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EFFECTS OF INTEGRATIVE RESTORATION iRest®

ON PERCEIVED STRESS IN WORKERS

By

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Abstract

This study explored the effects of a 10-step protocol of iRest® Yoga Nidra Meditation on perceptions of stress in workers. The research hypothesized that the completion of a 4-week iRest protocol would decrease perceived stress in working participants, and that the use of a take home CD or mp3 would offer added benefits. A total of sixty participants ($N = 60$) included adults over the age of 18 years who were currently employed at least 20 hours per week. Of the sixty participants, thirty ($N = 30$) were in the experimental group, and thirty ($N = 30$) were in the control group. The primary outcome variable measured was analyzed by the Perceived Stress Scale (PSS) instrument, and an iRest Home CD Practice Diary. A 2x2 mixed model Analysis of Variance (ANOVA) was performed to identify any statistical drop in stress between the iRest meditation group and the control group. A bivariate correlation was also used to identify any statistical significance between the number of times CD/mp3 was utilized during the week and differences in pre-and post-stress. Results showed there was a significant decrease in stress levels reported by participants in the iRest meditation group as compared to the non-significant decrease in stress reported by those not receiving the iRest treatment protocol. The use of the accompanying home study CD/mp3 had no apparent effect on stress in participants. This study provided greater evidence of the benefits to corporations in providing iRest yoga meditation for decreasing stress in workers. Future research on stress reduction in workers may include targeting specific types of workers who report high stress, customization of the iRest protocol, and longer-term administration of iRest to further ensure sustained effects of reducing stress in workers.

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Chapter 1: Introduction to Study

Introduction

Yoga is an ancient practice dating back 2000 years as evidenced by the writings of the Yoga Sutra of Maharsi Patañjali, also known as “the light filled King of the Yogis” (MSI, 1995). According to one of the foremost yoga teachers who brought this ancient practice of yoga to Western cultures, B.K.S. Iyengar (1966) describes the purpose of yoga as a means of aligning with God through the stilling of the intellect, mind, emotions, and will. This multi-faceted practice of yoga is a long established option to a balanced perspective on life that results in experienced states of fulfillment with life.

Various forms of yoga are now becoming commonly available in Western cultures, and a growing body of evidence-based research confirms the physical and mental benefits of practicing yoga. Research has documented its wide ranging mental and physical benefits.

Further enhancing yogic mind body meditation, the efficacy of various forms of relaxation training, also referred to as applied relaxation, progressive relaxation, autogenic training, and meditation, have proved to be effective methods to reduce anxiety (Miller, 2016). Yoga mind-body meditation is now being used to treat a variety of officially diagnosed physical and psychological disorders, including anxiety disorders, in populations of all kinds. Expanding knowledge on the efficacy of mind-body meditation in combination with other treatments, or as a standalone treatment of physiological and psychological disorders when appropriate, now warrants wider use of relaxation techniques in clinical practice as suggested by the increasing research (Shonin, Van Gordon, & Griffiths, 2014; Ireland, 2012; Chen et al., 2012; Ross, 2010; Hofman,

Sawyer, Witt, & Oh, 2010; Francesco, Giancula, & Enrico, 2010; McGonigal, 2009; Kirkwood et al., 2005; Weintraub, 2004; Khalsa, 2004; Grossman, Niemann, Schmidt, & Walach, 2004).

Utilizing documented benefits on mental and physical health, corporate executives have spearheaded initiatives to bring yoga meditation programs into the workplace. For many people, practicing yoga has moved from an activity done only at home, at a yoga studio, or at a gym simply for exercise, to a practice either close by to or at the workplace as a means of improving workplace wellbeing. For example, company executives like Google engineer Chade-Meng Tan, who enjoyed the benefits of yoga meditation, spearheaded the launch of yoga meditation based practices such as “Search Inside Yourself” in an effort to cultivate traits known as attention, intelligence, and self-awareness for those working in high stress and fast-paced industries (Chade-Meng, 2015). In a 2012 study, Human Resource departments found yoga in the workplace to be an important activity whose outcomes measurably increase workplace satisfaction and overall productivity (Wolever et al., 2012).

Given the nature of busy schedules and workplace stress, providing regularly scheduled yoga either at the workplace or at a convenient offsite location may reduce the efforts of finding time or space for yoga during a work break, especially as yoga requires minimum equipment and space. In the specific case of iRest yoga nidra, participants do not need to even change out of work clothes. For iRest, participants simply need a space to lie or sit down, and possibly the addition of an eye pad, pillow, and/or blanket. This allows local yoga studios and workplaces the ability to offer group or individual sessions with a trained teacher, or simply provide space for individuals to practice on their own.

Adding to the ease of practicing iRest is the fact that it consists of ten established steps that can be practiced from one to ninety minutes, and include a range of body and mind sensing exercises that help participants set their intentions. These intentions are also known as internal statements that keep participants on course with life activities, goals, and topics that they focus upon during the meditation practice, so that they experience greater awareness of the effects (Miller, 2015, 2011). Given the convenience of yoga meditation practices like iRest, as people spend a major part of their lives at work, these practices can be beneficial as stress-decreasing strategies at work or close by the workplace. It is not surprising that this trend of providing yoga for employees, including meditation, is catching on in many worksites, especially during the lunch hour (Elovainio et al., 2015).

Literature Review

Workplace stress and burnout. In a 2008 report by the National Institute for Occupational Health (NIOSH), many professions have been identified as having high levels of perceived stress, with the definition of occupational stress as “the harmful physical and emotional responses that occur when the requirements of the job do not match the capabilities, resources, or needs of the worker”.

Systematic reviews of literature about workplace stress suggest there are indeed general workplace factors, often referred to as *job stressors*, in the working environment that cause stressful work situations (Rupert, Miller, & Dorociak, 2015; Elovainio et al., 2015; Childs & Stober, 2012; Jackson, Firtko, & Edenborough, 2007). Numerous situations can be grouped into work product categories that contribute to job stressors such as work overload, role ambiguity, and poor task control. Other categories involve

personal interactions with other individuals such as unfair management practices, difficult interpersonal relationships, and conflict between roles and responsibilities with work and family. Categories related to limited opportunities for growth or promotion are described as poor commitment by management to core value, conflicting styles of communication, financial and economic pressures, and other categories that are more specific to each work industry (National Institute for Occupational Health, 2008). These job stressors result in negative health consequences such as adverse effects on the mental and physical health of employees (Sohail & Rehman, 2015). Compounding these negative consequences, stress in the workplace has been shown to reduce productivity due to stress-related sick leave and health conditions associated with stress such as diabetes and cardiovascular diseases, as well as negatively affecting relationships among individuals in the workplace (Blanchflower, 2014).

A common term used by personnel management and human resource groups to describe this work-related stress is a condition known as burnout. A typical definition of burnout includes feelings of being overloaded, worn out, neglect, frenetic, under-challenged, and lack of development. This condition of burnout occurs as a result of workers using ineffective coping strategies in an attempt to defend themselves from work-related stress and warrants the need for improvements in providing effective interventions and preventative programs (Montero-Marin et al., 2014). Physiological and psychological symptoms of burnout are categorized as a “syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment” in people who work, and include feelings of being depleted of emotional resources, physiological fatigue, tiredness, loss of energy, emotional detachment, cynicism, lack of empathy, lack

of personal achievement, and incompetence (Pines & Zaidman, 2014; Montero-Marin et al., 2014; Trepanier, Fernet, Austin, Forest, & Vallerand, 2014; Shin et al., 2014;).

In response, many employers and workers have historically resorted to the use of compensation as the primary strategy in buffering work-related burnout (Demerouti, Bakker, & Leiter, 2014), though other factors such as high levels of perceived importance of work, and feelings of cultural inclusion that are known to be supported by spiritual practices have been found to be associated with low levels of burnout (Pines & Zaidmen, 2014). Additional research has prompted increasing interest in the importance of providing available job resources that directly and robustly address established categories of workplace stressors, such as job demands. Along with this new interest, research has demonstrated significant influence on the organizational needs to address burnout and engagement (Gan & Gan, 2014).

Perhaps of special interest are the effects of stress on teachers in the classroom due to the crucial role they play in fostering the educational, and emotional, and social well-being of children. One pilot study of a modified mindfulness course adapted specifically for teachers showed significant reductions in the psychological symptoms associated with burnout. This study further determined that through the application of a mindfulness course there was also an increase in beneficial teacher traits including classroom organization, attention skills associated with computer tasks, and self-compassion (Flook et al., 2013).

Providing new prevention strategies such as the opportunity for a regularly scheduled yoga meditation practice at or near the workplace as a convenient option may facilitate a reduction in stress and increased workplace well-being. Those who participate

in meditation report greater increases in stress recovery (Foureur, Besley, Burton, Yu, & Crisp, 2013; van Hooff & Bass, 2013)), also described as serenity, relaxation (Francesco, Mauro, Gianluca, & Enrico, 2010; Ireland, 2010), and mastery over responses to one's environment, while also subjectively experiencing decreased levels of stress and anxiety (Khusid & Vythilingam, 2016; Forbes, 2011; Hofman, Sawyer, Witt, & Oh, 2010; Grossman, Niemann, Schmidt, & Walach, 2004).

Kendall and Muenchenberger (2009) stated the importance of employers recognizing the impact that stress has on the well-being of workers and facilitating occupational support. This study determined that workers who received support for their workplace stress had beneficial outcomes in reducing worker compensation claims involving the negative impact of environmental stress. Recommendations on organizational strategies to reduce costs related to various types of physical and mental work-related stress claims are now an increasing area of interest in personnel management research (Brock & Buckley, 2012; Kendall & Muenchenberger, 2009).

Resilience and well-being. Mastery over stress in the workplace has fueled developments in the research study of concepts commonly known as emotional intelligence, burnout out, and happiness. The research has now expanded to include a new area of research that is known as *flourishing* or *well-being* (Seligman, 2011). The term *happiness* now appears to be outdated and obsolete in regards to addressing workplace stress, and at the forefront of this shift, well-renowned researcher and psychologist Martin Seligman has renounced many beliefs he held to be true about *authentic happiness* as he wrote about in his previous book of the same name and subject (Seligman, 2004). According to Seligman, there is a new conceptualization of the term

well-being that is no longer a single or monistic variable as previously found in happiness. Research by Seligman (2011), states that happiness is like finding and counting raindrops, while the concept of well-being is like describing the weather. This weather metaphor serves as an attempt to describe how focusing on healing practices like yoga include more expansive effects that better illuminate the concepts of well-being as more than just happiness. Seligman further states that happiness is limited and dependent on keeping track of qualitative items that are positive, while well-being is not bound to any variable. Instead, well-being is a state that exists regardless of external circumstances (Seligman, 2011).

Well-being, despite a wide range of definitions, can also be defined as the ability to recover from and decrease or manage stress, and is referred to as “resilience” (Grafton, Gillespie, & Henderson, 2010; Jackson, Firtko, & Edenborough, 2007; Tusai & Dyer, 2004). Developing resilience is described as growing personal skills through established techniques, such as reflection, life balance, spirituality, emotional insight, and positivity (Gourton, 2007; Jackson et al., 2007). To limit the effects of reporting biases, Elovainio et al. (2015) used linear regression models to test the association between established job stress and well-being indicators. In a study consisting of 1,524 physician in a longitudinal cross lagged analysis with a 4-year follow-up period, a significant reciprocal association was found to exist between a specifically defined indicator of well-being labeled as *psychological stress*, and a specifically defined indicator of job stress labeled as *control over job demands* (Elovainio et al., 2015).

In general, healthcare workers, especially those in nursing and midwife roles, are known to experience highly elevated levels of workplace stress due to the responsibilities

and locations of the work they perform. Adding to their levels of stress are the ways of socialization these roles adopt in their working environments that do not provide ample opportunity or focus on self-care. For these workers, an application of a mindfulness meditation intervention was found to be promising since significant improvements were seen through use of the depression, anxiety, and stress scale (DASS), thereby providing evidence of opportunity for both workplace and individual resilience (Foureur et al., 2013).

Based on the increasing interest in the value and relationships between resilience and well-being in the healthcare workers, a study was designed and aimed at determining the acceptability and feasibility of the effects of another form of mindfulness meditation, known as iRest yoga meditation on military healthcare professionals (Bingham, 2011). The 74% completion rate of this study, along with findings that 71% of participants reported a trend for improvements in daytime sleepiness while using a mindfulness based program were indicative of feasibility. Data collected in this pilot study with healthcare workers supported the development of concepts related to developing resiliency. The utilization of the Conner-Davidson Resiliency Scale in this study determined that future attention is warranted in the application of interventions like yoga meditation which contribute to increasing resilience to support professionals in the military healthcare field (Bingham, 2011; Campbell-Sills & Stein, 2007; Conner & Davidson, 2003).

Need for organizational stress reduction programs. There is longstanding evidence to support the need for organizations to provide stress management programs, with psychological disorders recognized by the National Institute for Occupational health in the top 10 reported work-related injury and diseases (Sohail & Rehman, 2015;

Schneider, Zollo, & Manocha, 2010; Stein, 2001; Schmidt-Wilk, Alexander, & Swanson, 1996, Millar, 1990). In a study from 2001, Stein recommended specific strategies that target occupational stress, including the incorporation of coping activities within individuals' daily activity schedule, monitoring both the symptoms and the stressors identified in the workplace, and activities that were realistically attainable and relevant so as to increase job satisfaction and performance. Of the suggested relaxation therapies presented for workers experiencing occupational stress, included was a 15-minute practice session of meditation (Schneider, Zollo, & Manocha, 2010; Stein, 2001). For organizations that may be hesitant to provide yoga meditation to workers due to the perceived time constraints of long sessions, or skepticism as to the effectiveness of short meditation practices, there is evidence to support the benefits of providing even a short 15-minute guided imagery meditation. In this study, participants who reported experiencing stress reported decreases in levels of stress and increases in levels of serenity, due to the mediating effects of recovery experiences described as "mastery" and "relaxation". This revealed how a person who is stressed and in difficult circumstances can also maintain a sense of well-being by holding both stress and serenity in the workplace (van Hooff & Bass, 2013).

Similarly, this individualized aspect of yoga meditation in the iRest protocol is known as one's "Inner Resource" and is also tied to another yogic tool practiced in iRest that is more general in nature called one's "Heartfelt Desire", which affirms core values that helps participants to clarify meaning and purpose in their life (Miller, 2015). The yogic tool, "Heartfelt Desire" provides a bigger picture description of one's life purpose

and is a summation of the nine core features that define Martin Seligman's concept of well-being (Seligman, 2011).

Given that many people also look to their work to give them meaning and purpose in life, this is an important area to explore. Work tends to be a source of great stress for many people who are looking to experience happiness through their work by promoting social consciousness and socially responsible behavior, and as also the evidence of their corporate success (Vasil, 2014). The old concept of finding happiness is now more clearly defined. Previous limitations of quantitative measures of success such as *compensation* that were based primarily on income and salary levels, are now more broadly defined by qualitative measures that provide value associated with alternative strategies to provide value (Demerouti & Leiter, 2014). A study by Dame (2015) reveals that unlike specific goals, such as securing happiness, research on the subtle aspects of well-being are no longer based on targeted and identified goals, but rather a lifestyle of being at ease with one's purpose and that is independent from tangible circumstances. As people in workplaces increasingly address problems associated with perceived stress that affects workers, such as loss of creativity and innovation (Dame, 2015), the ability to offer strategies such as yoga can assist employees in accessing well-being. This strategy may help workers to uncover a new sense of service and purpose, even if it means leaving their current workplace is the best solution for both the worker and the workplace.

This sense of service and purpose was described by Dame (2015) as the missing link in motivating and engaging workers, and perhaps summarized the need for

organizational stress reduction programs like iRest that are spiritual and/or mindful-based approaches.

The practice of yoga meditation. The practice of yoga meditation is similar to the six stages of psychological growth theorized by Abraham Maslow's hierarchy of needs, which culminates in a final state of *self-trascendence* or peak experience beyond the boundaries of the human self (Koltko-Rivera, 2006). The specific practice of yoga meditation, known as *dhyana*, is the seventh stage of an eight-stage process (Iyengar, 1966). *Dhyana* is the seventh stage of a multi-stage process towards attaining true Yoga, or a merging with the Eternal, and classically divided into eight stages, also called yoga limbs (Iyengar, 1966). This seventh stage known as meditation is described by Iyengar (1966) as like a blissful electric light bulb of the mind that glows when there is a regular and uninterrupted flow of concentrated electricity. This practice produces a sense of "physical lightness, steadiness, clearness of countenance and a beautiful voice, sweetness of odour of the body, and freedom from craving" as well as a humility that is evidenced by one who is "balanced, serene, and a tranquil mind" (Iyengar, p. 51). The yoga meditator then becomes capable of welcoming a wide range of life events and circumstances through various meditation exercises. These meditation exercises include the simultaneous holding and welcoming of opposite feelings, emotions, and thoughts by focusing internally on one's own center of peacefulness, perhaps even a personal understanding or relationship with God. Similarly, according to Venkatesandanda (1999), meditation arises when there is sustained concentration in a field of self-observation where the observer is observed as one.

With this practice of meditation there is a restorative experience of mastery and relaxation that can also be described as the ease and comfort that comprise the *Inner Resource*, as described by the iRest protocol (Miller, 2011). iRest is the registered name of a yoga practice that teaches a specific type of yoga meditation described as *yoga nidra* or the sleep of the yogi. This type of sleep practiced by the yoga meditator is actually an awakened state of mind. Yoga nidra meditation is best identified by the dissolution of disturbing thoughts usually present in the mind, and instead by the experience of a refreshing sense of rest upon physical awakening. With regular practice, this type of meditation can provide the individual the tools to cultivate a sense of well-being at any time or place that stress may be experienced. (Iyengar, 1966).

The practice of iRest yoga nidra meditation provides the individual with the opportunity to develop specific tools to address stress. This iRest meditation can be drawn upon at anytime and is not dependent on a location or circumstance. It is also able to be uniquely adapted to the specific needs of the individual, as they learn to utilize this yoga practice on their own.

Physiological effects of yoga/meditation. Stress negatively affects the autonomic nervous system, including sympathetic and parasympathetic controls, and heart rate variability (HRV). Research has found that practicing yoga actually increases HRV, which allows the heart rate to lower from fixated positions of hypertension, thus lowering stress-related chronic diseases and mortality (Cheema et al., 2011; Sarang & Telles, 2006). According Ross, Friedman, Bevans, & Thomas (2012), the practice of yoga as a mind and body meditation has an established history of improving psychological balance, dealing with various forms of disease and illness, and in general, enhancing overall levels

of health. The ever-emerging field of yoga research documents therapeutic effects on a wide range of health conditions, including: high blood pressure, ulcerative colitis, irritable bowel syndrome, anxiety, depression, insomnia, smoking cessation, fatigue in treatment of breast cancer, immune function with HIV/AIDS, menopause, and the overall impact on well-being and quality of life (National Institute for Occupational Safety and Health, 2008). More specifically, yoga has been established to have down-regulatory effects on the hypothalamic-pituitary-adrenal (HPA) axis and sympathetic nervous system (SNS). According to Ross and Thomas (2010), this down-regulatory effect is beneficial due to the dysregulation that occurs to the SNS/HPA axis relationship over sustained periods of hypervigilance, also known as “fight or flight”. Fight flight states trigger the production of excessive levels of catecholamine and cortisol, and over time, result in diseases such as autoimmune disorders, cardiovascular disease, depression, diabetes, obesity, and even substance abuse (Hagin, Parlour, & Jenkins, 2013; Ross, Friedmann, Bevans, & Thomas, 2012; Cohen, S., Janicki-Deverts & Miller, 2007; Field, 2011). The practice of yoga shows a reversal of these negative effects of stress with an immediate quieting effect (Ross & Thomas, 2010). The result is a cascading shift in the direction of a more dominating parasympathetic nervous system (PNS) on the participant’s physiological, behavioral, and psychological functions, which then helps decrease stress (Ross & Thomas, 2010).

Psychological effects of yoga meditation. The beneficial psychological effects of yoga meditation are increasingly being researched. Psychologist and yoga teacher Bo Forbes (2011) teaches a concept known as *interoception*, or mindfulness within the body. This connection between the mind and body as a network is how yoga meditation is used

as an established therapeutic tool that treats the epidemic of anxiety and depression (Forbes, 2011; Pilkington, Kirkwood, Rampes, & Richardson, 2005).

In the workplace, use of yoga meditation as a treatment approach for reducing workplace stress aims at increasing resiliency, insight, well-being and self-awareness. The ability to reduce stress through developing a sense of self-awareness appears to reduce the destructive emotions and behaviors of rumination and automatic cognitive routines that lead to experiences of persistent negative affect when allowed to go unnoticed or avoided (Kemeny et al., 2012). This increasing body of positive research outcomes for mindful and meditative practices suggests the selection of yoga meditation as one such approach to reducing workplace stress.

Early research in the use of meditation in the workplace suggested that meditation promotes the development of human potential and consciousness (Tsai, Lin & Wang, 2015; Travis & Pearson, 2000). Through a restful alertness produced by practicing various forms of meditation, benefits have been found in improving employee health, job satisfaction, productivity, efficiency, absenteeism, well-being, and financial performance of the business (Flook, Goldberg, Pinger, Bonus & Davidson, 2013; Vasil, 2008; Shapiro, Oman, Thoresen, Plante, & Flinders, 2008; Schmidt-Wilk, Alexander, & Swanson, 1996).

Expanding on the understanding of meditative consciousness, the definition of *self-awareness* can be described as the use of the human senses to discriminate the subtle and ambiguous emotional information that is processed, regulated, and then represented in daily activities such as decision-making. This definition of awareness was applied to a study of meditators and non-meditators. Meditators were found to experience greater

emotional clarity, while also experiencing greater improvements in valence discrimination and reduced arousal than non-meditators (Lutz, Dunne, & Saron, 2015; Nielsen & Kasziak, 2006). This promotion of self-awareness through contemplative/emotion regulation training practices such as meditation suggests that increases in awareness positively correlate with improvements in prosocial responses associated with compassion. This occurs while simultaneously reducing negative emotional behaviors such as rumination, depression, and anxiety that are deemed as the destructive enactments of emotions associated with stress (Kemeny et al., 2012).

Specific to trait anxiety, a 2014 study by Orme-Johnson and Barnes document the effectiveness of meditation through the identification of more than 600 research papers about meditation, of which 16 reported on studies that included 1,295 participants ranging in demographic characteristics. Overall, conclusions from these studies deem meditation to be more effective than usual treatment options, including psychotherapy, group therapy, electro-myography biofeedback with progressive relaxation, simple relaxation, napping, corporate stress management, periodic somatic inactivity, and progressive relaxation (Orme-Johnson & Barnes, 2014). These treatment options have traditionally been provided for populations identified with chronic anxiety, veterans with post-traumatic stress disorder, and prison inmates (Orme-Johnson & Barnes, 2014). Additionally, these studies showed significant reductions in anxiety levels within the first two weeks and the reductions sustained up to three years (Orme-Johnson & Barnes, 2014). It should also be noted that various reviews and meta-analysis of randomized controlled trials continue to report statistically superior outcomes for meditators as

compared to non-meditators in the control groups, and safely with no adverse effects reported (Chen et al., 2012, Khusid & Vythilingam, 2016).

Benefits of spiritual or mindfulness-based approaches. The benefits of linking a sense of service and purpose at work may be the motivation in creating new frontiers in the workplace that include the integration of spiritual practices such as yoga meditation. Yoga has opened the doors to mindfulness-based practices since the initial perception of yoga as simply being an exercise option. It is well known through a wealth of historical background that the true purpose of yoga is for “quieting the mind,” as stated by the ancient yogic scholar Patañjali in the yoga sutras (MSI, 1995). This theme of quieting the mind is the familiar thread that connects not only spiritual traditions but also psychotherapeutic protocols that address stress and anxiety. The mounting evidence that supports the efficacy of yoga-based meditation practices raises the question about the integration of spiritually-infused practices applied to psychological and somatic disorders (Davidson & Kasniak, 2015). The response to this concern was the development of secularized wording of interventions, despite following the traditional Buddhist and Hindu approaches to mindfulness-based meditation. One such secularized intervention to treat stress is called meditation awareness training (MAT), which reports improvements of psychological well-being (Shonin, Van Gordon, & Griffiths, 2014). Similarly, the term *yoga nidra* was secularized and renamed *Integrative Restoration - iRest* by Dr. Richard Miller in response to anticipated resistance by the military to references about yoga. After being adopted as an effective treatment option for post-traumatic stress disorder (PTSD) in military personnel, the military surprisingly allowed the name iRest to be used in

conjunction with the words, Yoga Nidra due to the acceptance and popularity of yoga practices, which are now widely utilized in military settings (Miller, 2016).

One of the benefits of addressing stress in the workplace with the integration of spiritual and mindfulness-based practices is the effect that spirituality has on the intention to behave ethically, particularly in regard to decision-making (Beekun, 2012, LaForge, 1994). As established in the physiological effects of yoga on calming the nervous system, this purpose of calming may be the foundational tenets of biophysiological health that link to the beneficial effects of spiritual practices in the workplace.

Managerial personnel in both public and private organizations have revealed that workplace spirituality does moderate the negative relationship between occupational stress and measures of health (Kumar & Kumar, 2014). This study used the Occupational Stress Index, the Spirituality at Work Scale, and the 28-Item General Health Questionnaire found that stress had a negative impact on health, while spirituality is positively correlated with measures of health. This study demonstrated that spirituality in the workplace serves as a moderator for the negative relationship between occupational stress and general health. The interpretation that can be made from these results emphasizes the practical importance of including spirituality in the workplace as a means of providing an environment that supports both the perceptions of meaningful work and the actual health conditions of workers (Kumar & Kumar, 2014).

Use of spirituality also has been found to have a positive impact job satisfaction on existing conditions and adverse events in the workplace such as work tension, job frustration, and even victimization (Tejada, 2015). These findings support the presence of spiritually themed resources such as yoga and meditative practices,

Counteracting workplace stress is a need in the workplace and the role of spirituality in ameliorating this stress continues to warrant greater exploration and research, including a variety of workplace industries. In 2002, when the research on the impact of spirituality on workplace stress was still in its infancy, Csiernik and Adams found that stress caused a negative impact on the spirituality in a sample of 154 helping professionals including clergy, nurses, educators, social workers, students, bereavement counselors, volunteers, administrators, hospice workers, physicians, and funeral directors who came from seven differing workplace environments. The negative impact of stress on spirituality was premised on three factors identified as the awareness of a supreme force or power, the desire of people to connect with this supreme force, and the belief that this supreme force or power was interested in a relationship with humans through acts of promoting changes that are beneficial to humans. This study also found that the spiritual practices of certain professions, including social workers, nurses, church workers, and funeral home workers, were most negatively impacted by stress, while spirituality served to contribute to a sense of wellness by counteracting workplace stress (Csiernik & Adams, 2002). The application of yoga meditation as a spiritual practice in a variety of workplace industries, not at just those workplaces like churches or industries with spiritual affiliations, may be warranted to improve the wellness of workers.

Possibly the most profound effect of spirituality in the workplace is the value of its impact in four critical dimensions of overall workplace job satisfaction. In a study of professionals in the insurance industry, these four dimensions were identified as compassion, organizational values, sense of community, and meaningful work, and were found to have a positive relationship in affecting overall workplace job satisfaction.

Workplace spirituality encouraged by employers has a positive effect on the four dimensions that work together to improve the functioning of employees in the workplace (Gupta & Singh, 2014).

As greater numbers of research studies are applied to the workplace and with a wider range of workers and job titles, employers have an increasing body of supportive literature that justify the allocation of human resources to spiritual practices that support wellness in the workplace. This support of spiritually-based wellness practices in the workplace, like iRest, may then prove cost-effective and have significant impact on the overall success of the business sector.

iRest yoga nidra and benefits. In response to an ever-growing need to address stress across multiple cultures, including the workplace, over the past twenty-six years, California-based clinical psychologist and yogic scholar, Richard Miller, PhD, developed a form of meditative self-inquiry derived from the ancient teachings of yoga branded Integrative Restoration® - iRest Yoga Nidra. iRest is an adaption of a specific type of yoga called *yoga nidra* or *sleep yoga*. Nidra, as defined by Dr. Miller, is a Sanksrit name for changing states of consciousness that include waking, sleeping, and dreaming, as well as a range of physical sensations, emotions, thoughts and images (Miller, 2015). This is an ancient practice that can be done while in a seated, lying down or standing position. Of the various forms of yoga, including the asana practices better known by their physical movements such as “downward dog,” there is an increasing interest in the meditative forms such as iRest due to the increasing body of research and positive results being reported each year and as seen by the current programs offered at various employers like Google (Chade-Meng, 2015).

As yoga practitioners have matured in their practice of yoga poses and movements, or other exercise-like versions, and noticed the significant improvements in overall perceptions of both physical and mental health, many have become interested in progressing to a deeper level of practice that enhances the mind-body connection.

Advanced training also provides instructors with information on how to conduct teacher-student relationships, address teaching issues, and identify ethical considerations. (Miller, 2001). With the completion of Level I and Level II iRest teacher trainings, the instructor is listed on the recommended teacher website hosted by the Integrative Restoration Institute (IRI), and is provided with ongoing access to additional trainings and teaching materials through the Teacher's Community Network (TCN). The TCN is supported by IRI, and continues to provide current evidence-based research that supports the efficacy of iRest in a wide variety of populations.

As an established protocol and to support this growing area of evidence-based research and application, additional trainings for iRest include Levels I, II for basic and advance instructors, and III to become a Certified iRest Teacher. As an added support to various healthcare professionals, the health benefits of practicing iRest yoga nidra are now recognized by the American Psychological Association (APA) and other healthcare sectors. Approved marketing materials provided by IRI state that other sectors now include physical therapists, occupational therapists, marriage and family therapists, registered nurses, social workers, and yoga therapists, as these well-established sectors now approve iRest teacher trainings as qualifying continuing education units.

At its core, iRest is an ancient yogic practice that develops a specific meditative tool —the Intention — called *sankalpa* in yogic Sanskrit terminology. This tool addresses

stress by developing 1) a resolve of empowerment within one's self by 2) cultivating an Inner Resource of unchanging well-being (Miller, 2011). The main physiological effect targeted by developing this inner resource during the practice iRest is to create homeostatic balance within the autonomic nervous system, which includes balancing levels of the stress hormone cortisol. Results in research participants include overall better health and relationships despite the difficulties and circumstances of life (Miller, 2015).

In a 4-week study conducted in 2012 at Ohio University, the practice of iRest was found to provide better physiological relaxation than listening to a non-meditative audiobook and led to significant decreases in levels of cortisol while also improving mood (Borchardt, Pattern, & Seng, 2012). This study included 75 female participants between the ages of 18-25, with limited meditation experience, who were assigned randomly to three condition groups of either iRest yoga nidra, relaxation response meditation, or the audio book of "A Study in Scarlet" by Sherlock Holmes. Data was collected by a physiological measure using the drool method, and a psychological measure using the Positive and Negative Affect Scale (PANAS). Results suggested that in post task measures, participants in the meditation groups had significantly lower levels of salivary cortisol than the audio book group, significant decreases in cortisol levels than the audio book group, and significantly positive increases in mood than the audio book group.

Through the application of yoga, there is the induction of complex interactions between the biological, psychological, and spiritual healing processes, often clinically referred to as the healing homeostatic balancing process in the human body (Park, Braun,

& Siegel, 2015). This homeostatic process can be seen in the description of the iRest provided by its protocol creator, as a “deep relaxation throughout the body and mind, elimination of stress, reduction of insomnia, solving of personal and interpersonal problems, resolution of trauma, neutralization and overcoming of anxiety, fear, anger, and depression” (Miller, 2011). These effects are among the benefits that studies aim to better understand as specific components in the application of iRest are measured by researchers.

According to Miller (2011), the mechanism of action that occurs during this application is as follows:

During iRest, it is common for spontaneous physical, psychological and interpersonal transformational shifts to occur, as negative patterns of conditioning are burned away by the fire of discriminative wisdom that ignites, as we tap into our innate inner wisdom; a wisdom so powerful that it easily burns through even the most formidable destructive patterns of physical and psychological conditioning (p. 1).

This mechanism of action as described by the iRest protocol developer as *transformational shifts* is the regular occurrence of a sudden release of habitual thought patterns that problematically affect both physical and psychological health over time due to dysfunctional developmental adaptations of emotional and cognitive functions that become unconsciously dominant (Miller, 2011). During iRest, this mechanism of action is identified by the individual’s ability to instantly access a healing resource within one’s inner knowing.

This inner knowing can be described as an innate and naturally homeostatic cause of health that is a biocognitively self-regulating process of both biology and cognition working together, according to the field of psychoneuroimmunology (Martinez, 2017). Perhaps less scientific in nature is the instinctive access to, what is known in the transformative coaching world as, an inner “space within” the human psyche that consists of mind, consciousness, and thought. This access is referred to as “returning home” to the innate wisdom and well-being that is our true nature (Neill, 2017).

Disposing of these dysfunctional patterns of not knowing, or unconsciously dominant cognitive functions, is the process of developing consciously dominant cognitive functions, such as observing one’s thoughts, emotions, and feelings, also known as metacognition, and is what is learned through the iRest protocol.

iRest is now an approved complementary alternative medicine (CAM) in a wide range of clinical and non-clinical settings. Research has been conducted in various patient populations, including veterans with posttraumatic stress disorder (PTSD) at the US Department of Defense and the Veterans Administration, chemically dependent patients, anxiety and homelessness, well-being and college students, compassion fatigue and insomnia in school counselors, various medical conditions related to stress, multiple sclerosis, and cancer (Birdsall et al., 2011; Miller, 2015; Temme, 2008; Wilson & Eastman-Mueller, 2007; Engel et al., 2007). Unique to many meditative practices used to address stress, current research is posted on the parent company website of iRest, known as Integrative Restoration Institute (IRI). Supportive information for healthcare professionals and other corporate administrative departments includes a list of current,

upcoming, and planned research on iRest that includes specific outcomes of research studies occurring from 2007 through 2016.

Yoga nidra was the subject of a feasibility study on the initial approval and use of yoga nidra as an adjunctive therapy for PTSD in military personnel at the Walter Reed Army Medical Center (Engel et al., 2007). The military has led the way for innovative interventions in treating stress among their personnel by demonstrating greater ability to withstand greater levels of stress. Development of resilience and well-being that are generated through practices like meditation support the use of complementary alternative treatment methods to address the effect of stress. The result of these 2007 findings helped support the evidence trending toward the use of iRest yoga nidra meditation in later studies to decrease Post Traumatic Stress Disorder (PTSD) symptoms such as anxiety, emotional reactivity, rage, and increased feelings of self-efficacy and relaxation (Stankovic, 2011). As a result, Walter Reed Health Deployment Clinical Center now integrates the iRest protocol into the treatment of soldiers (Engel, 2007).

Related to stress reduction in the military, studies from 2008 and 2012 showed iRest to reduce stress in homeless shelter residents with a history of trauma (Vieten, 2008) as well as iRest's impact on stress, distress, and the quality of life of homeless adults (Bhognaoker, 2013). Overall perceived stress was also reduced in patients suffering from multiple sclerosis and cancer (Pritchard, 2010). Two studies on the effects of iRest on stress were published in 2011: (1) a study on perceived stress levels and negative moods in school counselors (Bridsall, 2011) and (2) a study on sleep and perceived stress in military medical center healthcare providers as a pilot study for developing staff resilience (Bingham, 2011). Both studies found iRest to have significant

improvement on stress. Current research on iRest includes exploring iRest's benefits for specific populations including couples, traumatic brain injury, chronic pain, and insomnia.

Significance of the Study

Due to the wide range of physiological and psychological concerns caused by workers' stress, research investigations of workplace practices targeting stress reduction offer an important contribution to the existing literature. iRest has not been studied in a non-healthcare-based setting or with a general population of workers. The purpose of the present research is to explore the benefits of iRest on perceived stress in the general workplace. Outcomes from this research may be useful in substantiating the personal practice of iRest and its effects on workplace stress. The implications of the present study may also offer justification for Human Resources departments to support onsite iRest meditation.

Research Hypothesis

The hypothesis for this current study was that the completion of a 4-week iRest protocol would result in decreased perceived stress in corporate participants compared to baseline levels and compared to a control group. The 4-week protocol was predicted to have a greater impact if participants utilized the self guided home practice CD/mp3 they were instructed to use up to five times per week between sessions.

Chapter 2: Research Design and Methodology

Method

Previous research has suggested that yoga and mindfulness meditation, as well as iRest in particular, reduces perceived stress. With the documented benefits of iRest yoga mounting, the expanded application of stress reducing intervention protocols like iRest should be explored specifically for work-related outcomes. This experimental study explored the effectiveness of iRest yoga on corporate workplace staff in decreasing workplace stress. To establish a high level of rigor and validity for this research study, there was a control group.

Participants

This study was conducted on adults over the age of 18 years who were currently employed at least 20 hours per week. A total of sixty participants ($N = 60$) comprising a convenience sample were randomly assigned to the control or experimental group by a coin toss. Thus, thirty participants received the 10-step protocol as part of the study, and thirty participants received the 10-step protocol at a later date. Participants also met the inclusion criteria of both availability and willingness to complete all protocol requirements for yoga meditation at the designated time and location in the greater Puget Sound area of the Pacific Northwest.

As compensation, each participant was provided with an entry into a drawing to win a complimentary yoga promotional merchandise package with an estimated value of \$100. For the protection of the human subjects recruited and selected for this research study, a Humans Subjects Research Board approved all procedures prior to the study's initiation and administering of the research methods described.

Measures

Demographic questionnaire. Basic information about the participants were collected, including their date of birth, gender, ethnicity, marital status, number of children, completed levels of education, profession, department of work, time employed at current place of work, number of hours worked, level of stress on 1-10 scale, list of medications, reason for participation in the study, and previous history of yoga meditations

Perceived stress scale. The Perceived Stress Scale (PSS) developed in 1983 by Sheldon Cohen is a self-report measure of stress, and was administered to all participants. According to Cohen, Kamarck, & Mermelstein (1983) the PSS reported Chronbach's α (alpha) was .84-.86, Test-retest reliability was .85, and validity correlation of the PSS to other measures of similar symptoms ranges were between .52-.76. It is one of the most commonly utilized psychological scales that measure the experience of stress in individuals as it applies to general life situations. The PSS-10 is a 10-question instrument that measures how often the respondent experiences certain types of stress (e.g., "In the last month, how often have you felt nervous and 'stressed'") on scale from 0 (never) to 4 (very often). This scale measures the level to which participants feel overloaded, uncontrolled, and unpredictable in their lives, specifically at current levels over the past 30 days (Cohen, Kamarck, & Mermelstein, 1983). PSS was utilized in a previous study measuring the efficacy of iRest in reducing stress in military healthcare workers (Bingham, 2011).

Post-intervention feedback survey. This survey consisted of eleven questions that range from yes or no answers to openly qualitative responses with room to write any

subjective thoughts by i-Rest participants (e.g., “Please share any suggestions you have to make this more successful if we repeat the study”, “On a scale of 0 to 10, with 0 being ‘not at all beneficial’ and 10 being ‘very beneficial,’ how beneficial was iRest for you?”). Other questions on this post-intervention survey included open ended questions about what was liked best and least, feedback about the instructor, adequate time provided for questions, interest in ongoing iRest classes, recommendations to other healthcare providers, other areas that iRest may provide value such as for sleep and concentration, and any medications used since the pre-intervention survey.

iRest home CD practice diary. Participants’ use of a 45-minute recorded iRest protocol session on compact disc (CD) for “home use” per study instructions was assessed. This questionnaire consisted of three questions, and measured important aspects including treatment compliance, frequency and duration of the CD yoga protocol at home, and if it was perceived as helpful. Utilization of CD was considered in overall statistical effects of iRest on lowering perceived stress.

Procedures

Participants were recruited through a convenience sample method using email lists, word-of-mouth, and with informational flyer sheets posted at local corporate workplaces, a yoga studio, and on online social media sites. Snowball sampling, also known as chain referral sampling, was utilized due to the ability to gather large number of participants quickly by recruiting acquaintances of already existing participants. These participants not selected for the experimental group were informed that they were now in the control group. This control group was offered the complete 4-week protocol and a

take home CD at a later date so as not to withhold any beneficial effects that may be received as a result of participating in the first test group.

Upon arrival and before beginning the first session, participants were given full disclosure on the purpose and procedures of this study.

At the beginning of the study, participants were given a calendar of dates, times, and the specific location in April and May of 2017 to plan their schedules for four iRest yoga nidra sessions conducted over a four-week period. Participants were administered a scripted meditation protocol through being read to by an iRest instructor for four weeks. As listed in Table 1 below, participants in both the test group and in the control group completed a self-reported measure of perceived stress using the Perceived Stress Scale (PSS) at baseline both before the beginning of the first iRest class and at the end of the fourth iRest class. The control group filled out both the demographic and perceived stress scale surveys by email. After the final week's session, all participants filled out a post protocol intervention survey. Those participants in the first test group also completed the iRest Home CD Practice Diary survey. For the 30 participants only in the first group who were administered the 10 step meditation protocol a CD utilization survey was collected at the end of the study. The CD provided was a recording of one of the 4-week sessions and participants were told to listen to it up to five times during the week between sessions. For a complete summary of the variables used in this study refer to Table 1.

The primary outcome variable measured was the effect iRest had on perceived stress in the workplace, as analyzed by the Perceived Stress Scale (PSS) test instrument as listed on Table 1 below.

Table 1

Measures and Timing of Data Collection

Variable	Measure	Timing of Measure
Stress	Perceived Stress Scale (PSS)	Baseline, Post-intervention
Demographic Data	Demographic Data Questionnaire	Baseline
Intervention Acceptability/Feasibility	Post-intervention Feedback Survey	Post-intervention
Use of CD	iRest Home CD Practice Diary	Post Intervention

The completion of a 4-week iRest protocol was predicted to decrease perceived stress in corporate participants compared to baseline levels and the control group. Additionally, the 4-week protocol was predicted to have a greater impact on worker stress due to the supplemental use of a take home recording of a 45-minute iRest session on compact disc (CD). Participants were instructed to use the CD up to five times per week and report their number of uses between the weekly sessions, thereby increasing the potential total number of sessions up to twenty-four total sessions. This number of twenty-four sessions was significantly greater than the established six to eight total meditation sessions that have previously been found to be effective in reducing stress in workers. The data collected about each participant's use of the CD provided beneficial information for future studies about the supplemental use of outside sources of yoga meditation that may be helpful in continuing to provide alternative methods for decreasing stress for workers.

Intervention protocol. The iRest instructor who administered the 10 step meditation protocol was authorized by the Integrative Restoration Institute (IRI) to

administer the protocol to participants and trained by the inventor of the protocol, Richard Miller, PhD., through an established curriculum of study that included a series of intensive Level I and Level II trainings of approximately 30 to 40 hours each. This training included instruction on the basic principles on the historical theory and current day practice of iRest that prepared the instructor with advanced experiential group and one-on-one instruction to allow delivery of iRest to groups and individuals in professional and public settings.

Only study participants in the meditation protocol group attended a weekly 1-hour iRest session for a total of four weeks at a yoga studio selected for this study. Each session included a ten-minute discussion on the 10-step protocol to be administered. The 10-step protocol included the following parts: 1) Affirming Your Heart Felt Mission; 2) Affirming Your Intention; 3) Affirming Your Inner Resource; 4) Practicing Body Sensing; 5) Practicing Breathsensing; 6) Welcoming of Opposites of Feelings and Emotion; 7) Welcoming Opposites of Thought; 8) Welcoming of Joy and Well-Being; 9) Experiencing Being Awareness; 10) and Experiencing Your Wholeness (Miller, 2015) (see Table 2 below) and then followed by a 45-minute session of the scripted protocol. As with previous studies, the introductory ten-minute discussion of the 10-step protocol was administered before the 45-minute scripted protocol is standard. This allowed participants to cognitively prepare and feel ready to begin the session, much like describing to an audience the agenda for a meeting. The detailed protocol is included as Appendix A and Appendix B, and studies supporting these results are available through the Integrative Restoration Institute website at www.iri.us.

After the first session, participants were also sent home with a 45-minute compact disc (CD) recording of one of the 4-week sessions. Participants were instructed to listen to the CD up to five times during the week between sessions. Participants were provided with a recorded iRest session on compact disc (CD) or mp3 and told to utilize them as part of the research protocol.

Table 2

10-Step iRest Protocol

iRest 10 Stages	Purpose	Ask Yourself...
Initial Relaxation	Get comfortable and bring yourself into the present moment.	What would make me most comfortable during the practice?
1 Setting an Intention	Establish why you want to learn to practice iRest.	What do I hope to achieve with my practice today?
2. Heartfelt Desire	Get in touch with what it is that you truly want in life.	What is it that I want more than anything else in life? What is my deepest desire or wish?
3. Inner Resource	Find a place where you feel secure, to which you can return at any time during iRest or any time you feel disturbed.	Real or imaginary, where do I feel most secure, safe, calm, at ease and relaxed? What is this place like? How does it feel?
4. Body Sensing	Welcome and be present with what is happening in the body. If pain or tension is present, simply observe it. Perhaps nothing at all is present and that is ne too.	How is my body feeling today? Are there any physical sensations present in my body?
5. Breath Sensing	Tune in to the natural rhythm of the breath. Learn to observe the breath and the body breathing.	What is my breath like? Calm, deep, relaxed, tense, shallow, forced, etc.?
6a. Opposite Feelings	Observe feelings that are present; e.g., comfort/discomfort, warmth/ coolness.	What feelings are present? Heaviness, lightness, tension, relaxation, etc.?
6b. Opposite Emotions	Observe emotions that are present; e.g., confident/insecure, fearless/ afraid, etc.	What emotions are present? Anger, sadness, happiness, etc.?
7. Opposite Thoughts/Beliefs	Observe beliefs that are present; e.g., 'I am powerful/I am helpless', 'I am healthy/I am ill', etc.	What beliefs are present? 'I am strong', 'I am weak', etc.
8. Joy & Well-Being	Experience an inner smile and happiness, pleasure, joy, love, bliss or well-being.	Can I find an inner smile or a sense of inner joy or well-being?
9. Witnessing & Pure Awareness	Witnessing Awareness: Connect with the part of you that is capable of witnessing your experiences. Pure Awareness: Discover awareness, the part of you that is always at peace and at ease.	Witnessing Awareness: Who is it that is aware of my body, my breath, feelings, emotions, and beliefs? Pure Awareness: Can I connect to the innate aspect of myself that is always at peace, no matter the circumstance?
10. Wholeness & Integration	Return to the waking state at the end of each practice. Integrate iRest into your daily life.	In this, and every moment, may I remember to feel my innate sense of well-being.

Note. Table adapted from “Integrative restoration iRest: For health, healing, and awakening” by Miller, R. (2011). *Integrative restoration iRest: For health, healing and awakening*. San Rafael, CA: Anahata Press.

Summary

The methodology of this study was designed to test if iRest would reduce perceived stress in workers. Through the administration of a 4-week iRest protocol to participants, data was gathered and compared to baseline levels and the control group. The supplemental use of a take home recording of a 45-minute iRest session on compact disc (CD)/mp3 was also provided to participants in the meditation group with instructions.

A total of sixty adult participants ($N = 60$) over the age 18 who were currently employed at least 20 hours per week were selected from a convenience and snowball sample, and then randomly assigned to the control or experimental group by coin toss in to one of two groups..

The four measures used to collect data included a Demographic Questionnaire, Perceived Stress Scale, Post-Intervention Feedback Survey, and iRest Home CD Practice Diary.

Only the participants in the meditation group were administered a scripted iRest meditation protocol over the course of four weekly sessions. Participants in both the test group and in the control group completed a self-reported measure of perceived stress using the Perceived Stress Scale (PSS) at baseline before the beginning of the first iRest class, and at the end of the fourth iRest class, as well as the demographic survey.

Meditation participants also completed the iRest Home CD Practice Diary survey at the end of the 4-week study.

Participants in the meditation protocol group attended a weekly 1-hour iRest session for four weeks at a yoga studio. Each session included a ten-minute discussion on the 10-step protocol, and then administered a 45-minute scripted session of the 10-step iRest protocol.

Chapter 3: Results

Analysis Method

A 2x2 mixed model Analysis of Variance (ANOVA) was performed to measure any change in perceived stress between the iRest meditation group and the control group. In addition, a bivariate correlation was conducted to assess the association between the number of times CD or mp3 was utilized during the week and differences in pre-and post-stress. The primary outcome variable measured was the effect iRest had on perceived stress in workers, as analyzed by the Perceived Stress Scale (PSS) test instrument.

Descriptive Statistics

The total sample size at the beginning of Timepoint 1 in this research study was N= 61, with a valid N=56 at the end of Timepoint 2. The mean age of participants was 47.57 years, $SD = 10.05$, with the oldest participant aged 76 years and the youngest at 19. These participants had a mean of .82 children, $SD = 1.07$, living in the home, with a range of no children living in the home to four children living in the home with participants. The amount of education after high school ranged from no education and up to twelve years of education post high school, with the mean of 4.54, $SD = 2.35$, years of education completed post high school. The mean number of hours worked per week was 42.74, $SD = 9.99$ hours per week, with a minimum of 20 hours and up to 80 hours reported worked per week. The Perceived Stress Scale scores indicated a mean score of 6.34, $SD = 2.29$, across participants, with a reportable range from 1 to 10, and 10 being the highest level of perceived stress. The mean number of medications reported taken by participants was 3.11, $SD = 2.48$, with a range reported from 0 to 10 medications being taken.

Of the 20 people who answered they used the CD (in the iRest Meditation condition), 17 reported whether or not it was helpful. Of those 17, 100% of the participants who reported using the CD or mp3 during the week also reported it was helpful. The range was a minimum of 0 to a maximum of 6 uses during the week, with a mean of 2.20 times used per week, $SD = 1.80$.

Main Analysis

A 2 (pre/post) x 2 (iRest meditation/control) mixed-model ANOVA was conducted. Results revealed that there was no significant main effect of iRest meditation (collapsing across timepoints) on perceived stress; the iRest meditation condition ($M = 17.522, SE = 1.39$) was not significantly different than the Control condition ($M = 17.518, SE = 1.26$), $F(1,49) = 0.00, p = .998$, Partial Eta Squared = 0.00. However, there was a significant main effect of timepoint, (collapsing across conditions) such that participants at Timepoint 2 ($M = 15.67, SE = .975$) were significantly less stressed than those at Timepoint 1 ($M = 19.37, SE = 1.01$), $F(1,49) = 32.14, p < .001$, Partial Eta Squared = 0.396.

The main interest of this study is the interaction between iRest and control, not the main effect. Thus, more importantly, there was a significant Timepoint*iRest Meditation interaction, $F(1,49) = 23.52, p < .001$, Partial Eta Squared = .324, suggesting that stress scores across Timepoints were moderated by iRest Meditation. Pairwise comparisons revealed that there was no significant difference in stress levels within the control condition between Timepoint 1 ($M = 17.79, SE = 1.36$) and Timepoint 2 ($M = 17.25, SE = 1.31$), $F(1,49) = .373, p = .544$, Partial Eta Squared = .008. However, within the iRest meditation group, there was a significant decrease in stress level between

Timepoint 1 ($M = 20.96, SE = 1.51$) and Timepoint 2 ($M = 14.09, SE = 1.44$), $F(1,49) = 50.38, p < .001$, Partial Eta Squared = .507 (See *Figure 1*).

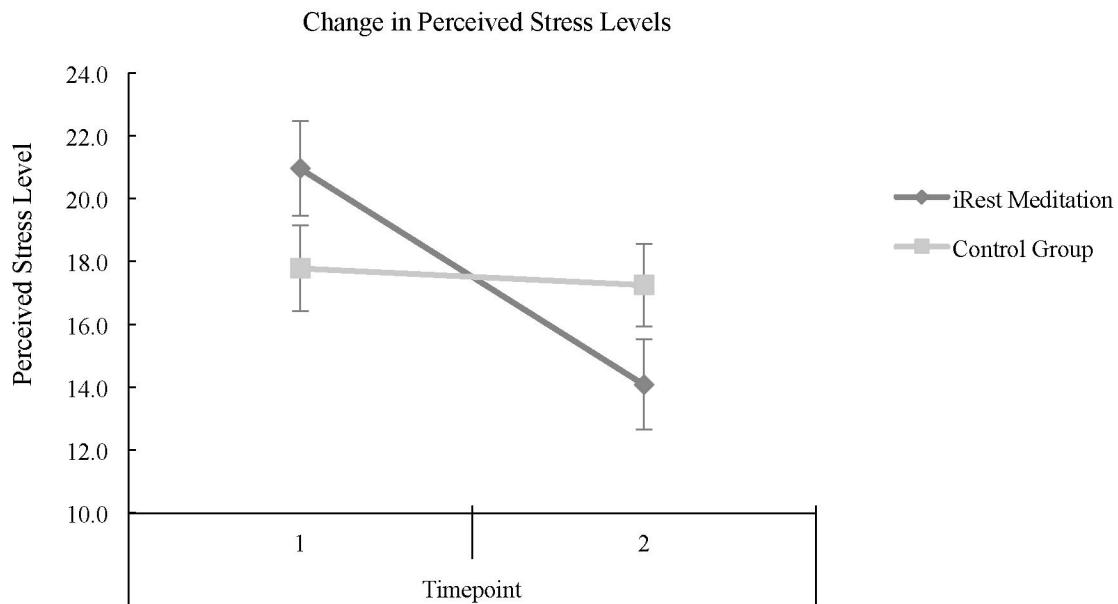


Figure 1. Change in perceived stress levels

Effects of CD Usage on Correlate with Reduction of Stress

To further assess the effectiveness of iRest meditation, a follow up analysis was conducted. Specifically, a bivariate correlation analyzed the relationship between the number of times CD or mp3 was utilized during the week and the improvement in stress (difference of pre and post measures of perceived stress). There was no correlation between difference of pre and post measures of perceived stress and amount of media use, $r(15) = -.390, p = .151$.

Results from Post-Intervention Feedback Survey

On a ten-point scale, participants found iRest to be relatively beneficial ($M=7.82$, $SD = 1.88$). Of the four sessions included in the protocol, the average number of session attended was $M= 3.36$, $SD = .83$. The frequency preferred of post-study refresher classes indicated that 45.8% preferred monthly refresher classes, 37.5% preferred weekly refresher classes, and 16.7% preferred both monthly and weekly refresher classes. For recommendation of iRest to their workplaces for personal use or organizational use, 70.4% recommended use of iRest at the workplace in both areas, while only 18.5% recommended iRest only for personal use, and 11.1% recommended iRest for only organizational use. While 100% of participants reported that the instructor helped them feel comfortable and provided addressed participants questions, 3.6% of participants reported they did not feel there was adequate time provided before and after class for questions. Of the four specific areas participants had to select from in using iRest, the results showed participants reported 60% for concentration, 71.4% for resiliency, 71.4% for sleep, and 92.9% for stress.

Summary

Despite the low observed power of this study due to the small sample size, there is a significant effect on perceived levels of stress. This was demonstrated by the significant decrease in stress levels reported by participants in the iRest meditation group as compared to the non-significant decrease in stress reported by those not receiving the studied iRest treatment protocol. It did not appear to matter the number of time the accompanying home study CD was used. It only mattered that participants were in the iRest meditation condition. The use of the accompanying home study CD did not have an

apparent effect on the participants, as the number of times the media was used did not significantly predict reductions in stress.

Chapter 4: Discussion

Effects of iRest

Despite the difference in duration of this 4-week study as compared to others lasting at least 6-8 weeks, effects in this study support previous iRest research results, specifically stress related conditions such as cortisol levels (Borchardt, Patterson, & Seng (2012), developing resiliency in staff based on also using the Perceived Stress Scale (Bingham, 2011), and post-traumatic stress disorder (Stankovic, 2011). The present study results demonstrated the effects of a four-week meditative protocol of 45-minutes. The results were favorable to the application of iRest in adults who worked at least 20 hours per week, based on the significant results in reducing stress in workers. These findings support existing research of human resource departments that also found yoga in the workplace to be an important activity with outcomes that measurably increased productivity and workplace satisfaction (Wolever et al., 2012). The thirty participants in the iRest meditation group who were adult workers ranging widely in demographic backgrounds, showed significant reduction in perceived stress levels as compared to the control group. The control group remained stable in reported perceived stress, while the reported perceived stress in the intervention group significantly decreased.

Through the bivariate correlation analysis, the data revealed no greater reduction in perceived stress for the iRest meditation group, and with no significant correlation tied to the numbers of times they actually listened to the CD/mp3. Thus, frequency of use of the take home CD/mp3 during the week was not shown to have an effect on reductions on perceived psychological stress. Participants reported using the CD/mp3 in a range of 0 to 6 times during the week, with the mean of 2.2 times used. Participants who reported no

use of the take home CD/mp3 stated comments ranging from “I’m glad to have it as a reference”, “because my friend said that she had to hit the on button every five minutes to keep it going so I didn’t bother trying”, “I will use the mp3 and request it post study”, and “I didn’t receive it”.

Qualitative comments provided on the Post Intervention Feedback Survey indicated a wide range of suggestions on how to make the study more successful if it were repeated, and what was liked best and least about iRest.

Integration of Research Findings on Efficacy of Meditation on Worker Stress

As demonstrated in the iRest protocol group, the integration of research data supports the current need for evidence-based meditation protocols like iRest in the workplace (Chen et al., 2012). This study may provide additional evidence for greater degrees of confidence in providing employer and employees short-term meditation programs that may help to alleviate stress levels of workers. Similar to other short term protocols, this research supported previous studies that also showed significant reductions in anxiety within only the first two weeks, and with further follow up research may also demonstrate sustainable reductions for up to three years as previously documented (Orme-Johnson & Barnes, 2014). Furthermore, this study also demonstrated superior outcomes for meditators as compared to non-meditators, and without any adverse effects reported (Chen et al., 2012).

Use of a “take home” CD/mp3 did not demonstrated a positive impact above and beyond on the iRest meditation in person sessions. Past research has neglected take home portions of meditation practices such as CD/mp3 recordings of iRest meditation, and warrants further study. Adding to the significant and sustainable stress reducing effects of

meditation protocols, like iRest, that occur in a short period of time, analysis of the frequency of media use may contribute to the understanding of the effectiveness of iRest meditation and provides evidence of ways to maintain sustainable and lasting effects of meditation on stress. This is of particular interest to populations that do not have access to a live instructor or financial means to take yoga meditation classes. Understanding the effectiveness of take home media may also provide insight on how to make effective use of meditation recordings for organizations that do not yet implement live meditation sessions on-site.

This demonstration of accessible and fast effects on reducing stress in workers, and with notable outcomes over non-meditators may have also served to gain an increased acceptability and interest in meditation. The current results contribute to an increasing body of research demonstrating effective meditation modalities for stress reduction, which may help lower skepticism about the use of alternative therapy. This study also supported ongoing research efforts to bring the practice of meditation into greater acceptability as an evidence-based treatment modality for stress in various demographic populations through the use of sound methodological research techniques (Davidson & Kasniak, 2015; Foureur, Besley, Burton, Yu, & Crisp, 2013).).

The Potential of Meditation Protocols for Long-term Productivity

In addition to reducing stress, there is the potential for programs such as iRest mediation to boost worker productivity. The benefits of reducing stress through the use of yoga meditation has long demonstrated the reversal of the negative effects of stress with an immediate quieting effect on the physiological and psychological senses. As described earlier in this study, the cascading shift in the direction of a more dominating

parasympathetic nervous system (PNS) on the participant's physiological, behavioral, and psychological functions, helps decrease stress (Ross & Thomas, 2010). This also supports existing research that demonstrates the benefits of training individuals on how to practice relaxation techniques like iRest as a way of treating anxiety (Francesco, Mauro, Gianluca, & Enrico, 2010).

The long-term effects of stress reduction on productivity appeared to have significant potential given the demonstrated research showing significantly effective results of iRest on stress levels as compared to control group despite the wide range of personal and professional characteristics. As economic pressures for corporate profitability continue to escalate, thereby demanding the ongoing and ever-increasing needs for production, the need for sustainable practices for workers to maintain productivity is critical. Sustainable meditation practices like iRest which have been studied in wide range of sample participants, and that are easy to use and accessible, with minimal requirements of equipment, space, or skill level may be helpful in supporting long term effects of stress reduction on workers. With the acceptance of meditation programs by human resource departments, the trend of providing onsite or close to onsite meditation programs is warranted. In previous research conducted with specific groups such as healthcare workers, insurance professionals, college students, and cancer patients, there is the opportunity to further individualize and tailor the iRest protocol to uniquely identified groups of all types which may also contribute to positive effects on worker productivity.

Addressing the benefits of spirituality and mindfulness-based practices on worker productivity is an added area of support to long-term sustainability and productivity.

Though iRest is an evidence based practice that is already widely accepted in secular industries including the VA hospitals, military bases, hospitals and clinics, hospice, homeless shelters, community programs, and schools, at its core iRest has the spiritual practice origins of yoga nidra that emphasize the benefits of ethical living on well-being. Spiritual practices in the workplace like iRest create satisfied employees with a sense of well-being (Gupta, Kumar, Singh, 2014). With this increase in less stressed, relaxed, and satisfied employees, iRest may also support increased productivity that further supports social consciousness as employees determine their intentions or calling in job pursuits (Tsai, Joe, Lin, & Wang, 2014). In job conditions where work conditions may be adverse, the use of meditative practices like iRest that not only reduce stress, but also contribute to spiritual well-being on job satisfaction (Tejeda, 2015), may also serve to support the worker.

In providing meditation practices and protocols like iRest as a form of treatment for stress, the concept of increasing the “dosing” may be also helpful in titrating the length and frequency of treatment. This conceptualization of dosing a meditation protocol may also serve to complement concurrent usage of other medications that participants are currently taking. In this research study it was noted that participants had a mean use of 3.11 medications. These medications included a wide range of drug classifications including pain relievers, anti-depressants and anti-anxiety medications. The relationship between dosing frequency of meditation practices, number of medications, and classifications of medications and effects on outcomes may be useful in further research to explore the correlation with stress.

Study Limitations, Caveats and Future Directions

This present research offers many opportunities for future directions. The constraints of this study included the small sample size of both the protocol and control groups. With larger sample sizes there will be greater power, and more precise confidence intervals that could add to the confidence levels that organizations will have in selecting a meditation protocol for use with employees. Stronger empirical data to support the validity and reliability of an evidence based practice may serve to secure greater amounts of funding, especially in organizations where financial allocations are highly monitored due to government policies, non-profit status, and accountability with investors.

An interesting caveat noted about the iRest meditation group were the initial higher stress level scores reported at the beginning of the study on the Perceived Stress Scale than the control group. Further exploration into the intuitive nature of self-care that possibly drives people to seek out meditation practices may be helpful in learning about marketing strategies or pre-existing psychological factors. It should also be noted that study participants reported taking an average mean of 3.11 medications at pre-test, and may also need to be further researched systematically since medications may interact with the meditation protocol and affect outcome measures.

Differences in technological resources, as indicated by random verbal comments by numerous study participants, such as no longer owning a CD player since the advent of mp3 technology, and that the mp3 player would not continuously play the meditation recording due to timed screen saver locks, revealed challenges in providing user friendly meditation recordings that are universal with computer technology. Improvements in how

meditation recordings are provided, including the provision of preloaded listening devices to all participants, may help develop a greater ease of usage provided for “take home” CD/mp3 use outside of meditation group or classes. This added attention to technological support might affect the frequency of usage of CD/mp3 possibly serve to further expand the understanding that frequency of CD/mp3 usage may have on results.

Additionally, it may be fruitful for future research on stress reduction in workers to conduct meditation studies on-site at a specific employer and industry. Participants in this study came from different work environments and were possibly subjected to variable levels of workplace stress or other stressful life events that may have occurred during this four-week study. Providing additional questions on the Post-Intervention Feedback Survey about the occurrence of any additional stressful events during the four-week study may provided greater insight into the locus of intervention. Regardless of these limitations, it was especially encouraging to observe the quantifiable effects of the ongoing integration of meditative practices as a means of helping employees reduce their experiences of debilitating stress.

Ease in access for workers to stress reducing meditation classes without having to leave work may prove to further increase the effects not only on stress reduction, but work satisfaction, retention, and other factors measured by human resource departments (Giorgi, Shoss, & Leon-Perez, 2015). Perhaps by targeting specific types of workers, there is future opportunity to demonstrate the effects of meditation protocols on specific target populations with reports of high stress. Though a mixture of worker types were secured in this convenience sample for this study, specific industries identified as high stress greater effects may be yielded with customization of the iRest protocol that could

be adapted to individual needs (National Institute for Occupational Health, 2008). In previous studies on iRest in various clinical settings, such as with chemically dependent participants, the meditation protocol script was customized and provided evidence of effectiveness (Temme & Fenster, 2012). With customization, stress reducing programs like this brief 4-week session study, which was shorter than the other previously administered 6-8 week session studies, may involve future exploration on the effects of ongoing and longer-term use of iRest. Longer session studies could prove to generate even more favorable results on stress levels.

The use of feedback comments as data from the Post Intervention Feedback Survey within this study is an additional opportunity to conduct a follow-up qualitative research study by using the remaining available data from this study to possibly gain an even greater understanding of the effects iRest has on stress in workers and ideas for further innovation.

Conclusion

The present research supports past findings by demonstrating that iRest significantly reduced stress relative to a control condition. It was encouraging to see that practices like iRest can also be effective when administered in 4-week segments, and with small or large groups. In addition, this was found to be the case in a sample spanning many industries and demographic characteristics such as age, gender, race, marital status, education, use of medications, and previous experience with yoga. Contrary to the prediction regarding the supplemental use of the CD/mp3, there was no evidence that a supplemental CD/mp3, used in between actual iRest sessions administered by a yoga meditation teacher, had a beneficial effect on stress levels

regardless of the number of times the CD was used between weekly iRest sessions.

This study provides promise in presenting to corporations the benefits of providing iRest meditation to workers as an effective and accessible way to engage a wide range of workers, while also supporting the opportunity to demonstrate an even stronger reason why the investment in providing corporate programs may reduce stress in the workplace. Short-term courses of stress reducing practices that may contribute to the overall well-being of workers and corporations as a whole.

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Appendix A:
Perceived Stress Scale

PERCEIVED STRESS SCALE

The questions in this scale ask you about your feelings and thoughts **during the last month**. In each case, you will be asked to indicate by circling *how often* you felt or thought a certain way.

(Please circle one number on each line.)

	Never	Almost Never	Sometimes	Fairly Often	Very Often
1. In the last month, how often have you been upset because of something that happened unexpectedly?	0	1	2	3	4
2. In the last month, how often have you felt that you were unable to control the important things in your life?	0	1	2	3	4
3. In the last month, how often have you felt nervous and “stressed”?	0	1	2	3	4
4. In the last month, how often have you felt confident about your ability to handle your personal problems?	0	1	2	3	4
5. In the last month, how often have you felt that things were going your way?	0	1	2	3	4
6. In the last month, how often have you found that you could not cope with all the things that you had to do?	0	1	2	3	4
7. In the last month, how often have you been able to control irritations in your life?	0	1	2	3	4
8. In the last month, how often have you felt that you were on top of things?	0	1	2	3	4
9. In the last month, how often have you been angered because of things that were outside of your control?	0	1	2	3	4
10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	0	1	2	3	4

The Perceived Stress Scale is reprinted with permission of the American Sociological Association, from Cohen, S., Kamarck, T., and Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*, 24, 386-396.
(website link to permission to use PSS : <http://www.psy.cmu.edu/~scohen/>)

Appendix B:
Demographic Data Questionnaire

*INTEGRATIVE RESTORATION iRest®
YOGA PROTOCOL STUDY
Demographic Data Questionnaire
PSYC 8021 Doctoral Dissertation in Psychology, Northwest University
Isabel Gaila Barbuto*

Study ID # _____
Date _____

1. What is your birth date? _____ (day, month, year)

2. What is your gender?

- Male
- Female
- Other, please specify: _____

3. What do you consider your ethnicity?

- Caucasian (1)
- African-American (2)
- Hispanic (3)
- Asian (4)
- American Indian (5)
- Other (6)
- Mixed heritage, please indicate the ethnicities you identify with (7):

4. What is your marital status?

- Single, never married (1)
- In a relationship with a significant other (2)
- Married (3)
- Divorced (4)
- Widowed (5)

5. Do you have children living with you? If yes, please list ages: _____

7. How many years of school have you completed after high school ?

8. What is your profession?

9. What type of work / department do you work in?

10. How long have you been employed at your place of work? ____ years ____ months

11. How many hours do you work per week? _____

12. How stressful is your job right now from 0-10, with 0 being “not at all stressful” and 10 being “very stressful”? (Please circle one number on the line below)

0 1 2 3 4 5 6 7 8 9 10

13. Please list all medications you are currently taking, including any over-the-counter medication, vitamins, herbal supplements or herbal teas as well as the medications prescribed by your doctor. If more space is needed, please use the back of this page.

14. What is the main reason for your participation in this study?

15. Have you practiced yoga meditation before? Yes No

Appendix C:
Post-Intervention Feedback Survey

*INTEGRATIVE RESTORATION iRest®
YOGA PROTOCOL STUDY
iRest® Post Intervention/Feedback Survey
PSYC 8021 Doctoral Dissertation in Psychology, Northwest University
Isabel Gaila Barbuto*

Study ID # _____
Date _____

1. This was a pilot study. Please share any suggestions you have to make this more successful if we repeat the study:

2. On a scale of 0 to 10, with 0 being “not at all beneficial” and 10 being “very beneficial”, how beneficial was iRest® for you? (Please circle one number on the line below)

0 1 2 3 4 5 6 7 8 9 10

3. Of the four (4) on-site sessions offered in this study, how many did you attend? (Please circle one number on the line below)

1 2 3 4

4. What did you like best about iRest®? What did you like least?

5. Did the instructor help you feel comfortable? Yes No If no, please elaborate:

6. Was there adequate time during class for sharing questions and comments?

Yes No

If no, please elaborate:

7. Did the instructor address participants' questions and concerns effectively? Yes

No If no, please elaborate:

8. Are you interested in attending refresher iRest® classes? If yes, do you prefer:

Monthly
Weekly

9. Would you recommend iRest® to workplaces for:

Personal use Group/Organizational/Professional use

10. Do you think there is value in using iRest® for:

Concentration	<input type="checkbox"/>
Resiliency	<input type="checkbox"/>
Sleep	<input type="checkbox"/>
Stress Reduction	<input type="checkbox"/>
Other	<input type="checkbox"/> _____

11. Please list all medications you are currently taking, including any over-the-counter medication, vitamins, herbal supplements or herbal teas as well as the medications prescribed by your doctor.

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Appendix D:

iRest Home CD Practice Diary

*INTEGRATIVE RESTORATION iRest®
YOGA PROTOCOL STUDY
iRest® Home CD Practice Diary
PSYC 8021 Doctoral Dissertation in Psychology, Northwest University
Isabel Gaila Barbuto*

Study ID #_____
Date _____

Integrative restoration (iRest®) Home practice diary

(To be completed at the end of the study.)

Please answer the following questions truthfully. There is no right or wrong answer.

1. Did you utilize the home practice CD or mp3? Yes No

2. If yes, how many times per week of the study did you utilize the CD or mp3?

(Please circle one number on the line below)

0 1 2 3 4 5 6 7 8 9 10

3. Did you find the CD or mp3 helpful? Yes No

Appendix E:

Recruitment and Advertisement Statement

MEDITATION RESEARCH PARTICIPANTS NEEDED

**FEELING STRESSED
AT WORK?
REST AND DE-STRESS WITH
INTEGRATIVE RESTORATION
(iRest[®]) YOGA NIDRA**

Up to 60 participants needed who meet research criteria for this
FREE 4-week research study:

- **When:** SUNDAY EVENINGS, ALL 4-consecutive weeks:
April 30, May 7, May 14, and May 21, 2017
- **Where:** Hot Yoga Experience, 755 NW Gilman Blvd, Issaquah
(next to Target, Bed Bath & Beyond)
- **Time:** Sunday evenings 6:00pm – 7:00pm
- **Who:** Any adults (age 18+)
 - able to participate in ALL 4 consecutive weeks
 - complete assessment questionnaires
 - listen to provided CD during the week
 - work in a business setting 20+ hours per week
 - currently feel stressed in the workplace



BRING A PILLOW, YOGA MAT, AND/OR BLANKET AS NEEDED

**TO RSVP + MORE INFORMATION ON PARTICIPATING
IN THIS RESEARCH STUDY:**

Please contact Isabel Barbuto
425-409-9455
isabel@isabelgailabarbuto.com

MEDITATION RESEARCH PARTICIPANTS NEEDED!

**FEELING STRESSED
AT WORK?**

**REST AND DE-STRESS WITH
INTEGRATIVE RESTORATION (iRest[®]) YOGA NIDRA**

Business professionals are invited to participate in a pilot study to measure the effects of Integrative Restoration (iRest[®]) on stress reduction.

iRest[®] is a simple relaxation practice adapted from ancient yoga teachings, which encompasses traditional relaxation/meditative techniques, including deep breathing, visualization, and body sensitivity training. iRest[®] is a guided practice designed to teach participants skills and concepts that can be utilized in everyday life and during difficult situations to help release negative body sensations, emotions, beliefs, and stress.

iRest[®] does not involve physical movement and is typically practiced lying down so there is no minimal physical fitness level or prior yoga experience required to participate in the study. Please bring a pillow, yoga mat, or blanket as needed.

Study participants will attend ALL four instructor-led iRest[®] meditation research study classes for FREE on consecutive Sundays, April 30, May 7, May 14, and May 21, which will be held on-site at Hot Yoga Experience, 755 NW Gilman Blvd. in Issaquah, Washington, and will be approximately one hour long, from 6-7pm.

Study participants will also practice iRest[®] at home on their own and will be provided a narrated audio CD to use during their iRest[®] home practice.

Participants who have used the iRest[®] protocol have reported:

- Decreased stress
- Improved sleep
- Increased comfort with situations they could not control
- Increased sense of control in their lives

**TO RSVP + MORE INFORMATION ON PARTICIPATING
IN THIS RESEARCH STUDY:
Please contact Isabel Barbuto
425-409-9455
isabel@isabelgailabarbuto.com**

Appendix F:
Participant Consent Form

*INTEGRATIVE RESTORATION iRest®
YOGA PROTOCOL STUDY
Study Consent Form
PSYC 8021 Doctoral Dissertation in Psychology, Northwest University
Isabel Gaila Barbuto*

You are invited to participate in a research study conducted by Isabel Gaila Barbuto. The study is being conducted as a class requirement for PSYC 8021, Doctoral Dissertation in Psychology. The purpose of this study is to research the iRest yoga protocol and its effects on those who engage in the protocol. Outcomes from this research may be useful in not only substantiating the personal practice of iRest and other forms of meditation, but also documenting any effects.

If you agree to participate in the study you will be administered a scripted protocol by an iRest® instructor for four weeks. This iRest® instructor has been trained and authorized by the Integrative Restoration Institute (IRI), based in San Rafael, California, to administer the protocol to participants. Study participants will attend a weekly iRest® session with a class duration of approximately one-hour, for a total of four classes to be conducted at the identified yoga studio, Hot Yoga Experience, Issaquah, Washington. Each session be a 60-minute weekly session that spans over 4-weeks. Each participant will be provided with a CD and instructed to utilize it as part of the research protocol. The CD provided will be a recording of one of the 4-week sessions and participants will be told to listen to it up to five times during the week between the weekly sessions conducted Hot Yoga Experience. There will be two separate groups, with one group receiving the protocol first and the second group receiving the protocol after the study is completed. Information will be collected in this study including a demographic survey and perceptions of stress. After the final week's session, all participants will fill out a final survey about their experience and opinions about the protocol.

There are minimal risks associated with participation. Some individuals may be uncomfortable answering personal questions. You may choose not to participate in this research study. The benefit of taking part in this study is the opportunity to participate in the research process as a research subject. Participants may experience a sense of relief or possibly slight to moderate distress as described in the protocol manual as a release of emotional tension. The benefits that participants may gain from this project include learning how to practice iRest at any time there are stressful conditions in their lives, especially during work.

Participation in this study is voluntary. You may choose not to participate in this study at any time and for any reason. There will not be any negative consequences for you if you refuse to participate. You may refuse to answer any questions asked. All responses are confidential, and an identification code will be provided instead for tracking; therefore, it is important that you DO NOT put your name on your response sheet(s) that include two surveys, one about perceptions and one on feedback about the yoga protocol You may

keep this consent form for your records. By turning in these forms, you are giving permission to use your responses in this research study.

The results from this study will be presented and disseminated, as a public contribution to body of literature supporting the field of counseling psychology, at an in-service presentation given to at least one local employer in the Greater Seattle Area by September 1, 2017. All data forms will be destroyed by December 31, 2018.

If you have any questions about this study, contact Isabel Gaila Barbuto at isabel@isabelgailabarbuto.com or 425-409-9455. If you have further questions, please contact my faculty advisor Dr. Leihua Edstrom at leihua.edstrom@northwestu.edu or 425-889-5367. You may also contact the Chair of the Northwest University IRB, Dr. Molly Quick, at molly.quick@northwestu.edu or 425-889-5327.

Thank you for your consideration of this request.

Isabel Gaila Barbuto, PsyD doctoral student
Leihua Edstrom, PhD, ABSNP, Associate Professor of Psychology
College of Behavioral Sciences, Northwest University

Appendix G:

iRest 10 Stage Protocol

10 Step iRest Protocol:

iRest 10 Stages	Purpose	Ask Yourself...
Initial Relaxation	Get comfortable and bring yourself into the present moment.	What would make me most comfortable during the practice?
1 Setting an Intention	Establish why you want to learn to practice iRest.	What do I hope to achieve with my practice today?
2. Heartfelt Desire	Get in touch with what it is that you truly want in life.	What is it that I want more than anything else in life? What is my deepest desire or wish?
3. Inner Resource	Find a place where you feel secure, to which you can return at any time during iRest or any time you feel disturbed.	Real or imaginary, where do I feel most secure, safe, calm, at ease and relaxed? What is this place like? How does it feel?
4. Body Sensing	Welcome and be present with what is happening in the body. If pain or tension is present, simply observe it. Perhaps nothing at all is present and that is ne too.	How is my body feeling today? Are there any physical sensations present in my body?
5. Breath Sensing	Tune in to the natural rhythm of the breath. Learn to observe the breath and the body breathing.	What is my breath like? Calm, deep, relaxed, tense, shallow, forced, etc.?
6a. Opposite Feelings	Observe feelings that are present; e.g., comfort/discomfort, warmth/ coolness.	What feelings are present? Heaviness, lightness, tension, relaxation, etc.?
6b. Opposite Emotions	Observe emotions that are present; e.g., confident/insecure, fearless/ afraid, etc.	What emotions are present? Anger, sadness, happiness, etc.?
7. Opposite Thoughts/Beliefs	Observe beliefs that are present; e.g., 'I am powerful/I am helpless', 'I am healthy/I am ill', etc.	What beliefs are present? 'I am strong', 'I am weak', etc.
8. Joy & Well-Being	Experience an inner smile and happiness, pleasure, joy, love, bliss or well-being.	Can I find an inner smile or a sense of inner joy or well-being?
9. Witnessing & Pure Awareness	Witnessing Awareness: Connect with the part of you that is capable of witnessing your experiences. Pure Awareness: Discover awareness, the part of you that is always at peace and at ease.	Witnessing Awareness: Who is it that is aware of my body, my breath, feelings, emotions, and beliefs? Pure Awareness: Can I connect to the innate aspect of myself that is always at peace, no matter the circumstance?
10. Wholeness & Integration	Return to the waking state at the end of each practice. Integrate iRest into your daily life.	In this, and every moment, may I remember to feel my innate sense of well-being.

Appendix H:
Meditation Script and CD Transcript

SESSION 8: INTEGRATION / COMPLETE HOME PRACTICE

Handouts: 1) Integration Overview

A. ORIENTATION TO IREST COURSE

Welcome to session #8 of your in-class practice of iRest.

35 MINUTES

3 MINUTES

iRest teaches tools that you can use throughout your lifetime to deal with difficult situations skillfully, and to develop a deep and secure sense of well-being.

iRest is a process, which begins the moment you make a commitment to practice. Each time you practice, the process deepens. While you may experience immediate changes in your life, it is just as likely that change will happen gradually. In either case, allow the process to unfold by attending each session and listening to an audio recording of iRest as a home practice.

iRest helps you discover a state that exists between sleep and wakefulness where deep healing takes place. You learn to remain awake and alert, even as the body sleeps. At times during iRest, you may fall completely asleep. This is normal. Gradually, however, you will find that with practice you remain alert, even as the body sleeps soundly.

If the body begins to snore during practice, the assistant may come over and gently touch the outside of your knee. This is not to wake you, but to draw your attention to the fact that your body is sleeping, and to support you in noticing this fact; the body continues sleeping but you are alert and attentive...

You don't need any previous experience to practice iRest because there's no right or wrong way to do this practice. Simply remain at ease, follow the instructors voice, while letting your experience be just as it is.

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B. ORIENTATION TO INTEGRATION 2 MINUTES

The theme of today's practice emphasizes the *Integration* of iRest into all moments of your daily life. While core principles of iRest are learned and practiced during *In-Class* and *Home Practice* sessions (listening to an audio recording of iRest), iRest is most effective when it's integrated into every moment of your life. Moment-to-moment, as you go about your day and night, affirm your Intention to feel and respond to the call of your inner self to apply iRest when you're walking, talking, interacting... working, playing, or resting... when you find yourself at ease, or navigating stressful situations, dealing with cravings, or difficult emotions, thoughts, memories, persons, or circumstances... feel yourself spontaneously remembering and practicing Body- and BreathSensing... welcoming emotions, thoughts, joy, and well-being into your body and into spacious pure awareness. Feel how in this, and every moment your every sensation, emotion, thought, and experience is a foreground movement arising within your pure Awareness, which is a constant and unchanging background of peace, stillness, and well-being. Affirm your Intention that throughout your day your body and mind spontaneously remember the feeling of well-being and peace that comes from resting in and as pure Awareness. Affirm your Intention to apply the practices of iRest moment-to-moment throughout your life, so that your life becomes one of peace, harmony, and well-being in whatever you are doing and with whomever you are interacting.

C. SETTLING IN 3 MINUTES

Begin your practice by finding a comfortable lying or seated position... feeling supported by the surface your body is resting upon... allowing your eyes to remain open, or gently closed... taking time to settle into a position that feels just right... (Pause)... During iRest, you are guided to notice and feel physical sensations, the breath, emotions, thoughts, and feelings of well-being or joy, and to experience yourself as the witness of all of these comings and goings... whatever you experience is perfect, just as it is... Now simply rest at ease and follow my guidance... allowing my voice to become your voice...

Welcoming Messengers

During iRest welcome every experience as a messenger that is inviting you to explore sensations, emotions, and thoughts, without trying to change, fix, or make anything happen...

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As you welcome whatever is arising, your body and mind are learning to remain at ease... and discover the feeling within that is always at peace and at ease... experiencing yourself to be unchanging well-being, a witnessing presence that is welcoming everything... Now feel your body settling completely into stillness... (Pause)...

Senses Wide Open

Bring attention to your senses... notice the taste in your mouth... (Pause)... sounds around you... (Pause)... smells... (Pause)... images or colors behind your eyelids... (Pause)... the touch of the air on your skin... (Pause)... your senses open and alive... (Pause)...

1. INTENTION 1 MINUTE

Bring to mind your Intention for today's practice... (Pause)... how you would like to feel during, and as a result of your practice... Perhaps a sense of well-being, or relief from discomfort, addictive craving (*insert appropriate SIG language here*), or emotional pain... or to remain alert and present throughout this practice and in your daily life... (Pause)... Affirming your Intention with your entire body and mind... (Pause)...

2. HEARTFELT DESIRE 1 MINUTE

Allow your Heartfelt Desire to emerge... the longing you desire more than anything else in life... (Pause)... perhaps the feeling of being whole, healed, and healthy, being free of addiction (*insert appropriate SIG language here*), or feeling deep self-acceptance, peace, or well-being... (Pause)... imagine your deepest Heartfelt Desire completely fulfilled, as true and manifesting right in this very moment, and how you feel in your entire body and mind when this is so (Pause)... Then let your Heartfelt Desire go and notice how it returns at the end of today's practice and in your daily life...

3. INNER RESOURCE 1 MINUTE

And allow your Inner Resource to emerge... your special place that brings the feeling of security and ease into your body... a room... a place in nature... an image... or simply the feeling of peace and well-being... whatever it is, invite it in using all of your senses... sounds... smells... tastes... sensation... colors... forms... (Pause)... feelings of security, ease, and well-being as you imagine your Inner Resource... (Pause)... knowing that you can to

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return to this Inner Resource at any time during your practice, or during daily life, whenever you need to feel safe, secure, calm, and at ease... (Pause)...

4. SHEATH OF SENSATION 5 MINUTES

Now, let the sound of my voice be your guide and support you in experiencing sensations throughout your body... As I name each area you may feel sensations that are present, or nothing in particular, but whatever you experience is perfect just as it is in this moment...

Mouth

Bring attention to sensations inside the mouth... roof of the mouth... floor... inside cheeks, left... and right... back of the throat... tongue... the entire mouth a field of sensation...

(Pause)...

Ears

The ears, left ear, inside... and out... right ear, inside... and out... sensing both ears at the same time... (Pause)...

Nose

Welcoming the breath as pure sensation in the nose... left nostril... right nostril... both nostrils at the same time...

Eyes

Left eye ... right eye... both eyes together... a field of radiant sensation...

Head and Neck

Sensing forehead... scalp... back of the head... neck... inside the throat... sensation of the inner walls inside the throat...

Shoulders, Arms, and Hands

Left shoulder... left upper arm... forearm... wrist... left palm and fingers... the entire left arm... right shoulder... right upper arm... forearm... wrist... right palm and fingers... the entire right arm... both arms and hands together as one field of sensation...

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Torso

Sensation inside the throat... Upper chest... upper back... middle chest... middle back... abdomen... lower back... pelvis... sacrum... the entire torso as a field of vibrant sensation...

Pelvis, Legs and Feet

Left buttock... left hip... thigh... knee... left foreleg... foot... and toes... the entire left leg... right buttock... right hip... thigh... knee... right foreleg... foot... and toes... the entire right leg... sensing both legs and feet at the same time...

Entire Body

Sensing the entire front of the body... back of the body... left side ... right side... Sensing the entire body... inside and outside as a field of radiant sensation...

Awareness

And be aware of all that is now present in your awareness... feeling yourself as the one who is aware of everything that's present... first sensing what's present... then experiencing yourself as the field of awareness in which everything is coming and going... (Pause)...

5. SHEATH OF BREATH AND ENERGY 3 MINUTES

a. Breath Awareness 1 Minute

Become aware of the body breathing itself naturally and rhythmically... abdomen gently rising as breath flows in... And releasing, as breath flows out... (Pause)... no need to change anything as the body breathes itself... (Pause)...

b. Breath Counting 2 Minutes

And begin counting each breath silently backwards from 7 to 1 ... in-breath, abdomen rising... 7... out-breath, abdomen releasing... 7... in-breath, abdomen rising... 6... out-breath, abdomen releasing... 6... continuing counting and breathing in your body's own natural rhythm... (Pause)... If you lose count, beginning again at 7... (Pause)... breathing, counting and being with everything just as it is... (Pause)...

Now let go of counting and be aware of the flows of sensation throughout the body...

(Pause)... Awake and alert... The body a field of radiant sensation... (Pause)...

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b. Opposites Sides Breathing 2 Minutes

Now, while gently retaining the breath at the top of inhalation, bring your attention into the left side of the body... and while exhaling and inhaling welcome sensation throughout the left side of the body... (Pause)... Then, while gently retaining the breath at the top of inhalation, bring attention into the right side of the body... exhaling and inhaling welcoming sensation throughout the right side of the body... (Pause)... Alternating from one side to the other at your own breathing rhythm... (Pause)... Giving time during retention for sensation to completely shift across the midline from one side to the other... (Pause)...

And when you are ready sense the entire body simultaneously and allow the body to return to its own natural breathing rhythm... (Pause)...

Awareness

And be aware of all that's now present in your awareness... feeling yourself as the one who is aware of everything that's now present... sensing what's present... then

experiencing yourself dissolving into being the field of awareness in which everything is arising... (Pause)...

6. SHEATH OF FEELINGS AND EMOTIONS 5 MINUTES

a. Opposites of Feelings 1 Minute

Remember that anytime you experience the need to feel secure and at ease, you can return to your Inner Resource at a moment's notice...

Now bring attention to feelings that are present throughout the body, such as warmth, or coolness... heaviness, or lightness... comfort, or discomfort... allowing them to blossom fully into your body... (Pause)... and if no feelings are present, as may happen, simply welcoming whatever is present... (Pause)...

And, if it's helpful, welcoming an opposite of this feeling fully into your body... (Pause)...

Then welcome both opposites of feeling into the body at the same time, while experiencing how this affects your body and mind... (Pause)...

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b. Opposites of Emotion 4 Minutes

Now bring attention to an emotion that is present in your body, or one that you are working with in your life... (Pause)... or recall a memory that invites a particular emotion into your body... (Pause)... welcoming the emotion as sensation in your body... (Pause)...

And if no emotion is present there's no need to make anything happen... simply welcome whatever is present... and if an emotion *is* present, where are you feeling it in your body? ... Allowing it to blossom fully, while welcoming thoughts, images, or memories that co-arise with this emotion... (Long Pause)...

And if its helpful, allow an opposite emotion to emerge... perhaps recalling a memory that invites this opposite emotion into your body... and if an opposite emotion is present, where do you experience it in your body... taking your time... welcoming this opposite of emotion... (Pause)...

And now move back and forth several times between opposite emotions... experiencing first one... then the other... sensing how each is experienced in the body... (Pause)...

Now, inviting both emotions into awareness at the same time... without thinking, simply experiencing how this affects your entire body and the mind... (Pause)...

Awareness

And be aware of all that is now present in your awareness... feeling yourself as the one who is aware of everything that's now present... sensing what's present... then experiencing yourself as the field of awareness in which everything is arising... (Pause)...

7. SHEATH OF COGNITION 4 MINUTES

Remembering that there's no right or wrong way of doing any of this, and that you welcome to return to your Inner Resource at any time... welcome a thought or belief that you sometimes fall into, or take to be true about yourself... (Pause)... and if no belief is arising, simply being with whatever is present... and if there *is* a belief present... as you hold this belief about yourself to be true, where and how do you feel it in your body... (Pause)... sensing how this belief affects the entire body... (Pause)... Noticing images, emotions, or thoughts that co-arise with this belief, without trying to change anything... (Pause)...

And if its helpful, bring to mind the opposite of this belief... and as you hold this opposite belief about yourself to be true, how does it affect your body... (Pause)... Welcoming any images, emotions, or memories that also emerge... (Pause)... Being present to your experience just as it is without trying to change or fix anything... (Pause)...

And now, in your own rhythm, alternate several times between these opposites of belief... welcoming first one as true, then the other... experiencing how each belief acts upon your body and the mind... (Pause)...

Now welcome both beliefs at the same time... while experiencing how this affects your entire body and the mind... (Pause)...

Awareness

And be aware of all that is now present in your awareness... feeling yourself as the one who is aware of everything that's now present... sensing what's present... then experiencing yourself as the field of awareness in which everything is arising... (Pause)...

8. SHEATH OF JOY 2 MINUTES

Be attentive to sensations throughout your body of pleasure, happiness, joy, or well-being, or recall a particular event from your life that invites the feeling of well-being into your body right now... (Pause)... welcoming what emerges, just as it is, perhaps a sense of being OK just as you are ... (Pause)... Perhaps experiencing the sensation of joy as an inner smile that radiates from your heart... and expands throughout your entire body... flowing out into your torso, arms and hands... down into the pelvis, legs, and feet... flowing up into the head and face... mouth, lips, and eyes smiling... the entire body smiling... radiant and alive with the feeling of joy or well-being... (Pause)... Then let go of any memory or image and remain with the sensation of joy and well-being, allowing it

to saturate every cell, muscle, organ throughout the body... (Pause)... Joy permeating the body and the space around the body as a field of radiant well-being that you can experience amidst all circumstances of your life...

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9. SHEATH OF PURE AWARENESS 2 MINUTE

And be aware of yourself as the witness of all that's now present in your awareness...

(Pause)... Everything coming and going to you as the witness... (Pause)...

Then, dissolve into *Being* spacious and unchanging *Witnessing* or Pure Awareness, in which everything is coming and going... (Pause)... Awareness touching and caressing everything that is arising... (Pause)... feeling your way... not trying to look with your eyes, or analyze with your thinking... instead, dissolve into simply being pure Awareness... Openness itself... (Pause)...

And sense... Where is my periphery? Where is my center?... (Pause)... sensing how pure Awareness is substantial and undeniable ... yet without color or form... empty... yet full of well-being and peacefulness... (Pause)... Simply Being... spacious, unchanging Pure Awareness and well-being... (Pause)... Changing experiences coming and going... and yourself as pure Awareness, aware and awake as itself as well-being and peace...

10. EVERYTHING JUST AS IT IS 4 MINUTES

Being Awareness and reflecting upon all that has been or is now present... sensations...

emotions... beliefs... joy... well-being... the experience of being pure Awareness...

(Pause)... everything just as it is... yourself just as you are... (Pause)...

a. Heartfelt Desire & Intention

Now, come back to your Inner Resource... your place of ground, security, and well-being... (Pause) noticing your breathing... easy and rhythmic... forehead at ease and cool... belly... hands... and feet... warm and at ease... (Pause)...

And bring to mind your Intention for this practice... perhaps noticing the formation of an Intention for your next practice... (Pause)... Perhaps affirming the desire to integrate iRest into each moment of your daily life...

And recall your Heartfelt Desire as a resonance of sensation in your body... experiencing it as an accomplished fact in this moment... (Pause)...

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b. Awareness Awake to Itself

And imagine going about your daily life... noticing sensations, emotions, and thoughts all constantly changing... yet all the while feeling yourself as unchanging spacious Awareness in which everything is coming and going... (Pause)...

c. Eyes Open Presence

Now, taking your time transitioning to your alert and wide-aware state of wakefulness... sensing your body... the room around you... eyes opening as you feel ready... perhaps wiggling your fingers and toes... moving your body... reorienting to where you are... and where you are going... coming fully alert and wide-aware...

And perhaps, before ending your practice, experience the feeling of gratitude for taking time to practice iRest... welcoming and loving your self... experiencing yourself as timeless, open, and spacious well-being that is perfect just as it is, and yourself as whole, healthy, and perfect, just you are... yourself as unchanging spacious awareness in which everything is unfolding... and the understanding that you always know the perfect

response to each moment, as you take the time to welcome your deepest knowing...

(Pause)... Thanking yourself for taking this time to practice iRest meditation...

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Appendix I:**Definitions**

Definitions

For the purposes of keeping definitions consistent in this research, the terms *yoga*, *meditation*, and *nidra* are defined as the following.

Yoga: an all-inclusive term that describes the view, the path, and the means by which a practitioner experiences an interconnection with both the sense of self, and life as a whole (Miller, 2015). In this study, yoga will be a term used for meditation.

Historically, yoga includes what are called eight “arms” or “limbs,” and meditation is included as both one and part of all the eight arms/limbs as follows:

- Yama: Ethics, universal morality and relationship with others
- Niyama: Self-discipline, personal observances, and habits
- Asanas: Body postures, typically known as yoga poses
- Pranayama: Breathing exercises and control of prana or life energy
- Pratyahara: Control of the physical senses by withdrawing inward and listening
- Dharana: Concentration and cultivating inner perceptual awareness or consciousness
- Dhyana: Prayer, devotion, meditation on God, the Divine
- Samadhi: Union with God, the Divine, Being, nirvana

Meditation: The intentional practice of bringing present cognitive attention to the physical and mental sensations being currently experienced in the individual human being; also conceptualized by the term known as *mindfulness* which involves a set of steps cultivated in training regimes including attention based, regulatory, and self-inquiring actions that serve to improve psychological health and well-being, and involves the mapping of a multidimensional and phenomenological matrix derived from the

contemplative practice of being in states and process, then described in neurological frameworks (Lutz, Jha, Dunne, & Saron, 2015).

Nidra: the specific name for the changing states of consciousness that include waking, sleeping, and dreaming, as well as a range of physical sensations, emotions, thoughts and images (Miller, 2015).