you've had, because you just want to say, I want it gone. But you can't just throw it away because it still affects what happens today. And how you look at yourself and how you believe others view you. You know like, there's just so much impact from past stuff, so when you can't open those bags that you've got packed and hidden in the closet, and you've got to pull them out but you're not ready to do that yet." (23T2:8)
		North	"I don't have any immediate family up here so there is probably some impact there but it is really indirect. And a lot of people are in the same situation because a lot of people here are from somewhere else. I think a lot of people experience.. well you've probably experienced this.... you have some really good friends and they leave..and you know it has a big impact on our lives." (6T1:4) "Yeah it was the dead of winter. I think it was cold and it was difficult to get out a lot and I think I was just more than anything trying to make a point to get out of the house no matter what....you know, more light and the weather getting warmer and there's not the snowsuit and mitts and all of that you know shortens up that process so it's just easier to go outside and you can actually go outside. I can take her in the sled or you know, as opposed to just going from the house to the car. And then the longer days make it more possible. You know it's not like you've got that sort of little window when there's some daylight that you can rush out in." (27T1:3) "finds the winters long in the Yukon and lonely as well and I can get a bit down." (9T2: phone) "One of the things I found is that you kind of get cut off from society. And you become very isolated and that is one of the sad facts because what I need help with now is for someone to drive me and the children because I really shouldn't be driving." (18T1: tape)
	Self Care	Tools for coping with pain/stress	"Although I still react to the kids when they are doing things, I can step back and go okay take a deep breath. And I'm doing that lots. And I'll just go away until I calm down and then I do some breathing and I do a little relaxation stuff and then I'll go okay let's sit I want to talk to you. But I've noticed when I've been able to step back myself a few times and be able to go okay I need this space. Give me this space. And that's made a difference." (23T2:4) "expanded my knowledge about another method, just looking through somebody, through a different set of eyes at something that can be used to help deal with stresses in your life. Because I mean, work is a stress, family is a stress, they all add different stresses and just seeing that there are ways other than medication right? And being ways of decreasing the amount of stress that you have or handling what you've got in a different way, because sometimes you can't make stress go away, so it's just finding a different way or looking at it or a different way of handling it." (23T2:2) "I'm telling the kids to do the breathing stuff....just this quiet time and settle down and then you can talk to me. So I'm using it with them too to help them verbalize without getting all upset about what's going on." (23T2:4) " I have put the meditation into my evening and I'm including the body scan specifically. I find that's more helpful for me than just the straight sitting meditation. I seem to respond better to the body scan...I'm doing yoga on the weekends and I find that it does relax me. I find that when you do yoga and then you get up from that what you do next is a lot more focused and that has always been part of my problem, because I've always been a little bit scatterbrained. (2T2:1) "you can use meditation to get rid of stress. You can use that. You can use it short-term when the stress is, once you realize that you're in that cycle again then you can use it to try and get out of it. What I found was as you do it you can get into that meditative state faster because your brain recognizes it as something that will work for it. It probably doesn't want to be in that stress either, you know. So it just gives it an opening to calm down. (2T2:8)

			"although now I can recognize it better and maybe do something about it. Yeah. Like I can say, okay I'm feeling this, these levels of anxiety. Maybe I should breathe." (6T2:6) " it relaxed my body so that I didn't have pain in my neck and shoulders and I didn't get headaches. As a matter of fact I've felt headaches coming on twice towards the end and they went away which never happens." (6T2:9)
		Increased self/body awareness	"I think I notice the stress a lot faster now. I do the body scan without the tape and it is just a matter of lying down and zoning in to different parts of the body." (14T2: tape) "The one that sticks in my mind is just letting it in, accepting that it's there and letting it be, you know. You just need to let it be, you can't change it. You can't go back. Because you can't go back and change things but you can let it in and say okay just let it be. You can't change it, just let it be. And I say that to myself a lot, which is good." (23T2:3) "in using the body scan that I hold stress in different parts of my body. By lowering the tension in my muscles I've noticed less pain in certain parts of my body" (9T2: phone) " I realize more and more how much my own thoughts contribute to my own level of stress, so not necessarily anything external that's happening, but how I perceive these external events and what sort of weight, importance or concern I attribute to them....I think the other part of it is the recognition of how much time I spend dwelling on things that have happened that are already in the past now and there's nothing to be done about them, or things that may happen or may not, you know and how often they actually don't. That I stress and worry about things that never happen. It is very challenging. The energy could be spent so much better on almost anything. There is a stress that comes in anticipating stress....there's sort of personal time that I've had that has been cut down that's going to be cut down even further so I'm already feeling the stress of that having happened already and anticipating more of the same...I find sometimes when I get stuck into a mode of thinking that's negative, then you know it becomes a self-fulfilling prophecy. Well I thought this was going to be the way it is and sure enough ... I was right. (laughter) And I like to be." (27T2:4) "I found that practicing the regular meditation has helped a great deal in managing depression. Normally when something serious comes up I'm on the phone with someone right away. Since taking the program I seem to be able to manage ups and downs better on my own." (9T2: phone)
		Time	"I think just sitting down, and I have to say that probably the best thing that I got out of there is I don't give enough time to myself. And I found it hard to fit things in. Like I'm thinking, why am I finding it hard to fit things in that are important to me and I still find it hard to find the time in the day to do for me. And I think that maybe that was probably one of the best things that I got, that I need to find the time for me. That needs to be there. And I'm still not in that space because I'm so busy with everybody else and making sure that they're okay and their things are okay, you know, so that it was just..maybe, probably one of the best things that I got out of the whole thing." (23T2:3) "Well I really felt I could notice the benefits right from the beginning of practicing but it was stressful trying to fit it in...which is really too bad because it's hard to find an extra forty-five minutes in the day. The course was over and I was so kind of relieved that it was over so I could use that forty-five minutes for something else. I think the time, the time was costly....Yeah but gees, you know, I guess it's just a question of do you want to be relaxed? Do you want to be coping well? Or do you want to get more done in a day and do you really want to get more done in a day if your feeling aaayyy, you know, and how well are you, how well am I doing some of the things like dealing with stress, like dealing with conflict, or you know, parenting and that kind of thing if my neck's sore and my head hurts? As opposed to getting less done but feeling better?" (6T2:9) "I just think that the things I've added in make me feel that I'm doing a bit more for myself. You know something that is completely just for me. And that gives a better feeling that at last you're not letting everybody else override what you should be doing for yourself. So I don't know if that adds another dimension into what I said before but that, I have found that it's less stressful if I do these things for myself." (2T2:2) "It was good because it was something for me. Like I said before it was putting me on the list and there is a motto that my husband likes to say, 'If mom's not happy nobody's happy' and now I think it's true." (14T2: tape)

	Group Dynamic	Not alone	"other people in the same place" was helpful. (23T2:3) "Coming together with a group of people who all want to find a bit of an oasis in their time – that was good because you see that you are not the only one. You've got lots of company out there.....I would see meeting people who you see in your town but you don't know and then finding out there is a similar need is really important so you don't feel quite so alone on the journey. To meet people is really good...Having the space that was there the coffee break with the food, the breaking of bread together is really important." (18T2:tape) "It's actually very reassuring that there are other people who are feeling stressed in everyday life. When I talked to other people I realized that my stress is probably not as bad as theirs. I'm not chronically sick, I don't have health problems to the degree that some people do. It's helpful and nice to know that you aren't alone." (14T2:tape)
	Transform-ation	Integration of mindfulness skills	"It seems sort of broad to say mindfulness, but it's the whole thing of this is happening. I need to remind myself like this is the way it is. This is what's happening and it's not changing so you can get as tense and upset about it as you want but it's not going to change what's happening." (27T2:6) "the very most important thing is the concept of mindfulness. Because I can always bring myself back to the present at any point in time even without doing regular meditation practice right? We're so often either in the past or in the future of life, or the future and the past and we could spend our whole lives in the future and the past and not be even enjoying the present so even aside from the meditation aspect of it it's just the fact that if you, if you are going to enjoy life, we need to be in the present." (6T2:9)
		Spirituality	"There was more of an impact on the spiritual from a different perspective than a Christian perspective. A different perspective on it. You have to be so spiritually sound to make the rest of it be okay. And I think I agree with that. I think that when you are spiritually grounded that there is so much positive stuff that goes on." (23T2:7) "after going through this program that health is more of the spiritual than it is of the physical. For the past few years I've heard of body, mind and spirit and I think they should rephrase that and have body last. The spiritual and mindfulness for me are the top two because if you've got that everything else will fall into place." (14T2: tape)
TPSI	Health	Balance	"I believe that she is beginning to believe she is more important than the things that used to get her down...She is making a strong effort for balance in her life and is now willing to walk away from those problems that won't resolve and cause her imbalance. I notice she makes more time for her needs and relaxation. She is calmer and more reticent to get sucked into issues and situations that elicit a negative emotion. I feel this program has been a great benefit and am very grateful for the results. It has given her a good platform on which to develop a long-term remedy for stress and depression." (13:T2) "to keep the balance more successfully now in my opinion."(10:T2)
		Coping	"The last week she was at work it was obvious that something was wrong. I could tell by her actions and coloring. In mid sentence or conversation she would just walk away." (8: T1) "but only to a point then closes the door." One participant was described as one who "bottles stress up and tries to distract herself." (10: T1) "when stress manifests itself as expressions of irritability, anger and despair...sometimes she lets the situation and stress cloud her thinking about the positive future planned." (1:T1) "becoming withdrawn. Isolating self," (24:T1) "Avoids discussing some reality topics like world events, tragedies, does not watch TV or movies. Cannot look at computer screen without getting frustrated and stressed. Has no patience and is frustrated by things that require following direction. Very sensitive to noise, conversation, loud music." (15:T1) "bottle everything up inside herself" (12:T1) "coping overall by attacking her situation by working harder and longer." (13:T1) "worried about things and how they will play out....sometimes making problems bigger than they are by imagining worst case scenarios." (28:T1) "used to comment that her hair was falling out as evidenced by hair in the hairbrush or shower." (21:T1) "large swings in eating habits: can go from extreme dieting to then giving up and eating chips and cookies and chocolates and candy bars" (23:T1) "in the only way she can – she brings her stressful workday home with her and

			it stays with her until she goes back to the office the next day" (7:T1) "doesn't have the physical stamina she used to have." (5:T1) "much better now...she tries to back off on taking the lead on advocating on various work issues." (19:T2) "pays more attention to her stress level than prior to the stress reduction program...she is much better at recognizing that she does not need to take things on." (19:T2) "take the everyday pressure and stress in her stride." (8:T2) "coping better following course" (11:T2) "I think overall she is coping very well. Less things bother her now and she accepts the fact that the world will not end if every little thing is not completed today." (15:T2)
	Sources of stress	Role stress	"a single mom with a difficult ex-partner, she hasn't got a lot of spare money; this is a stressful life and bound to show up somewhere as taking some kind of a toll." (6:T1) "all her love goes to our son." (21:T1). "through work, the union, previous poor management, family issues, sibling relationships to balancing her own care." (19:T1) "she can't continue to keep overflowing her plate for others. Life is too precious." (19:T1)
		Sleep	"the odd outburst of irrationality and is unable to sleep." (3:T1) "so ends up taking a sleeping pill usually too late to help for that night." (3:T1) "If she wasn't working she was thinking about it and it would keep her up at night." (13:T1) "not sleeping well. Using sleeping pills (never before using artificial aids for sleep)" (24:T1) "her ups and downs often dependent on her level of sleep from the night before." (25:T1) "to have problems sleeping when stressed." (16:T1) "She is sleeping a lot better now which seems to have reduced her stress level. Calm and collected would summarize her current state of mind. This thing appears to have worked!"(16:T2)
		Change	"stressed by situations she cannot change or have control over. Those things she can change or control even if they are big don't seem to ruffle her." (6:T1) "This has been a very stressful time for my mother – leaving her second husband, and moving home to Whitehorse. I think she is rushing along at a great pace which she cannot maintain." (5:T1)
		Pain	"two physical manifestations that come and go" aggravated by stress. (1:T1) "ongoing difficulty with chronic pain arising from migraine leading to an inability to exercise." (11:T1) "when my mom gets super stressed out her face, neck and chest area gets this terrible painful rash which is sore and sensitive to everything."(22:T1) "does what she can with the little mobility she has left. She still perseveres and tries just as hard and at the end she is exhausted, sore and needs rest, then she is exhausted for up to ten days after because she can't sleep" (29:T1)
	Self Care	Tools for coping with pain/stress	"get to that slightly removed place sooner than before. She is learning how to disengage from family dynamics that are particularly stressful for her. She is aware of what she needs but is not always able to get it due to family demands and lack of support." (25:T2) "she has many tools that she now uses to help calm herself and relax from a stressful situation. She is more aware of her need to get outside and get her exercise – her need for caring for herself." (25:T2) "Mostly she is handling stress by following a routine of yoga/meditation and exercise. She sometimes avoids situations she knows will be stressful. If she gets tired she will usually go and meditate or lie down for a rest until she is refreshed enough to carry on." (15:T2)
		Increased self/body awareness	"always willing to take on extra to help others out. I think she is slowly learning to let others help her and that it is okay for her to take care of herself first." (12:T2) "take the everyday pressure/stress in her stride" (8:T2) "two thumbs up, can say 'No'." (8:T2) "to take more care about her own feelings." (28:T2)

			"far more aware of herself and willing to make changes which in and of itself increases stress. I think she is doing incredibly well considering all that is on her plate at this point in her life." (25:T2)
		Communication and relationships	"big trigger for her own negative spiral which increases stress levels." (25:T1) "seems to come from her family dynamics. How her husband treats their children when he is angry and how her kids interact when they are upset and angry with each other. Also her mother, father and brothers' behaviors are a large source for negative messages about herself." (25:T1) "She is more aware of her need to get outside and get exercise – her need for caring for herself (setting boundaries)." (25:T2) was described as having a mind "still churning away," (13:T1) "attacking her situation by working harder and longer." (13:T1 "I notice she makes time for her needs and relaxation. I feel she has started to come out of that depression spiral. She is calmer and more reticent to get sucked into issues that elicit a negative emotion." (13:T2) "better since the course," (26:T2) "put things in perspective," (26:T2) "quite a bit better than before she took the course." (30:T2) "more likely to laugh and communicate easily with others. Usually withdraws when stressed and easily irritated. This is not evident now. Has been able to resume an exercise program. She is more likely to use stress relievers before stress gets the better of her now. "(17:T2)
CE	Self Care	Tools for coping with pain/stress	"understanding exactly how effective meditation/yoga can be in coping with and reducing stress" "learning to recognize sooner when stressful situations were affecting me." "I found the yoga most helpful. I could visualize the healing with yoga practice. I would like more meditation and yoga in my life!" "mindfulness philosophy and the meditations" "foundations of mindfulness and the tapes" "the resources and tools presented and the presenters." "learning new techniques to being mindful in everyday life." "It worked for me. Made me realize that given time that peace can be accomplished." "This is going to be a tool I use to help me manage the stress in my life. I find that it has already helped me become more mindful of myself, to evaluate my life and make necessary changes to reduce or eliminate stress factors where I can."
		Increased self/body awareness	"was a new experience to be in a group and not talk but to be aware of self." "helping me be aware of my needs" or an "opportunity to get to know myself better" and "a great re-awakening". "a calmness that lies within each of us and a possibility to reach it and how."
		Maintaining regular practice	"bring me back to the practice and the need to do something daily so I didn't have to hand in a blank page" (referring to practice diaries). "regular location and time of program" "having a focus one morning a week" "regular dedicated time" "the structure which although I did not always follow it kept the issue of mindfulness in the foreground for me." "the routine helped one to incorporate practice. The time commitment to practicing the practices on Saturdays is very important – I thought I'd find it boring but I didn't."
		Time	"I actually took 9-11:30 just for me". "I thought I would find the time long, but I didn't. It was enjoyable and beneficial giving opportunity to implement practices, relaxing more, just taking time out." "I really struggled with the forty-five minute commitment. I often find it easier to start small and build up. This is what I will do in my own practice.".
	Group Dynamic	Not alone	"the experience of sharing with others and knowing other people experience similar problems."
		Shared learning experience	"found the group meditation helpful" "the group discussion was very helpful and thought provoking and I think more would be great." "share reflections on the week past"

			"the group was very respectful." "helpful to have an opportunity to regularly share learning experiences with the facilitators and other participants" "listening to others gives me inspiration to keep on trying"
	Process	Instruction	"Less meditation during the class and more instruction and discussion" "spend more time on the chart" (foundations of mindfulness) "I really enjoyed the yoga practice and needed the extra information the instructor provided to protect my back when I did this practice." "I would like to see more emphasis put into the content of the text and possibly some guidance and instruction on how to use the book to help one overcome certain problems in daily life possibly providing examples or asking participants to comment on parts of the book they do or do not understand as the sessions progress." "for the most part I found the class fairly boring. I really enjoyed the yoga sessions. Expected more instruction and discussion around the information in the text. I found far too much time spent on meditation."
		Environment	"the safe warm and nurturing environment" "practicing without criticism, being allowed to "be" – no pressure." "felt comfortable and at ease during the course" "very comfortable to participate in." "I also liked the fact that we covered a lot of ground in seven weeks but we did so in an atmosphere of calmness and acceptance" "liked the peace in the room" "very respectful environment." "it would be a gentler re-entry to the session." "totally quiet room. A warm room – babies crying was annoying." "the location was fine though I think it would be even more enhanced in a location which was, I don't know, has an air of relaxation in its ambience."
		Variety	"that the program kept building on itself and gave us options so there was something for everyone" "the introduction of a variety of practices which allowed me to discover what works best for me and when (and what didn't work as well)." "having a chance to practice various relaxation and meditation styles" "the variety of different types of guided meditations" and "practice of the different meditations" "varied activities were good." "practicing the exercises first, the workbook and the readings" "it was offered on the weekend. Also the length of each session was just about right" "I enjoyed the readings..they bring a deeper dimension to the process." "did not have much time to read the book yet – I think I might have read the book before the program if I had known that." "the content particularly the yoga sessions" "the use of bells". "chi gong as one way of mindfulness" "broadening to using more options including text to newer quantum physics and beyond."
		More sessions	"possibly more sessions as I think I started to get it more about session five so possibly another one or two sessions" "I think there could be follow up days. I would be very interested in attending the retreat day for another session." "could it possibly be longer and broken down into specific problems for specific participants (diet, anxiety, sleep disorders, pain)?" "I would have been happy to have more but there is only so much time and it progressed at the right pace for me."
		Retreat	"It was a useful component even though it felt a little strange to be silent among so many people. The remainder of that day was one of the most calm days I have had," "Loved the silence," "half day is fine, one day is better. I loved the silence," "enjoyed the retreat. I loved the silence," "An experience like I've never had before" "I found this surprisingly great." "this was fabulous. I really got so much from the day and the food was great." "it was long enough to get a sense of what it is like to practice for a longer

			period of time although I could have stayed for a few days just doing what I was told to do for a change." "needed an upbeat ending," "half day retreat was excellent. It went so fast!" "this was a wonderful half day. Good food too... could it be made longer?" "again could only be enhanced by location. Otherwise it was an awesome experience."