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# Workplace Spirituality and Buddhist Meditation

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To the Graduate Council:

I am submitting herewith a dissertation written by Pawinee Petchsawang entitled "Workplace Spirituality and Buddhist Meditation." I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Business Administration.

Dennis Duchon, Major Professor

We have read this dissertation and recommend its acceptance:

Donde Plowman, Randal Pierce, Daniel Flint

Accepted for the Council:

Carolyn R. Hodges

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

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# **Workplace Spirituality and Buddhist Meditation**

**A Dissertation  
Presented for the  
Doctor of Philosophy Degree  
The University of Tennessee, Knoxville**

**Pawinee Petchsawang**

**December 2008**

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### **Dedication**

This dissertation is dedicated to my parents, Likit Petsawang and Upasri Petsawang, who always believed in me and encouraged me to fulfill my goal. Their strong spirits helped me get through the difficulties of completing my doctoral degree.

## **Acknowledgement**

This dissertation could not have been completed successfully without the significant contributions of my committee members: Dr. Dennis Duchon, Dr. Donde Plowman, Dr. Randall Pierce, and Dr. Daniel Flint. I especially thank my dissertation chair, Dr. Dennis Duchon, who thankfully not only provided me with hope to graduate but also made it happen through his considerable effort, time, and patience.

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supported me through the processes leading to my graduation. Thank you for your spirits.

## Abstract

Spirituality has received increased attention in the management field over the past few decades. However, there has been little empirical work supporting the benefits of bringing spirituality to the workplace. This dissertation aims to examine the effectiveness of an intervention (the Buddhist Mind Development Program (BMDP)) that is designed specifically to promote spiritual well-being in an Eastern context. First, workplace spirituality was defined to be grounded in the literature. Second, a workplace spirituality measurement was developed relying on conventional psychometric approaches. Third, a quasi experimental study—a pretest and a posttest with nonequivalent comparison groups design—was employed.

The data were collected at a large Thai company (S&P) who employs the BMDP for the purpose of enhancing spirituality in the workplace. The sample consisted of 60 S&P employees: 30 in the experimental group and 30 in the control group. Subjects in the experimental group attended the BMDP, and the control group consisted of people who never attended the BMDP but worked in the same unit and had jobs similar to the experimental group subjects. The participants in the experimental group completed spirituality assessments before the BMDP, one week after the BMDP, and one month after the program. The participants in the control group also completed spirituality assessments at the same times as the experimental group (before and one month after the BMDP). Supervisors completed performance evaluations one month following the employees' attendance at the BMDP.

While the findings did not reveal an effect for the spiritual intervention (BMDP), workplace spirituality was positively and significantly associated with work

performance. Indeed, this dissertation filled a gap in the literature by providing an empirical link between spirituality and work performance. Additionally, the findings revealed that meditation practice was the mechanism that explained the positive relationship between spirituality and work performance. The findings suggest that to promote positive work performance, organizations should encourage employees to continuously practice meditation and create spirituality in terms of compassion, mindfulness, meaningful work, and transcendence. Future research is needed to determine whether the different contexts, in terms of different samples and across the times, yield similar results.

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## **Chapter I**

### **Introduction**

“The world can be achieved only through compassion and kindness. Success through violence and greed is not sustainable, it only creates new problems” Dalai Lama (Quotes by His Holiness the Dalai Lama, 2007)

The drive toward globalization has spread the faith in the “modern world” to every part of the globe. Certainly the benefits are real in terms of higher living standards, technological developments and growing economic competitiveness. Often overlooked, however, are the social costs created by wildly disruptive forces (Cacioppe, 2000). While the standard of living for many rises, the environment deteriorates, wars are still waged, and the human experience continues to be plagued by greediness and a lack of love and compassion. Yet we cannot be discouraged. Instead it is time to awaken ourselves to the possibilities of balance and harmony in life. One path to this awakening would include acknowledging our spiritual selves, and such an acknowledgement needs to address the expression of our spiritual selves in the workplace

The awakening in the workplace can begin when organizations open themselves to the cultivation of their own employees’ spirituality. This would mean addressing employees as whole human beings in terms of physical, mental, emotional and spiritual needs (Dehler & Welsh, 2003). Lifting up the whole person in the workplace is not entirely an altruistic act. Research has demonstrated that by addressing the spiritual

side of human experience organizations help reduce stress, enhance creativity, and improve problem solving (Tischler, Biberman, & McKeage, 2002). By focusing on the spiritual qualities of meaningfulness and joy at work, organizations have found increased job satisfaction (Harung, Heaton, Graff & Alexander, 1996), greater honesty, trust, and commitment (Krishnakumar & Neck, 2002), and even improved work performance (Duchon & Plowman, 2005).

Successful organizations such as Hewlett-Packard, Tom's of Maine, Ford Motor Company (Burack, 1999), the World Bank (Laabs, 1995), AT&T, Chase Manhattan Bank, DuPont, and Apple Computer (Cavanagh, 1999), have created programs to bring spirituality to the workplace. For example, AT&T sends middle managers to three-day development programs that help the participants better understand themselves and better listen to their subordinates (Cavanagh, 1999). The pursuit of self-knowledge and an ability to "listen" rather than control are central features in many spiritual quests. Hewlett Packard builds spirituality in the workplace through a company philosophy that emphasizes the values of trust and mutual respect, which in turn are believed to contribute to cooperation and sharing a sense of purpose (Burack, 1999).

Tom's of Maine builds core values and beliefs which include a regard for developing both the mind and spirit, emphasizing doing well by doing good, and encouraging responsibility toward society and the environment. Indeed, Tom's of Maine is widely noted as a company that chooses to do "good things" and let the profits follow (Burack, 1999). The Ford Motor Company has tried to bring its managers closer to their spiritual, selfless side by encouraging them to work at a soup kitchen or at a homeless shelter or by building homes with Habitat for Humanity (Burack, 1999).

The World Bank has embraced notions of spirituality in the workplace by allowing employees to discuss the relationships among personal and spiritual values and business issues (Labb, 1995). One result is that employees observe greater trust and shared values. One employee noted: “we find everything at a spiritual dimension because whatever we do affects the people for whom we are working. It’s resulted in a strong sense of shared values, which has been a very powerful tool” --*Surinder Deol* (Labb, 1995, p.70)

Despite scholars arguing the benefits of a spiritual dimension in the workplace, and despite organizations experimenting with spiritual issues, there is a paucity of empirical research trying to understand the benefits of workplace spirituality. It is important to note that a number of words that are categorized under the term ‘spirituality’. For the western terms, there are many examples: Emotional Quotient (EQ), wisdom, knowledge and organizational learning, trust, ethics, Transcendental Meditation, gestalt, psychodrama, natural medicine, philosophy, transpersonal psychology and the value-based paradigm. The eastern terms are yoga, Buddhist meditation, Taoism, Zen, and Vedic psychology. (Burack, 1999; Cacioppe 1997, 1998 and, 2000; Cavanagh, 1999; Bierly , Kessler & Christensen, 2000; Kriger.& Hanson, 1999; Krishnakumar & Neck,2002; Tischler et al., 2002) . The research proposed here is an empirical examination of the consequences of employing an explicitly “spiritual” intervention based on an Eastern context, Buddhist meditation, in the workplace.

Major companies in Thailand conduct programs that are aimed at developing the spiritual well being of their employees. Such programs are seen as normal business practice because Thailand’s culture has, for 2,500 years, honored the Philosophy of Buddhism. Buddhism is a set of teachings aimed at helping humans experience reality,

and because it does not account for a personal God, nor does it espouse theology or dogma, it is not a religion in the sense that Christianity and Islam are religions. Rather, Buddhism expresses a set of principles intended to help people steer a middle course in their daily lives. Buddhism is deeply spiritual, however, in that the philosophy intends to develop mindfulness, concentration, compassion, and wisdom in its followers. These spiritual qualities are developed through the practice of meditation, and developing these spiritual qualities is believed to contribute to harmony and balance in life.

While the practice of meditation has been empirically connected to therapeutic outcomes in the fields of nursing and health care (cf. Thompson & Waltz, 2007), this proposed research examines how training in the practice of meditation can affect work performance. Empirical work has demonstrated links among workplace spirituality, enhanced problem solving and reduced stress and conflict (Petchsawang & Morris, 2006), but the proposed research will go further by examining the effects of a particular intervention, the Buddhist Mind Development Program (BMDP). This program consists of a series of activities including meditation, the study of Buddha's teachings, and group discussion. The program is conducted by the Young Buddhist Association of Thailand, and it is gaining acceptance among large-scale employers in Thailand as a way to enhance work performance.

Thus, the primary goal of this research is to examine the effectiveness of BMDP on both workplace spirituality and work performance in a Thai organization. The following pages will review current thinking about spirituality in the workplace and will provide a definition of spirituality in the workplace, taking care to show that "spirituality" is not synonymous with religion or religious practice. The research

proposed here will also develop a measure of spirituality in the workplace, and so be able to connect the qualities of spirituality at work with job outcomes.

## Chapter II

### Literature Review

#### Introduction

Interest in spirituality as a scholarly topic has grown in recent years, possibly as a result of the confluence of disparate events. For example, Cacioppe (2000) has argued that the modern world is plagued by social, economic, and environmental problems that are the result of human greed and a lack of love and compassion. He contends that these large-scale problems have triggered in humankind a renewed search for harmony and peace, a search that is essentially a spiritual journey. Biberman and Whitty (1997) have gone so far as to claim that organizational studies have undergone a fundamental shift from a mechanistic paradigm that values reasons and science to a spiritual paradigm that values consciousness and understanding. Such a shift enables an emphasis on issues such as team work, trust, creativity, and openness to change as approaches to dealing with the disruptions caused by the drive toward globalization (e.g., downsizing, outsourcing, etc.) by keeping businesses thriving in a changing world.

The significant demands of the modern workplace require people to spend more time for work inside and outside the workplace and less time with their families and communities. As a result, they are facing work-life conflict and a feeling of isolation (Cavanagh & Bandsuch, 2002). This affects employees' mental and physical health (Pfeffer, 2003) which in turn is associated with consequences such as rising of health care costs, absenteeism, turnover, and poor performance. For example, the direct costs

of absenteeism due to high work/life conflict have been estimated to be approximately \$3 to \$5 billion per year (Duxbury & Higgins, 2003). Yet, at the same time, a work organization can be a place to bolster human connections and so reduce the perception of a work/life conflict (Ashmos & Duchon, 2000). People work not only with their hands, but also their hearts (spirit). It is when people work with their hearts or spirit they can find a kind of meaning and purpose, a kind of fulfillment which means the workplace can be a place where people can express their whole or entire selves. Thus, enabling the expression of human experience at its deepest, most spiritual level may not only reduce stress, conflict, and absenteeism, but also enhance performance (Krahnke, Giacalone & Jurkiewicz, 2003).

The uncertainties of a changing world have filtered down to individuals in their daily lives, and in response, they have begun questioning the very meaning of work in their lives, and have sought to make spirituality present in the workplace as a way to make work again meaningful (Neal, 1997; Ashmos & Duchon, 2000; Korac-Kakabadse, Kouzmin & Kakabadse, 2002; Giacalone & Jurkiewicz, 2003). Thus, spirituality is increasingly seen as an important factor at a global-macro level, at an organizational level, and at an individual level. The multi-level concerns connected by an interest in spirituality at work can further be seen in the Academy of Management which established an interest group (Management, Spirituality, and Religion) in devoted to the formal study of connections between the world of spirit and the world of work.

## **Workplace Spirituality**

“Workplace spirituality” is an elusive concept. Kinjerski and Skrypnek (2004) argue that one of the real problems in pursuing spirituality research is the lack of a clearly and widely accepted definition. Nonetheless several scholars have been wrestling with this issue, and some consensus seems to be emerging. Generally spirituality is about finding a connection to something that transcends our ordinary lives (George, Sorenson and Burns, 2004).

Mitroff and Denton (1999) were among the first scholars to explore seriously the meaning of spirituality at work. By employing interviews and questionnaires they came to a definition of workplace spirituality as the desire to find ultimate purpose in life and to live accordingly. They elaborate by stating that spirituality consists of eleven key elements. These key elements argue that spirituality is (1) not part of any formal, organized religion; (2) non-denominational as it is both above and beyond denominations; (3) broadly inclusive as it embraces everyone and all ways of experiencing and practicing it; (4) universal and timeless; (5) the ultimate source and provider of meaning and purpose in our lives; (6) expressive of the awe we feel in the presence of the transcendent; (7) the sacredness of everything, including the ordinariness of everyday life; (8) the deep feeling of the interconnectedness of everything; (9) integrally connected to inner peace and calm; (10) an inexhaustible source of faith and willpower; and (11) inseparable from faith.

Employing a methodology similar to Mitroff and Denton (1999), Kinjerski and Skrypnek (2004) used a qualitative study to develop a definition of spirituality at work. They essentially define spirituality at work in terms of six dimensions. (1) physical experience (physiological arousal and energy); (2) affective experience (positive affect

characterized by well-being and joy); (3) cognitive experience (authenticity, alignment, and making a contribution); (4) interpersonal experience (sense of connection to others and common purpose); (5) spiritual presence (awareness of connection to something larger than self); and (6) mystical experience (a sense of perfection and transcendence). They conclude that spirit at work includes the experience of energy, joy, an awareness of alignment between one's values and one's work, meaningful work, a sense of connection to others and something larger than self, and transcendence. Their definition is similar to Mitroff and Denton's spirituality definition in terms of addressing an individual's sense of meaning and purpose, transcendence, and interconnection.

Similarly, Dehler and Welsh (2003) propose a definition of spirituality at the individual level in a work context. They describe spirituality as "...a search for meaning, deeper self-knowledge or transcendence to a higher level" (Dehler and Welsh, 2003, p.114). Additionally, the sense of meaning and purpose serves as an inner source of energy which is then expressed outwardly as behavior. Like the research noted above their spirituality definition includes meaning and purpose and transcendence.

Tepper (2003) has defined spirituality as "the extent to which an individual is motivated to find sacred meaning and purpose to his or her existence" (p.183). Additionally, he proposes that spirituality can exist in a range, from high to low. Someone in the high range of spirituality finds meaning and purpose in every aspect of his/her life. In contrast, low levels of spirituality refer to a lack of concern about meaning and purpose in one's life. Also, similar to Mitroff and Denton (1999), Tepper (2003) suggests that spirituality is not associated with religion, God, or higher powers.

Cacioppe (2000) extends the thinking about spirituality beyond the experience of a single individual by addressing how an organization might create a humanistic

work environment. Such an environment would treat each person as a whole being. Similarly, Giacalone and Jurkiewicz (2003) approach spirituality from the standpoint of the organization and refer to workplace spirituality as “a framework of organizational values evidence in the culture that promotes employees’ experience of transcendence through the work process, facilitating their sense of being connected to others in a way that provides feelings of completeness and joy” (p.13).

Ashmos and Duchon (2000) address spirituality in the workplace both from the experience of individuals and the organization’s work environment. They define a spiritual workplace as one that enables the individual’s expression of an inner life by performing meaningful work in the context of a community. Moreover, they developed and tested one of the first scales purporting to measure spirituality in the workplace. Milliman, Czaplewski and Ferguson (2003) built on Ashmos and Duchon (2000)’s work when they defined a spiritual workplace as one where individuals experienced meaningful work in a community. Milliman, Czaplewski and Ferguson (2003), however, proposed that the third element of spirituality in the workplace was an alignment with organizational values, not an inner life, and their notion of alignment is similar to that of Kinjerski and Skrypnek (2004).

In contrast to an alignment argument, Ashforth and Pratt (2003) see that an organization could play both roles of facilitation and hindrance in bringing spirituality to the workplace. Based on their paper, spirituality at work consists of three core dimensions: transcendence; holism and harmony; and growth (Ashforth & Pratt, 2003). Transcendence refers to a connection to something greater than oneself such as nature or a higher power. Holism and harmony are described as an integration of various aspects of oneself in terms of balance and authenticity. Growth is “a sense of self-

development or self-actualization” (Ashforth & Pratt, 2003). They define spirituality as an ongoing process of searching for self-identity, a meaning of life, and a connection to other people and higher powers or transcendence (Ashforth & Pratt, 2003). Again, transcendence and connection are strongly emerged from the spirituality definitions.

Besides the spirituality definitions at individual and organizational levels derived from qualitative and quantitative research methods, there are some interesting conceptual papers proposing definitions of spirituality. For example, Krishnakumar and Neck (2002) have described workplace spirituality from three separate viewpoints: the intrinsic-origin view, the religious view, and the existentialist view. The intrinsic-origin view defines spirituality as “our inner consciousness,” (p.154) which originates from inside an individual and involves a feeling of being connected with one’s work and with others. The religious view sees spirituality as varying according to the belief structures of each religion. For example, Christians believe that workplace spirituality is the “call for work” (p.155). Taoism and Confucianism, on the other hand, perceive workplace spirituality as teamwork and togetherness. The existentialist viewpoint of spirituality refers to “the search for meaning in what we are doing at the workplace” (p. 156). It involves existential questions such as: “why am I doing this work? what is the meaning of the work I am doing? where does this lead me? and is there a reason for my existence and a reason for the organization’s existence?” (p. 156). Essentially, they propose that the meaning of spirituality is idiosyncratic; however their discussion includes notions of inner consciousness, and a search for meaning (Krishnakumar & Neck, 2002)

Guillory (1997) also focuses on inner consciousness. He argues that spirituality is the domain of inner consciousness that expresses itself as a sense of “harmony,

interconnectedness, and oneness” (p. 21). Similarly, Heaton, Schmidt-Wilk, and Travis (2004) define spirituality as inner consciousness which is the state of “wakefulness as its essential nature, unmixed with images, thoughts, feelings, or any other objects of perception” (p. 64). Additionally, they suggest that people could achieve this inner consciousness state by practicing meditation regarding eastern religion traditions such as Buddhist Meditation.

Mahoney and Graci (1999) have proposed that spirituality involves a sense of giving and service, a sense of connection (community), compassion and forgiveness, meaning, and morality. Delgado (2005, p.159) argues that “the most common quality in descriptions of spirituality was transcendence, followed by meaning, mystery, animating or life-giving, connecting or unifying.” Even though, their work is based in the context of effective nursing, their definition of spirituality is not similar to other works focusing more specifically on a work context, particularly in that both contexts seem to evoke both connectedness and meaning as well as transcendence.

From a perspective of a practitioner in the area of spirituality at work, an organizer of Center for Spirituality at Work in Toronto, Canada stated that “it (spirituality at work) is about understanding our values and having respect and compassion for other people”--Connolly (Centre for Spirituality at Work, 2007, p.1). This definition provides a different perspective from other scholars’ workplace spirituality definitions in terms of its practical meaning related to values, respect, and compassion.

Finally, Milliman and Neck (1994) define workplace spirituality as “expressing a desire to find meaning and purpose in life” (Milliman & Neck, 1994, p.9), “a transcendent personal state” (p.10), “living by inner truth to produce positive attitudes

and relationships” (p.10), and a belief of being connected to each other and desire to go beyond one’s self-interest to contribution to society as a whole” (p.10).

Although the definitions of spirituality at work vary widely (See Table 1 in Appendix A), five themes seem often to surface: connection, compassion, mindfulness, meaningful work, and transcendence. Thus, the definition of workplace spirituality used in this research is as follows: **Workplace spirituality is about feeling connected with and having compassion toward others, experiencing a mindful inner consciousness in the pursuit of meaningful work and that enables transcendence.**

### **Spirituality Does Not Mean Religion**

It is important to draw a distinction between spirituality and religion. Religion is a unified belief system that defines a relationship between humankind and the supernatural. Spirituality, on the other hand, focuses on the existence and power of each person’s inner being.

Whereas religion includes both individual and institutional elements, spirituality focuses on individual phenomena such as personal transcendence, supraconsciousness, sensitivity, and meaningfulness. Indeed, religiousness is narrowly and formally structured and identified with religious institutions (Zinnbauer, Pargament, Cole, Rye, Butter, Belavich, Hipp, Scott, & Kadar, 1997; Hill & Smith, 2003). Cacioppe (2000) argues that spirituality is different from religion because spirituality concentrates on connectedness with everything, not a specific faith or belief in a religion. There is, however, some overlap between the notions. For example, Hill and Smith (2003) suggest that spirituality and religion overlap in terms of a sacred core (a quality of transcendence) and a sense of meaning. This dissertation research, while recognizing

the overlap, focuses on spirituality as a personal experience. It is not about institution belief systems. While people might experience spirituality through religious practice, this research focuses on conventional workplaces as enablers of a spirit.

“It’s not about religion. It is not about converting people. It’s not about making people believe a belief system or a thought system or a religious system. It’s about knowing that we’re all spiritual beings having a human experience. It’s about knowing that every person has within him or herself a level of truth and integrity, and that we all have our own divine power.” –Ann Bass Perle (Laabs, 1995)

“It is not about bringing religion to workplace. Rather, it is about encouraging people to bring their whole selves to work.”-Elaine Voci (August, 2000)

### **Components of Workplace Spirituality**

The definition of Spirituality used in this dissertation, although consistent with work done in the West, particularly Europe and North America, is strongly based on Eastern Buddhist traditions. Buddhism is essentially a philosophy (not a religion) aimed at helping people understand how they can bring harmony to their lives. Also, Buddhism is so broadly defined that it does not even require its practitioners to identify themselves as Buddhists. Buddhists are simply those who utilize Buddhist practices, which, in turn, are seen as one of several means that might be used to achieve a spiritual workplace. Spirituality as defined in this dissertation (i.e., connection, compassion,

mindfulness, meaningful work, and transcendence) can be developed as a result of Buddhist practice. Consider the following linkages:

**Connection:** Spirituality creates a sense of connectedness. Mitroff and Denton (1999) contend that spirituality is about a feeling of being connected to everything, not only within oneself, but also with other people. Thus, in the workplace spiritually oriented employees ought to feel connected both with their own work and the work of other people (Krishnakumar & Neck, 2002). As noted above “connectedness” is included in several the spiritual typologies (Twigg & Parayitam, 2006). Ashmos and Duchon (2000) also argue that a spiritual work place enables connection both to work and to others in the work community. Finally, Kinjerski & Skrypnek (2006) contend that “a sense of community” implies a feeling of connectedness to others and common purpose in the workplace.

**Compassion:** Compassion means a deep awareness of and sympathy for others’ suffering coupled with a wish to relieve it (Farlex, 2007). In a Western perspective, a spiritual connection creates a responsibility for another who is less fortunate. Similarly, a spiritual connection in Eastern philosophy focuses on compassion (Delgado, 2005). Twigg & Parayitam (2006, p.122) argue that spirituality is a deep “connection with the pain and suffering of other living things.” In this sense, a spiritual person generates an awareness of the needs of others and a desire to help other people or compassion (Ingersoll, 2003). Additionally, Delgado (2005) described spirituality as recognition of the harmonious relationships with others and the desire for mutual caring and support others. In this sense, the desire to support and care others reflects as compassion.

***Mindfulness:*** Mindfulness is a specific aim of BMDP training. Mindfulness is about awareness, or consciousness. Krishnakumar and Neck (2002) describe spirituality broadly as “inner consciousness.” Mindfulness is a state of wakefulness and focus unmixed with competing images, thoughts, or feelings (Heaton et al., 2004). There are different degrees of mindfulness and people can achieve increasingly pure states of consciousness through the practice of meditation (Heaton et al., 2004). When achieved, mindfulness refers to a conscious awareness and attention on each moment (Baer, Smith & Allen, 2004; Brown & Ryan, 2003; Kabat-Zinn, 1990; Lau, Bishop, Segal, Buis, Anderson, Carlson, Shapiro, Carmody, Abbey & Devins, 2006; Melbourne Mindfulness Academic Interest Group, 2006; Walach, Buchheld, Buttermuller, Kleinknecht & Schmidt, 2006). Mindfulness is contrasted with preoccupation, memories, worries, fantasies (Kabat-Zinn, 1990; Brown & Ryan, 2003; Baer et al., 2004) or being on automatic pilot (Melbourne Mindfulness Academic Interest Group, 2006).

Buddhist Meditation emphasizes mindfulness as a core concept. Buddhist Meditation trains the mind to focus on only one thing moment by moment. By doing this, the mind is believed to become more powerful and possesses awareness. Awareness is believed to help shape people’s thoughts and behavior. In training the mind by practicing meditation, people experience mindfulness; they can perform appropriately and achieve optimal results. In other words, when they are in a focused, calm mind-set, they can listen to their inner-self and observe their minds.

“...I developed my meditation into an awareness and mindfulness and learned to do just what I was doing at any one time and nothing else. I find I pick up on things much quicker and am more open to other people. I have a better perspective on things and am more in touch with myself. In a business context, I’ve begun to investigate my motives for doing the things I do in the business world. What do we really need? Food, shelter, cloths and medicine. That’s about it. Of course I’m not perfect. I do lose it sometimes. I’m only human. But my practice decreases the percentage.” (Paul Queripel, in Target Magazine, April 1998 in Erricker, 2003)

BMDP teaches people to train their mind in order to be aware of their thoughts at work, as well as have an ability to control those thoughts and, by extension, their behavior.

***Meaningful work:*** Human beings seek meaning. They are searching for meaningfulness in both their personal and work lives. Spirituality is considered as a significant aspect of the search for meaning and purpose (Cacioppe, 1998). As noted above meaningful work is included in many definitions of spirituality at work. For example, Mitroff and Denton (1999) found that one of the key elements of spirituality is the ultimate source and provider of meaning and purpose in our lives. They state that spirituality is a sense of personal meaning by which people acknowledge that the universe itself is not meaningless. Mahoney and Graci (1999) essentially argue that spiritual experiences are meaningful learning opportunities, and that spiritual individuals likely experience more meaning in their lives than their non-spiritual peers.

Meaningful work is also a part of an existentialist viewpoint of spirituality (Krishnakumar & Neck, 2002). It involves existential questions such as “(1) why am I doing this work? (2) what is the meaning of the work I am doing? (3) where does this lead me? and (4) is there a reason for my existence and a reason for the organization’s existence?” (Krishnakumar & Neck, 2002, p.156). Basically, this view of workplace spirituality focuses on “the search for meaning in what we are doing at the workplace” (Krishnakumar & Neck, 2002, p.156). Note also that measures of spirituality in the workplace include a notion of meaningfulness (Ashmos & Duchon, 2000; Kinjerski & Skrypnek, 2006).

***Transcendence:*** Many researchers suggest that transcendence is a distinct element of spirituality. Mitroff and Denton (1999) argue that “spirituality expresses the awe we feel in the presence of the transcendent.” In fact, the participants of the Mitroff and Denton’s study believe that experiencing spirituality is related to mystery and transcendent experience. Like Mitroff and Denton’s spirituality definitions, the meaning of spirituality in *Encyclopedia of Leadership* (George, Sorenson and Burns, 2004) is described as the experience of connection to something that transcends our ordinary lives.

Additionally, transcendence is one dimension of the two by two metrics of spiritual typologies (Twigg & Parayitam, 2006). They explain that transcendence involves a feeling of connection to something larger than oneself. Transcendence could be compared with Maslow’s (1969) peak experience, mystic experience or self-actualization which is described as a personal power derived from a contact with this unseen dimension (Delgado, 2005).

A spiritual person who believes in transcendence also believes in sanctity of life (appreciation of a sense of awe and holiness) and idealism (acceptance of people, places, and things in the way they are) (Twigg & Parayitam, 2006). Additionally, transcendence involves an experience of profoundly understanding a deep nature of life (Delgado, 2005). Transcendence is also related to mindfulness or awareness of the environment in the way that increasing consciousness is increasing a blurring between mind and matter (Delgado, 2005).

Finally, two points need to be made about the definition of workplace spirituality. First, workplace spirituality is multi-dimensional. Second, each dimension or component has a connection to the other dimensions and cannot be seen in isolation. The four components and their sources consistent with the literature are as depicted in the table 2.

### **Buddhist Meditation**

“For the followers of a monotheistic faith, such as Christianity, Judaism, and Islam, the spiritual power for change comes from God through prayers. For Buddhist, it occurs through training the mind, and recognizing our true nature.” (Erricker, 2003)

There are two fundamental types of Buddhist meditation for training and purifying the mind: 1) tranquility meditation and 2) insight meditation (Payutto, 2002). Tranquility meditation aims to develop concentration. From a Western perspective, meditation is widely known as relaxation or stress reduction techniques. In contrast, insight meditation aims to achieve wisdom and “see the truth nature of life and the

world” (Payutto, 2002). In this dissertation, “BMDP” refers to an insight meditation training intervention which is believed to link workplace spirituality with the mindfulness participants learn to achieve at the training. However, the other components of workplace spirituality (i.e., meaningfulness, connection, compassion and transcendence) are also associated outcomes of practicing insight meditation.

The vital principal of insight meditation is mindfulness (Pra Rajaprommajarn, 2004). Mindfulness is achieved by being aware of what is happening to one’s body, feeling and thoughts at the present moment. Insight meditation can be employed within every aspect of human experience, and although practitioners usually are sitting or walking, it can be done in other activities as well such as drinking water, eating food, or even driving.

Sitting meditation requires mindfulness at the navel where the stomach inflates and deflates (Phra Dhammasinghapuracariya, n.d.). To practice sitting meditation, people observe the inflation and deflation of their stomach by focusing on the “inflate nor” and the “deflate nor.” “Nor” expresses continuing or ongoing actions. Then, they acknowledge feelings or thoughts which might interrupt the meditating by observing their current reality and then returning to acknowledge the inflation and deflation. Returning to the inflation and deflation involves balancing their concentration and consciousness. Focusing on only inflation and deflation without acknowledging their feelings and the thoughts (distractions) in the present moment creates concentration, not consciousness.

Concentration is also an important outcome of tranquility meditation, however in the Buddhist tradition tranquility is not the ultimate aim of mediation. According to Payutto (2002), when people face problems, they may use tranquility meditation to

calm their minds and acquire happiness. Indeed, they could escape from reality and problems while doing the meditation, but the problems still remain. In other words, practicing tranquility mediation does not directly assist problem solving, but practicing insight meditation does. The mindfulness acquired by practicing insight meditation enables insight or wisdom—see the truth of nature (which is the optimal benefit of Buddhist meditation) and by seeing truth be able to solve problems. Solving problems has direct, important consequences in the workplace and so is a more appropriate meditation form to examine in a work context.

By acknowledging thoughts and feelings as well as returning to the home base—inflation and deflation, the mind is trained to be aware of the present moment which, in turn, creates consciousness and mindfulness. Generally, this technique requires practice. Novices often find it difficult to concentrate continuously on inflation and deflation because their feelings or thoughts are too distracting. With regular practice of insight meditation, however, the mind becomes more powerful and better able observe distractions and let them go. The mind may also obtain a sense of peace and happiness because increasing concentration enhances a sense of calm and a sense of energy, both of which can then be used to see things clearly and insightfully.

“The calm sea is like the calm mind, the stormy sea is a mind in turmoil. When the sea is calm we can see through it, but in its rough state nothing below the surface can be seen. The ability to see below the surface is insight.” (Erricker, 2003)

Walking meditation requires acknowledging or being conscious of lifting, stepping, and placing the feet (Pra Rajaprommajarn, 2004). Like sitting meditation, each moment of stepping is observed by using the words “lift up nor,” “right nor,” “left nor,” and “step nor.” The foot movement and the observation must occur at the same time (Phra Dhammasinghapuracariya, n.d.). In fact, noting reality is difficult to practice because in daily life, people naturally act without thinking and so the mind does not observe the body’s actions. Walking meditation is not normal walking, but, rather, slow walking in order to closely observe each movement and so achieve mindfulness.

As noted above, insight meditation can be applied to the basic activities of everyday life such as drinking, eating and driving, although each activity requires observing the moment and acknowledging thoughts, feelings, and actions and so achieve mindfulness. Payutto (2002) has described some examples of mindfulness in everyday life. When people feel angry, they can achieve mindfulness by acknowledging their hard breathing, and, by focusing on this awareness of hard breathing begin to take a few deep in-breaths and long out-breaths. Once their breathing becomes well-regulated and balanced, they will feel better immediately. In contrast, people who have not achieved mindfulness might respond to their anger by immediately doing something inappropriate. By not first acknowledging their feelings or thoughts or by not focusing on the moment they may be unable to stop themselves from rash or harmful action.

“We say and do things we don’t want to and afterwards we regret it. We make ourselves and others suffer, and we bring about a lot of damage. We may vow not to do it again, but we do it again. Why? Because our habit energies push

us...We need the energy of mindfulness to recognize and be present with our habit energy in order to stop this course of destruction”

(Thich Nhat Hanh, 1999)

In summary, practicing insight meditation is about training the mind for concentration and mindfulness. This requires patience and persistence. People do not obtain the benefits of meditation in a short term period. People’s minds always tend to wander into negative or useless thoughts. Therefore, they need to purify their mind by practicing meditation continuously over a long period of time. The more they practice, the more skillful they become at achieving mindfulness, and mindfulness can then be applied to many actions in their daily lives.

### **Buddhist Meditation and Workplace Spirituality**

Practicing meditation trains the mind, and can impart the kind of energy and power that will enable concentration at work. Such mindfulness allows people to let go of the kind of useless thoughts or feelings that otherwise would prove disruptive. A powerful mind is a mind that is ready for work (Payutto, 2002). Moreover, the trained mind sees with clarity (Payutto, 2002), and such clarity helps the meditation practitioner understanding better him/herself, other people, problems, and life. Thus, Buddhist Meditation can achieve benefits in the areas of increased self-understanding, harmony with other people, and the ability to solve problems (Tischler et al., 2002).

The benefits of insight meditation are different from the benefits expected from training courses in the areas of self-understanding, teamwork, or problem solving because such training courses create knowledge, but not wisdom. Bierly, Kessler, and

Christensen (2000, p.601) define wisdom as “the ability to best use knowledge for establishing and achieving desired goals and the process of discerning judgments and action based on knowledge.” Wisdom is a higher level of learning than knowledge acquisition (Bierly, Kessler & Christensen, 2000). Additionally, unlike general training courses, meditation is based on a study of one’s mind and the acquisition of wisdom from inside oneself, and in doing so learn the truth of nature. Indeed, people who practice insight meditation claim to have clarity about their life such that they know the purpose of their life and work. Being mindful or having awareness assists people to identify their needs, problems, and conflicts (Brown & Ryan, 2003). Biberman and Whitty (1997) argue that practicing meditation also helps coping with stress, coping with job loss, and finding meaning in life. In addition to benefits accruing to an individual, insightful meditation can also provide benefits to groups and group problem solving. The peace and tranquility believed to be obtained by practicing meditation brings happiness which in turn can generate joy and compassion to others at work.

As mentioned above, Buddhist Meditation is not a religion, but it is spiritual. Practicing insight or mindfulness meditation enables a sense of meaningfulness, mindfulness, connection and compassion to other peoples that has direct consequences at work.

“When we are mindful, touching deeply the present moment, the fruits are always understanding, acceptance, love, and the desire to relieve suffering and bring joy.” (Thich Nhat Hanh, 1999)

Eisler and Montuori (2003) discuss an association of workplace spirituality and meditation in terms of mindfulness, concentration, and compassion. They state that one's having mindfulness by being consciousness of others and the surrounding environment boosts spirituality. "Without this mindfulness, spirituality becomes little more than self-indulgence" (Eisler & Montuori, 2003, p. 54). Meditation which combines concentration and "letting go" also assists people to understand human beings' differences, let go their hatred, and have compassion to other people (Eisler & Montuori, 2003).

Although no one has examined the connection between Buddhist Meditation and workplace spirituality, there is some evidence that mindfulness meditation might reduce stress. Shapiro, Schwartz & Bonner (1998) found that students practicing an 8-week mindfulness-based stress reduction (MBSR) course experienced reduced anxiety and depression, and increased empathy and spirituality. However, the spiritual experience in this study was measured by INSPIRIT, an instrument that assesses a connection to a higher power as well as the connection to God (Kass 1991 in Shapiro, Schwartz & Bonner, 1998).

Meditation and spirituality has been examined with cancer outpatients. The patients practiced an 8-week MBSR program and their outcomes were compared to a group practicing a 6-week healing art program (HA) (Garland, Carlson, Cook, Lansdell & Speca, 2007). The researchers found that participants in the MBSR group improved on measures of spirituality more than those in the HA group. Spirituality was measured with the Functional Assessment of Chronic Illness Therapy-Spiritual Well-Being (FACIT-Sp). The FACIT-Sp consists of two subscales: one measures one's sense of

meaning and/or purpose in life; and the other measures one's comfort and support from their personal faith.

Like the above result from quantitative research, a qualitative study examining cancer patients practicing a 8-week MBSR programs experienced spirituality as one of five major components of the emerged findings (Mackenzie, Carlson, Munoz1 & Speca, 2007). In fact, from the interviews, the meditation assisted the participants's ability to appreciate their spirituality. One of the participants stated that "the mindfulness and meditation brought me back more into the spiritual part of it" (p.65). The researchers conclude that MBSR supports spirituality growth in terms of an increase of feeling of interconnection with other people and a higher power, meaningful life, gradtitude and compassion (Mackenzie, Carlson, Munoz1 & Speca, 2007).

Generally, BMDP is an insight meditation training to promote benefits beyond reduced stress because it is capable of producing changes of mind and insight that, in turn, change one's sense of spiritual self. That is, the practice of BMDP is expected to affect the factors that comprise spirituality at work as defined in this research: meaningfulness, connection and contribution to the others, mindfulness, and transcendence. Therefore,

*Hypothesis 1: BMDP will positively affect workplace spirituality*

### **Spirituality and Work Performance**

Although spirituality at work has not been studied extensively from a management perspective the benefits of spirituality have been extensively studied in the areas of nursing, health, and psychology.

A number of researchers have discussed the benefits of spirituality in the areas of physiological, psychological, and behavior changes (Krishnakumar & Neck, 2002; McCollum, 1999; Neck & Milliman, 1994; Schmidt-Wilk, 2003; Tischler et al., 2002). For example, researchers have found increased blood flow into the brain and muscle relaxation, decreased stress hormone production, and faster recovery from stress on the part of practitioners of transcendental meditation (Tischler et al., 2002). Moreover, the physiological outcomes were associated with psychological outcomes. The participants reported increased self-actualization, stronger self-identity, greater empathy, improved perceptions to others, and growth of wisdom (Tischler et al., 2002). The behavior changes were associated with improved work performance, improved relations with co-workers and supervisors, increased job satisfaction, and decreased turnover propensity (Tischler et al., 2002),

Similarly, Schmidt-Wilk (2003) interviewed over the course of four years (1989-1993) a Swedish top management team (10 members) whose members were practitioners of the Transcendental Meditation (TM). Schmidt-Wilk reported that spiritual practice had effects on both psychological and physiological outcomes, particularly in terms of the managers' developmental maturity. This developmental maturity seemed to be a factor contributing to the effective implementation of a Total Quality Management (TQM) program. Specifically, TM seemed to enable expressions of more effective cognitive, affective, and team TQM behaviors. The managers reported reduced stress, enhanced trust in the team, and reduced conflict. Generally the practice of TM technique promoted a kind of psychological maturation that allowed a greater range of appropriate TQM behaviors.

McCollum (1999) explored relationships between leadership development and self-development. He conducted an eight-month pretest-posttest control group (24 subjects) study in one company, employing both questionnaire and interview data. Participants who practiced TM were found to grow significantly more in self-reported leadership behaviors. The subjects reported in interviews that they were more effective at work, had increased energy, seemed better able to show initiative, and found more balance in stressful events. Overall, McCollum reported that spiritual practice in the form of TM affects leadership behaviors which in turn positively affect work performance.

Additionally, Neck and Millaman (1994) theoretically propose that spirituality positively affects organizational performance in terms of enhancing intuitive abilities, fostering innovation and higher sense of service and greater personal growth and development, bolstering teamwork and employee commitment to the organization. Similarly, Krishnakumar and Neck (2002) hypothesize that the encouragement of spirituality in the workplace can lead to benefits in the areas of innovation, honesty and trust, personal fulfillment, and commitment, which will ultimately lead to increased organizational performance. Moreover, according to Mohamed, Wisnieski, Askar and Syed (2004), spirituality may be linked to job performance in terms of how people handle job stress and failure. They proposed that a spiritual person more likely suffer less from negative physical and psychological consequences of stress and failure. Obviously, at the organizational level, there is a need for scholars to empirically study the benefits of spirituality and provide rigorous evidence to support the conceptualization.

Duchon and Plowman (2005) were among the first to examine connections between spirituality at work and work unit performance. They used the Meaning and Purpose at Work questionnaire (see Ashmos & Duchon, 2000) to assess spirituality in six work units in the same hospital system. Work unit performance was captured by patient satisfaction questionnaires that the hospital system uses to assess unit performance. The findings revealed that work unit performance is greater in work units possessing a spiritual climate. Work units with the highest scores in the areas of community, meaning at work, work unit community, and work unit meaning performed the best. Duchon and Plowman (2005) argued that units performed better because the (spiritual) climate enabled each employee to find more complete self-expression. This work established the potential for a relationship between spirituality and work performance, but conclusion is limited by the small sample size.

Milliman, Czaplewski and Ferguson (2003) used their own measure of workplace spirituality to examine the relationship between workplace spirituality and five employee attitudes (organizational commitment, intention to quit, intrinsic work satisfaction, job involvement, and organization-based self-esteem (OBSE)). They concluded that workplace spirituality was significantly related to the five job attitude dimensions. While this work is important in establishing the connect between workplace spirituality and attitudes, it does not address work performance.

Lee, Sirgy, Efraty, and Siegel (2003) examined connections among quality of work life, job satisfaction, spiritual well-being, and life satisfaction in a sample of 563 respondents in universities and accounting firms. Spiritual well-being was measured by a single item asking the participants to rate their satisfaction with their spiritual life in general. They found that spiritual well-being and job satisfaction mediate the

relationship between quality of work life and life satisfaction. This work begins to address the relationship between spirituality and performance by examining the impact on satisfaction. However, its results are limited by the narrow definition of work performance (i.e. satisfaction) and reliance on an one item measuring a spiritual well-being.

Lips-Wiersma (2002) looked at the career concerns of spirituality oriented people. She employed a qualitative psycho-biographical methodology. Sixteen informants provided career histories and then kept a diary for one week during each of three years. Informants provided diary entries that described and evaluated events in their lives in terms of their own spiritual beliefs. Lips-Wiersma (2002) argues that the data show that spiritual beliefs in fact influenced and helped people navigate career transitions. Two research shows that spirituality affects behaviors, but does not address work performance.

Overall, then, although a considerable amount of theoretical work has speculated on the role of spirituality at work and limited empirical work has established a relationship between spirituality, attitudes, and behavior, almost no work examined this relationship in a conclusive way. Much needs to be done.

Therefore, this dissertation aims to fill a gap in the workplace spirituality literature by empirically examining the effect of workplace spirituality on work performance.

*Hypothesis 2: Workplace spirituality will positively affect work performance.*

The literature discussed above also suggests that meditation provides both personal and work-related benefits in terms of reduced stress, increased relaxation (Tischler et al., 2002; Shapiro, Schwartz & Bonner, 1998), increased attention

(Blakeslee, 2007), improved work performance, increased job satisfaction, innovation, and energy for work (Neck & Millaman, 1994; Schmidt-Wilk, 1999; Tischler et al., 2002). Those benefits of practicing meditation are also directly related to work performance. Therefore:

*Hypothesis 3: BMDP will positively affect work performance.*

While this research hypothesizes direct relationships between spirituality and work performance, and between BMDP and work performance, it seems likely that BMDP will have an amplified effect for someone who is spiritually inclined. This means that spirituality is likely to mediate the relationship between BMDP and work performance:

*Hypothesis 4: Workplace spirituality will mediate the relationship of BMDP and work performance.*

## **Chapter III**

### **Research Design**

This dissertation aims to study a spirituality intervention in an Eastern context. Indeed, this dissertation specifically addresses whether or not training in Buddhist meditation techniques (practices) contributes to a greater sense of spirituality at work and life (not a religion).

The primary goal of this dissertation is to examine the effectiveness of BMDP on workplace spirituality and work performance in a Thai organization. In addition, this dissertation aims to fill a gap in the workplace spirituality literature by providing an empirical study of workplace spirituality and work performance. It is important to note that workplace spirituality is addressed at the individual level. Thus, Buddhist practice will also be considered at the individual level. Specifically, some subjects in this study will be exposed to a training intervention, BMDP. This training course is designed for developing a broader sense of the spiritual self in a work context. This dissertation does not address larger work unit or system features that might contribute to a spiritual workplace.

This chapter first presents a conceptual framework for this study. Second, a research design is presented. Third, a workplace spirituality measure suitable for Thai culture and a Buddhist context is presented. Finally, other measures and procedures are presented.

## **Conceptual Framework**

The model tested in this research which is shown in Figure 1 (see Appendix B), proposes both direct and mediated effects among BMDP, workplace spirituality and work performance.

## **Research Design**

The purpose of this dissertation is to examine relationships among BMDP, workplace spirituality, and work performance. This was done by employing a quasi experimental study--a pretest and a posttest with nonequivalent comparison groups design (Campbell & Stanley, 1963). Participants were categorized into two groups: an experimental group where participants attended a BMDP program and a control group, participants who did not attend the program. It is important to note that since this research design could not achieve randomization, the experimental and control groups were nonequivalent. Due to a concern regarding selection biases, internal controls were employed for improving this design (Shadish, Cook, & Campbell, 2002). "Internal control groups are drawn from a population similar to that from which the treatment units are taken" (Shadish, Cook, & Campbell, 2002, p.122). Shadish, Cook, and Campbell (2002) suggest that if choosing a control group from "a group that is plausibly similar to an experimental group, fewer selection biases are likely to be present than if the control group is external" (p.122). Therefore, for this study, the control group was drawn from the same unit as the experimental group in order to potentially prevent a possible selection bias. The participants in the experimental group completed spirituality assessments before the BMDP training, one week after the

training, and one month after the training. Their performance evaluation was reviewed one month after their attendance at BMDP. The participants in the control group completed spirituality assessments twice at the same times as the experimental group's (before the BMDP training and one month after the training).

Their performance evaluation was also reviewed the same time of it of the experimental group.

### **Sampling**

The data were collected at S&P, a company that specializes in food and bakery deliveries. S&P is a large company comprised of about 3,800 employees and it has many branches in Thailand. S&P has used BMDP as one of its training programs for about 30 years. The BMDP training course consists of eight days of practicing three activities: walking meditation and sitting meditation, listening to the philosophy of Buddhism and group discussion regarding practicing meditation. S&P conducts six BMDP sessions per year. Each program enrolls 70 participants, approximately 40 participants from outside the company and 30 S&P employees. In general, most of the S&P employees volunteer for the training although some are assigned by their supervisors. Attending BMDP is considered as paid leave. This research accomplished in two stages. The first stage involved approximately 200 informants for a pre-test of the Workplace Spirituality Measurement which was developed for this project. The 200 informants were recruited from the employees of S&P company in Thailand. Stage two implemented a quasi-experimental study. For the quasi-experimental study, the control group consisted of 30 participants randomly selected from the same branch and same department in the head office as the participants in the experimental group. The control

group included only individuals who had not attended BMDP training. The total sample was 60 S&P employees.

### **Procedure**

For the quasi-experimental study, the participants of the experimental group were given a questionnaire including a workplace spirituality measurement (see appendix C) before attending BMDP, one week after attending BMDP, and one month after attending BMDP. Their supervisors were asked to review the participants' performance by using a S&P performance evaluation form (table 7) one month after their attendance at BMDP. For the control group, the participants were given the same Spirituality questionnaire two times: at the same time the experimental group completed the questionnaire the first time and then a month later (approximately when the experimental group completed the questionnaire the third time). The performance evaluation of the control group was also reviewed at the same time as the experimental group. Each participant's name was coded in order to match their pre test, post test, and performance evaluation. However, to ensure participants' confidentiality, only the S&P human resource manager and the researcher had access to the questionnaires and the S&P performance evaluation data. Additionally, the findings presented as summaries in which no individual's responses can be identified. Anonymity, confidentiality and voluntary participation were articulated in the first page in the questionnaire (see Appendix C). Moreover, the appropriate consent forms for subjects for the experiment group, the pre-test informants and the control group informants, and the performance evaluation instrument were attached with the first page of each questionnaire. (see Appendix C).

## **Measurements**

Workplace spirituality was measured with a questionnaire. Details about the questionnaire can be found below. Work performance was measured using the S&P company's performance measures. Work performance was therefore captured in terms meaningful to both the company and the employees. Using an objective measure of performance (i.e., something that is not self-reported by the participants) removes concerns about percept-percept bias. Details of the measure are given below

### ***Workplace Spirituality Measurement***

Workplace Spirituality is operationalized as follows: Workplace spirituality means feeling connected with and having compassion toward others, experiencing a mindful inner consciousness in the pursuit of meaningful work and so experience transcendence. It consists of five dimensions: connection, compassion, mindfulness, meaningful work, and transcendence, and these dimensions were measured with a questionnaire. Most of the measures used in this study were adapted from previously published scales. It is important to note that the workplace spirituality measure in this dissertation is not related to a specific religion; therefore, does not mention God.

Other related scales which were reviewed, but not used for this study were summarized in the Appendix D.

#### *Dimension 1: Connection*

Connection is defined as one's experience of a deep sense of connection with other people and other people's work. This means one feels part of the community and can identify him/herself with the group's common purpose (Duchon & Plowman,

2005). Connection is measured using scales developed by Kinjerski & Skrypnek (2006), and Ashmos & Duchon (2000).

Three items from Kinjerski and Skrypnek were used to measure Connection. Kinjerski and Skrypnek (2006) systematically developed on Spirit at Work Scale by using both qualitative and quantitative research methods. They began with extracting the 60 items emerged from their qualitative analysis of rich descriptions by interviewing 14 scholars and practitioners in the area of spirituality in the workplace. By interpreting the transcripts, they define spirit at work as the experience of energy, joy, an awareness of alignment between one's values and one's work, meaningful work, a sense of connection to others and something larger than self, and transcendence. Then, they combined those items with the 34 items derived from their literature review. To achieve content validity, member checking and experts' reviewing were employed. The total items were 102. The researchers used factor analysis to extract the 18 best items of distinct four factors: engaging work, sense of community, spiritual connection, and mystical experience. The items are measured by a 6-point Likert-type scale. The internal consistency of this measurement ranged from .86 to .91. The items are listed in Table 4.

One item from the Ashmos and Duchon's scale was also used to measure Connection. Ashmos and Duchon (2000) were the first researchers to attempt to measure the construct of spirituality at work. Based on the literature review, they define a spiritual workplace as one that enables the individual's expression of an inner life by performing meaningful work in the context of a community. They constructed a measurement of spirituality consisting of three components, meaning at work, inner life, and community. The measurement was reviewed by a panel, consisting of

academics, an organization development specialist, a former chief executive of a large hospital, and several members of the local business community, satisfying concerns of face validity. They obtained data from 696 subjects in four hospitals in four different cities in the mid-south and southwest. The measurement uses a 7-point Likert-type scale with 66 items. Then, they used factor analysis to test the data which reported the reliability range from .69 to .93. The present research used one item from their community scale (See Table 4).

#### *Dimension 2: Compassion*

Compassion is defined as a deep awareness of and sympathy for others (Twigg & Parayitam, 2006) and a wish to relieve their suffering (Farlex, 2007). Compassion leads to a responsibility for another who is less fortunate or suffering (Delgado, 2005). Additionally, Delgado (2005) argues that it is a desire for mutual caring and support others. In this sense, a spiritual person generates an awareness of the needs of others and a desire to help other people (Ingersoll, 2003).

Measuring compassion presents a challenge as no complete, validated scale exists. Therefore, the items used to measure compassion were adapted from the work of McCormick (1994), Mahoney and Graci (1999), Ingersoll (2003), Delgado (2005), and Twigg & Parayitam (2006). The items are listed in Table 4.

#### *Dimension 3: Mindfulness*

Mindfulness is defined as a state of inner consciousness in which one is aware of one's thoughts and actions moment by moment. Mindfulness is about a person's mind being present, not wandering with past, future thoughts or other distractions. It is

important to note that mindfulness is about acting with awareness; therefore, it stands in contrast to notions of “automatic pilot,” acting without awareness (Baer et al., 2004, p. 193). By being aware of their thoughts and actions in the present, people are better able to control their emotions and behaviors.

Eight items from the *Mindful Attention Awareness Scale (MAAS)* (Brown & Ryan, 2003) and one item from the *Freiburg Mindfulness Inventory (FMI)* (Walach et al., 2006) were used to measure Mindfulness.

Brown and Ryan (2003) developed the *Mindful Attention Awareness Scale (MAAS)* based on their mindfulness definition. They define mindfulness as “the state of being attentive to and aware of what is taking place in the present” (p. 822). In addition, they hypothesized that mindfulness is a predictor of psychological well-being and self-regulation. First, they created 184 items using a 6-point Likert-type scale based on their mindfulness experience and knowledge. Then, they employed an expert panel to reduce the pool of items. The 55 items which remained were tested with exploratory analysis from a sample of 313 students. The results presented a single factor with 15 items. Confirmatory factor analysis with a student sample of 327 suggested evidence of a good fit. Another sample of 239 adults was used to further validate the scale which produced an Alpha of .87. They then employed a test-retest reliability analysis with 60 students. Moreover, they conducted several studies to examine a correlation of this scale and the related scales as well as its association with many aspects of well being. The related scales tested their correlations with MASS include NEO Personality Inventory, Trait Meta-Mood Scale, Mindfulness/Mindlessness Scale, Self-Consciousness Scale, Rumination-Reflection Questionnaire, Self-Monitoring Scale, Need for Cognition, and Absorption. An examination of convergent and discriminant correlations presents

mindfulness's correlations at a moderate level with NEO Personality Inventory, Trait Met-Mood Scale, and Mindfulness/Mindlessness Scale and its little and no correlations with Self-Consciousness, Rumination-Reflection Questionnaire, Self-Monitoring Scale, Need for Cognition, and Absorption. Regarding well-being correlations, the results reveal that mindfulness is moderately negative correlated with negative traits such as anxiety and depress, emotional disturbance, and physical well-being in terms of symptoms, somatization and medical visit frequency and moderately positive correlated with emotionally-subject well-being and eudaimonic well-being. Finally, mindfulness predicts self-regulated behavior and positive emotional states as well as reduces mood disturbance and stress. The scale is shown in Table 4.

In addition to the MAAS, one item from Walach, Buchheld, Buttermuller, Kleinknecht and Schmidt's (2006) *Freiburg Mindfulness Inventory (FMI)* was also used. Similar to Brown and Ryan, they define mindfulness as an alert mode of perceiving all mental contents and accepting and non-judgmental attitude. First, they conducted an examination of the mindfulness constructed by interviewing 115 participants attending mindfulness meditation retreats. This produced a 30-item scale that was assessed using a 4-point Likert-type scale. The researchers employed a pre and post measurement with 115 meditation participants (Vipassana retreats). The result suggests a psychometric sound with reliability .93. They conducted another study to validate the scale with sample of 86 subjects who do not practice meditation, 117 subjects who have clinical problems, and 56 subjects from the meditation retreats. This reduced the scale to a short version of 14 items with a coefficient alpha of .86. The items are listed in Table 4.

*Dimension 4: Meaningful work*

Meaningful work is defined as one's experience that his/her work is a significant and meaningful part to his/her life. Indeed, one feels that work has meaning for him/her beyond the material rewards (Duchon & Plowman, 2005). Meaningful work also creates a sense of joy and energy at work (Duchon & Plowman, 2005). In another sense meaningful work answers the question of why one is in the workplace by acknowledging that his/her work helps him/her to express his/her inner self (Krishnakumar & Neck, 2002, p.156; Pratt and Ashforth, 2003, p. 311).

Meaningful work was measured using seven items from Ashmos and Duchon (2000). They reported an Alpha of .85 for this scale. In addition, one item from Krishnakumar and Neck (2002) and Pratt and Ashforth (2003) was also used experimentally. The items are reported in Table 4.

*Dimension 5: Transcendence*

In this dissertation, transcendence indicates a connection to higher power (Delaney, 2005). It does not involve a feeling of being connected with God because this research is about spirituality, not religion. Thus, transcendence is defined as an experience and sense of connection to a higher power that produces positive effects in terms of strength, ecstasy, and peace. The connection to a higher power produces a sense of energy and power that can be used to navigate difficulties or problems (Delaney, 2005). Transcendence can also induce a positive state of joy or even ecstasy (Kinjerski and Skrypnek, 2006), a sense of perfect happiness (Lange & Thalbourne, 2007) and a sense of peace (Hood, 1975). Transcendence is associated with a sense of timelessness and space (Kinjerski and Skrypnek, 2006; Lange & Thalbourne, 2007;

Hood, 1975), and a profound understanding of nature (Delgado, 2005) or ultimate reality (Hood, 1975).

Transcendence was measured with five items from Kinjerski and Skrypnek, (2006) and two items from Delaney (2005). Kinjerski and Skrypnek (2006) describe a mystical experience dimension as “a positive state of energy or vitality, a sense of perfection, transcendence, and experiences of joy and bliss” (p. 12). This dimension consists of five items with alpha .86.

Delaney (2005) developed and tested the psychometric properties of the Spirituality Scale based on the following definition: Spirituality is “...an association with a search for meaning and purpose, extending to the inclusion of relationships, and recognition of holism, and finally to a connection to the environment and cosmos” (Delaney, 2005, p. 151). The researcher created items drawn from the four core dimensions of spirituality: higher power, self-discovery, relationships, and eco-awareness which are grounded in spirituality literature. The scale consists of 38 items using a 4-point Likert-type scale. The data were collected from 240 adults with chronic illness. To assess content validity, an expert panel of five members with expertise in the area of spirituality rated each item. By employing factor structure analysis, item analysis, internal reliability, and test-retest reliability, 36 items from three factors remain with alpha coefficient ranged from .81-.94. Indeed, factor analysis suggests a combination of the eco-awareness factor with the higher power factor. Additionally, the researchers and the expert panel suggest that the eco-awareness and the higher power factors are “conceptually congruent and both reflect the transpersonal aspect of spirituality” (Delaney, 2005, p.157). Since the eco-awareness factor describes a higher level of spirituality in terms of “encompassing an awareness of the interconnectedness

of all life” (Delaney, 2005, p. 157) including a higher power, they use the factor label as eco-awareness. The total items of eco-awareness factor with alpha .94 are 12 items consisting items describing a higher power/universe intelligence and eco-awareness. Five items related to a higher power and universe intelligence drawn from eco awareness factor (Delaney, 2005) with their factor loadings above .72 are chose to capture a transcendence dimension. The items are listed in Table 4.

The sources used to define and measure each of the dimensions in Workplace Spirituality are listed in Table 3. The scales are listed in Table 4.

Note that the measures employed in this research include assessment of both mindfulness and compassion. These dimensions are included because the research assesses the workplace spirituality of Thais 99% of whom are Buddhists. The core of Buddhism in terms of mindfulness and compassion is strongly related to spirituality. Therefore, adding compassion and mindfulness to the dimensions of workplace spirituality measurement is expected to increase validity of the measurement employing in a context of Thailand and Buddhism. Future research will have to determine whether or not notions of mindfulness and compassion have utility in a non-Buddhist culture.

In conclusion, the workplace spirituality measure initially used 38 items to assess five dimensions: connection, compassion, mindfulness, meaningful work, and transcendence. The measure includes assessment of the factors, compassion and mindfulness, which have not been assessed in other examinations of spirituality in the workplace.

#### Measurement Translation

The questionnaire was created in English. It was translated in Thai by an expert panel in Thai language, and it was back-translated into English to assure that the

meanings of the items hold up when crossing language and culture frontiers. A good translation should ensure no loss information or changes in meaning of the text, no changes in the difficulty of the items, readability of the text, and it should minimize cultural differences (Maxwell, 1996; Birbili, 2000; Hambleton, 2002). The translation of the workplace spirituality measurement followed guidelines suggested by Maxwell (1996), Hambleton (2002), and Birbili (2000), which specify a three-stage process: 1) multiple-forward translation; 2) back-translation; and 3) translation review by bilingual judges (see figure 2).

*Multiple-forward translation:* Forward translation is a process in which an original text is translated into the target language and a comparison of the original version and adapted version is made (Hambleton, 2002; Chang, 2007). Maxwell (1996) suggests that the translator should have "...first-language experience in the target language, excellent knowledge of English, experience living and working in an English-language environment, and familiarity with the culture associated with the target language" (p. 8-7). The workplace spirituality measurement is translated from English to Thai by two Thais who have lived both in Thailand and the United States and who have considerable experience both with Thai and English. One is a PhD student in Nursing, University of Tennessee (Knoxville) and another graduated from Urban Planning major, Kasetsart University, Bangkok, Thailand. Each translated the original questionnaire from English into Thai. They then compared their translations and, after discussing discrepancies preceded by technology facilitating near real time communication (instant messaging) as well as e-mails., achieved a Thai translation.

*Back-translation:* After achieving an initial translation into the target language "...a different translator translates that version back into English, and finally an

English-speaking person compares the original text with the back-translation” (Maxwell, 1996, p. 8-6). After achieving the multiple-forward translation, two Thais who are both professors in College of Business and Administration at University of the Thai Chamber of Commerce, Bangkok, Thailand translated the Thai text back into English. A native English-speaker who is also an expert in the area of workplace spirituality compared the original text with the back-translation and suggested areas of agreement, minor discrepancies, and major discrepancies. The discrepancies are resolved in step three.

*Translation review by bilingual judges:* Back-translations can create discrepancies when translators focus only on a lexical equivalence and neglect a conceptual equivalence (Maxwell, 1996; Birbili, 2000). In fact, a literal translation (translating word by word) can reduce readability of the text (Birbili, 2000) and increase difficulty for participants to understand the content, which in turn can negatively affect validity of the measurement. Therefore, a final translation review is conducted by bilingual judges.

The final translation review is intended to ensure both conceptual equivalence and text readability. A bilingual panel reviewed the back-translated text. The panel consisted of three bilingual Thais each of who are experienced in the methods and processes of social science. The panel includes a PhD student in Human Resource Development, University of Minnesota; a PhD student in Nursing, University of Tennessee; and a Masters student in Industrial Psychology, Kasetsart University in Thailand. Panelists communicated via near real-time text messaging and email. Panelists reviewed both the original text and the back-translation, particularly focusing on discrepant text noted by the English speaking expert (see above). Table 5 presents

both the original text and the back-translation for each item. Items in *italic* were noted to have major discrepancies. Items in *italic* were noted to have minor discrepancies.

The panel worked to achieve text agreement in terms of conceptual equivalence which meant that some items were deleted and others re-worded. Hambleton (2002) contends that this text manipulation is necessary because some English words in the text might easily be translate-able, but then be meaningless in the target language. For example, the original item #20 “I believe there is a connection between all things that I cannot see but can sense” is meaningless when translated to Thai. Therefore this item would be removed from the questionnaire because of its awkward (nonexistent) meaning.

Birbili (2000) suggests that when the two languages are incompatible in their lexical equivalence, grammatical and syntactical structures, the goal should be to achieve conceptual equivalence. For example, the items involving words such as “a Higher Power/Universal Intelligence” have a problem of nonequivalence of lexical, grammatical, and syntactical structures in the translation. The concept does not exist in the Thai language. The panel thus determined that the term “Spirit in the Universe” was a conceptual equivalent.

Table 6 presents the items all three panelists agreed captured at least conceptual equivalence and, in many cases, lexical, grammatical, and syntactical equivalence. Table 6 presents both the original English items and the translations the panelists agreed on. Altogether 37 items remain in the questionnaire assessing Workplace Spirituality.

#### Measurement Pretest

The Workplace Spirituality questionnaire was pre-tested in order to assess its reliability and validity and, possibly achieve a more parsimonious item list. Reliability is the degree to which measures are free from error and therefore yield consistent results (Peter, 1979). Churchill (1979) recommends assessing internal consistency by calculating a coefficient alpha. Indeed, he suggests that coefficient alpha should be “the first measure to assess the quality of the instrument” (Churchill, 1979, p. 68).

Reliability is a necessary, but not sufficient condition for validity (Gilbert & Churchill, 1979). Therefore, the instrument was also assessed in terms of face validity. According to Mentzer and Flint (1999), face/content validity requires an assessment of how well the content of the construct is captured by the items measuring the construct. This can be done with factor analysis (Gilbert & Churchill, 1979) which can be used to “...confirm whether the number of dimensions conceptualized can be verified empirically” (Churchill, 1979, p.69). Confirmatory factor analysis (CFA) was employed to examine the psychometric properties of the measure.

The S&P Human Resources Department assisted in distributing the Workplace Spirituality questionnaire to 200 randomly selected employees. The data gathered from these informants were used for the diagnostics noted above.

### ***Work performance***

Work performance is operationalized as follows: Work performance is assessed as a dependent variable for this dissertation and is derived from S&P performance evaluation. Work supervisors at S&P evaluate their subordinates twice annually on five dimensions: work content, work behavior, job specification, discipline, and job knowledge and competency for the employee level and additional dimension--management skills for the management level. Because the study did not precisely

coincide with the semi-annual evaluations, supervisors for the 60 participants were asked to perform an evaluation for this study. Normal S&P procedures and instruments were used.

Performance evaluation at S&P is done in two forms: employee and management. At the employee level, five dimensions of performance are evaluated: work content, work behavior, job specification, discipline, and job knowledge and competency. At the management level, management skill is also assessed. Each dimension indicator has different weights. For example, a work content dimension has two indicators, quality and quantity of work and each indicator receives a weight of 5. In contrast, a work behavior dimension has four indicators (enthusiasm, compliance with service protocol, cooperation and teamwork, awareness of clean food and safety, and hygiene of equipment) and each indicator receives a weight of 4. Each indicator is rated using a 5-point Likert-type scale that ranges from 5=Excellent to 1=Not Satisfactory. Each rating score is multiplied its weight scale then the scores are summed. The total score is averaged. The averaged scores then receive a grade depending on where the score falls in the ranges shown below.

*Interpretation of average of total score*

<i>Range of score</i>	<i>Grade</i>	<i>Interpretation</i>
5.00-4.51	A	Excellent
4.50-3.51	B	Good
3.50-2.51	C	Fair
2.50-1.51	D	Poor
1.50-0	F	Need to improve

However, in this dissertation, the employees' scores, not grades, are used to measure work performance. The S&P performance evaluation instrument is shown in Table 7.

*Interpretation of rating scale*

Excellent	5 scores = performance is above expectation and S&P standard
Very good	4 scores = performance is above S&P standard
Good	3 scores = performance meets S&P standard
Fair	2 scores = most of performance meets S&P standard, but some is below the standard
Not Satisfactory	1 score = performance is below S&P standard and has significance errors.

### **Experimental Intervention**

***BMDP*** is operationalized as follows: BMDP refers to the Buddhist Mind Development Program. It is a 8-day program consisting of a series of activities including meditation, the study of Buddha's teachings, and group discussion. The S&P company uses BMDP as a training course to develop their employee's mind, spirit, and behaviors. BMDP is conducted by S&P cooperating with the Young Buddhist Association of Thailand (YBAT).

### ***BMDP***

"BMDP" stands for a Buddhist Mind Development Program, and is conducted by the Young Buddhist Association of Thailand (YBAT). BMDP is a eight-day training course consisting of many activities like sitting and walking meditation, learning Buddha's teachings by watching video tapes, and group discussion regarding the

questions of the meditation practicing. As mentioned above, BMDP employs insight meditation. There are specific rules for people who attend BMDP. For example, “you must stay to practice continuously for eight days”, “do not speak (unnecessary speaking created distractions to the speaker and listener), do not read, write, watch TV, listen to the radio, smoke cigarettes, or drink alcohol”, and “eat as a vegetarian”. The aim of these rules is to help the people who attend a BMDP practice purify their minds. To do this they must scrub away impurities and cravings (Phra Dhammasinghapuracariya, n.d.). Moreover, they need to extra effort into enduring inconveniences. Finally, their mind should be with the present by noting all their movements and actions as they really occur. This requires slowing down their normal movements so they can better observe themselves while they practice.

A typical BMDP program schedule looks like this:

Morning	04.30 am	Wake up, meet together at the place of practice
		Morning chanting
		Walking meditation, sitting meditation
	07.00 am.	Breakfast
	08.00 am.	Chanting, walking meditation, sitting meditation
	11.00 am.	Lunch
Afternoon	01.00 am.	Walking meditation, sitting meditation
	03.00 am.	Tea break, rest
	03.30 am.	Group discussion, walking meditation, sitting meditation
Evening	06.00 pm.	Dinner

07.00 pm. Evening Chanting, watching DVD related to  
Buddhist Philosophy  
Walking meditation, sitting meditation  
09.30 pm. Rest, sleep

The S&P Company, in cooperation with Young Buddhist Association of Thailand (YBAT), conducts BMDP six times per year for S&P employees and people who are interested in meditation. S&P also built a facility for conducting the meditation courses. The meditation instructors include both top managers from S&P and instructors from YBAT. Program participants voluntarily apply for the program, although sometimes an S&P supervisor may recommend a subordinate to the program. S&P has sponsored the BMDP programs for more than 30, so the program is well-known and generally not regarded as unusual by employees. S&P's CEO believes that a program aimed at developing and purifying people's minds is useful because he believes he has personally benefited greatly from the program and that others can benefit as well (Petchsawang & Morris, 2006). Buddhists generally believe that helping people purify their minds has merit in and of itself. Curiously, however, the company has never empirically examined whether or not this belief in the merits of BMDP is, in fact, supported by evidence.

This dissertation, therefore, provided an empirical test of the effects of the BMDP program on work performance. Additionally, the results of this dissertation ought to contribute to our understanding of workplace spirituality. Finally, the findings of this dissertation might help establish S&P's program as a model that could be copied

by other Thai organizations that might be interested in focusing on developing a spiritual work environment that then leads to positive work outcomes.

## **Chapter IV**

### **Data Analyses and Findings**

This chapter presents the data and findings associated with the study. First, demographic data for the subjects are presented followed by an examination of the workplace spirituality scale including reliability and validity indicators. Descriptive statistics associated with the measure of work performance are presented. The study's hypotheses are tested and, finally, additional analyses are presented that help better the study's results.

#### **Demographics**

The focal sample of this dissertation consisted of 60 S&P employees, 30 in the experimental group and 30 in the control group. Subjects in the experimental group attended BMDP training during the week of May 24-31, 2008. The control group consisted of people who never attended BMDP, but who worked in the same unit and had jobs similar to the experimental group subjects.

Some 43 of the 60 subjects were women (72%). Most of the subjects were under 30 years of age, and most of them were not married. Most of the subjects have at least a high school education and most have been working at the company less than two years. Complete demographic data are presented in Table 8. Chi-square tests show that the experimental and control groups do not differ in terms of demographics. Table 9 presents demographic information for an additional pre-test sample (see below), and these data closely parallel those for the study subjects.

It should be noted that the spirituality scale was administered to the experimental subjects three times: Before the BMDP training (T1), one week after the training (T2), and one month after the training (T3) (see Table 10). Three of the experimental subjects left the company before completing the T3 questionnaire. Instead of eliminating them from an already small sample, the following calculation was performed: The mean difference for all experimental group subjects T3-T1 was calculated for each item. This mean difference was added to the missing subjects' T1 scores for each item. Thus the T3 item scores for the missing subjects is an approximation based on averages for the entire experimental group.

### **Psychometric Properties of Workplace Spirituality Measurement**

Confirmatory Factor Analysis (CFA) was used to assess the psychometric properties of the spirituality scale. CFA is a covariance structure analysis technique (Kerlinger and Lee, 2000) that allows testing of constructs proposed and created with a theoretical basis (DeCoster, 1998 and 2005; Suhr, 2008). CFA also allows a more precise evaluation of the measurement model (Hinkin, 1995) than does traditional Exploratory Factor Analyses (Byrne, 2001).

#### ***Workplace Spirituality Measurement***

The Workplace Spirituality scale was administered to 206 company employees, none of whom subsequently participated either as an experimental subject or a control group subject. This group is referred to as the “pre-test sample.” As noted above demographic data for this group is presented in Table 9. Spirituality questionnaires

were randomly distributed to 250 company employees, and 206 were returned with complete data (82.4% response rate).

CFA was undertaken with the pre-test data to examine the proposed five dimensions of the Workplace Spirituality measurement: Connection, Compassion, Mindfulness, Meaningful Work, and Transcendence. The analysis included specifying a measurement model, determining model identification, assessing descriptive analysis (normality distribution, missing data, etc.), estimating parameters in the model, assessing the model fit, and presenting and interpreting the results (Suhr, 2008).

*Model Specification and Identification:* The initial measurement model consisted of five latent variables with their indicators: Connection (4 indicators), Compassion (7 indicators), Mindfulness (9 indicators), Meaningful Work (8 indicators), and Transcendence (9 indicators). The variance for each variable was set at 1 and the covariances among all variables were drawn in order to test their intercorrelations in the first-order CFA model (see Figure 3).

*Normality Assessment:* The normality assessment for the spirituality items is presented in Table 11. Skewness ranges from -1.268 to .336 and kurtosis ranges from -.988 to 5.06. Item number 2's non-normal distribution makes it a candidate for elimination from the scale.

*Model Assessment and Modification:* The measurement model with 37 items initially showed a poor fit:  $\chi^2=1428.69$ ,  $df=619$ ,  $p=.00$ ,  $CFI=.64$ , and  $RMSEA=.08$  (see Table 12).

The model was then modified based on indicators such as regression weights, standardized regression weights ( $r$ ), squared multiple correlations ( $R^2$ ), and modification indices (MIs), as well as theoretical justification. First, all items with non-significant regression weights were reviewed and this analysis suggested removing items # 5, 10, and 29 from the scale (see Table 13)

Second, items with low factor loadings (e.g., less than .30) (see Table 14) were removed one at a time and the model was re-run. In an effort to improve fit, these analyses suggested removing items 1, 9, 17 and 34 (Connection), items 7 and 15 (Compassion), item 3 (Mindfulness), and items 6, 16 27 and 37 (Transcendence) (see Table 15).

It should be noted that all of the items comprising the Connection dimension were eliminated, either because of weak factor loadings or overall poor fit. These items likely did not contribute meaningful information to the scale because, in fact, the word “connection” does not have meaning in the Thai language as in English. Even though the translation ensured both conceptual equivalence and text readability, the four items of the Connection dimension seem to have been differently interpreted by the participants likely due to their unfamiliarity with the meaning of “connection.” Hence, deleting the Connection dimension seems a logical step.

Third, Modification indices (MI) over 10 are considered for model fit improvement. However, MIs should be considered with theory justification because it can mislead the result (Byrne, 2001; Martens, 2005). MIs suggest correlated error terms between item# 4 and 14 and 22 and 30, while the rest of MI values above 10 (see Table 16) were not considered because of their non logical suggestions. Since the items 4 and

14 have related meanings and the items 22 and 30 are on the same dimension, the correlated error terms suggestion was accepted (see Figure 4).

Eliminating the above named items and correlating the error terms, the model achieved an acceptable fit:  $\chi^2=312.575$ ,  $df=201$ ,  $p=.00$ ,  $CFI=.92$  and  $RMSEA=.05$  (See Table 12). It is important to note that the chi-square test is sensitive to sample size and is based on the central  $\chi^2$  distribution, which assumes that the model fits perfectly in the population. Therefore, a large  $\chi^2$  relative to degrees of freedom always requires a minor model modification (presented as a significant  $\chi^2$ ) (Byrne, 2001). As a result, even though the chi-square test was significant for this model, the other fit indices presented a satisfactory model fit. This model with 22 items fits substantially better than the model with 37 items (see Table 12).

*Convergent and Discriminant Validity:* Correlations between each item and its underlying dimension ranged from .34 to .81, and the r-square from .12 to .71 (See Table 14), thus providing evidence of adequate convergent validity. Table 17 presents the intercorrelation matrix of the scale's underlying dimensions. The correlation between Meaningful Work and Transcendence is high (.87), but a model comparison test suggested that the dimensions are, in fact, different ( $\chi^2 20.39$ ,  $df =3$ ,  $p=.00$ ). Overall, the analyses suggest adequate discriminant validity.

*Internal Consistency Reliability:* Table 15 reports coefficient alphas for the scale's underlying dimensions. Each dimension exhibits adequate reliability, although the Compassion dimension is weak. Cronbach Alpha for the entire scale is .85.

Overall, 15 items were removed from the scale, leaving 22 items measuring four dimensions of spirituality (Compassion, Mindfulness, Meaningful Work, and Transcendence). See Table 15 for a summary.

### **Work Performance Evaluation**

Work performance is used as the dependent variable in this study. Work performance was assessed using the S&P company's performance evaluation instrument. Each of the 60 subjects in the study was evaluated by his/her supervisors one month after the BMDP training. Supervisors have considerable experience using the work performance instrument as they are required to evaluate employees twice annually.

Work performance was evaluated along five dimensions: work content, work behavior, job specification, discipline, and job knowledge and competency. Supervisors rate items within each dimension on a 5-point Likert type scale where 5=excellent and 1=not satisfactory. As noted above the five rated dimensions were assigned different weights depending on how important each was considered to contribute to overall performance. Table 18 presents descriptive information for the Performance evaluation measure. Each item score was multiplied by its weight, thus replicating normal company procedure.

### **Initial Findings**

Mean scores for the modified workplace spirituality scale for both experimental and control groups (pretest and posttest) are reported in Table 19. Means and standard

deviations of work performance evaluation for experimental and control groups at posttest are reported in Table 18.

Table 20 reports a paired sample t-test for both the experimental and control groups. The data in Table 20 indicate that the pre and post test spirituality scores are not different for either group. Additional tests were conducted for the scale's underlying dimensions, and the results of these tests are reported in Table 21. An examination of the data in Table 21 shows that scores did not change pre-test to post-test for either group. While the scores pre-test to post-test were not expected to change for the control group, this analysis suggests that the BMDP intervention did not affect spirituality scores for the experimental group.

Table 22 reports a test of spirituality scores between the experimental and control groups. The data in Table 22 show, as expected, that the pre-test scores do not reach conventional levels of statistical significance. However, the post-test scores do not reach conventional levels of statistical significance either, thus again suggesting that the BMDP intervention did not have an effect on spirituality scores. Table 23 presents data that extends the comparison of the experimental and control groups pre-test and post-test. Table 23 presents data that compares the groups pre-test on the four underlying dimensions, and also compares the groups post-test on the four underlying dimensions. That none of the tests reach conventional levels of statistical significance further suggests the absence of a BMDP effect on the spirituality scores.

Table 24 reports a Repeated Measures ANOVA test of spirituality scores for the experimental group at time 1, 2, and 3 for the four underlying dimensions and total score. The data in Table 24 indicate that the total spirituality score does not

significantly differ across time. However, the scores for one underlying dimension, meaningful work, does differ across time,  $F(2, 58) = 5.65, p = .01$ . Post hoc tests show that the scores for meaningful work differed between time 1 and time 2 (see Table 25).

While the BMDP intervention was predicted to affect spirituality scores, the intervention was also predicted to affect work performance. The data presented in Table 26, however, show that there is, on average, no difference between the experimental and control groups for work performance when work performance was assessed one-month after the BMDP intervention. Table 26 reports the mean work performance of the experimental group ( $M = 17.39, SD = 3.26$ ) was not significantly different from it of the control group ( $M = 16.71, SD = 2.31$ ),  $t(58) = .95, p = .35$ .

### **Hypotheses Tests**

Correlation matrices for the entire sample ( $n = 60$ ) are presented in Table 27 for BMDP, workplace spirituality and work performance as the whole measure and Table 28 for workplace spirituality and work performance and their dimensions. Correlation matrices for workplace spirituality and work performance and their dimensions for the experimental group ( $n = 30$ ) and the control group ( $n = 30$ ) are reported in Tables 29 and 30 respectively.

*Hypothesis 1: BMDP will positively affect workplace spirituality.*

The data reported above do not indicate that the BMDP intervention affected spirituality scores. In fact, the data in Table 20 show that spirituality scores declined post-intervention, although the decline was not statistically significant. The data presented in Table 27 show that the correlation between BMDP and workplace spirituality is not significant,  $r(58) = .12, p > .05$ .

*Hypothesis 2: Workplace spirituality will positively affect work performance.*

The data in Table 28 show a positive and statistically significant relationship between spirituality scores and work performance ( $r = .33, p < .01$ ), thus providing support for hypothesis 2. Table 28 also shows positive and statistically significant relationships between spirituality and three dimensions of work performance: Work Behavior ( $r = .29, p < .05$ ), Discipline ( $r = .26, p < .05$ ), and Job Knowledge and Competency ( $r = .38, p < .01$ ).

Several of the spirituality measure's underlying dimensions are also positively correlated with dimensions of work performance. Compassion is correlated with work performance overall ( $r = .26, p < .05$ ) and with Discipline ( $r = .28, p < .05$ ). Meaningful Work is correlated with Work Performance overall ( $r = .37, p < .01$ ), Work Behavior ( $r = .33, p < .05$ ), Job Specification ( $r = .32, p < .05$ ), Discipline ( $r = .36, p < .01$ ), and Job Knowledge and Competency ( $r = .35, p < .01$ ). Finally Transcendence is correlated with Job Knowledge and Competency ( $r = .28, p < .05$ ).

Table 29 presents the correlation matrix of workplace spirituality and work performance for the experimental group. The data in Table 29 show that workplace spirituality is related to Job Knowledge and Competence ( $r = .41, p < .01$ ). Meaningful Work is related to Work Performance overall ( $r = .48, p < .01$ ), Work Behavior ( $r = .38, p < .05$ ), Discipline ( $r = .55, p < .01$ ), and Job Knowledge and Competency ( $r = .44, p < .05$ ). Table 30 presents the correlation matrix of workplace spirituality and work performance for the control group. The data in Table 30 show a relationship between Compassion and Work Performance overall ( $r = .38, p < .05$ ), Work Content ( $r = .38, p < .05$ ), and Work Behavior ( $r = .30, p < .05$ ).

*Hypothesis 3: BMDP will positively affect work performance.*

The data do not indicate that the BMDP intervention affected work performance scores. Table 27 shows that the correlation between BMDP and work performance does not reach conventional levels of statistical significance ( $r = .12, p = \text{ns}$ ). Hypothesis 3 is not supported.

*Hypothesis 4: Workplace spirituality will mediate the relationship of BMDP and work performance.*

Due to concerns about small sample size, Hypothesis 4 was tested using a multiple regression approach suggested by Baron and Kenny (1986). According to this approach, mediation is indicated when certain relationships are present in the data. First, there should be a direct statistically significant relationship between the independent variable (BMDP) and the dependent variable (work performance scores) (path c, See Figure 5). Second, there should be a statistically significant relationship (path a) between the independent variable (BMDP) and the mediator (spirituality scores). Third, there should be a statistically significant relationship between the mediator (spirituality scores) and the dependent variable (work performance) while controlling for the effect of the independent variable (BMDP) (path b). Finally, when controlling for the mediator (spirituality scores), the relationship between BMDP and work performance should no longer be statistically significant (path c') which would indicate partial mediation. If the relationship between BMDP and work performance goes to zero, then full mediation is present (See Figure 5).

The data reported in Table 31 for step 1 indicate no relationship between work performance and BMDP (path c), ( $\beta = .12$ ,  $p = ns$ ). Testing step 2 also indicates no relationship between workplace spirituality and BMDP (path a), ( $\beta = .12$ ,  $p = ns$ ). There is a relationship between workplace spirituality and work performance (path b,  $r = .32$ ,  $p < .01$ ), and controlling for this relationship reduces the relationship between BMDP and work performance (path c', Figure 5), although the reduced relationship is not significant. Thus, there is no evidence of the hypothesized mediated relationship and Hypothesis 4 cannot be supported.

Overall, the data support a hypothesized relationship between spirituality and work performance, but the data do not support the other three hypotheses.

### **Additional Analyses**

Although the BMDP intervention does not seem to play a role in the positive, significant relationship between workplace spirituality and work performance, the presence of the relationship suggests that some other variable may be affecting the relationship. This supposition proves to be true, and the variable appears to be Frequency of Meditation Practice. Informants in both the experimental and control group were asked about the frequency of their meditation practice (see the questionnaire in Appendix C). They checked which of four categories applied: Never, Once per month, Every week, or Every day. Only one informant checked "Every day" so the data were re-coded into the following three categories: never ( $N=34$ ), seldom (one time per month) ( $N=14$ ), and often (combination of every week and everyday) ( $N=12$ ).

Table 32 reports the mean spirituality scores and work performance scores for informants belonging to the three categories. When these data were tested with ANOVA, statistically significant relationships emerge across the three levels of meditation practice for both spirituality scores,  $F(2, 57) = 4.89, p = .01$  and work performance,  $F(2, 57) = 6.85, p < .001$ . Meditation practice accounted for 15% of the variance in the spirituality scores (partial eta-square = .15), and post-hoc Tukey tests show the differences in spirituality scores to be between those who never practice meditation and those who practice meditation often (see Table 33). Similarly meditation practice accounted for 19% of the variance in work performance (partial eta-squared = .19). Post-hoc Tukey tests again showed the group differences to be between those who practice meditation often and those who never practice meditation (see Table 34).

The above tests indicate that meditation practice affects workplace spirituality and work performance. It is thus interesting to replicate the hypotheses tests by substituting meditation practice with BMDP.

*Substitute Hypothesis 1: Meditation practice will positively affect workplace spirituality.*

Table 35 presents a correlation matrix that shows a positive and statistically significant relationship between meditation practice and workplace spirituality ( $r = .38, p < .001$ ). Therefore, substitute hypothesis 1 is supported. Frequency of meditation practice is associated with spirituality scores.

*Substitute Hypothesis 2: Workplace spirituality will positively affect work performance.*

The data in Table 35 show a positive and statistically significant relationship between spirituality scores and work performance ( $r = .33, p < .01$ ), thus providing support for hypothesis 2. This is the same outcome as noted previously.

*Substitute Hypothesis 3: Meditation practice will positively affect work performance.*

The data in Table 35 present a positive and statistically significant relationship between meditation practice and work performance ( $r = .43, p < .001$ ). Hence, substitute hypothesis 3 is supported

*Substitute Hypothesis 4: Workplace spirituality will mediate the relationship between meditation practice and work performance.*

The same procedures reported above for the test of mediation were again employed. The data reported in Table 36 for step 1 indicate a relationship between work performance and meditation practice (path c), ( $\beta = .43, p < .001$ ). Testing step 2 also indicates a relationship between workplace spirituality and meditation practice (path a), ( $\beta = .38, p < .001$ ). There is no statistically significant relationship between workplace spirituality and work performance (path b,  $r = .19, p = ns$ ), although though controlling for this relationship does reduce the relationship between meditation practice and work performance (path c', Figure 6). However, given the lack of significance of the partial effect of workplace spirituality on work performance (path b), there is no strong evidence of the hypothesized mediated relationship. Thus, substitute hypothesis 4 cannot be supported.

It could be the case, however, that meditation practice mediates the relationship of workplace spirituality and work performance. The literature supports such an idea (Heaton, et al., 2004; Tischler et al., 2002). Thus, an additional post hoc analysis was conducted to test an alternative model in which meditation practice serves as a mediator of the relationship between workplace spirituality and work performance (see Figure 7).

*Post-Hoc Test for Substitute Hypothesis 4: Meditation practice will mediate the relationship between workplace spirituality and work performance.*

The data reported in Table 37 for step 1 indicate a direct relationship between work performance and workplace spirituality (path c), ( $\beta = .33, p < .01$ ). Testing step 2 also indicates a relationship between workplace spirituality and meditation practice (path a), ( $\beta = .38, p < .001$ ). There is relationship between workplace spirituality and work performance (path b,  $r = .36, p < .001$ ), and controlling for this relationship reduces the relationship between workplace spirituality and work performance (path c', Figure 7). Therefore, hypothesis 4 of the alternate model is supported. Meditation practice partially mediates the relationship of workplace spirituality and work performance.

As a follow-up, an approximate significance test for mediation was undertaken (Sobel, 1982). The product of paths a and b is divided by a standard error term. The standard error term is computed as the square root of  $b^2 sa^2 + a^2 sb^2 + sa^2 sb^2$ , where a and b are unstandardized regression coefficients and sa and sb are their standard errors (Sobel, 1982). The resulting z score indicates that meditation practice is a significant mediator. (See Appendix D for calculations). Next, the amount of mediation in terms of the proportion of the total effect that is mediated was computed by calculating the

product of path a multiplied by path b and divided by path c ( $ab/c$ ) (Shrout & Bolger, 2002) The result indicates that approximately 41% of the total effect of workplace spirituality on work performance is mediated by meditation practice. See Appendix D.

## **Chapter V**

### **Discussion and Conclusions**

Workplace spirituality has received increased attention in the past few years; however, the theory development of this topic is in a very early stage (Dehler & Welsh, 2003). Moreover, most of the research devoted to spirituality in the workplace has been “soft” and generally lacking strong empirical evidence (Giacalone & Jurkiewicz, 2003).

This dissertation attempts to examine spirituality in the workplace by using an approach that should be seen as conventional in terms of the field of management research, but its very conventionality satisfies requirements for rigor that have all too often been missing. For example, this dissertation uses a definition for spirituality at work that is carefully grounded in the literature. Second, a measure for spirituality in the workplace was developed relying on conventional psychometric approaches to instrument development, not something ad hoc or idiosyncratic. Third, the research reported in this dissertation investigates the effectiveness of a program (BMDP) that was designed specifically to enhance a spiritual approach to work. This dissertation, therefore seeks to discover an empirical link between spirituality and work performance. That is, overall, the research pursued in this dissertation is an effort to define and measure a construct (spirituality at work) that is often treated as something that cannot be clearly defined and accurately measured. The link of spirituality and work performance is a key. Spirituality in the workplace will only exist as an interesting, but non-essential idea unless it can be connected to important organizational outcomes such as work performance.

## **Defining and Measuring Workplace Spirituality**

The definition of workplace spirituality developed in this dissertation is drawn mostly from Western literature. Based on the literature, workplace spirituality is initially defined as **feeling connected with and having compassion toward others, experiencing a mindful inner consciousness in the pursuit of meaningful work that enables transcendence**. The five dimensions of the construct captured in the definition were taken from the work of *Milliman and Neck (1994)*, *Mitroff and Denton (1999)*, *Mahoney and Graci (1999)*, *Ashmos and Duchon (2000)*, *Krishnakumar and Neck (2002)*, *Giacalone and Jurkiewicz (2003)*, *Kinjerski and Skrypnek (2004)*, and *Twigg & Parayitam (2006)* (See Table 1 for specifics). The five dimensions include connection, compassion, mindfulness, meaningful work, and transcendence.

Connection refers to a deep sense of connection or community with other people and other people's work. Compassion is sympathy for others and a wish to relieve their suffering. Mindfulness is a state of awareness of thoughts and actions moment by moment. Meaningful work is experienced as a consequence of feeling that work is a significant and meaningful part of life. Transcendence is about going beyond oneself and feeling connected to a higher power. Scale items were generated for each dimension (see Table 4).

## **Testing Spirituality in an Eastern Context**

Workplace spirituality was tested in Thailand which is an Eastern, Buddhist-centric workplace, and thus a contrast to Western workplaces steeped in a Judeo-Christian religious tradition. It is the Western tradition that informed the measurement of Workplace Spirituality used in the study. Crossing cultural boundaries may be

possible because Delgado (2005) argues that Western culture and Eastern culture are not different in their experience of spirituality, particularly as they relate to connection, compassion, consciousness and awareness, meaning, and transcendence, but the anchor points are different. For example, to find meaning and purpose in life, Christianity requires connection and commitment to God, but Buddhism focuses on compassion for all living things without reference to God (Delgado, 2005). The measures used in this study try to navigate the ground common to both Western and Eastern perspectives, and thus may have utility in both contexts, although this is conjecture until the scales used in the current study are used in a Western context.

The workplace spirituality questionnaire was initially created in English. It was translated into Thai by a panel expert in the Thai language, and it was back-translated into English to assure that the meanings of the items hold up when crossing language and culture frontiers. The translation of the workplace spirituality measurement followed guidelines suggested by Maxwell (1996), Hambleton (2002), and Birbili (2000), which specify a three-stage process: 1) multiple-forward translation; 2) back-translation; and 3) translation review by bilingual judges. After processing the three steps, 37 items remain in the questionnaire assessing Workplace Spirituality. See Figure 2.

The workplace spirituality measurement was purified and confirmed with CFA in a sample of 206 employees from a Thai organization. Based on Western-centric theory, five dimensions were initially proposed, but the CFA analysis confirmed only four dimensions: compassion, mindfulness, meaningful work, and transcendence. The connection dimension was not confirmed. After carefully considering this outcome, it seems likely that the connection dimension was lost because, in fact, there is no

conceptual or literal linguistic meaning for “connection” in the Thai language. One might also note that Buddhist practice seeks the ultimate goal of “Enlightenment” which is an individual action, not a collective one. The action of being connected to other people is recognized in Buddhist tradition, but it is never emphasized as a personal goal (Delgado, 2005). However, “connection” might prove to be a viable dimension in a Western setting. For example, Ashmos and Duchon (2000) assess a sense of community as part of their measure of spirituality at work.

The measure used in this study assesses compassion. The idea is that a spiritual person desires to act in virtuous ways toward others by showing forgiveness and compassion (Furnham, 2003; Paloutzian, Emmons & Keortge, 2003). It should be noted that compassion has not been proposed as a dimension in previously developed measures of spirituality in the workplace. In the current study, informants report that the workplace is a place where people demonstrate their caring and empathy for each other (Eisler & Montuori, 2003). The Eastern work context might be a factor here. Compassion is a central point in Buddhist philosophy. In the Buddhist tradition humans should not harm each other; rather, they should help each other (Kurth, 2003; Parboteeah & Cullen, 2003).

The spirituality measure used in this study assesses mindfulness, a condition heretofore not addressed by others. Mindfulness is about awareness; it is about paying attention to the activity of the present moment, in contrast to being on automatic pilot. Again, the Eastern context might have enhanced any effect attributable to mindfulness because Buddhist meditation requires mindfulness. Mindfulness does not correlate highly with the other dimensions of workplace spirituality in the present study (see

Table 16), but it does account for statistically significant portions of the variance in the dependent measure.

Meaningful work is the most commonly assessed dimension of workplace spirituality, and it was used in the current study's measure. The items addressing meaningful work include feeling joy and being energized because of one's work. Work provides central meaning to one's life. The meaningful work dimension has high correlations with the other dimensions, especially transcendence (see Table 16).

Finally, the measure of spirituality at work used in this study assesses transcendence. Transcendence is about experiencing a kind of happiness, joy, and energy at work such that one enters a different realm and loses a sense of time and space. The transcendence dimension is strongly correlated with both compassion and meaningful work. The literature supports the idea that spirituality is related to a transcendent journey, which aims to find a meaning of life (Ashforth & Pratt, 2003).

Note that the measure used in this study includes two factors not addressed in previous research: compassion and mindfulness, both of which are assessed as behaviors, not attitudes (i.e., the action of being mindful and the action of displaying compassion). The CFA, however, also supported two dimensions reported in previous work: meaningful work (cf. Ashmos & Duchon, 2000) and transcendence (cf. Kinjerski and Skrypnek, 2006). Overall, then, the data analysis suggests that the definition of spirituality in the workplace needs to be modified in an Eastern (Thai) work context. The revised definition is: workplace spirituality includes **having compassion toward others, experiencing a mindful inner consciousness in the pursuit of meaningful work, which enables transcendence.**

### **Training Spirituality in an Eastern Context**

One of the important tests in this research was an examination of the effects of an intervention where informants participated in eight days of meditation training. The company in which the research took place has for 30 years provided its employees with opportunities to learn meditation techniques. The company's owner believes that people who learn and practice meditation acquire the kind of benefits that not only improve their personal lives, but also improve their work lives.

In the Eastern tradition meditation is a tool used to purify both mind and spirit. The spirituality training in this dissertation refers to the specific type of insight meditation taught in the meditation training. Insight meditation aims to achieve wisdom and "see the true nature of life and the world" (Payutto, 2002). With an ability to see the truth, individuals can be able to understand better themselves, other people, problems, and life. Such understanding is proposed also to transfer to the workplace. In this research "BMDP" refers to an insight meditation training intervention which is believed to affect the factors that comprise spirituality at work as defined in this research: connection, compassion, mindfulness, meaningful work and transcendence as well as affect work performance. The prediction was that the training would not only raise informants' sense of their own spiritual selves (i.e., spirituality scores would be higher after the BMDP training), but also those who participated in the training would transfer to their jobs their newly learned ability to achieve insight and their work performance would improve. However, the data analyses reported in Chapter IV cannot support the hypothesized effect of the BMDP training. Spirituality scores did not improve following the training, nor did work performance.

It is important post hoc to consider why the BMDP training did not produce the hypothesized effects. First, the spirituality scores of those who participated in the

training went down, not up. The decline was not statistically significant and could be the result of normal variation, but the comparison group scores did not decline. The most obvious conclusion is that the training did not affect the participants' sense of their spiritual selves. Alternatively, it is possible that the training did produce a "spirituality" effect but the measure could not show it. This might happen because of a "re-calibration" effect. That is, the informants might have had a "false sense" of their own spirituality which they discovered only as a consequence of the training. Thus, they re-calibrated their sense of their own spirituality and such a re-calibration resulted in a lower spirituality score.

Second, the intervention did not produce a work outcome. Most obviously this can be explained because meditation is not training for job knowledge. Rather it is training for gaining a kind of generalized "wisdom." Moreover, the training was aimed at meditation techniques and it seems likely that the techniques themselves require practice over a period of time longer than one month before they produce observable benefits. Meditation is supposed to help individuals purify their minds and acquire wisdom from inside themselves, and people likely do not obtain the benefits of meditation in a short-term period. Rather, they would likely have to continue practicing meditation for long period, certainly longer than one month. Indeed the data analysis did show a link between (long term) meditation practice and work outcomes (see below). Also note that the 8-day BMDP program may not be a sufficient length of time to produce an observable effect. For example, Schmidt-Wilk (2003) discovered a relationship between Transcendental Meditation (TM) practice and Total quality management (TQM) in a Swedish top management team. But the participants had to practice meditation for three years before the relationship emerged. Frew (1974) found

a relationship between TM practice and productivity, but only after 11 months of TM practice. Finally, a meditation practice intervention might enhance one's sense of a spiritual self, but the intervention may well have to last more than eight days. Mackenzie, Carlson, Munoz<sup>1</sup> and Speca (2007) found that cancer patients raised their own sense of spirituality but only after eight weeks of meditation practice.

Even though BMDP did not provide a significant research effect, some of the participants claim to have found benefits in their lives as a result of the training, particularly in the areas of forgiveness, awareness, and patience. For example, these participants said the following:

“I was mad at my co-worker for the whole year. I did not even want to see her face. But after attending BMDP, I felt that my madness did not provide any benefit to my life. I also felt compassion and forgiveness. So at the first day of my work after returning from BMDP, I went to say sorry to her for whatever I did to her. Surprisingly, she accepted my apology. And now, we can talk as friends and forget about the past.”

“I used to work as a cashier. Sometimes, I inputted the number to the computer without knowing what I was doing, so I made some errors. After attending BMDP, I observed myself that I have more awareness with my work. I also used to lose my temper easily with picky customers. But now, I have more patience and awareness to hold my negative reaction back to the customers.”

“I more control my emotion and am mindful.”

“I can hold back my bad mood. I am also more honest with myself.”

While some of the participants believed to have found personal benefits as a result of the training, others did not. Thus, the lack of an effect for the training could be the result of mixed experiences. Different people have different experiences because of differing levels of motivation, different level of interest, and even different levels of confidence in both the training and the instructors. Remember, most of the participants in the training were not volunteers. Rather, they were sent to the training by their supervisors, and they might not have been willing participants.

If the organization in which the research took place truly wants to achieve a work-related outcome from the BMDP training it may have to modify the training intervention. For example, rather than allowing the participants to “figure things out”, the training might include conversation and practice in how specifically to transfer meditation benefits to the workplace. Second, because an 8-day training may not be long enough to produce an effect, the company should consider regular follow-up programs where participants can be re-engaged in meditation practice (Astin, 1977). Meditation is not an easy thing to learn and a more long-term approach to the acquisition to meditation skills might be more effective. Finally, the confidence and readiness of the participants should be assessed before their attendance. That is the effects might be more pronounced if the participants all volunteered for the training rather than assigned the training by their supervisors.

### **Spirituality in the Workplace**

The research in this dissertation makes an important contribution to the study of spirituality at work because it provides empirical evidence of a significant, positive relationship between spirituality and actual work outcomes; not attitudes about work, not attitudes about commitment or job satisfaction, but work performance as it is measured by the organization. Moreover, three of the four dimensions of spirituality at work that survived the CFA also contribute to a relationship to work performance.

For example, the dimension of Meaningful Work has the strongest link to work performance in the findings. In fact, the results reveal that meaningful work significantly relates to work performance in terms of work behavior, job specification, discipline, and job knowledge and competency. This is not a surprising result. Many researchers have previously noted that that meaningful work is likely the central issue in connecting the workplace with spirituality (Ashmos & Duchon, 2000; Biberman & Whitty, 1997; Neck & Milliman, 1994; Lips-Wiersma, 2002; Jurkiewicz & Giacalone, 2004; Duchon & Plowman, 2005; Kinjerski & Skrypnek, 2006).

Transcendence is also related to work performance in terms of job knowledge and competence. Compassion is associated with discipline including compliance with a supervisor's command. Note that Compassion does not only involve sympathy for others, but also it is an expression of belief in important things beyond themselves (Kriger & Hanson, 1999). People who have compassion seem to be able to see themselves connected to important elements in the workplace, such as co-workers and supervisors as well as organizational policies.

Curiously, Mindfulness does not relate to any dimension of work performance in this study. The possible reason is that mindfulness is a benefit of and based on Buddhist meditation theory. Since Buddhist meditation does not affect workplace

spirituality and work performance, the linkage between mindfulness and work performance is absent. Also, as noted above, persistent meditation practice is required to obtain benefits like mindfulness. Based on the literature, people who are mindful have their minds totally engaged in their work, which in turn will positively affect their work performance. But this is conjecture that needs empirical investigation.

The overall connection between spirituality and work performance supports the findings reported by Duchon and Plowman (2005) and confirms a theoretical assumption that bringing spirituality to the workplace positively affects organizational outcomes (Biberman & Whitty, 1997; Burack, 1999; Cacioppe, 2000; Cavanagh, 1999; Mitroff & Denton, 1999; Neck & Millinman, 1994; Pratt & Ashforth, 2003; Jurkiewicz & Giacalone, 2004; Kinjerski & Skrypnek, 2006). Because Western research methods were used in an Eastern (Thai) work context, it may be that the relationship between spirituality and work may be robust in any work context, although such speculation will, of course, require further examination.

Nonetheless, the research reported here suggests that work performance is related to meaningful work, compassion, mindfulness, and transcendence, and that attending to these issues can create a more productive work environment. Meaningful work provides employees an opportunity to realize their full potential as human beings

To promote meaningful work, organizations need to focus not only on designing jobs that provide meaning in a job characteristics sense ( Hackman & Oldham, 1976), but also by addressing employee need at a deeper level (Ashar & Lane-Maher, 2004; Duchon & Plowman, 2005). This might mean paying attention to continuous learning and development, fully appreciating employee contributions, enhancing flexibility and autonomy, and promoting creativity and initiative (Kinjerski

& Skrypnek, 2006). Paying attention to work-life balance may also enhance meaningfulness at work (Pratt & Ashforth, 2003) and contribute to a sense of greater compassion in the workplace. Larger structural and cultural issues such as organizational integrity, social responsibility, positive workplace culture and atmosphere, sense of community among members, and inspiring leadership can also play a role in enhancing workplace spirituality (Kinjerski & Skrypnek, 2006).

Leadership is important in foster a sense of transcendence. Pratt and Ashforth (2003) suggest that leaders can model behavioral integrity. Additionally, leaders can promote psychological safety by allowing employees to show themselves and demonstrate initiative and creativity without a fear of negative consequences to their career or status (Pratt & Ashforth, 2003). The alignment of an employee's identity, value, and purpose, a result enabled by effective leadership, can foster transcendence (Pratt & Ashforth, 2003). Finally, when leaders demonstrate congruence among the organization's vision, mission, goals, and practices, they will impact a sense of spirituality in the wider organization and contribute to a more effective work environment (Fry, 2003). Indeed, the leader should ensure that all parts of the organization are working together toward the same goals in support of corporate spiritual values.

### **Meditation Practice and Spirituality**

An important finding in this research is that engaging in meditation practice matters. While the short-term training in meditation technique did not produce an effect in terms of a sense of spirituality or in terms of work performance, meditation practice does. Buddhist meditation practice partially mediates the positive relationship between

workplace spirituality and work performance. In other words, practicing meditation strengthens the positive effect between workplace spirituality and work performance. This relationship was discovered post hoc, but in practical terms it makes sense: the more spiritual people are, the more they practice meditation and the more they practice meditation, the better they perform their work.

This insight is further supported by realizing that people obtain the benefits of meditation, not quickly, but rather over a period of time. Effective meditation requires patience and persistence. Practice over a period of time enables the meditation practitioner to become more skilled at achieving the kind of mindfulness that leads to a sense of meaning in life, compassion, and transcendence. These cognitive effects are in addition to the stress reduction attributed to meditation that has been reported by others (Biberman & Whitty, 1997; Schmidt-Wilk, Alexander & Swanson, 1996).

Two additional points should be made. First, there are different forms of meditation practice, different techniques aimed at different outcomes. For example, meditation in the religious tradition of Christianity aims at finding God. In contrast, the insight meditation technique examined in this research aims to understand oneself. The current research can demonstrate a relationship between insight meditation practice and both spirituality and work outcomes. It is an empirical issue whether other techniques will show the same effect. Second, insight meditation aims at cultivating awareness within oneself. Self awareness ought to be possible in any cultural context. While the behavioral expression of such self awareness will no doubt vary across cultures, the capacity to understand oneself better is independent of intellectual and cultural traditions. Thus, insight meditation practice can, in theory, provide benefits in any cultural (work) context.

### **Limitations of the Study**

The limitations of the current study are the limitations of a quasi-experimental research design in which random assignment was not possible. A comparison group was identified for the current study that matched the experimental group in terms of work assignment, location in the organization, time on the job, etc. While this comparison group was the important research design strength, several threats to internal and external validity (Campbell & Stanley, 1963) are still present.

Maturation, for example, involves time-dependent processes between the pretest and posttest (Campbell & Stanley, 1963). Even though the short passage of time between pretest and posttest was designed to eliminate the threat of subject maturation (Eckert, 2000), maturation from other sources such as “growing more tired” (Campbell & Stanley, 1963, p. 5) might have affected the design used in the present study. It is possible that the study’s informants became bored or tired because the experimental group was required to fill out the spirituality questionnaire three times, and the comparison group twice. Also, some questionnaires were lost in the delivery-return process, thus requiring a few informants to complete yet another questionnaire.

History may have been a factor in the study. Thailand in the spring and early summer of 2008 faced political turmoil that affected the country’s economy which, in turn, likely increased stress in living and work environments (Bangkok Post, 2008). Moreover, the company in which the research was conducted was, according to the Vice-President of Human Resources, understaffed which meant the employees had to accept greater workloads. The stresses of the political climate combined with the stresses in the company may have overwhelmed any positive effects gained during the BMDP training.

Testing effects may have occurred. Testing refers to the kind of learning that can occur as a consequence of repeatedly completing the same questionnaire. For example, the re-calibration effect noted above is a kind of testing effect (Campbell & Stanley, 1963). There may have been instrumentation effects between pretest and posttest (Campbell & Stanley, 1963). While the spirituality questionnaire itself did not change throughout the study, the environment surrounding the administration of the questionnaire did change. Pre-test questionnaires were completed in meditation rooms, but post-test questionnaires were completed at work. Since most of the informants worked in the restaurant branches, the chaotic working conditions may have negatively affected questionnaire administration. Finally, a small sample drawn from a single organization demands caution in the interpretation of results.

### **Future Research**

Although this dissertation attempted to examine the relationship among a spirituality intervention (BMDP), workplace spirituality, and work performance, the study was conducted in Thailand with Thai subjects, many of whom, because of their Buddhist-centric culture, are conditioned to see meditation as something, if not “normal,” at least “not unusual.” Similarly, the idea of “spirituality” as a part of human experience that is separate from religion likely enjoys wider acceptance in the Thai culture than it would in North American culture. Future research will need to determine the extent to which different cultural contexts matter in the study of spirituality. Future

research will also have to examine the utility of a single measure of spirituality that crosses cultural boundaries.

The quasi-experimental research design employed in this research is the strength, but future research should not ignore cross sectional designs. For example, cross sectional research design with a larger sample will assist the power of statistical testing and subsequent generalization. In fact, a different picture could emerge from larger samples. Additionally, employing qualitative research design will enhance the richness of the interpretation of the findings.

The conceptual framework of this dissertation research focuses on testing the effectiveness of a spiritual intervention on workplace spirituality and work performance at the individual level. Future research, however, may take into account other variables at both individual and organizational level. It is also important to determine what variables moderate the relationship between BMDP and workplace spirituality or BMDP and work performance or workplace spirituality and work performance. Studying the interaction effects assists researchers to enhance their understanding of the impact of both internal and external factors affecting the relationships. For example, personality may interact with the impact of BMDP on workplace spirituality or workplace spirituality on work performance. Additionally, mediators that strengthen or weaken the relationships should be further studied. In fact, some critical organization variables such as job characteristics, job satisfaction, leadership and organizational commitment may mediate the relationship between workplace spirituality and work performance.

Finally, although BMDP does not significantly and positively affect workplace spirituality and work performance in this study, it may nonetheless be useful to examine

the effect of BMDP on other aspects of employees' life and work such as emotional quotient, work-life balance, and team work.

## **Conclusions**

This dissertation research examined the impact of an insight meditation training program on both a sense of spirituality and work performance. Even though the data did not reveal an effect for the training program, measures of spirituality did relate to work performance. Moreover, meditation practice does seem to be related to both spirituality and work performance. Thus, teaching people the insight meditation technique may have merit, although the training likely needs follow-up session to help people embed meditation practice in their daily lives.

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## **Appendices**

## **Appendix A**

### **Tables**

Table 1: *Definitions of Spirituality*

Sources	Definitions of Spirituality
Milliman and Neck (1994)	“a desire to find meaning and purpose in life”, “a transcendent personal state”, “living by inner truth to produce positive attitudes and relationships”, and a belief of being connected to each other and desire to go beyond one’s self-interest to contribution to society as a whole”
Guillory (1997)	The domain of inner consciousness that expresses itself as a sense of “harmony, interconnectedness, and oneness”
Mitroff and Denton (1999)	“The desire to find ultimate purpose in life, and to live accordingly”
Mahoney and Graci (1999)	Charity, community or connectedness, compassion, forgiveness, hope, meaning, and morality
Ashmos and Duchon (2000)	Meaningful work, inner life, and community
Cacioppe (2000)	“...it involves going beyond seeing individuals as separate entities who try to reach a mutually satisfactory arrangement”
Krishnakumar and Neck (2002)	The intrinsic-origin view :“our inner consciousness”; The religious view: “call for work”; The existentialist perspective: “the search for meaning in what we are doing at the workplace”
Giacalone and Jurkiewicz (2003)	A framework of organizational values and culture in promoting employees’ experience of transcendence and sense of being connected to others
Ashforth and Pratt (2003)	Transcendence, holism and harmony, and growth
Dehler and Welsh (2003)	A search for meaning, self-knowledge, transcendence, and an inner source of energy
Tepper (2003)	A motivation to finding a meaning of one’s life
Milliman, Czaplewski and Ferguson (2003)	Meaningful work, a sense of community, an alignment with organizational values
Kinjerski and Skrypnek (2004)	Physical experience, affective experience, cognitive experience, interpersonal experience, spiritual presence, mystical experience
Heaton, Schmidt-Wilk, and Travis (2004)	Pure spirituality ( inner consciousness) Applied spirituality (applications of pure spirituality)
George, Sorenson and Burns (2004)	The experience of connection to something that transcends our ordinary lives
Delgado (2005)	“The most common quality in descriptions of spirituality was transcendence, followed by meaning, mystery, animating or life-giving, connecting or unifying.”

Table 2: The Five Components and Their Sources

Dimensions	Spirituality Literature
1. Connection	<p><i>Milliman and Neck (1994)</i>: “a belief of being connected to each other and desire to go beyond one’s self-interest to contribution to society as a whole”</p> <p><i>Guillory (1997)</i>: “interconnectedness”</p> <p><i>Mitroff and Denton (1999)</i>: “the deep feeling of the interconnectedness of everything”</p> <p><i>Mahoney and Graci (1999)</i>: “connectedness”</p> <p><i>Ashmos and Duchon (2000)</i>: “a sense of connection and community.”</p> <p><i>Krishnakumar and Neck (2002)</i>: “a feeling of being connected with others”</p> <p><i>Giocalone and Jurkiewicz (2003)</i>: a sense of being connected to others</p> <p><i>Milliman, Czaplewski and Ferguson (2003)</i>: a sense of community</p> <p><i>Kinjerski and Skrypnek (2004)</i>: “interpersonal experience (sense of connection to others and common purpose)” and “making a contribution”</p> <p><i>Twigg &amp; Parayitam (2006)</i>: “a connection with the pain and suffering of other living things”</p>
2. Compassion	<p><i>McCormick (1994)</i> : a feeling of deep sympathy and sorrow for others</p> <p><i>Mahoney and Graci (1999)</i>: “compassion” and “forgiveness”</p> <p><i>Ingersoll (2003)</i>: awareness of the needs of others and a desire to help other people or compassion</p> <p><i>Delgado (2005)</i>: the desire for mutual caring and support others.</p> <p><i>Twigg &amp; Parayitam (2006)</i>: a deep “connection with the pain and suffering of other living things.”</p>
3. Mindfulness	<p><i>Milliman and Neck (1994)</i>: “living by inner truth”</p> <p><i>Guillory (1997)</i>: the domain of inner consciousness</p> <p><i>Krishnakumar and Neck (2002)</i>: “our inner consciousness”</p> <p><i>Heaton, Schmidt-Wilk, and Travis (2004)</i>: “pure consciousness which is the state of wakefulness as its essential nature, unmixed with images, thoughts, feelings, or any other objects of perception”</p>
4. Meaningful Work	<p><i>Milliman and Neck (1994)</i>: “a desire to find meaning and purpose in life”</p> <p><i>Mitroff and Denton (1999)</i>: “the ultimate source and provider of meaning and purpose in our lives”</p> <p><i>Mahoney and Graci (1999)</i>: “meaning”</p> <p><i>Ashmos and Duchon (2000)</i>: “meaning and purpose in work”</p> <p><i>Krishnakumar and Neck (2002)</i>: “the search for meaning in what</p>

Dimensions	Spirituality Literature
5. Transcendence	<p>we are doing at the workplace”</p> <p><i>Dehler and Welsh (2003)</i>: a search for meaning</p> <p><i>Milliman, Czaplewski and Ferguson (2003)</i>: meaningful work</p> <p><i>Tepper (2003)</i>: a motivation to finding a meaning of one’s life</p> <p><i>Kinjerski and Skrypnek (2004)</i>: “affective experience (positive affect experience by well being and job”</p> <p><i>Milliman and Neck (1994)</i>: “a transcendent personal state”</p> <p><i>Mitroff and Denton (1999)</i>: “expressive of the awe we feel in the presence of the transcendent”</p> <p><i>Giacalone and Jurkiewicz (2003)</i>: employees’ experience of transcendence</p> <p><i>Ashforth and Pratt (2003)</i>: a connection to a higher power or transcendence</p> <p><i>Dehler and Welsh (2003)</i>: deeper self-knowledge or transcendence to a higher level</p> <p><i>George, Sorenson, and Burns (2004)</i>: “experience of connection to something that transcends our ordinary lives”</p> <p><i>Kinjerski and Skrypnek (2004)</i>: “mystical experience (a sense of perfection and transcendence)”</p> <p><i>Twigg &amp; Parayitam (2006)</i>: “an awareness of something beyond the world”</p>

Table 2: *Continued*

Table 3: The Five Dimensions and Their Sources

Dimensions	Measurements	Captured Words
1. Connection	<i>Spirituality at Work</i> (Ashmos & Duchon (2000)) <i>Spirit at Work Scale</i> (Kinjerski & Skrypnek , 2006)	- Positive connections with other individuals - A sense of community characterized by a feeling of connectedness to others
2. Compassion	* The items of this dimension are developed to contextualize workplace spirituality literature by McCormick (1994)  <i>Mahoney and Graci (1999)</i>  <i>Ingersoll (2003)</i>  <i>Delgado (2005)</i>  <i>Twigg &amp; Parayitam (2006)</i>	- A feeling of deep sympathy and sorrow for others - Compassion, forgiveness, and peace - Awareness of the needs of others and desire to help other people - A responsibility for another who is less fortunate - Connection with the pain and suffering of other living things
3. Mindfulness	<i>The Mindful Attention Awareness Scale (MAAS)</i> (Brown & Ryan, 2003) <i>The Freiburg Mindfulness Inventory (FMI)</i> (Walach, Buchheld, Buttermuller, Kleinknecht & Schmidt, 2006)	- Consciousness, awareness, and, attention  - Mindful presence, non-judgmental acceptance, openness to experiences and insight
4. Meaningful Work	<i>Spirituality at Work</i> (Ashmos & Duchon (2000)) <i>Krishnakumar and Neck (2002)</i> <i>Pratt and Ashforth (2003)</i>	- Meaning and purpose in work - Meaningful at the workplace
5. Transcendence	<i>Spirit at Work Scale</i> (Kinjerski & Skrypnek , 2006) <i>Spirituality Scale (SS)</i> (Delaney ,2005)	- Mystical experience  - Higher power and universal intelligence

Table 4: *Each item of the workplace spirituality measurement and its sources*

Items	Sources
<p><i>Dimension 1: Connection</i></p> <ul style="list-style-type: none"> <li>● I experience a real sense of trust and personal connection with my coworkers</li> <li>● I feel like I am part of “a community” at work</li> <li>● I share a strong sense of purpose and meaning with my coworkers about our work</li> <li>● I am valued at work for who I am</li> </ul>	<p><i>Spirit at Work Scale (Kinjerski and Skrypnek, 2006)</i></p> <p><i>Spirituality at Work (Ashmos &amp; Duchon, 2000)</i></p>
<p><i>Dimension 2: Compassion</i></p> <ul style="list-style-type: none"> <li>● I sympathize with my coworkers’ suffering.</li> <li>● I try to help my coworkers relieve their suffering.</li> <li>● I can easily put myself in other people’s shoes.</li> <li>● I aware of my coworkers’ needs.</li> <li>● I do not care my coworkers’ suffering.</li> <li>● It is not my responsibility to help my coworkers’ relieve their suffering.</li> <li>● I am aware of and sympathize with others.</li> </ul>	<p><i>McCormick (1994)</i></p> <p><i>Mahoney and Graci (1999)</i></p> <p><i>Ingersoll (2003)</i></p> <p><i>Delgado (2005)</i></p> <p><i>Twigg &amp; Parayitam (2006)</i></p>
<p><i>Dimension3: Mindfulness</i></p> <ul style="list-style-type: none"> <li>● At work, I break or spill things because of carelessness, not paying attention, or thinking of something else.</li> <li>● I find it difficult to stay focused on what’s happening in the present.</li> <li>● It seems I am working automatically without much awareness of what I’m doing.</li> <li>● I rush through work activities without being really attentive to them.</li> <li>● I do jobs or tasks automatically, without being aware of what I’m doing.</li> <li>● I find myself listening to someone with one ear, doing something else at the same time.</li> <li>● I go to the places on “automatic pilot” and then wonder why I went there.</li> <li>● I find myself working without paying attention.</li> <li>● In difficult work situations, I can pause negative thoughts or actions without</li> </ul>	<p><i>The Mindful Attention Awareness Scale (MAAS) (Brown &amp; Ryan, 2003)</i></p> <p><i>The Freiburg Mindfulness Inventory (FMI) (Walach, Buchheld, Buttermuller,</i></p>

Items	Sources
immediately reacting.	<i>Kleinknecht &amp; Schmidt, 2006)</i>
<b><i>Dimension 4: Meaningful Work</i></b>	
<ul style="list-style-type: none"> <li>● I experience joy in my work.</li> <li>● I believe others experience joy as a result of my work</li> <li>● My spirit is energized by my work.</li> <li>● The work I do is connected to what I think is important in life.</li> <li>● I look forward to coming to work most days.</li> <li>● I see a connection between my work and the larger social good of my community.</li> <li>● I understand what gives my work personal meaning</li> <li>● I do not know why I am working here.</li> </ul>	<p data-bbox="916 454 1414 528"><i>Spirituality at Work (Ashmos &amp; Duchon, 2000)</i></p> <p data-bbox="916 898 1414 965"><i>Krishnakumar and Neck (2002)</i> <i>Pratt and Ashforth (2003)</i></p>
<b><i>Dimension 5: Transcendence</i></b>	
<ul style="list-style-type: none"> <li>● At times, I experience happiness at work.</li> <li>● I have moments at work in which I have no sense of time or space</li> <li>● At moments, I experience complete joy and ecstasy at work.</li> <li>● I experience moments at work where everything is blissful.</li> <li>● At times, I experience an energy or vitality at work that is difficult to describe.</li> </ul>	<i>Spirit at Work Scale (Kinjerski and Skrypnek, 2006)</i>
<ul style="list-style-type: none"> <li>● I believe there is a connection between all things that I cannot see but can sense.</li> <li>● I believe in a Higher Power/Universal Intelligence.</li> <li>● I have a relationship with a Higher Power/Universal Intelligence.</li> <li>● My spirituality gives me inner strength to solve my work problems.</li> <li>● My faith in a Higher Power/Universal Intelligence helps me cope with challenges at my work.</li> </ul>	<i>Spirituality Scale (SS) (Delaney , 2005)</i>

Table 4: *Continued*

Table 5: *The Back-Translated Text*

Items					
	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
<p>1. I experience a real sense of trust and personal connection with my coworkers I feel I have a bonding with my colleagues and can trust them.</p> <p>2. <i>I sympathize with my coworkers' suffering.</i> <i>I empathize with my coworkers' suffering.</i></p> <p>3. I find it difficult to stay focused on what's happening in the present. I feel it is hard to concentrate on present situation.</p> <p>4. <i>I experience joy in my work.</i> <i>I enjoy my work</i></p> <p>5. I find myself listening to someone with one ear, doing something else at the same time. I am listening to my colleagues and doing something else concurrently.</p> <p>6. <i>My faith in a Higher Power/Universal Intelligence helps me cope with challenges at my work.</i> <i>Spirituality helps me to overcome obstacles of work.</i></p> <p>7. I do not care my coworkers' suffering. I do not care my coworkers' suffering.</p> <p>8. It seems I am working automatically without much awareness of what I'm doing. I am working automatically without any concentration on what I'm doing.</p> <p>9. <i>I share a strong sense of purpose and meaning with my coworkers about our work</i> <i>I feel myself and my colleagues work</i></p>					

Table 5: *Continued*

Table 6: *Final Translated Text*

Items					
	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
<p>1. I experience a real sense of trust and personal connection with my coworkers I feel I have a bonding with my colleagues and can trust them.</p> <p>2. I sympathize with my coworkers' suffering. I sympathize with my coworkers' suffering.</p> <p>3. I find it difficult to stay focused on what's happening in the present. I feel it is hard to concentrate on present situation.</p> <p>4. I experience joy in my work. My work gives me joy.</p> <p>5. I find myself listening to someone with one ear, doing something else at the same time. I am listening to my colleagues and doing something else concurrently.</p> <p>6. My faith in a Higher Power/Universal Intelligence helps me cope with challenges at my work. Spirit in the universe helps me handle challenges at my work.</p> <p>7. I do not care my coworkers' suffering. I do not care my coworkers' suffering.</p> <p>8. It seems I am working automatically without much awareness of what I'm doing. I am working automatically without any concentration on what I'm doing.</p> <p>9. I share a strong sense of purpose and meaning with my coworkers about our work</p>					

Table 6: *Continued*

Table 7: S&amp;P Performance Evaluation

Dimensions	Weight Scale	Rating				
		Excellent 5	Very Good 4	Good 3	Fair 2	Not Satisfactory 1
<p><i>1. Work Content</i></p> <ul style="list-style-type: none"> <li>●Quality of work</li> <li>●Quantity of work and timeliness of service (Efficiency)</li> </ul> <p><i>2. Work Behavior</i></p> <ul style="list-style-type: none"> <li>●Enthusiasm and service mind</li> <li>● Compliance with service protocol</li> <li>● Cooperation and teamwork</li> <li>●Awareness of clean food and safety</li> <li>●Hygiene of equipments, tools, and work areas</li> </ul>	5 5 4 4 4 4					
<p><i>3. Job Specification</i></p> <ul style="list-style-type: none"> <li>●Hygiene and healthiness</li> <li>●Human relation skill</li> <li>●Problem solving skill in service</li> </ul>	5 5 5					
<p><i>4. Discipline</i></p> <ul style="list-style-type: none"> <li>●Compliance with supervisor's command and S&amp;P Policy</li> <li>●Attendance and discipline record</li> <li>●Reporting problems to supervisors</li> </ul>	5 5 5					
<p><i>5. Job Knowledge and Competency</i></p> <ul style="list-style-type: none"> <li>●Knowledge regarding food and S&amp;P products</li> <li>●Learning and development skill</li> <li>●Initiation, and creativity</li> </ul>	8 5 7					

Dimensions	Weight Scale	Rating				
		Excellent 5	Very Good 4	Good 3	Fair 2	Not Satisfactory 1
<i>1. Work Content</i> ●Quality of work ●Quantity of work and timeliness of service (Efficiency)	5 5					
<i>2. Work Behavior</i> ●Enthusiasm and service mind ● Compliance with service protocol ● Cooperation and teamwork ●Awareness of clean food and safety ●Hygiene of equipments, tools, and work areas	4 4 4 4 4					
<i>6. Management Skills</i> ●Assigning and managing jobs ●Mentoring and developing employees' abilities and skills ●Fairness ●Maturation and emotional control ●Leadership and decision making	4 4 4 4 4					
<i>Total Score</i>						

Table 7: *Continued*

Table 8: *Demographics of the Experimental and Control Groups*

Demographics	Groups				Chi-Square
	Experimental Group (N=30)		Control Group (N=30)		
	<i>Frequency</i>	<i>Percent</i>	<i>Frequency</i>	<i>Percent</i>	
Gender					.50
-Female	22	73.3%	21	70%	
-Male	8	26.7%	9	30%	
Age					.96
- 20 years or younger	9	30%	11	16.7%	
- 21-30 years	18	60%	15	50%	
- 31-40 years	3	10%	4	13.3%	
Marital Status					.32
- Single	26	80%	25	83.3%	
- Married	4	20%	3	10%	
- Separated			2	6.7%	
Religion					
- Buddhist	30	100%	30	100%	
Education					.76
- Less than high school	8	26.7%	10	33.3%	
- High school	16	53.3%	16	53.3%	
- Bachelor	6	20.0%	4	13.3%	
Work Experience					.20
- 1 month-1 year	13	43.4%	15	50%	
- 1year and 1 month-2years	6	20%	7	23.4%	
- 2years and 1month-3years	4	13.3%	1	3.3%	
- 3years and 1month-5 years	4	13.3%	3	10%	
- 5 years and 1 months above	3	10%	4	13.3%	
Work Place					.50
- Branch	24	80%	24	80%	
- Other	6	20%	6	20%	

Note: Other= Kitchens in the Branches

Table 9: *Demographics of the Pre-Test Workplace Spirituality Measurement Group*

Demographics	206 Participants	
	<i>Frequency</i>	<i>Percent</i>
Gender		
-Female	141	68.4%
-Male	65	31.6%
Age		
- 20 years or younger	30	14.6%
- 21-30 years	106	51.5%
- 31-40 years	53	25.7%
- 41-50 years	16	7.8%
- 50 years old or older	1	.5%
Marital Status		
- Single	109	52.9%
- Married	79	38.3%
- Separated	12	5.8%
- Divorced	4	1.9%
- Widowed	2	1.0%
Religion		
- Buddhist	201	97.6%
- Christian	5	2.4%
Education		
- Less than high school	82	39.8%
- High school	82	39.8%
- Bachelor	39	18.9%
- Graduate Degrees	3	1.5%
Work Experience (Missing data 4.4%)		
- 1 month-2 year	66	32.0%
- 2 years and 1 month-5 years	62	30.1%
- 5 years and 1month-10 years	35	17.0%
- 10 years and 1month-15 years	15	7.3%
- 15 years and 1 months to 25 years	19	9.2%
Work Place (Missing data 2.4%)		
- Branch	106	51.5%
- Head Office	14	6.8%
- Factory	18	8.7%
- Other	63	30.6%

Note: Other= Kitchens in the Branches

Table 10: *Measurement Point*

Variable	Measurement Point		
	Before BMDP (T1)	After one week of BMDP (T2)	After one month of BMDP (T3)
Workplace Spirituality			
<i>Experimental Group</i>	X	X	X
<i>Control Group</i>	X		X
Work Performance			
<i>Experimental Group</i>			X
<i>Control Group</i>			X

*Note:* Workplace spirituality was measured by the participants' self-report. Work performance was assessed by the participants' supervisors.

Table 11: *Assessment of Normality*

Variable	min	max	skew	c.r.	kurtosis	c.r.
WS35	1.000	5.000	-.551	-3.231	.613	1.796
WS37	1.000	5.000	-.616	-3.607	-.023	-.068
WS33	1.000	5.000	-.708	-4.147	.764	2.237
WS32	1.000	5.000	-.801	-4.691	1.054	3.087
WS27	1.000	5.000	-.084	-.494	-.197	-.577
WS16	1.000	5.000	-.479	-2.806	-.008	-.022
WS14	1.000	5.000	-.524	-3.072	.812	2.378
WS12	1.000	5.000	-.528	-3.093	.344	1.009
WS6	1.000	5.000	-.144	-.846	-.509	-1.492
WS36	2.000	5.000	-.354	-2.072	-.161	-.471
WS30	1.000	5.000	-1.109	-6.497	2.911	8.528
WS28	1.000	5.000	-1.070	-6.267	2.599	7.614
WS25	1.000	5.000	-.824	-4.829	2.410	7.061
WS24	1.000	5.000	-.865	-5.067	1.041	3.049
WS22	1.000	5.000	-.273	-1.599	.690	2.022
WS10	1.000	5.000	-.771	-4.519	-.285	-.834
WS4	1.000	5.000	-.553	-3.238	1.178	3.451
WS29	1.000	5.000	-.772	-4.525	.658	1.927
WS26	1.000	5.000	-1.233	-7.222	1.294	3.791
WS23	1.000	5.000	-.745	-4.362	-.250	-.732
WS20	1.000	5.000	-1.065	-6.238	1.930	5.655
WS19	1.000	5.000	-.664	-3.891	-.228	-.669
WS13	1.000	5.000	-.713	-4.175	-.096	-.282
WS8	1.000	5.000	-1.268	-7.428	1.391	4.074
WS5	1.000	5.000	.309	1.812	-.637	-1.865
WS3	1.000	5.000	.336	1.967	-.988	-2.895
WS31	2.000	5.000	-.245	-1.435	.537	1.572
WS21	1.000	5.000	-.820	-4.806	1.773	5.194
WS18	2.000	5.000	-.316	-1.853	1.818	5.325
WS15	1.000	5.000	-.598	-3.506	-.361	-1.057
WS11	2.000	5.000	-.284	-1.665	.264	.773
WS7	1.000	5.000	-1.301	-7.621	1.819	5.328
WS2	1.000	5.000	-1.105	-6.474	5.060	14.823
WS34	2.000	5.000	-.237	-1.389	.023	.067
WS17	1.000	5.000	-.486	-2.851	.975	2.856
WS9	1.000	5.000	-.904	-5.297	2.724	7.981
WS1	2.000	5.000	-.531	-3.110	1.087	3.185
Multivariate					178.158	23.799

Note: *WS*= Workplace Spirituality. In variable column, the number represents the item number presented in the questionnaire. For example, *WS1* is the item

#1 of Workplace Spirituality questionnaire.

Table 11: *Continued*

Table 12: *Fit Indices for the CFA Models*

Model	$\chi^2$	<i>df</i>	<i>p</i>	<i>CFI</i>	<i>RMSEA</i>
Model with 37 items	1428.69	619	.00	.64	.08
Model with 22 items	312.575	201	.00	.92	.05

*Note:*  $\chi^2$ = chi-square statistic. *CFI* =comparative fit index. *RMSEA* =root mean square error approximation.

Table 13: *Regression Weights*

Variable	Estimate	<i>S.E.</i>	<i>C.R.</i>	<i>p</i>
WS1 <--- Connection	.141	.044	3.230	.001
WS9 <--- Connection	.415	.044	9.500	***
WS17 <--- Connection	.218	.051	4.246	***
WS34 <--- Connection	.382	.042	9.020	***
WS2 <--- Compassion	.243	.048	5.050	***
WS7 <--- Compassion	.250	.069	3.617	***
WS11 <--- Compassion	.343	.042	8.205	***
WS15 <--- Compassion	.299	.080	3.737	***
WS18 <--- Compassion	.377	.039	9.729	***
WS21 <--- Compassion	.318	.051	6.214	***
WS31 <--- Compassion	.284	.045	6.289	***
WS3 <--- Mindfulness	.349	.092	3.816	***
WS5 <--- Mindfulness	.103	.079	1.311	.190
WS8 <--- Mindfulness	.556	.065	8.499	***
WS13 <--- Mindfulness	.692	.071	9.745	***
WS19 <--- Mindfulness	.677	.071	9.542	***
WS20 <--- Mindfulness	.656	.049	13.304	***
WS23 <--- Mindfulness	.574	.070	8.236	***
WS26 <--- Mindfulness	.494	.067	7.339	***
WS29 <--- Mindfulness	.087	.066	1.311	.190
WS4 <--- Meaningful	.453	.045	10.163	***
WS10 <--- Meaningful	.159	.086	1.839	.066
WS22 <--- Meaningful	.397	.054	7.369	***
WS24 <--- Meaningful	.306	.049	6.232	***
WS25 <--- Meaningful	.502	.045	11.061	***
WS28 <--- Meaningful	.423	.052	8.212	***
WS30 <--- Meaningful	.396	.043	9.198	***
WS36 <--- Meaningful	.408	.047	8.635	***
WS6 <--- Transcendence	.256	.080	3.190	.001
WS12 <--- Transcendence	.385	.069	5.542	***
WS14 <--- Transcendence	.498	.047	10.532	***
WS16 <--- Transcendence	.234	.073	3.212	.001
WS27 <--- Transcendence	.278	.072	3.848	***
WS32 <--- Transcendence	.557	.046	12.137	***
WS33 <--- Transcendence	.481	.053	9.145	***
WS37 <--- Transcendence	.325	.075	4.323	***
WS35 <--- Transcendence	.548	.048	11.499	***

Note: *WS*= *Workplace Spirituality*. In variable column, the number represents the item number presented in the questionnaire. For example, *WS1* is the item #1 of *Workplace Spirituality* questionnaire.

\*\*\**p*<.001

Table 14: *Standardized Regression Weights and Squared Multiple Correlations*

Variable	<i>r</i>	<i>R</i> <sup>2</sup>
WS1 <--- Connection	.23	.05
WS9 <--- Connection	.65	.42
WS17 <--- Connection	.30	.08
WS34 <--- Connection	.62	.38
WS2 <--- Compassion	.39	.15
WS7 <--- Compassion	.28	.08
WS11 <--- Compassion	.60	.36
WS15 <--- Compassion	.29	.09
WS18 <--- Compassion	.69	.48
WS21 <--- Compassion	.47	.22
WS31 <--- Compassion	.47	.22
WS3 <--- Mindfulness	.28	.08
WS8 <--- Mindfulness	.59	.36
WS13 <--- Mindfulness	.66	.43
WS19 <--- Mindfulness	.65	.42
WS20 <--- Mindfulness	.83	.69
WS23 <--- Mindfulness	.57	.33
WS26 <--- Mindfulness	.52	.27
WS4 <--- Meaningful	.66	.44
WS10 <--- Meaningful	.14	.18
WS22 <--- Meaningful	.51	.26
WS24 <--- Meaningful	.44	.19
WS25 <--- Meaningful	.71	.50
WS28 <--- Meaningful	.56	.37
WS30 <--- Meaningful	.61	.48
WS36 <--- Meaningful	.58	.34
WS6 <--- Transcendence	.24	.06
WS12 <--- Transcendence	.40	.16
WS14 <--- Transcendence	.68	.47
WS16 <--- Transcendence	.24	.06
WS27 <--- Transcendence	.28	.08
WS32 <--- Transcendence	.76	.58
WS33 <--- Transcendence	.61	.38
WS37 <--- Transcendence	.32	.10
WS35 <--- Transcendence	.73	.53

Note: *WS*= *Workplace Spirituality*. In variable column, the number represents the item number presented in the questionnaire. For example, *WS1* is the item#1 of *Workplace Spirituality* questionnaire.

Table 15: *The Psychometric Properties of Workplace Spirituality Measurement*

Items	Analyses				
	Mean	S.D.	r	R square	Alpha
<b>Dimension 2: Compassion</b>					<b>.63</b>
<del>2. I sympathize with my coworkers' suffering.</del>					
<del>7. I do not care my coworkers' suffering.</del>					
11. I can easily put myself in other people's shoes.	4.31	.57	.61	.37	
<del>15. It is not my responsibility to help my coworkers' relieve their suffering.</del>					
18. I am aware of and sympathize with others.	4.07	.55	.69	.46	
21. I try to help my coworkers relieve their suffering.	3.84	.68	.42	.18	
31. I aware of my coworkers' needs.	3.94	.60	.52	.28	
<b>Dimension3: Mindfulness</b>					<b>.79</b>
<del>3. I find it difficult to stay focused on what's happening in the present.</del>					
<del>5. I find myself listening to someone with one ear, doing something else at the same time.</del>					
8. I do jobs or tasks automatically, without being aware of what I'm doing.	4.17	.95	.57	.33	
13. I find myself working without paying attention.	3.75	1.06	.65	.43	
19. At work, I break or spill things because of carelessness, not paying attention, or thinking of something else.	3.65	1.05	.65	.42	
20. I rush through work activities without being really attentive to them.	4.10	.79	.84	.71	
23. I go to the places on "automatic pilot" and then wonder why I went there.	3.93	1.00	.58	.33	
26. It seems I am working automatically without much awareness of what I'm doing.	4.13	.95	.51	.26	
<del>29. In difficult work situations, I can pause negative thoughts or actions without immediately reacting.</del>					
<b>Dimension 4: Meaningful Work</b>					<b>.78</b>
4. I experience joy in my work.	4.08	.69	.64	.41	
<del>10. I do not know why I am working here.</del>					
22. I look forward to coming to work most days.	3.42	.78	.52	.27	
24. I believe others experience joy as a result of my work	3.56	.70	.45	.20	
25. My spirit is energized by my work.	3.85	.71	.72	.52	
28. I see a connection between my work and the larger social good of my community.	4.00	.76	.61	.37	
30. I understand what gives my work personal meaning	4.38	.65	.65	.42	
36. The work I do is connected to what I think is important in life.	4.07	.71	.55	.31	
<b>Dimension 5: Transcendence</b>					<b>.75</b>
<del>6. My faith in a Higher Power/Universal Intelligence helps me cope with challenges at my work.</del>					
12. At times, I experience an energy or vitality at work that is difficult to describe.	3.50	.97	.34	.12	
14. I experience moments at work where everything is blissful.	3.90	.73	.67	.45	
<del>16. I believe in a Higher Power/Universal Intelligence.</del>					
<del>27. I have a relationship with a Higher Power/Universal Intelligence.</del>					
32. At times, I experience happiness at work.	4.21	.73	.78	.61	
33. I have moments at work in which I have no sense of time or space	3.92	.79	.63	.39	
35. At moments, I experience complete joy and ecstasy at work.	4.00	.75	.73	.53	
<del>37. My spirituality gives me inner strength to solve my work problems.</del>					

Note:  $r$  is the correlation between the item and its underlying dimension.

***R square*** is a proportion of variance accounted for its underlying dimension by the item.

***Cronbach's Alpha Coefficient*** is computed for each dimension excluding the strikethrough items.

Table 15: *Continued*

Table 16: *Modification Indices*

Covariances		M.I.	Par Change
E28	<--> Transcendence	12.682	-.116
E28	<--> e30	17.523	.099
E22	<--> e30	12.616	-.092
E4	<--> e14	10.639	.070
E31	<--> e30	13.592	.074
Regression Weights		M.I.	Par Change
WS30	<--- WS28	10.392	.159
WS28	<--- WS30	10.128	.217
WS31	<--- WS30	12.050	.201

Note: *e* = error term. *WS* = Workplace Spirituality.  
 In variable column, the number represents the item number presented in the questionnaire.  
 For example, *e28* is an error term of the item# 1 of Workplace Spirituality questionnaire.

Table 17: *Correlations among the Constructs of Workplace Spirituality*

Variables	1	2	3	4
1. Compassion	–	0.27***	0.70***	0.73***
2. Mindfulness		–	0.24***	0.25***
3. Meaningful Work			–	0.87***
4. Transcendence				–

\*\*\*  $p < .001$

Table 18: *Means and Standard Deviations of Work Performance for Experimental and Control Groups*

Work Performance	Weight	Experimental		Control Group		
		Scale	Group (N=30)		(N=30)	
			M	SD	M	SD
<u>1. Work Content</u>		16.17	3.64	16.00	3.19	
● Quality of work	5	16.50	3.97	16.00	2.75	
● Quantity of work and timeliness of service (Efficiency)	5	15.83	4.17	16.00	4.24	
<u>2. Work Behavior</u>		13.92	2.60	13.36	2.14	
● Enthusiasm and service mind	4	14.53	2.87	13.60	3.26	
● Compliance with service protocol	4	12.93	3.10	13.20	3.18	
● Cooperation and teamwork	4	14.80	2.61	13.73	2.91	
● Awareness of clean food and safety	4	13.47	3.40	13.60	2.70	
● Hygiene of equipments, tools, and work areas	4	13.87	3.60	12.67	2.98	
<u>3. Job Specification</u>		18.89	3.70	17.89	3.03	
● Hygiene and healthiness	5	19.00	4.03	18.67	3.20	
● Human relation skill	5	20.17	3.34	18.50	3.97	
● Problem solving skill in service	5	17.50	5.37	16.50	3.97	
<u>4. Discipline</u>		18.06	3.87	16.94	2.97	
● Compliance with supervisor's command and S&P Policy	5	19.00	3.81	17.33	3.41	
● Attendance and discipline record	5	18.33	4.80	17.50	3.88	
● Reporting problems to supervisors	5	16.83	4.45	16.00	3.57	
<u>5. Job Knowledge and Competency</u>		21.82	5.57	21.33	4.40	
● Knowledge regarding food and S&P products	8	26.93	6.12	25.60	5.32	
● Learning and development skill	5	16.83	4.45	17.17	3.64	
● Initiation, and creativity						

Note: Each indicator was rated using a 5-point Likert-type scale that ranges from 5=Excellent to 1=Not Satisfactory. Each rating score was multiplied its weight scale then the scores were averaged (M).

Table 18: *Continued*

Table 19: Means and Standard Deviations of Workplace Spirituality for Experimental and Control Groups at Pretest and Posttest

Workplace Spirituality	Time	Experimental Group		Control Group	
		(N=30)		(N=30)	
		M	SD	M	SD
Compassion	Pre	4.08	0.55	4.02	0.36
	Post	4.07	0.50	3.95	0.49
Mindfulness	Pre	3.79	0.75	3.68	0.59
	Post	3.70	0.75	3.57	0.72
Meaningful Work	Pre	4.04	0.50	3.81	0.50
	Post	3.92	0.44	3.86	0.52
Transcendence	Pre	3.87	0.52	3.85	0.56
	Post	3.90	0.49	3.81	0.53
Total Score	Pre	3.94	0.42	3.82	0.35
	Post	3.88	0.40	3.78	0.43

*Note:* Pre= time before attending BMDP and Post= time after attending BMDP one

month

Table 20: *Mean Differences of Workplace Spirituality for Experimental and Control Groups between Pretest and Posttest*

Groups	N	Pre		Post		t-score	p
		M	SD	M	SD		
<i>Experimental</i>	30	3.94	0.42	3.82	0.35	1.14	0.26
<i>Control</i>	30	3.88	0.40	3.78	0.43	0.65	0.52

*Note:* Pre= time before attending BMDP and Post= time after attending BMDP one month

Table 21: Mean Differences of Work Spirituality Four Subscales for Experimental and Control Groups between Pretest and Posttest

Workplace Spirituality	N	Pre		Post		t-score	p
		M	SD	M	SD		
Compassion							
<i>Experimental</i>	30	4.08	0.55	4.07	0.50	.09	.93
<i>Control</i>	30	4.02	0.36	3.95	0.49	.78	.44
Mindfulness							
<i>Experimental</i>	30	3.79	0.75	3.70	0.75	1.11	.28
<i>Control</i>	30	3.68	0.59	3.57	0.72	.90	.38
Meaningful Work							
<i>Experimental</i>	30	4.04	0.50	3.92	0.44	1.17	.10
<i>Control</i>	30	3.81	0.50	3.86	0.52	-.77	.45
Transcendence							
<i>Experimental</i>	30	3.87	0.52	3.85	0.56	-.35	.73
<i>Control</i>	30	3.90	0.49	3.81	0.53	.41	.68

. Note: Pre= time before attending BMDP and Post= time after attending BMDP one month

Table 22: *Mean Differences of Work Spirituality between Experimental and Control Groups at Pretest and Posttest*

Workplace Spirituality	Experimental Group (N=30)		Control Group (N=30)		t-score	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
<i>Pre</i>	3.94	0.42	3.88	0.40	1.81	0.24
<i>Post</i>	3.82	0.35	3.78	0.43	0.91	0.37

*Note:* Pre= time before attending BMDP and Post= time after attending BMDP one month

Table 23: Mean Differences of Work Spirituality Four Subscales between Experimental and Control Groups at Pretest and Posttest

Workplace Spirituality	Experimental Group		Control Group		t-score	<i>p</i>
	(N=30)		(N=30)			
	M	SD	M	SD		
<b>Compassion</b>						
<i>Pre</i>	4.08	0.55	4.02	0.36	.48	.63
<i>Post</i>	4.07	0.50	3.95	0.49	.90	.37
<b>Mindfulness</b>						
<i>Pre</i>	3.79	0.75	3.68	0.59	.64	.52
<i>Post</i>	3.70	0.75	3.57	0.72	.71	.48
<b>Meaningful Work</b>						
<i>Pre</i>	4.04	0.50	3.81	0.50	1.77	.08
<i>Post</i>	3.92	0.44	3.86	0.52	.48	.63
<b>Transcendence</b>						
<i>Pre</i>	3.87	0.52	3.85	0.56	.14	.89
<i>Post</i>	3.90	0.49	3.81	0.53	.67	.50

*Note:* Pre= time before attending BMDP and Post= time after attending BMDP one month

Table 24: Means Differences of Workplace Spirituality for Experimental Group (N=30) at Time1, 2, and 3 by Repeated Measures ANOVA

Workplace Spirituality	Time 1		Time 2		Time 3		F	p
	M	SD	M	SD	M	SD		
Compassion	4.08	0.55	3.84	0.71	4.07	0.50	.75	.45
Mindfulness	3.79	0.75	3.80	0.50	3.70	0.75	.95	.38
Meaningful Work	4.04	0.50	3.87	0.58	3.92	0.44	5.65	.01
Transcendence	3.87	0.52	3.97	0.50	3.90	0.49	.06	.94
Total Score	3.94	0.42	3.85	0.42	3.88	0.40	1.25	.29

Note: Time 1= time before attending BMDP, Time 2= time after attending BMDP one week and Time 3= time after attending BMDP one month

Table 25: *Post-Hoc Tests for Mean Differences of Meaningful Work of Experimental Group (N=30) at Time1, 2, and 3 by a Paired Sample T-Test*

Time	Meaningful Work		Mean Difference	<i>p</i>
	<i>M</i>	<i>SD</i>		
<i>Time 1</i>	4.04	0.50	.25	.00
<i>Time 2</i>	3.87	0.58		
<i>Time 1</i>	4.04	0.50	.12	.10
<i>Time 3</i>	3.92	0.44		
<i>Time 2</i>	3.87	0.58	-.13	.10
<i>Time 3</i>	3.92	0.44		

*Note:* Time 1= time before attending BMDP, Time 2= time after attending BMDP one week and Time 3= time after attending BMDP one month

Table 26: *Mean Differences of Work Performance for Experimental and Control Groups*

Groups	<i>N</i>	Mean of Work	<i>SD</i>	t-score	<i>p</i>
		Performance			
<i>Experimental</i>	30	17.39	3.26	0.94	0.35
<i>Control</i>	30	16.71	2.31		

Table 27: *Correlation Matrix of BMDP, Workplace Spirituality, and Work Performance*

Variables	Mean	SD.	BMDP	Workplace Spirituality	Work Performance
BMDP	.50	.50	1.00	.12	.12
Workplace Spirituality	3.83	.41		1.00	.33**
Work Performance	17.05	2.82			1.00

*Note:* BMDP is indicated by 1(experimental group) and 0(control group).

\*\*  $p=.01$

Table 28: Means, Standard Deviations, and Correlation Matrix of Experimental and Control Groups (N=60) at Posttest

Variable	M	SD	1	1.1	1.2	1.3	1.4	2	2.1	2.2	2.3	2.4	2.5
1. Workplace Spirituality	3.83	0.41	1.00	0.78**	0.69**	0.78**	0.74**	0.33**	0.17	0.29*	0.20	0.26*	0.38**
1.1 Compassion	4.01	0.50		1.00	0.38**	0.67**	0.49**	0.26 *	0.11	0.18	0.21	0.28*	0.25
1.2 Mindfulness	3.63	0.73			1.00	0.17	0.22	0.15	0.10	0.15	0.03	0.05	0.24
1.3 Meaningful Work	3.89	0.48				1.00	0.66**	0.37**	0.11	0.33*	0.32*	0.36**	0.35**
1.4 Transcendence	3.85	0.50					1.00	0.25	0.20	0.19	0.10	0.14	0.28*
2. Work Performance	17.05	2.82						1.00	0.67**	0.90**	0.85**	0.81**	0.86**
2.1 Work Content	16.08	3.39							1.00	0.57**	0.42**	0.43**	0.52**
2.2 Work Behavior	13.64	2.38								1.00	0.74**	0.65**	0.70**
2.3 Job Specification	18.39	3.39									1.00	0.71**	0.62**
2.4 Discipline	17.50	3.46										1.00	0.55**
2.5 Job Knowledge and Competency	21.58	4.93											1.00

\*  $p < .05$  \*\*  $p < .01$

Table 29: Means, Standard Deviations, and Correlation Matrix of Experimental Group (N=30) at Posttest

Variable	M	SD	1	1.1	1.2	1.3	1.4	2	2.1	2.2	2.3	2.4	2.5
1. Workplace Spirituality	3.88	0.40	1.00	0.76**	0.74**	0.79**	0.62**	0.35	0.28	0.23	0.21	0.34	0.41*
1.1 Compassion	4.07	0.50		1.00	0.37*	0.63**	0.68*	0.16	0.11	0.10	0.11	0.29	0.18
1.2 Mindfulness	3.70	0.75			1.00	0.28	0.16	0.13	0.03	0.11	0.10	0.03	0.23
1.3 Meaningful Work	3.96	0.44				1.00	0.51**	0.48**	0.33	0.38*	0.34	0.55**	0.44*
1.4 Transcendence	3.90	0.49					1.00	0.28	0.45*	0.14	0.05	0.25	0.35
2. Work Performance	17.39	3.26						1.00	0.74**	0.92**	0.89**	0.87**	0.89**
2.1 Work Content	16.17	3.64							1.00	0.63**	0.59**	0.58**	0.58**
2.2 Work Behavior	13.92	2.60								1.00	0.85**	0.75**	0.75**
2.3 Job Specification	18.89	3.70									1.00	0.74**	0.70**
2.4 Discipline	18.06	3.87										1.00	0.68**
2.5 Job Knowledge and Competency	21.82	5.57											1.00

\*  $p < .05$  \*\*  $p < .01$

Table 30: Means, Standard Deviations, and Correlation Matrix of Control Group ((N=30) at Posttest

Variable	M	SD	1	1.1	1.2	1.3	1.4	2	2.1	2.2	2.3	2.4	2.5
1. Workplace Spirituality	3.78	0.43	1.00	0.81**	0.64**	0.78**	0.83**	0.30	0.04	0.33	0.17	0.13	0.34
1.1 Compassion	3.95	0.49		1.00	0.38*	0.66**	0.59**	0.38*	0.38*	0.30*	0.11	0.23	0.34
1.2 Mindfulness	3.57	0.72			1.00	0.06	0.26	0.16	0.17	0.18	-0.10	0.05	0.24
1.3 Meaningful Work	3.86	0.52				1.00	0.77**	0.29	-0.11	0.28	0.29	0.16	0.27
1.4 Transcendence	3.81	0.53					1.00	0.15	0.06	0.22	0.12	-0.01	0.20
2. Work Performance	16.71	2.31						1.00	0.57**	0.86**	0.78**	0.70**	0.82**
2.1 Work Content	16.00	3.20							1.00	0.48**	0.19	0.21	0.45*
2.2 Work Behavior	13.36	2.14								1.00	0.60**	0.48**	0.62**
2.3 Job Specification	17.89	3.03									1.00	0.64**	0.49**
2.4 Discipline	16.94	2.97										1.00	0.37
2.5 Job Knowledge and Competency	21.33	4.40											1.00

\*  $p < .05$  \*\*  $p < .01$

Table 31: *Testing a Mediating effect (Hypothesis 4) by Multiple Regression*

Variable	Beta	F	R	R <sup>2</sup>	Change in R <sup>2</sup>	Change in F
Step 1: Path c						
Independent: BMDP	.12	.88	.12	.02	.02	.89
Dependent: Work Performance						
Step 2: Path a						
Independent: BMDP	.12	.83	.12	.01	.01	.83
Dependent: Workplace Spirituality						
Step 3: Path b and c'						
Independent: BMDP	.08					
Mediating: Workplace Spirituality	.32**	3.74**	.34**	.12**	.10**	6.53**
(Path b)						
Dependent: Work Performance						

*Note:* BMDP was code 1 for experimental group and 0 for control group.

\*\*  $p < .01$

Table 32: *Mean Differences of Workplace Spirituality and Work Performance for Meditation Practice*



Table 33: *Post-Hoc Tests for Mean Differences of Workplace Spirituality for Meditation Practice by Tukey HSD*

Meditation Practice	<i>N</i>	Workplace Spirituality		Mean Difference	<i>p</i>
		<i>M</i>	<i>SD</i>		
<i>Never</i>	34	3.71	.41	-.19	.28
<i>Seldom</i>	14	3.90	.31		
<i>Never</i>	34	3.71	.41	-.40	.01
<i>Often</i>	12	4.11	.40		
<i>Seldom</i>	14	3.90	.31	-.21	.37
<i>Often</i>	12	4.11	.40		

Table 34: *Post-Hoc Tests for Mean Differences of Work Performance for Meditation Practice by Tukey HSD*

Meditation Practice	<i>N</i>	Work Performance		Mean Difference	<i>p</i>
		<i>M</i>	<i>SD</i>		
<i>Never</i>	34	16.16	2.68	-1.06	.40
<i>Seldom</i>	14	17.22	2.72		
<i>Never</i>	34	16.16	2.68	-3.19	.00
<i>Often</i>	12	19.35	2.04		
<i>Seldom</i>	14	17.22	2.72	-2.13	.09
<i>Often</i>	12	19.35	2.04		

Table 35: *Correlation Matrix among Variables*

Variables	<i>M</i>	<i>SD</i>	Meditation Practice	Workplace Spirituality	Work Performance
Meditation Practice	1.63	.80	1.00	.38***	.43***
Workplace Spirituality	3.83	.41		1.00	.33**
Work Performance	17.05	2.82			1.00

*Note:* Meditation Practice is indicated by 1(never), 2(seldom), and 3(often).

\*\* $p < .01$  \*\*\*  $p < .001$

Table 36: *Testing a Mediating effect of Workplace Spirituality on the Relationship of Meditation Practice and Work Performance by Multiple Regression*

Variable	Beta	F	R	R <sup>2</sup>	Change in R <sup>2</sup>	Change in F
Step 1: Path c						
Independent: Meditation Practice	.43***	13.39***	.43***	.19***	.19***	13.39***
Dependent: Work Performance						
Step 2: Path a						
Independent: Meditation Practice	.38***	9.94***	.38***	.15***	.15***	9.94***
Dependent: Workplace Spirituality						
Step 3: Path b and c						
Independent: Meditation Practice	.36***					
Mediating: Workplace Spirituality	.19	8.00	.47	.22	.03	2.32
(Path b)						
Dependent: Work Performance						

\*\*\*  $p < .001$

Table 37: *Testing a Alternative Model of a Mediating effect of Meditation Practice on the Relationship of Workplace Spirituality and Work Performance by Multiple Regression*

Variable	Beta	F	R	R <sup>2</sup>	Change in R <sup>2</sup>	Change in F
Step 1: Path c						
Independent: Workplace Spirituality	.33**	7.11**	.33***	.11**	.11**	7.11**
Dependent: Work Performance						
Step 2: Path a						
Independent: Workplace Spirituality	.38***	9.94***	.38***	.15***	.15***	9.94***
Dependent: Meditation Practice						
Step 3: Path b and c						
Independent: Workplace Spirituality	.19					
Mediating: Meditation Practice	.36***	8.00***	.47***	.22***	.11***	8.06***
(Path b)						
Dependent: Work Performance						

\*\* $p < .01$  \*\*\* $p < .001$

**Appendix B**  
**Figures**

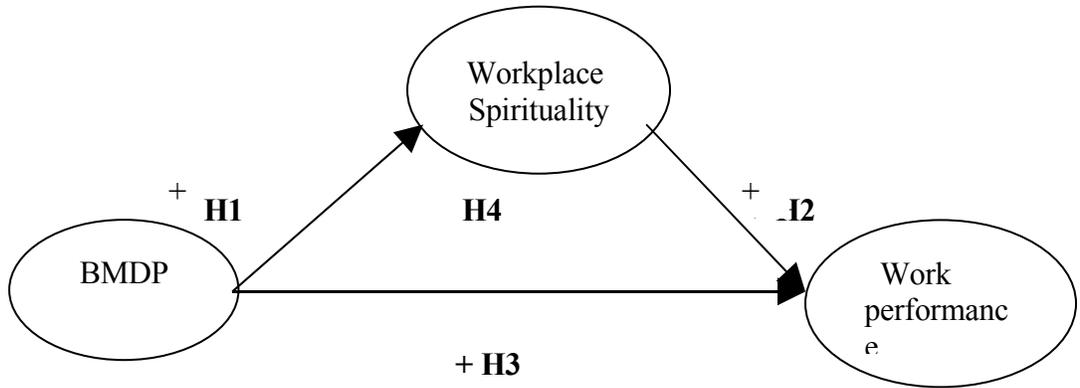


Figure 1: *A Conceptual Framework*

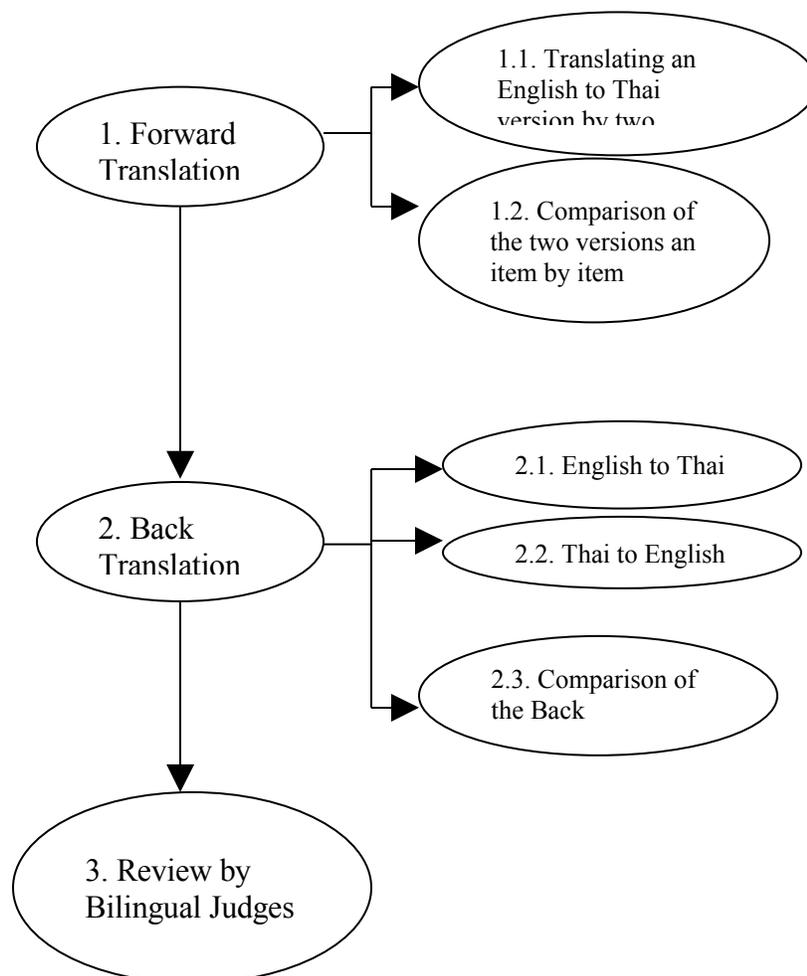


Figure 2: *Translation Process*

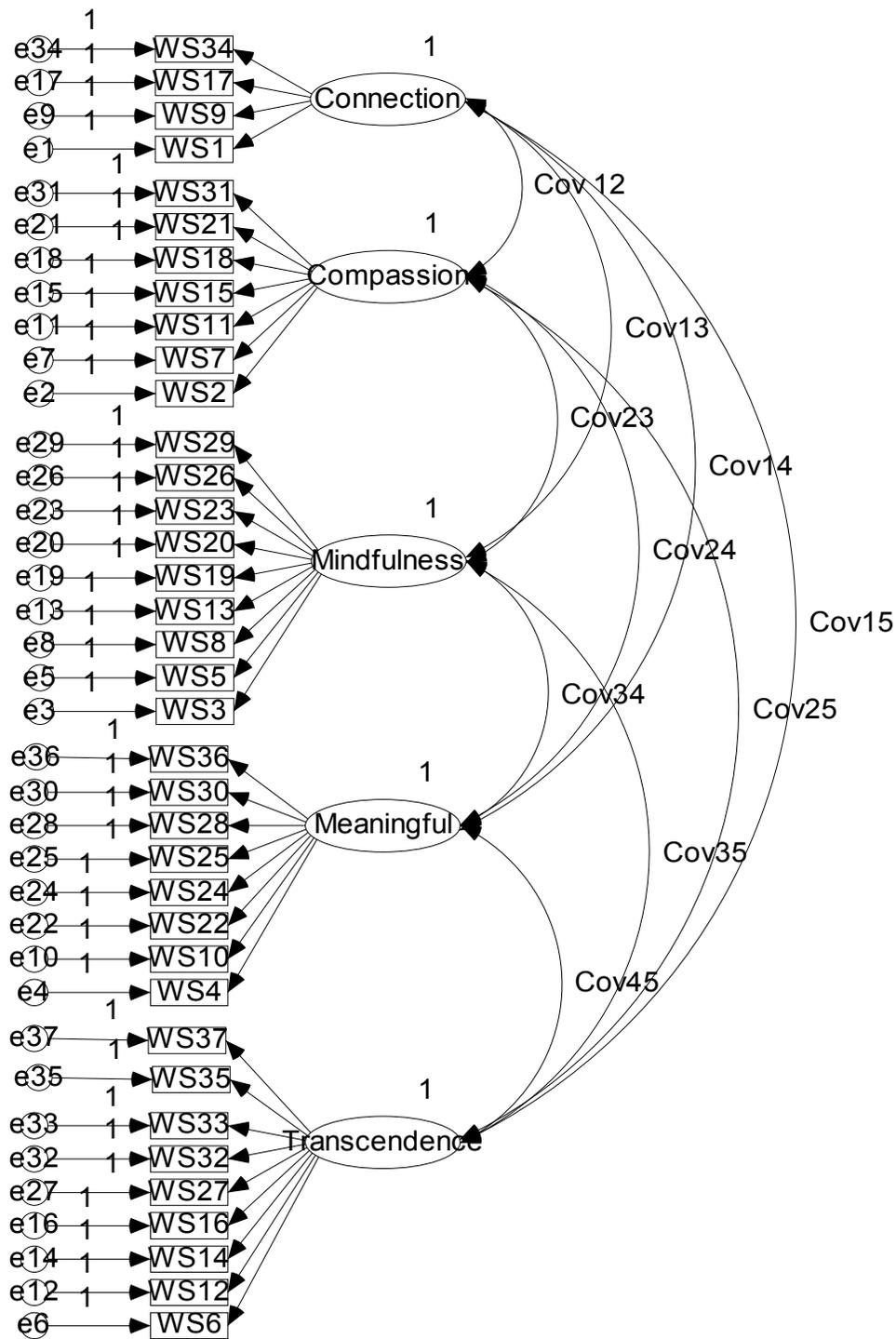


Figure 3: the Measurement Model of Workplace Spirituality before Modification

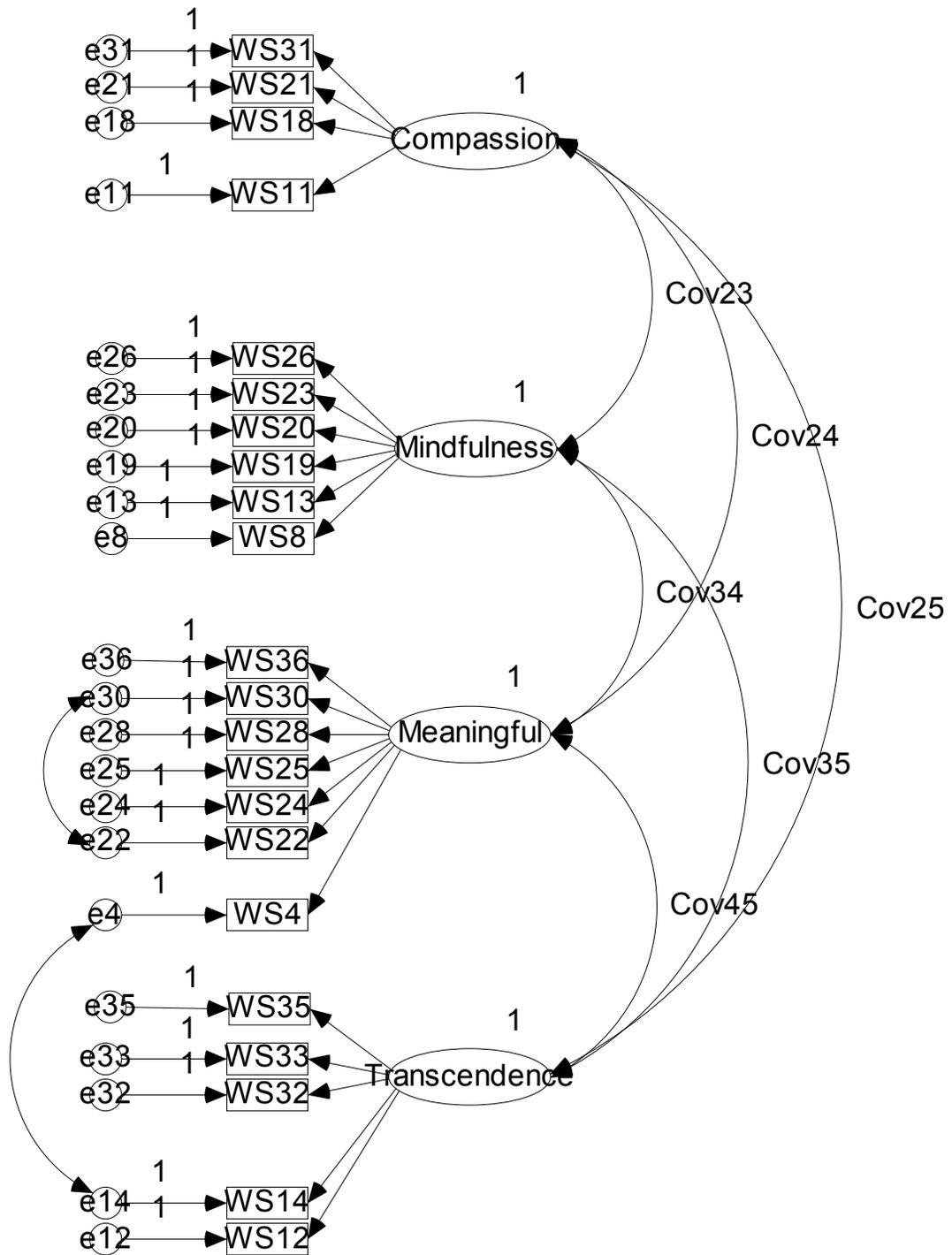
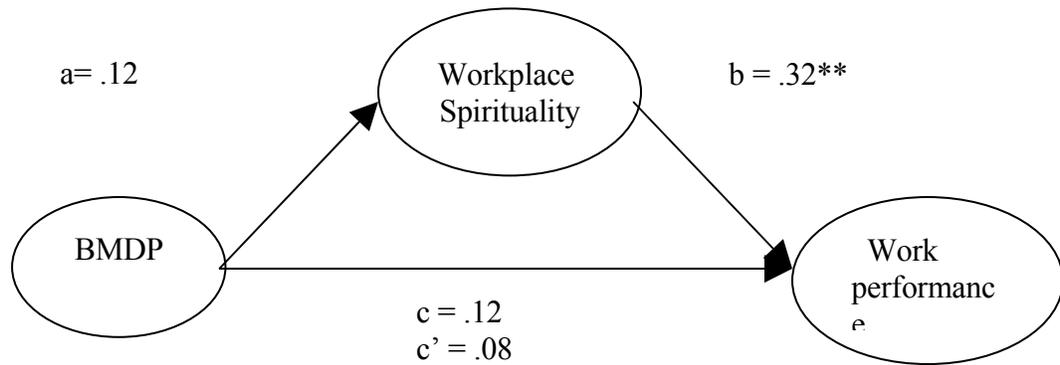
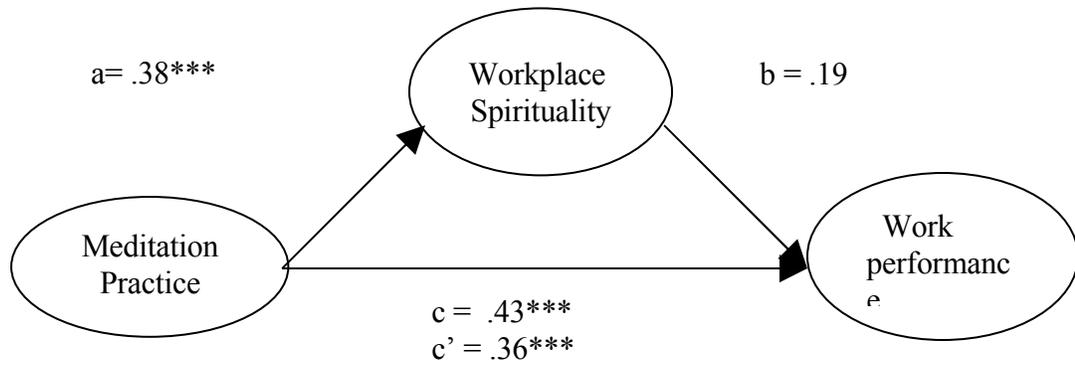


Figure 4: the Measurement Model of Workplace Spirituality after Modification



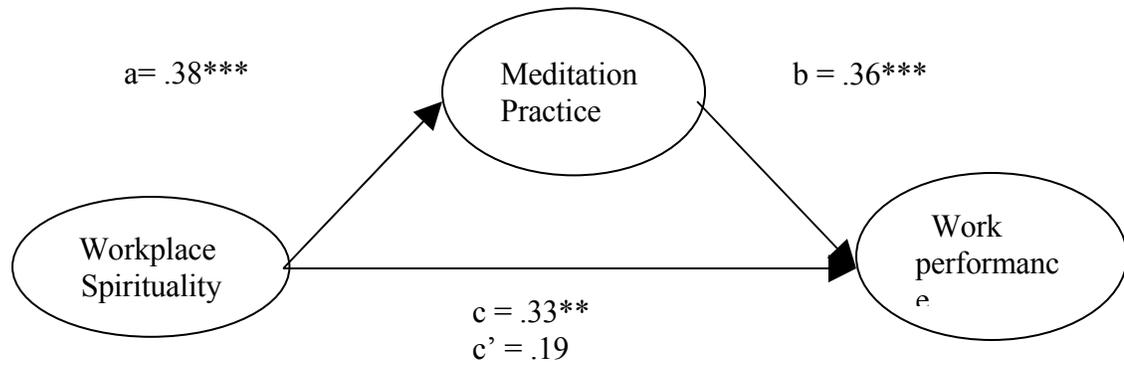
**\*\***  $p < .01$

Figure 5: *A Mediating Effect of Workplace Spirituality on the Relationship of BMDP and Work Performance*



\*\*  $p < .01$  \*\*\*  $p < .001$

Figure 6: A Mediating Effect of Workplace Spirituality on the Relationship of Meditation Practice and Work Performance



\*\*  $p < .01$  \*\*\*  $p < .001$

Figure 7: *An Alternative Model of a Mediating Effect of Meditation Practice on the Relationship of Workplace Spirituality and Work Performance*

## Appendix C

### A Questionnaire for an Experimental Group

Please find below a short questionnaire asking about you and your work. This research has been approved by S&P CEO Khun Riva, and is part of my work as a Ph.D. student at the University of Tennessee , USA.

1. As a part of this study, you will respond to a questionnaire about work before attending BMDP, after one week and one month of your attendance. Your performance will be evaluated by your supervisor after one month of your BMDP attendance. Your performance evaluation will not be used for a S&P human resource process. During and after the study is complete, all data and related information will be kept in a locked laboratory indefinitely.
2. There are no right or wrong answers to the questions. Your answers are completely confidential. No individual's answer can be identified. There are no known risks for your participation. Please answer honestly.
3. If you complete the entire questionnaire, you will receive an opportunity to win Central Department Store's gift cards (1000, 500, 300, and 100 baht). We will announce the winners after we receive all complete questionnaires.
4. This survey is voluntary. Therefore, please give your signature to indicate that you understand the research process and consent to participate in this research.

I consent to participate in this research investigation.

\_\_\_\_\_

(Your signature)

\_\_\_\_\_

(Date)

If you have any question, please contact Khun Usanee Thienwan at telephone # 081-616-0129

Sincerely,

Pawinee Petchsawang

How old are you?

1. 20 or younger      2. 21-30      3. 31-40      4. 41-50      5. 51 and over

What is your gender?

1. male      2. female

What is your current marriage status?

1. single      2. married      3. separated      4. divorced      5. widowed

What is your religious preference n?

1. Buddhist      2. Christian      3. Muslim      4. other, please identify\_\_ 5. none\_\_

What is your highest level of education your have completed?

1. less than high school      2. high school      3. Bachelor's degree      4. Graduate Degree

Where do you work?

1. branch      2. factory      3. head office

How long you have been working for S&P? \_\_\_years\_\_\_\_\_

Have you ever been attended BMDP?

1. no      2. yes when?\_\_\_\_\_

How often do you practice meditation?

1. never  
2. when I feel I want to do it (less than 1 time per month)  
3. when I have time every week  
4. when I have time every day

Please indicate the extant you agree or disagree with each of the following statements.

Circle the number that best describes how you really think or feel.

Items	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
	1. I experience a real sense of trust and personal connection with my coworkers	1	2	3	4
2. I sympathize with my coworkers' suffering.	1	2	3	4	5
3. I find it difficult to stay focused on what's happening in the present.	1	2	3	4	5
4. I experience joy in my work.	1	2	3	4	5
5. I find myself listening to someone with one ear, doing something else at the same time.	1	2	3	4	5
6. My faith in a Higher Power/Universal Intelligence helps me cope with challenges at my work.	1	2	3	4	5
7. I do not care my coworkers' suffering.	1	2	3	4	5
8. It seems I am working automatically without much awareness of what I'm doing.	1	2	3	4	5
9. I share a strong sense of purpose and meaning with my coworkers about our work.	1	2	3	4	5
10. I do not know why I am working here.	1	2	3	4	5
11. I can easily put myself in other people's shoes.	1	2	3	4	5
12. At times, I experience an energy or vitality at work that is difficult to describe.	1	2	3	4	5
13. I find myself working without	1	2	3	4	5



### A Questionnaire for a Control Group

Please find below a short questionnaire asking about you and your work. This research has been approved by S&P CEO Khun Riva, and is part of my work as a Ph.D. student at the University of Tennessee , USA.

1. As a part of this study, you will respond to a questionnaire about your work two times (on the end of May and the beginning of July). Your performance will be evaluated by your supervisor on the beginning of July. Your performance evaluation will not be used for a S&P human resource process. During and after the study is complete, all data and related information will be kept in a locked laboratory indefinitely.
2. There are no right or wrong answers to the questions. Your answers are completely confidential. No individual's answer can be identified. There are no known risks for your participation. Please answer honestly.
3. If you complete the entire questionnaire, you will receive an opportunity to win Central Department Store's gift cards (1000, 500, 300, and 100 baht). We will announce the winners after we receive all complete questionnaires.
4. This survey is voluntary. Therefore, please give your signature to indicate that you understand the research process and consent to participate in this research.

I consent to participate in this research investigation.

\_\_\_\_\_

(Your signature)

\_\_\_\_\_

(Date)

If you have any question, please contact Khun Usanee Thienwan at telephone # 081-616-0129

Sincerely,

Pawinee Petchsawang

How old are you?

1. 20 or younger      2. 21-30      3. 31-40      4. 41-50      5. 51 and over

What is your gender?

1. male      2. female

What is your current marriage status?

1. single
2. married
3. separated
4. divorced
5. widowed

What is your religious preference n?

1. Buddhist
2. Christian
3. Muslim
4. other, please identify\_\_
5. none\_\_

What is your highest level of education your have completed?

1. less than high school
2. high school
3. Bachelor's degree
4. Graduate Degree

Where do you work?

1. branch
2. factory
3. head office

How long you have been working for S&P? \_\_\_years\_\_\_\_\_

Have you ever been attended BMDP?

1. no
2. yes when?\_\_\_\_\_

How often do you practice meditation?

1. never
2. when I feel I want to do it (less than 1 time per month)
3. when I have time every week
4. when I have time every day

Please indicate the extant you agree or disagree with each of the following statements.  
Circle the number that best describes how you really think or feel. .

Items	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
	1. I experience a real sense of trust and personal connection with my coworkers	1	2	3	4
2. I sympathize with my coworkers' suffering.	1	2	3	4	5
3. I find it difficult to stay focused on what's happening in the present.	1	2	3	4	5
4. I experience joy in my work.	1	2	3	4	5
5. I find myself listening to someone with one ear, doing something else at the same time.	1	2	3	4	5
6. My faith in a Higher Power/Universal Intelligence helps me cope with challenges at my work.	1	2	3	4	5
7. I do not care my coworkers' suffering.	1	2	3	4	5
8. It seems I am working automatically without much awareness of what I'm doing.	1	2	3	4	5
9. I share a strong sense of purpose and meaning with my coworkers about our work.	1	2	3	4	5
10. I do not know why I am working here.	1	2	3	4	5
11. I can easily put myself in other people's shoes.	1	2	3	4	5
12. At times, I experience an energy or vitality at work that is difficult to describe.	1	2	3	4	5
13. I find myself working without	1	2	3	4	5

### A Questionnaire for the Supervisors

Below please find a short questionnaire asking you to evaluate your subordinate, (*name*)'s performance for the time period of June 1<sup>st</sup> – July 1<sup>st</sup>, 2008. This research has been approved by S&P CEO Khun Riva, and is part of my work as a Ph.D. student at the University of Tennessee, USA.

Your evaluation here will be used for my research only. It will not be used for a S&P human resource process. Please answer honestly. Your answers are completely confidential. There are no known risks for your participation. Completing this survey is voluntary; however, you can help me very much by taking a few minutes to complete the entire questionnaire.

You will receive an opportunity to win Central Department Store's gift cards (1000, 500, 300, and 100 baht) in exchange for your participation in this study. We will announce the winners after we receive all complete questionnaires.

Please give your signature to indicate that you understand the research process and consent to participate in this research.

I consent to participate in this research investigation.

\_\_\_\_\_

(Your signature)

\_\_\_\_\_

(Date)

If you have any question, please contact Khun Usanee Thienwan at telephone # 081-616-0129

Sincerely,

Pawinee Petchsawang

How old are you?

1. 20 or younger      2. 21-30      3. 31-40      4. 41-50      5. 51 and over

What is your gender?

1. male      2. female

What is your current marriage status?

1. single                      2. married            3. separated    4. divorced    5. widowed

What is your religious orientation?

1. Buddhist    2. Christian    3. Muslim    4. other, please identify\_\_ 5. none\_\_

What is your highest level of education your have completed?

1. less than high school   2. high school   3. Bachelor's degree   4. Graduate Degree

Where do you work?

1. branch                      2. factory            3. head office

How long you have been working for S&P? \_\_\_years

Have you ever been attended BMDP?

1. no                      2. yes when?\_\_\_\_\_

Do you practice meditation?

1. never  
2. when I feel I want to do it (less than 1 time per month)  
3. when I have time every week  
4. when I have time every day

Please evaluate *name's* performance for the time period of June 1<sup>st</sup> – July 1<sup>st</sup>, 2008 by checking the score that best describe *name's* performance. This is what the scores mean.

Interpretation of rating scale

Excellent	5 scores = performance is above expectation and S&P standard
Very good	4 scores = performance is above S&P standard
Good	3 scores = performance meets S&P standard
Fair	2 scores= most of performance meets S&P standard, but some is below the standard
Not Satisfactory	1 score = performance is below S&P standard and has significant errors.

Place a check in the rating column that best describes *name's* performance in each of the job-related areas below. .

Dimensions	Weight Scale	Rating				
		Excellent 5	Very Good 4	Good 3	Fair 2	Not Satisfactory 1
<i>1. Work Content</i> ●Quality of work ●Quantity of work and timeliness of service (Efficiency)	5 5					
<i>2. Work Behavior</i> ●Enthusiasm and service mind ● Compliance with service protocol ● Cooperation and teamwork ●Awareness of clean food and safety ●Hygiene of equipments, tools, and work areas	4 4 4 4					
<i>3. Job Specification</i> ●Hygiene and healthiness ●Human relation skill ●Problem solving skill in service	5 5 5					
<i>4. Discipline</i> ●Compliance with supervisor's command and S&P Policy ●Attendance and discipline record ●Reporting problems to supervisors	5 5 5					
<i>5. Job Knowledge and Competency</i> ●Knowledge regarding food and S&P products ●Learning and development skill ●Initiation, and creativity	8 5 7					
<i>6. Management Skills</i> ●Assigning and managing jobs ●Mentoring and	4 4					

Dimensions	Weight Scale	Rating				
		Excellent 5	Very Good 4	Good 3	Fair 2	Not Satisfactory 1
<i>1. Work Content</i> ●Quality of work ●Quantity of work and timeliness of service (Efficiency)	5 5					
<i>2. Work Behavior</i> ●Enthusiasm and service mind ● Compliance with service protocol ● Cooperation and teamwork ●Awareness of clean food and safety ●Hygiene of equipments, tools, and work areas	4 4 4 4					
developing employees' abilities and skills ●Fairness ●Maturation and emotional control ●Leadership and decision making	4 4 4					

## Appendix D

Researchers in the nursing, psychology, and clinical field have developed spirituality measurements. Nine interesting spirituality measurements are summarized as the followings.

1. *Spiritual Well-Being Scale (SWBS)* (Paloutzian, 1982): a 20-item self-administered scale with two dimensions: religious (an individual's sense of well-being in relation to God) and existential (an individual's sense of life-purpose and life-satisfaction)
2. *Meaning in Life Scale* (Warner, 1987): "centered in a sense of purpose, beliefs and statements of faith."
3. *Spiritual Perspective Scale* (Reed 1987): "perspectives on the extent to which spirituality permeates their lives and they engage in spiritually-related interactions"
4. *Index of Core Spiritual Experiences (INSPIRIT)* (Kass, 1991): existence of God or higher power as well as the connection to God
5. *Spirituality Assessment Scale (SAS)* (Howden, 1992): purpose and meaning in life, inner resources, unifying interconnectedness, and transcendence
6. *The brief multidimensional measure of religion and spirituality (BMRS)* (Fetzer Institute, 1999): 12 subscales: daily spiritual experiences, meaning, values, beliefs, forgiveness, private religious practices, religious/spiritual coping, religious support, religious/spiritual history, commitment, organizational religiousness, and religious preference.

7. *Spiritual assessment inventory (SAI)* (Hall & Edwards, 1996): Two primary dimensions; (1) developmental maturity of one's relation with God; and (2) awareness of God.

8. *Spiritual transcendence scale (STS)* (Piedmont, 1999): Three subscales: connectedness, prayer fulfillment, and universality.

9. *Spirituality Index of Well-Being (SIWB)* (Daaleman, Frey, Wallace, & Studenski, 2002): a self-efficacy domain and a life scheme domain

## Appendix F

### The Approximation Test for a Mediation Effect

(Testing the Alternative Model: Mediation Practice as a Mediator of the Relationship between Workplace Spirituality and Work Performance)

The Approximation Test for a Mediation Effect (Sobel, 1982) is computed by the product of paths a and b is divided by a standard error term. This calculation yields z score of the mediated effect. If z score is greater than 1.96, the effect is significant at the .05 level. The standard error term is computed by the square root of  $b^2 sa^2 + a^2 sb^2 + sa^2 sb^2$ , where a and b are unstandardized regression coefficients and sa and sb are their standard errors.

To test a mediation effect of meditation practice on the relationship between workplace spirituality and work performance, path a is the relation between workplace spirituality and meditation practice, path b is the relation between meditation practice and work performance, and path c is the relation between workplace spirituality and work performance (see Figure 8).

$$a = .74$$

$$sa = .24$$

$$b = 1.26$$

$$sb = .45$$

$$c = 2.26$$

$$\begin{aligned}
 b^2 sa^2 + a^2 sb^2 + sa^2 sb^2 &= (1.26)^2(.24)^2 + (.74)^2(.45)^2 + (.24)^2(.45)^2 \\
 &= (1.59)(.06) + (.55)(.20) + (.06)(.20) \\
 &= .10 + .11 + .01 \\
 &= 0.22
 \end{aligned}$$

The square root of .22 = .47

The path a is multiplied path b/ the standard errors = (1.26)(.74)/.47 = 1.98

### **The Test of a Size of Mediation (Shrout & Bolger, 2002)**

$$\begin{aligned}
 ab/c &= (1.26)(.74)/.2.26 \\
 &= 0.41
 \end{aligned}$$

### **Vita**

Pawinee Petchsawang earned her second honor Bachelor of Science degree (Second Class Honor, Industrial Psychology) from Kasetsart University in Bangkok, Thailand, and a Master of Science degree (First Class Honor, Human Resource Development) from the National Institute Development Administration in Bangkok, Thailand. She is an Assistant Professor of School of Business and Administration at the University of the Thai Chamber of Commerce (UTCC) in Bangkok, Thailand. She has teaching experience in the areas of Human Resource Management and Organizational Behavior. Besides teaching, her past experiences include serving as Head of Human Resource Management Department, MBA Committee, and Committee of Executive Development Training for Thai Chamber of Commerce throughout Thailand. She published a book, Organizational Behavior, in Thai language as well as articles in UTCC Journal. In 2004, she received financial support from UTCC to pursue her doctoral degree at the University of Tennessee.

While studying in the Human Resource Development Doctoral Program, Pawinee presented papers at major conferences including the Academy of Human Resource Development (AHRD) and Academy of Management (AOM). Her dissertation proposal received the 1<sup>st</sup> place award (\$2,000) as Promising Dissertation of Management, Spirituality and Religion at AOM in 2007. In fall 2008, she completed the requirements for the Ph.D. in Business Administration at the University of Tennessee with a major in Business Administration and concentration in Human Resource Development. Following graduation, she will resume the duties of Assistant Professor at UTCC in Thailand.