THE EFFICACY OF CHRISTIAN DEVOTIONAL MEDITATION ON STRESS, ANXIETY, DEPRESSION, AND SPIRITUAL HEALTH WITH KOREAN ADULTS IN THE UNITED STATES: A RANDOMIZED COMPARATIVE STUDY

by

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Liberty University

A Dissertation Presented in Partial Fulfillment
Of the Requirements for the Degree
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by

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May 2014

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ABSTRACT

THE EFFICACY OF CHRISTIAN DEVOTIONAL MEDITATION ON STRESS, ANXIETY, DEPRESSION, AND SPIRITUAL HEALTH WITH KOREAN ADULTS IN THE UNITED STATES: A RANDOMIZED COMPARATIVE STUDY

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This study investigated the comparative effectiveness of Christian devotional meditation (CDM) versus progressive muscle relaxation (PMR) on stress, anxiety, depression, and overall spiritual health among a sample of nonclinical Korean Christian adults in the United States. Seventy nine individuals at two churches in the northern Virginia area completed the study. At each church, the subjects were randomly assigned to a two-hour session of CDM training or PMR training. Each participant then was asked to practice the technique at home at least once a day for two weeks with audio recorded instructions. The participants’ perceived level of stress, anxiety, depression, and spiritual health were assessed pre- and post-training. The results of the study revealed that while both practices were efficacious in decreasing anxiety and depression, CDM was statistically more efficacious. In addition, only the CDM group showed significant reductions in stress level and improved spiritual health. Participants also appeared to practice CDM more than PMR, suggesting CDM may be a culturally appropriate adaptation in counseling to encourage treatment compliance.
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CHAPTER ONE: INTRODUCTION

Background of the Problem

Almost everyone seems to experience stress from time to time in daily life. In fact, regardless of its universality, the term stress has been defined in many different ways. For example, Marsland, Bachen, and Cohen (2012) refer it as a “generalized set of diverse host responses to external or internal stimuli (stressors) that are harmful or are perceived to be harmful” (p. 717). In contrast to this definition which considers stress as certain responses to threat, harm or loss, Weitz (2013) defines stress as “situations that make individuals feel anxious and unsure how to respond, the emotions resulting from exposure to such situations, or the bodily changes occurring in response to these situations and feelings” (p. 349). This definition illustrates the construct of stress as situational stimuli and its behavioral and emotional effects. Meanwhile, some define stress as the process of the individual perceiving and reacting to threatening, challenging, or harmful events (Driskell, Salas, Jonston, & Wollert, 2008).

At a very general level, these various definitions lead to one important fact that experiencing stress can result in undesirable physiological, psychological, behavioral, or social outcomes such as problems in physical and psychological health, social and family relationships, function at work, parenting, and so on (for detailed information see Contrada & Baum, 2011; Dougall & Baum, 2012). When excessive stress disrupts normal physiological and psychological functioning, people tend to cope with it with diverse methods. Evidence based practices for relieving stress include cognitive behavioral therapy, progressive muscle relaxation, biofeedback, relaxation response, transcendental meditation, mindfulness-based stress reduction training, guided imagery, and diaphragmatic breathing among others (Lehrer, Woolfolk, & Sime, 2007; Varvogli & Darviri, 2011).
There has been a rising interest in studying Eastern meditation practices, such as transcendental meditation and mindfulness meditation, as a coping strategy against stress and related symptoms (for a review see Carrington, 2007; Kristeller, 2007). Interestingly, the use of meditation is not limited to stress management in the field of psychotherapy. In the past three decades, to be specific, Eastern meditation and modified approaches have been increasingly applied and incorporated to mental health interventions as a therapeutic component of treatment or a solitary exercise (see Walsh & Shapiro, 2006, for a detailed review of recent trends in research on meditation). As La Torre (2001) demonstrated, numerous empirical research outcomes continuously support the efficacy of meditation for various psychological distresses encompassed from anxiety to schizophrenia. A detailed discussion on the efficacy of transcendental and mindful meditation will be provided in chapter two.

However, contrary to the renewed interest in meditation as a relaxation strategy in the field of clinical psychotherapy, Christian scriptural meditation has received little attention in mental health research literature. In fact, the increased popularity of Eastern meditation in the Western culture and its impact on Christianity had already been criticized over thirty years ago:

The search for transcendence . . . is now firmly begun. Browse in any bookstore. . . Here are the books on Buddhism, the Tao, I Ching, Transcendental Meditation, altered states of consciousness, Yoga, and so on. We are all aware of the Eastern religious revival. The country is full of holy men—Sri Chinmoy, Maharishi, Yogi Gupta, Baba Ram Dass. . .

But where are the Christian holy ones? (Vitz, 1977, p. 134)

In the same vein, Stephan (2001) described Christian meditation as a forgotten or ignored spiritual discipline even for mainstream Christians. Whitney (1997) also pointed out this tendency as follows:
One sad feature of our modern culture is that meditation has become identified more with non-Christian systems of thoughts than with biblical Christianity. . . But we must remember that meditation is both commanded by God and modeled by the Godly in Scripture… (p. 47)

The point here is that Christian meditation is one of the essential spiritual disciplines deeply rooted in Christian history and tradition, not simply a counterfeit of Eastern meditation. Sadly, over the last few decades such ignorance is also found in the field of mental health research and psychotherapy.

This is all the more deplorable, given the theoretical evidence to support the efficacy of Christian meditation in dealing with psychological distresses. According to Richards and Bergin (1997), spiritual interventions such as meditation can be utilized to strengthen clients’ coping capability and fostering positive change by affirming their spiritual identity. Tan (2011) also affirms that explicitly spiritual interventions can bring psychological and spiritual healing and growth. Specifically, Christian meditation can potentially enhance psychotherapeutic process and outcomes, such as decreasing clients’ anxious and depressive thoughts and emotions as well as increasing caregivers’ psychological well-being with deepened spiritual values (Finley, 2004; Hansen, Nielsen, & Harris, 2008). Thus it may be concluded that empirical evidence for “an art that all praying people need to master” (Packer & Carolyn, 2006, p. 69) should be accumulated in order to confidently integrate the use of Christian meditation in treatment of Christian clients.

**Purpose of the Study**

In the last three decades, research has explored many aspects of meditation and its efficacy in releasing stress. Christian meditation has also been investigated to evaluate its usefulness in dealing with various physiological and psychological distresses. The present study
sought to contribute to this line of inquiry by examining the comparative effectiveness of two weeks of Christian devotional meditation versus progressive muscle relaxation on stress, anxiety, depression, and overall spiritual health among a sample of nonclinical Korean Christian adults recruited from the community.

**Research Question**

This study investigated the following research question: how effective is Christian devotional meditation compared to progressive muscle relaxation regarding alterations in perceived stress levels, anxiety, depression, and spiritual health?

**Research Hypotheses**

Based on existing research comparing Christian devotional meditation (CDM) with progressive muscle relaxation (PMR), the present study hypothesized the followings:

First, participants in the CDM condition will experience reductions in levels of perceived stress which will be at least comparable to those in the PMR condition at post-test.

Second, participants in the CDM condition will experience reductions in levels of perceived anxiety which will be at least comparable to those in the PMR condition at post-test.

Third, participants in the CDM condition will experience reductions in levels of perceived depression which will be at least comparable to those in the PMR condition at post-test.

Fourth, participants in the CDM condition will demonstrate greater overall spiritual health than those in the PMR condition at post-test.

Fifth, participants in the CDM condition will report a similar frequency of at-home skills practice to participants in the PMR condition.

Last, participants in the CDM condition will report a similar level of satisfaction in
assigned practice as do participants in the PMR condition.

**Limitations**

This study has several limitations which should be taken into account. The first is the absence of random selection of participants from the population. The targeted population is Korean adults in Northern Virginia. Thus results from this study may not be generalizable to other specific populations. The second limitation is the absence of a control group with a no treatment condition in this study. This could make it difficult to definitively conclude whether each intervention is effective in reducing participants’ stress, anxiety, or depression because the results of this study will not be compared to natural reduction of those distresses. In this study, however, the requirement of no treatment control group is significantly reduced because the effectiveness of PMR compared to a control group has already been empirically supported. Also, the purpose of this study was to investigate if CDM might also produce statistically similar results to PMR. The third limitation is absence of follow-up to assess how the effects of each intervention are maintained. The long-term effects of the intervention will not be evaluated in this study.

**Definition of Terms**

**Christian Devotional Meditation**

Christian devotional meditation has been defined in many different ways (see the Christian devotional meditation section of chapter two for a review). However, the fact that Christian meditation has many definitions does not mean that the spiritual discipline is hard to understand or that any definition is invalid. The point is to emphasize that it may be beneficial to see that meditation practice has been considered significant in almost every Christian tradition, including Roman Catholic, Orthodox, and Protestant. As seen in the chapter two in the section
regarding the historical background of Christian devotional meditation, each definition reflects the unique emphasis of each tradition.

In order to avoid conceptual confusion and yet respect the richness of the definitions made throughout Christian history, the construct of Christian devotional meditation needs to be operationally defined in this study. Slightly adapting a definition provided by Garzon (2011, 2013), this study therefore defines Christian devotional meditation as a variety of strategies designed to enhance focused attention on God, Scripture, or one’s self with the intent of one or more of the following: (a) deepening one’s relationship with the Lord, (b) fostering increased sanctification, (c) cultivating emotional or spiritual healing, and/or (d) growing in love toward one’s neighbor and oneself. The strengths of this definition are found in its recognition of the comprehensive effects of Christian meditation that span from an individual’s psychological domain to the spiritual domain, as well as the ability of the effects to be empirically tested.

**Progressive Muscle Relaxation**

For this study, progressive muscle relaxation is defined as an abbreviated therapeutic technique based on Jacobson’s (1938) original version of progressive muscle relaxation, which involves systematic and sequential tensing and relaxing of sixteen skeletal muscle groups for the purpose of inducing relaxation. This study also will provide participants with Bernstein and Borkovec’s (1973) shorter version of the muscle relaxation technique, composed of a smaller number of muscle groups (see chapter three for detailed information).

**Significance of the Study**

As stated above, the therapeutic efficacy of Eastern meditation methods in mental health, especially transcendental meditation and mindfulness meditation, is well-researched. Particularly, there has been increased interest in comparative psychotherapy outcome research
between Eastern meditation and other relaxation strategies, especially progressive muscle relaxation. Presumably, this is mainly because both coping strategies share important characteristics such as an emphasis on physiological and psychological states of relaxation (Shapiro & Jacob, 1983). Remarkably many empirical studies have concluded that transcendental and mindfulness meditation have comparative effects with progressive muscle relaxation in both clinical and nonclinical populations (Agee, Danoff-Burg, & Grant, 2009; Coleman, 1990; Feldman, Greeson, & Senville, 2010; Jain et al., 2007; Lehrer, Woolfolk, Rooney, McCann, & Carrington, 1983; Rausch, Gramling, & Auerbach, 2006; Robert H. Schneider et al., 2005; Woolfolk, Lehrer, McCann, & Rooney, 1982).

However, despite many promising findings from research examining the effectiveness of meditation, there are several reasons which make it questionable for Christian devotional meditation to also be utilized with confidence in the treatment of people with physiological and psychological distress. Here the significance of this study may be identified. One of the significant gaps in the existing literature is the dearth of published studies examining the efficacy of Christian devotional meditation on stress, anxiety, and depression. Only four empirical studies have been conducted using distinctly Christian devotional meditation (Carlson, Bacaseta, & Simanton, 1988; Edwards & Edwards, 2012; Wachholtz & Pargament, 2005, 2008). The total amount of research published in the area so far is remarkably insufficient to generalize conclusions to the general population with various types and levels of psychological stress.

Furthermore, previous research on Christian devotional meditation has suffered from significant methodological limitations. For example, in Carlson and colleagues’ (1988) study to determine the efficacy of Christian devotional meditation to reduce stress related physiological and psychological symptoms, there was a possibility that the recruited student participants
experienced different levels of anxiety because of taking final exams. In addition, the researchers did not provide demographic information about participants in the study. These factors could interfere with the generalization of the results found in the study.

In Wachholtz and Pargament’s (2005) comparison study of spiritual meditation with secular meditation and relaxation techniques, a lack of cultural variation among participants is observed. Among all participants, 94% of them were Caucasian college-aged students, while no Asian samples were included in their study. In addition to this weakness, the meditation method employed in terms of spiritual meditation was not distinctly Christian meditation. The researchers allowed the participants to use Mother Earth as a substitute term for God if they felt uncomfortable. In addition, the content of the meditation did not seem to fully reflect Christian meditation, which includes both emptying the mind and filling it with God’s Words and characteristics. In addition, despite the fact that almost fifteen measures were utilized, only three of them were administrated at pre-intervention. Consequently, these weaknesses could be obstacles to drawing strong conclusions from the findings to apply the results to other specific populations, and to reproduce this study for strong outcomes.

Edwards and Edwards’ (2012) exploratory investigation on Christian Trinity meditation also has limitations in its mixed design of qualitative and quantitative research. First, the number of participants is too small to generalize the results. Only ten Christians were recruited for this study. Second, all participants were members of the church that the researchers were attending and the nature of the research and procedures of the study were not blinded to them. This could make it difficult to control various threats to internal validity. Third, the meditation method was not specific enough to believe that all subjects meditated on an object. For example, they used the guide statement, “Please meditate on the Trinity. Feel free to explore any feeling, thought,
person, relationship or context in relation to your past and/or present experience of the Trinity.” Since the concept of Trinity is not easy to understand, the participants could have been confused in practicing it.

Consequently, even though Christian devotional meditation appears to have preliminary support in reducing stress related symptoms, it is apparent that further study should be conducted with stronger designs so that Christian mental health professionals may confidently assert the therapeutic benefits of the method. It is hoped that this study will fill the gap in the literature and provide stronger empirical evidences by recruiting a general community sample, considering a more culturally diverse population (i.e., Korean), carefully structuring the procedure and intervention of explicit Christian devotional meditation, and using a relatively large number of participants to meet the statistical requirement.

**Theoretical and Conceptual Framework**

This study is theoretically and conceptually grounded on three basic premises. The first is that Christian devotional meditation is rooted in its own tradition. Many Christians are suspicious of meditative practice mostly because of the influence of Eastern meditation. Even though there has been increased popularity of Eastern meditation in the Western culture over the last three decades, one should not think that meditation methods found in the Christian heritage are derived from Eastern religions. Rather, it is proper to think that Christian meditation is one of the essential spiritual disciplines apparent throughout the last two thousand years of Christian history.

Numerous evidences found in Christian literature support this. Most of all, while there is no way to trace back a specifically described form of meditation in the Old Testament era, the word *meditation* is found many times in the Old Testament. For example, Joshua 1:3 says, “Keep
this Book of the Law always on your lips; meditate on it day and night, so that you may be careful to do everything written in it. Then you will be prosperous and successful” (New International Version). Furthermore, much literature demonstrates that even in the late third and early fourth centuries, the desert Fathers and Mothers practiced meditation for their own benefits such as increasing their psychological well-being, sense of serenity, and awareness of the presence of God (Burton-Christie, 1993; Gould, 2002; Paintner, 2012).

The second basic premise is that Christian devotional meditation has distinctive characteristics in comparison to Eastern and secular meditation. First of all, while Christian devotional meditation attempts to empty the mind of worries or stress-related thoughts, it then fills it with God, His truth, and the Holy Spirit whereas Eastern meditation attempts to empty the mind or to encourage mental passivity (Clowney, 1979; Whitney, 1997). Filling one’s mind with God aims at transforming one’s mind into Christlikeness, which is theologically called Sanctification. Foster (1998) clearly demonstrated this by saying, “Repentance and obedience are essential features in any biblical understanding of meditation” (p. 15). Furthermore, Christian meditation does not pursue the creation of one’s own reality or becoming one with the cosmic absolute, detaching oneself from the world. Rather, Christian meditation seeks detachment from worldly or fleshly desires so that one can be more attached to God, responding to the love of God (Clowney, 1979; Foster, 1998).

The third premise upon which this study is grounded is that Christian devotional meditation has preliminary support for physiological, psychological, and spiritual benefits. For example, previous studies support the potential effects of Christian devotional meditation on the promotion of physiological health (e.g., the reduction of migraine headache, physical pain, and muscle tension), psychological health (e.g., the decrease of anger, anxiety, and negative
emotions), and spiritual health (Carlson et al., 1988; Edwards & Edwards, 2012; Wachholtz & Pargament, 2005, 2008). Despite the fact that initial results of Christian meditative practice are similar to those of secular meditation methods, the way to achieve those positive therapeutic outcomes is different. For Christians, those benefits can be achieved by the work of the Holy Spirit, not solely by one’s mental effort in the practice (Tan, 2011).

**Organization of Remaining Chapters**

In chapter two, the interventions employed in this study will be discussed. Prior to more specific discussion of Christian devotional meditation, the paper will illustrate various stress management strategies currently available in the field psychotherapy and found in the literature. This will establish an understanding of the theoretical and methodological location of the particular interventions in this study, which are progressive muscle relaxation and Christian devotional meditation. The paper will then present an overall review of PMR, which includes the historical background, theoretical background (i.e., rationale, protocol, and additional considerations), and clinical outcomes. The remainder of chapter two will provide explanations of biblical references to the term *meditation*, a historical background throughout the centuries, a basic concept (i.e., definitions, purposes, and primary focuses), and empirical research outcomes. In chapter three, the methodology of this study will be explained, which includes research design, participants, assessment measures, research procedure, interventions, and research analysis. Additionally, a specific description of how the data will be handled and debriefing will be discussed.
CHAPTER TWO: REVIEW OF THE LITERATURE

The purpose of this study is to examine the effectiveness of Christian Devotional Meditation in dealing with stress, anxiety, and depression compared to that of Progressive Muscle Relaxation. Various stress management strategies currently available in the field of psychotherapy are presented as a backdrop to understanding PMR and CDM. This will build an understanding of where each particular intervention for this study is theoretically located. Then, this chapter presents a basic concept of PMR and CDM, the historical background in the development of each intervention, and outcomes of relevant empirical studies.

Various Stress Management Strategies

The concept of stress and its deleterious effects are universal. Almost everyone is facing challenges and burdens of stress and anxiety in daily life. Sometimes individuals experience stress beyond their reasonable capacities, considering it an unbearable burden. Accordingly, therapeutic strategies for stress have evolved through the years, aiming to acquire positive psychological states such as (1) transcendence (e.g., timeless/boundless, mystery, reverent/prayerful), (2) core mindfulness (e.g., quiet, aware/focused, accepting), (3) positive energy (e.g., joyful, optimistic), and (4) basic relaxation (e.g., at ease/peaceful, physically relaxed, disengaged, sleep) (Smith, 2007, p. 41).

Stress management strategies include muscle relaxation, hypnotic methods (e.g., autogenic training), biofeedback, breathing exercises, visualization/imagery, Eastern meditative methods (e.g., mantra meditation, mindfulness meditation, Qigong therapy, etc.), yoga, cognitive intervention, music therapy, eye movement desensitization, pharmacological approaches, and so on (see Lehrer et al., 2007 for a detailed information on each intervention). These strategies to reduce stress and psychological distress may be categorized by their initial therapeutic target as
follows (Smith, 2007): (a) stretching/yoga for stressed posture and position, (b) PMR for stressed muscles, (c) breathing exercises for stressed breathing, (d) autogenic training for stressed body focus, (e) imagery/positive self-talk for stressed emotion, and (f) meditation/mindfulness for stressed attention. In recent years, however, the methods tend to be integrated into each other aiming at more comprehensive interventions.

Probably the best known of these stress management techniques, which are clinically standardized and empirically supported, are progressive muscle relaxation (PMR), drawn from Western cultures; and transcendental meditation and mindfulness meditation, which are associated with Eastern religion and traditions. PMR is a well-known method for achieving a deep state of relaxation by sequentially tensing and relaxing major skeletal muscle groups of the human body. This non-pharmacological method is not the only technique to promote relaxation against phobias, stress, or anxiety, but it is seemingly the most popular method for clinicians, therapists, and researchers in controlling emotional arousal, which may produce various behavioral problems and subjective distress (Bernstein, Carlson, & Schimidt, 2007).

Transcendental meditation, which was rooted in a very ancient Hindu practice, was first introduced by Maharishi Mahesh Yogi (1968). This tradition of meditation mainly involves repeating and thinking a mantra, which is an object of attention, for the purpose of acquiring a deepened sense of inner peace, happiness, creativity, and dynamism by bringing love to relationships and fostering increased harmony in any circumstances (Forem, 2012; White, 2004). As a psychotherapeutic intervention, transcendental meditation’s emphasis is found in “the fostering of a new kind of communication between the client and his or her own self, apart from his or her interpersonal environment”(Carrington, 2007, p. 364). Its effectiveness in reduction of stress and related symptoms is well supported by numerous empirical research outcomes (see the
section below on empirical research outcomes of progressive muscle relaxation for more detailed information).

Mindfulness meditation, which has been gaining popularity in the field of psychotherapy and counseling in recent years, is also a well-researched method to cope with stress and various forms of emotional distress (Bauer-Wu, 2010; Kristeller, 2007). The basic concept of mindfulness is rooted in Eastern religion, namely Buddhist philosophy. Some define it as “a process of regulating attention in order to bring a quality of nonelaborative awareness to current experience and a quality of relating to one’s experience within an orientation of curiosity, experiential openness, and acceptance” (Bishop et al., 2004, p. 234). Others refer to it as “the awareness that emerges through paying attention on purpose, in the present moment, and nonjudgmentally to the unfolding of experience moment by moment” (Kabat-Zinn, 2003, p. 145). However, it is better understood that mindfulness refers to both mindful practice as a process and mindful awareness as an outcome (Shapiro & Carlson, 2009). Mindfulness meditation has been modified as a clinical intervention to reduce stress by helping clients increase awareness about their thoughts and feelings and to relate to them nonjudgmentally from a disengaged/decentered perspective (Kristeller, 2007).

In addition to mindfulness meditation, another meditative intervention that should be discussed is Christian meditation. Many Christian devotional meditation methods are distinguished by the use of Scripture or a focus on aspects of the trinity (Clowney, 1979; Edwards & Edwards, 2012; Whitney, 1997). Specifically, these methods help the individual to focus on particular scriptural verse(s) or a certain characteristic of God and apply it to one’s current life situation. In this respect Christian meditation differs from those meditations which are nonconcentrative in nature, such as mindfulness meditation (for a detailed explanation of the
types of meditation see Goleman, 1988). Surprisingly, while mindfulness and various mindfulness based interventions for psychological distress have received the most attention in clinical practice, explicitly Christian versions of meditation have been largely ignored until quite recently. However, the results of previously conducted preliminary research are encouraging. A detailed explanation is provided in the section below.

**Progressive Muscle Relaxation**

**Historical Background**

The central figure in the history of PMR is Jacobson (1938), who first developed progressive muscle relaxation techniques based on his observation that there seems to be a causal relationship between mind and body in maintaining human health: muscle relaxation is related to mental relaxation. First, he observed contracted and shortened muscle fibers in anxious persons, which usually cause muscle tension, and believed that various types of negative emotional and physiological states could be caused by what is called neuromuscular hypertension. He then proposed that a relaxed body could result in a relaxed mind, “because an emotional state fails to exist in the presence of complete relaxation of the peripheral parts involved” (Jacobson, 1938, p. 218).

Jacobson concluded that if anxious persons learn how to relax their tensed muscles, their perceived degree of anxiety could be alleviated. As a result, he developed PMR to reduce muscle contractions in persons by systematically tensing and releasing muscle groups as a way of promoting persons’ awareness of tension in skeletal muscles and eventually leading to a feeling of deep relaxation. Jacobson’s first version of PMR was complicated in application and somewhat lengthy. It required up to a total of fifty-six sessions that included one to nine-hour long daily individual sessions on each of 16 muscle groups.
Wolpe (1958), a pioneer of behavioral therapy, adapted Jacobson’s PMR technique in treating his patients with phobias. He considered relaxing muscles a central feature of counterconditioning methods for fear reduction. Considering that relaxation is incompatible with anxiety, he taught his patients a condensed form of muscle relaxation treatment lasting only about seven sessions. During the procedure, he gradually exposed patients to anxiety-evoking stimuli from least to most frightening in terms of systematic desensitization. The result of the use of a shortened version of Jacobson’s muscle relaxation training was convincing for him: “The reason why I have now resorted to Jacobson’s intensive program is that by the desensitization method… I have been able to overcome anxieties… on the basis of such relaxation as it attained by my brief method of training” (Wolpe, 1985, p. 136).

Later, Bernstein and Borkovec (1973) wrote a step-by-step practice manual of PMR for clinicians and researchers, modifying Jacobson’s original training approach. Their version of PMR training is characterized by considerably shorter sessions and tension-release cycle times than Jacobson and Wolpe, conducting relaxation practice with all muscle groups (i.e., sixteen muscle groups) in every training session, and with therapist’s interactive involvement with more verbal instructions during the training (Bernstein & Borkovec, 1973; Bernstein et al., 2007; Conrad & Roth, 2007). Due to the standardized protocol and streamlined length, their approach, which is called abbreviated progressive muscle relaxation training, has been widely utilized not only as a sole treatment but as a supplement of other behavioral interventions for stress-related problems. For example, PMR has been successfully adapted as a component of behavioral coping strategies for persons with HIV (Antoni, Ironson, & Schneiderman, 2007).

Theoretical and Conceptual Basis

**Rationale.** Even though a large body of literature suggests that PMR can alleviate an
individual’s perceived level of stress and anxiety, a detailed mechanism of how PMR works is not clear (see Bernstein et al., 2007, for a detailed discussion). One potential mechanism of PMR is that muscle relaxation alleviates physical tension, resulting in the reduction of somatic and cognitive arousal. Muscular relaxation nullifies negative effects of neuromuscular hypertension on the body, constraining the occurrence of anxiety-evoking thoughts and emotions (Bernstein et al., 2007; Conrad & Roth, 2007; McGuigan & Lehrer, 2007). This may be explained by the fact that PMR possibly reduces autonomic activation by altering sympathetic nervous system activity, or muscular activity. In other words, an overly activated sympathetic branch of the autonomic nervous system brings about excessive skeletal muscle activity (Jacobson, 1938; McGuigan & Lehrer, 2007).

However, relaxed muscle tension “leads to a loss in ergotropic tone of the hypothalamus, a diminution of hypothalamic-cortical discharges, and, consequently, to a dominance of the trophotropic system through reciprocal innervation” (Gellhorn & Kiely, 1972, p. 404). As the activity is decreased through PMR, little or no negative feedback is sent to the central brain structure from skeletal muscle proprioceptors, eventually resulting in decreased autonomic activation. When muscle tension drops and muscular contraction is removed, the other autonomic activations such as blood pressure and pulse rate are also decreased (Bernstein et al., 2007; Conrad & Roth, 2007; Gellhorn & Kiely, 1972; McGuigan & Lehrer, 2007). In these ways, an individual trained in muscular relaxation could experience reduced subjective psychological distress such as stress and anxiety.

The other potential mechanism of PMR is associated with the cognitive aspect of muscle relaxation protocol. Based on this more recent alternative explanation, the role of muscle relaxation is to sustain the individual’s attention only on muscle tension during the practice;
PMR helps the individual practice cognitive restructuring through repetitive exposure and disengagement. Lehrer (1982) affirmed this by saying, “Many of his [Jacobson’s] interventions have some characteristics of cognitive therapy. By advising people to focus on their muscle tension during periods of emotional stress he implicitly tells them that various worries are not sufficient cause for becoming tense” (p. 423). After reviewing many empirical studies on the effectiveness of muscle relaxation training in patients with anxiety disorder and/or panic disorder, Conrad and Roth (2007) made a similar assumption that through PMR the individual can learn how to control senses and create new ways of thinking, eventually leading to increased confidence to overcome one’s distress and difficulties.

**Protocol.** The original version of PMR, which was developed by Jacobson, has been adjusted into various types with modification of its tension-release duration, frequency, and the number of muscle groups. For example, there are different techniques for sixteen muscle groups, seven muscle groups, four muscle groups; and relaxation through recall, through recall and counting, and through counting alone (see Bernstein and Borkovec, 1973; Bernstein, Carson, and Schmidt, 2007). In the case of Bernstein and Borkovec’s (1973) abbreviated version, which is employed in this study, five brief steps are required: (1) focusing on certain muscle groups while following the therapist’s instruction, (2) tensing the muscle group upon a cue (e.g., “Now”) from the therapist, (3) keeping the muscle contraction for about 5-7 seconds, (4) relaxing the muscle instantly (not gradually), also upon the therapist’s cue (e.g., “Relax”), and (5) focusing on the sensation of relaxation for 30 seconds. Empirical support for this abbreviated version of PMR will be discussed in the next section.

For optimal tension-release procedures, the order of muscle group and tensing methods should be as follows: (1) dominant hand and forearm tensed by forming a tight fist while
allowing upper arm to remain relaxed, (2) dominant upper arm tensed by pressing the elbow down, (3) non-dominant hand and forearm tensed the same way as the dominant, (4) non-dominant upper arm tensed the same way as dominant, (5) forehead tensed by raising the eye brows as high as possible, (6) upper cheeks and nose tensed by squinting the eyes and wrinkling the nose, (7) lower face tensed by clenching teeth and pulling back corners of the mouth, (8) neck tensed by stretching the head back or bending the head, (9) chest, shoulders, and upper back tensed by taking a deep breath and holding it while shrugging the shoulder blades together, (10) abdomen tensed by trying to push the stomach out and pulling it in simultaneously, (11) dominant upper leg tensed by pressing the back of knee towards the floor, (12) dominant calf tensed by pointing the toes toward head, (13) dominant foot tensed by pointing the toes downward and curling toes, (14) non-dominant upper leg tensed the same way as dominant, (15) non-dominant calf tensed the same way as dominant, (16) non-dominant foot tensed the same way as dominant (Bernstein & Borkovec, 1973; Bernstein et al., 2007).

In general, counting backwards from four to one is employed for the termination of the technique (Bernstein & Borkovec, 1973; Bernstein et al., 2007). Upon the call of four, the client is asked to move legs and feet, on the count of three to move hands and arms, on the count of two to move head and neck, and on the count of one to open the eyes and sit up.

**Additional considerations.** In order to obtain the maximum benefit from PMR, PMR researchers and practitioners suggest that therapists and counselors need to be aware of potential obstacles and clinical indications about when to use or when not to use the techniques. There are several potential issues that may occasionally interrupt the client’s relaxation such as muscle cramps, unnecessary frequent movement, laughter, talking by client, muscle twitches, anxiety-producing thoughts, sexual arousal, sleep, coughing, or sneezing (Bernstein et al., 2007). For
these cases, it is suggested that PMR training providers should be familiar with workable solutions. For example, if the client reports muscle cramps during the training session, the therapist should instruct the individual to move the cramped muscles to alleviate the cramp, while considering shorter tension periods than usual (see Bernstein et al, 2007 for detailed solutions for many other problems).

For the most appropriate application of PMR, therapists should be aware that not all clients may benefit from PMR. Bernstein, Borkovec, and Hazlett-Stevens (2000) clarified that PMR is not a promising remedy for dealing with all client’s problems, even those related to the major targeted symptoms of PMR in the clinical literature such as anxiety or stress related complaints. In this respect, the clinical indication given by Lehrer, Carr, Sargunaraj, and Woolfolk (1994) is noteworthy:

“Disorders with a predominant muscular component (e.g., tension headaches) are treated more effectively by muscularly oriented methods, while disorders in which autonomic dysfunction predominated (e.g., hypertension, migraine headaches) are more effectively treated by techniques with a strong autonomic component. Anxiety and phobias tend to be most effectively treated by methods with both strong cognitive and behavioral components (p. 353)

Meanwhile, Bernstein et al. (2000) indicate that PMR could play the most beneficial role in the treatment of individuals with high-level tension related complaints such as tension headaches or insomnia. As such, it is imperative that PMR training providers take the initial assessment attentively in order to evaluate whether physiological indicators of maladaptive emotional arousal exist, whether the maladaptive arousal is the primary treatment target, whether there are other causal factors such as biological/medical components of the problems, as well as
whether any particular physical condition exists that may contraindicate tensing and relaxing practice (Bernstein, Carson, & Schmidt, 2007).

**Empirical Research Outcomes**

In general, PMR is known as one of the most widely used behavioral treatments for many physiological and psychological distresses. A considerable number of studies have demonstrated that PMR is beneficial in a variety of clinical conditions such as high levels of cortisol (Pawlow & Jones, 2002), functional urinary incoordination (Philips, Fenster, & Samsom, 1992), tension headache (Arena, Bruno, Hannah, & Meador, 1995; Kröner-Herwig, Mohn, & Pothmann, 1998), hypertension (Amigo, Gonzalez, & Herrera, 1997; Haaga et al., 1994; Yung & Keltner, 1996), and insomnia (Alexandru, Róbert, Viorel, & Vasile, 2009; Ziv, Rotem, Arnon, & Haimov, 2008). In addition, PMR techniques have been found to be effective in dealing with several psychiatric problems such as anxiety (Coleman, 1990; Conrad & Roth, 2007; Lolak, Connors, Sheridan, & Wise, 2008) and stress (Dolbier & Rush, 2012; Rausch et al., 2006).

Research has also shown that PMR has beneficial effects for the physiological and psychological distress of patients with illnesses such as cancer (Kwekkeboom, Wanta, & Bumpus, 2008), schizophrenia (Georgiev et al., 2012; Vancampfort et al., 2011), and human immunodeficiency virus (Eller, 1999). Furthermore, several empirical studies have validated that PMR can benefit various age groups ranging from children to older adults (Coleman, 1990; Dolbier & Rush, 2012; Morone & Greco, 2007; Nickel et al., 2005; Zulkifli & Parish, 1998). Several meta-analyses also support the effectiveness of PMR.

It seems likely that the early studies on the effectiveness of muscle relaxation techniques primarily focused on reductions of physiological arousal and various somatic symptoms of stress. For example, the earliest meta-analysis was conducted by Borkovec and Sides (1979) to
compare the efficacy of PMR to other relaxation techniques such as hypnotic relaxation, self-relaxation, and verbal relaxation. After reviewing twenty five empirical studies, they found that in fifteen studies PMR produced greater reduction effects on physiological conditions such as skin conductance, peak expiratory flow rate, and heart rate than those achieved by control conditions, while the other ten studies demonstrated equivalent effects. They suggested that therapist-involved live administration of the procedure and multi-session interventions would contribute to greater physiological effects of relaxation. After reviewing several experimental studies, Lehrer (1982) also affirmed that tape-recorded instruction was less effective than live training on psychophysiological symptoms. However, he found that the length of the PMR training did not significantly affect the PMR treatment outcomes.

Hyman, Feldman, Harris, Levin, and Malloy (1989) reviewed forty-eight experimental studies to examine the overall effectiveness of relaxation techniques, which include the relaxation response technique (Benson, 1975), progressive muscle relaxation (Jacobson, 1938), rhythmic breathing, imagery, Lamaze, meditation, autogenic training, hypnosis, transcendental meditation, and Yoga. They found that PMR is the most effective intervention for hypertension, headache, chronic pain, and insomnia compared to other interventions, while it is moderately effective for anxiety.

In their meta-analysis, Luebbert, Dahme, and Hasenbring (2001) evaluated fifteen studies published from 1981 to 1995 concerning the effect of relaxation training on patients with various types of cancer. In most studies included in their review, 87.5% of the interventions were Jacobson’s (1938) original version of PMR or Bernstein & Borkovec’s (1973) abbreviated version of PMR, while eleven of them used PMR in combination with guided imagery. They found significant effects of relaxation with home-training on patients with cancer treatment-
related symptoms such as nausea, pain, pulse rate, and blood pressure problems (effect sizes ranging from 0.45 to 0.55). They also demonstrated that relaxation practices are clinically effective in adjusting negative emotions such as depression, hostility, and anxiety.

On the basis of the evidence shown in the reviews above, PMR seems to be effective in reducing symptoms in persons with variety psychophysical and stress-related disorders. However, as described, the previous reviews neither exclusively included studies which employed Bernstein and Borkovec’s (1973) abbreviated version of PMR protocol, which is used and modified for this study, nor distinguished the effectiveness of the shortened PMR from the other forms of relaxation training.

Carlson and Hoyle’s (1993) study is particularly noteworthy for the inclusion of empirical studies which specifically employed Bernstein and Borkovec’s (1973) APMR training as the solo intervention, not in combination with other methods. They reviewed 29 published empirical studies from 1980 to 1993 to examine the effectiveness of APMR by estimating its overall effect size and evaluating important therapeutic components of the method. They affirmed the overall effectiveness of APMR as a treatment for a range of clinical disorders such as tension headache, essential hypertension, cancer chemotherapy and other stress-related conditions, while individuals with tension headache received the most benefits. They demonstrated what is potentially the most beneficial procedural tailoring of APMR, considering several moderating factors. For example, the individual training contributed to larger effect size than group training did; while the use of audiotapes for home practice produced better outcomes.

These reports could support the preferential use of Bernstein and Borkovec’s (1973) APMR protocol in individuals with anxiety and stress-related disorders, which are the primary target symptoms of this study. However, the studies reviewed in the meta-analyses above did not
specify if the number of APMR sessions plays a significant role in applying the method. Given that a single-session intervention and two weeks of home practice will be one of the major interventions, it is important to be aware of the procedural benefits and limitations found from previous research adapting the procedure.

Most recently, a few studies utilized single session treatment of APMR as a major intervention. Dolbier and Rush (2012) employed a 20-minute therapist-directed live APMR training in their study to examine its efficacy in dealing with college students’ perceived level of stress and anxiety. They demonstrated that the intervention contributed significantly to greater decreases in cognitive anxiety than a control group; meanwhile the effects on somatic anxiety were moderate. Vancampfort and his colleagues’ (2011) study has shown that a single 25-minute session of APMR resulted in a greater reduction in state anxiety and psychological stress and a great increase in subjective well-being in patients with schizophrenia than those who did not receive any intervention.

As seen, progressive muscle relaxation is supported by a large body of literature on coping with numerous negative physical and psychological symptoms by achieving a deep state of muscle relaxation. The literature suggests that the shortened version of progressive muscle relaxation with 16 muscle groups also has similar outcomes in alleviating individual’s perceived tension. Furthermore, 2-weeks at-home practice of progressive muscle relaxation with audio instructions revealed its efficacy for reduction of stress and anxiety. These findings support conducting this study with shortened progressive muscle relaxation with at home practice. The following sections present an overall review of Christian devotional meditation focusing on its biblical references, historical background, and theoretical basis; as well as empirical research outcomes. A brief chapter summary will also be provided at the end of this chapter.
Christian Devotional Meditation

Biblical References

The practice of Christian devotional meditation is rooted in the Scripture. It is noteworthy that the words meditate and meditation are found over twenty-five times in the Old Testament. There are three different Hebrew words that are used in the Old Testament to convey the idea of meditation. The first word is found in Genesis 24:63: “And Isaac went out to meditate (שׂוּח, suwach) in the field at the eventide: and he lifted up his eyes, and saw, and, behold, the camels were coming” (King James Version). The verb suwach is used only in this verse in the Old Testament. Due to the uniqueness of this Hebrew verb, some scholars insist that “the verb is not translatable” (Rad, 1987, p. 259) and current translation of the verb into the English word meditate is based on guesses (Turner, 2009). For this reason, a few Bible versions note that the meaning of this word is uncertain in a footnote (see the New International Version and New American Standard Version).

However, there is also a view that the word suwach rendered “meditate” is derived from בָּאוּר (siyach). The basic meaning of the word siyach seems to be “produce, bring forth, put forth, speak, sing, talk with oneself, meditate, muse, commune, complain, and ponder” (Archer, Harris, & Waltke, 1980; Gesenius, 1967). The verb is used 20 times in the Old Testament but translated as “meditate” five times in the book of Psalms. The usage of the verb in Psalm 119 offers a deeper understanding as to the application of siyach when it is used as “to meditate,” revealing the objects of meditation: God’s precepts (119:15, 78); decrees (119:23), deeds (119:48), and promises (119:148).

The Hebrew word הָגָה (hagah) is also used for meditation; it means “to murmur, mutter, growl, speak poetically, meditate, devise, muse, and imagine” (Gesenius, 1967). The verb hagah
is derived from the verb denoted “a low sound, characteristic of the moaning of a dove or the growling of a lion over its prey” (Archer et al., 1980, p. 205). The verb *hagah* is translated as *to meditate* a total of six times in the Old Testament. All of the verses support an enhanced perspective on the practice of meditation (Jos. 1:8; Psa. 1:2, 63:6, 77:12, 143:5; Isa. 33:18). For example, Joshua 1:8 says, “Keep this Book of the Law always on your lips; meditate on it day and night, so that you may be careful to do everything written in it. Then you will be prosperous and successful” (NIV). There is no way to trace back a form of meditation in the context. However, it is apparently true that God commanded Joshua to meditate on God’s law constantly. Similarly, a Psalmist demonstrated that meditation on the law of God day and night is an indicator of those who are blessed (see Ps. 1:2).

The Greek word for *meditation* in the New Testament is μελετάω (*meletaō*), which means “to care for, attend to carefully, practice, meditate, device, and ponder” (Thayer, 1977). The verb *meleταo* is used three times in the New Testament. However, only in I Tim. 4:15 is the verb translated as *meditate upon*: “Meditate upon these things; give thyself wholly to them; that thy profiting may appear to all” (KJV). This verse illustrates the distinctive characteristics of Christian meditation, which emphasizes the Words of God and His Doctrines. The Hebrew word *hagah* and the Greek word *melete* are translated into the Latin word *meditari*, which is the root word of *meditation*.

**Historical Background**

It is outside the scope of this section to give a full historical background on the development of Christian devotional meditation. Still, a brief discussion will serve to provide a historical and theological context for understanding various movements of Christian devotional meditation, which have informed currently available Christian meditation methods such as
concentrative and awareness meditation techniques. For this purpose, this section highlights several figures and traditions pertaining to Christian meditation practices from the third century to the present.

**The third and fourth centuries.** Surprisingly to some evangelicals, meditation has been a part of Christian spiritual heritage for a very long time. The earliest form of meditation is found in the spiritual practice of the desert Fathers and Mothers in the late third and early fourth centuries. Desert fathers and mothers are early Christian hermits who went to the desert landscape of Egypt, Syria, Palestine, and Arabia, withdrawing themselves from society to seek and cultivate a deliberate awareness of the presence of God by practicing spiritual disciplines of regular prayer, solitude, and self-inquiry (Paintner, 2012). Their thoughts and spiritual disciplines are explored in the *Saying of the Desert Fathers*, which is the most well-known collection of wisdom of the desert monastic tradition (Gould, 2002; Paintner, 2012).

According to the *Saying of the Desert Fathers*, the desert fathers and mothers were engaged in various spiritual disciplines, with ruminating and meditating on the Scripture especially being an integral and indispensable part of their monastic life (Burton-Christie, 1993; Merton, 1970; Wortley, 2006). Meditation provided benefits for their daily life in their battle with demons, which included increasing their psychological well-being, sense of serenity, and awareness of the presence of God (Burton-Christie, 1993).

As stated, it is clear that the desert fathers and mothers took the role of the Scripture very highly. Unfortunately, however, it seems difficult to trace back the exact form of meditation that they practiced on a regular basis. There is an assumption that their meditation practice was associated with oral phenomenon, which uses recitations as a means of contemplating the message of Scripture (Burton-Christie, 1993). In the *Saying of the Desert Fathers*, this use of
recitations may be assumed from the following passage: “Abba Ammonas said: ‘I and Abba Betimes visited Abba Achilles and we heard him meditating this phrase: \textit{Fear not Joseph to go down to Egypt} [Gen 46:3]; and he went on meditating this phrase for a long time’” (as cited in Wortley, 2006, pp. 320-321).

Based on this knowledge, one might conclude that the meditation of early Christian hermits in the desert may not correspond to the current forms of meditation, but one cannot be sure since the evidence from their writings is so limited. However, this fact does not devalue current practices or what the desert fathers and mothers pursued seriously in terms of meditation. They sought to internalize awareness of God’s presence in order to overcome various types of psychological and spiritual difficulties, and this is equivalent to what modern Christians attempt to attain through meditation.

\textbf{The fifth to tenth centuries}. In the sixth century, Benedict of Nursia established practical guidelines (later called \textit{The Rule of Benedict}) for the Christian monastic life, combining his own experiences and what he learned from earlier writers (e.g., Origen, the desert fathers and mothers, and John Cassian) pertaining to various spiritual aspects of an ascetic life (Carolinne, 2008). In his work, it is assumed that meditation on Scripture played an essential part of the rules for monastic life: “Idleness is the enemy of the soul. Therefore, all the community must be occupied at definite times in manual labor and at other times in \textit{lectio divina}” (as cited in Patrick, 2004, p. 117). \textit{Lectio divina} literally means divine reading, but the terms are better to be understood as a way of promoting a sense of awareness of God’s presence by prayerfully and contemplatively “chewing” the Word of God (Benner, 2010; Paintner, 2011). In Benedictine monastic tradition, there was a rule that divine reading should occur about two to three hours a
day during the summer and five hours a day in the wintertime, as well as fixed hours of time during meals and in community gatherings (Tunink, 1963).

**The eleventh to fifteenth centuries.** It was a twelfth-century Carthusian monk, Guigo II, who formulated a more scholastic form of *lectio divina* by explicitly articulating the four elements and systematically putting them in an order (Davis, 2012; Paintner, 2011). The elements include *lectio* (i.e., careful repetitive reading of the Scripture), *meditatio* (i.e., reflective pondering of the text), *oratio* (i.e., responding to God through prayer), and *contemplatio* (i.e., peaceful resting in God’s silence) (Hough, 2007). Given that Guigo II pictured each movement as a rung of a ladder to Heaven, he seemed to consider the practices as a linear model in which one methodically progresses through the levels in order. However, the steps of monastic prayer are not a rigid rule but more like a looping spiral in which each element could be repeated during the practice. Schultz (2007) states, “We typically oscillate between the various stages in *lectio divina*... just engage in *lectio* as a whole process and let the Spirit and the rhythm of the process lead us” (p. 106).

Guigo II saw *lectio divina* as a way of praying the Words of God to seek communion with Him (Hayden, 2001; Magrassi, 1998). Benner (2010) emphasizes the holistic nature of this practice by saying, “Taken together, these four movements give us a picture of holistic prayer. Opening the self to God in its totality involves meeting God in mind and heart, the senses and imagination, stillness, and action, meditation, and contemplation” (p. 56). Thus, *lectio divina* could be one instance in the Christian tradition of the value of meditation and contemplative prayer.

In the fourteenth century, an anonymous English monastic spiritual director wrote a guidebook on contemplative life, named *The Cloud of Unknowing* (see Butcher, 2009, for a
contemporary English version of the book). The author of this book introduces meditation as one of three important spiritual practices: the lesson (reading), meditation (reflecting), and orison (praying). The author states, “Nor will beginners or proficients come to true prayer without previous reflection” (Butcher, 2009, p. 84). Here the role of meditation is amplified, which is a bridge of reading the passage of the Scriptures with prayer. This observation corresponds to Guigo II’s suggestions implied in his lectio divina. Interestingly, the same observation is made by Puritans in the seventeenth century; this will be discussed later in this chapter.

In addition to the persons mentioned above, the significance of meditating on passages of the Scriptures have been witnessed to by St. Bernard of Clairvaux in the twelfth century, St. Francis of Assisi and St. Clare in the thirteenth century, Meister Eckhart in the fourteenth century, and Julian of Norwich in the fifteenth century. All their great works and experiences have led the church to a new appreciation of different forms of meditation in the later Middle Ages and modern era (see McNamer, 2010, for more detailed information on meditation tradition in the Middle Ages).

Another notable meditative practice in the fourteenth century was hesychasm and the Jesus Prayer in the Eastern Orthodox tradition. The term hesychasm simply means a certain type of prayer to acquire inner peace or silence and union with God, typically through the Jesus prayer, which involves the phrase, “Lord Jesus Christ, Son of God, have mercy on me, the sinner” (Johnson, 2012; Ware, 1995). The essence of the prayer is to request mercy from God using the name of Jesus as a way of revealing one’s faith in Him, the Son of God, and in God himself (Hausherr, 1978). In other words, this prayer is an act of coming into the presence of Jesus, surrendering all things to Him, and asking Him to take control of all things in His mercy (Zaleski, 2011).
The sixteenth to nineteenth centuries. In this time period, there are three significant names whose contributions on Christian meditation tradition were noteworthy: St. John of the Cross, Teresa of Avila, and St. Ignatius of Loyola. St. John of the Cross in the sixteenth century emphasized the role of meditation in attaching closely to God by increasing the knowledge and love of God and in detaching from sinful things (Allison, 2005, 2008). Interestingly, however, he did not think that discursive meditation, which has been referred to as “a systematic type of prayer that begins with the reading of a passage from the Gospels” (Foley, 2013, p. 101), was the only or ultimate tool to obtain a deepened communion with God. Rather, emphasizing the transition from meditation to contemplation, he believed that by means of contemplation one’s soul could be brought into the divine union with God: “In the state of contemplation, which the soul enters when it forsakes meditation for the state of the proficient, it is God Who is now working in the soul” (Allison, 2005, p. 68). St. John of the Cross reasoned that only through contemplation can one attain a deepened spiritual relationship with God, and not through meditation, which is the work of bodily interior and exterior senses, such as imagination and fancy (Allison, 2008; Foley, 2013).

St. Teresa of Avila’s concept of meditation is represented in her book Interior Castle (Allison, 2007). In this book, she clarified that meditation is the work of reasoning, pondering on God’s grace in sending His Son, Jesus, to human beings to save them, as well as Jesus’ whole life to achieve God’s plan in the earth:

By meditation I mean prolonged reasoning with the understanding, in this way. We begin by thinking of the favor which God bestowed upon us by giving us His only Son; and we do not stop there but proceed to consider the mysteries of His whole glorious life.

(Allison, 2007, p. 124)
Considering that St. Teresa dealt with meditation as a way to get into the first of the seven chambers of an interior castle, each one representing a different level in one’s soul towards spiritual communion with God, it may be assumed that she also saw the benefits of meditation as a spiritual practice. However, she figuratively stated that meditation is like a conduit to fill the basin, which always makes a noise as it is being filled, to insist that meditation cannot bring the human soul to union with God. For St. Teresa, the continuous presence of God is the effect of meditation: “the water comes direct from its source, which is God” (Allison, 2007, p. 53).

Ignatius of Loyola in the sixteenth century did not significantly differentiate meditation from other spiritual disciplines. He compiled such practices as meditation, prayer, and contemplation as methods to seek out God’s will in terms of Spiritual Exercise:

The name “Spiritual Exercises” means every form of examination of conscious, of meditation, contemplation, prayer (vocal and mental) and the spiritual activities mentioned later…it may look for and discover how God wills it to regulate its life to secure its salvation. (Corbishley, 2011, p. 12)

On the basis of his work, the Spiritual Exercise, a spiritual discipline manual for a whole month of retreat, Ignatius’ meditation is characterized by (a) having one’s various sins, the life and passion of Jesus Christ, and hell as its objects, (b) being preceded by the preparatory prayer, and (c) containing visualization of the picture where Jesus was (e.g., a temple or mountain) as a part of mediation (Corbishley, 2011).

Stated types of meditation in Eastern Christian tradition, which emphasizes mystic nature and repetition in prayer, are not those that evangelical Protestants are encouraged to practice. Such aspects of meditation had begun to be undervalued in Western Christian spiritual traditions, such as Puritanism, in the 16th century. Neal (1811) specifically explained this as follows:
Though they [the Puritans] did not dispute the lawfulness of set forms of prayer, provided a due liberty was allowed for prayers of their own, before and after sermon; yet they disliked some things in the public liturgy; as the frequent repetition of the Lord’s prayer; the interruption of the prayers; by the frequent responses of the people; which in some places seem to be little better than vain repetition, and are practiced in no other protestant church in the world. (p. 132)

Even though the Puritans distanced themselves from the Eastern Christian meditation tradition that stresses imagination and contemplation, they constantly accentuated the significance of biblical meditation for Christian spiritual life through numerous writings and sermons. For example, Baxter (1817) said, “Meditation is the life of most other duties” (p. 79). Watson (1830) even proclaimed that a person could never be a good Christian if one did not meditate on God’s Words. Beyond their assertions, there is a similar belief that only through meditation the truths of God could be imprinted in human heart. This is well illustrated by Müller (1861/1981) who made an important statement about meditation and its effects on a person’s spiritual life:

Now I saw that the most important thing was to give myself to the reading of God’s Word, and to meditation on it, that thus my heart might be comforted, encouraged, warned, reproved, instructed; and that thus, by means of the Word of God, whilst meditating on it, my heart might be brought into experimental communion with the Lord. (p. 206)

Thus, even though the Puritans aimed at communion with Jesus, they did not consider the contemplative experience as the last stage of spiritual growth that can be achieved by meditation. In addition, they did not believe that human efforts can achieve a deeper relationship with Jesus;
rather they thought that such communion can only be fulfilled by the work of the Holy Spirit (Davis, 2012). In other words, for the Puritans the experience of communion with God is a starting point of the spiritual journey towards the sanctification of their actions and desires.

Owen (1965) clearly illustrated how meditation transforms the human mind and heart:

> By meditation…I intend the thought of some subject spiritual and divine, with the fixing, forcing, and ordering of our thoughts about it, with a design to affect our own hearts and souls with the matter of it . . . In meditation our principal aim is the affecting of our own hearts and minds with love, delight, and humiliation. (p. 384)

There has been a criticism that a rational approach to Scripture diminished the value of Christian meditation. For example, Chan (1998) stated, “Rational approach to Scripture and its negative attitude toward non-Western culture has either explicitly or implicitly discouraged the use of the meditative approach to Scripture” (p. 171). However, at least, this is not true for the Puritans because the Puritans had a different emphasis, that is, the application of spiritual fruits into daily Christian life.

**The twentieth century to the present.** The modern period is best exemplified in the various forms of Christian meditation that can be practiced to strengthen the relationship with God. Keating (1986) is well known for his spiritual method, *Centering Prayer*, which is a preliminary method to obtain the benefits of contemplation by turning off the daily usual thoughts and moving one’s attention towards God’s presence. Centering prayer guidelines are as follows (Keating, 1986, pp. 139-141):

1. Choose a sacred word (e.g., God, Jesus, Spirit, Abba, amen, peace, silence, open, glory, love, presence, trust, etc.) as the symbol of your intention to consent to God’s presence and action within.
2. Sitting comfortably and with eyes closed, settle briefly and silently introduce the sacred word as the symbol of your consent to God’s presence and action within.

3. When you become engaged with your thoughts, return ever so gently to the sacred word.

4. At the end of the prayer period, remain in silence with eyes closed for a couple of minutes.

The conceptual background for the development of centering prayer is found in *lectio divina*. Keating observed that discursive meditation is not effective enough to lead people in the Western culture to contemplative prayer, which is the last dimension of *lectio divina*, because of their tendencies to analyze things, resulting in repression of their intuitive faculties and an impediment toward contemplation (Keating, 1986). For him, it seems likely that centering prayer is an alternative method to substitute for the first three phases of *lectio divina*.

Under the influence of his own experience in the Eastern world, Main (1981) advocated the importance of the mantra and repetitious uses of a word (e.g., Maranatha) for the purpose of entering into deep and mysterious communion with God through experiencing silence and concentration. The detailed explanation of his contemplative meditation process is as follows (Main, 1989, p. 1):

1. Sit down—the only essential rule of posture is that your spine is as upright as it can be—and sit still.

2. To begin with you must really work hard at sitting still.

3. The word I recommend to you is maranatha. Four equally-stressed syllables: ma ra na tha (i.e., “Our Lord, come!”).
In addition to these two forms of contemplative prayer, the Jesus prayer (i.e., “Lord Jesus Christ, Son of God, have mercy on me, a sinner”), which has its roots in the Eastern Orthodox tradition, is widely used as a way of having a sense of genuine communion with God by focusing one’s mind only upon God even in the midst of distractions of thought and mind (Davis, 2012).

**Theoretical and Conceptual Basis**

**Definitions.** As seen throughout Christian history, meditation has been considered an essential element for spiritual life. Its significance is well reflected by many definitions or various approaches made by different Christian thinkers, biblical scholars, and theologians. Each definition and approach has its own emphasis on meditation based on Christian tradition. Some focus on the cognitive aspects of Christian meditation in defining the term. For example, Johnson (1987) considers meditation “a disciplined act of reflecting on the meaning of a word, an idea, or an experience” (p. 15). Reflecting means an active speculation to know God and His will.

For Packer (1973), however, meditation is not merely concentrative thinking on God which can be done by oneself, but a way of communion with God, which is achieved with the help of God: “It [Meditation] is an activity of holy thought, consciously performed in the presence of God, under the eye of God, by the help of God, as a means of communion with God” (p. 22). These definitions are important because they offer a basic methodological basis in understanding Christian meditation.

Given that a cognitive practice for a concentrated state of mind cannot fully identify the characteristics of Christian meditation, it is not surprising that there have been many attempts to emphasize the objects of meditation in establishing an essential concept of Christian meditation. Packer and Carolyn (2006) elucidate what makes Christian meditation different from other forms of meditation by saying,
Proper Christian meditation is thinking about God and everything else in relation to God. It should include thinking about our relationship to God, thinking about God’s purposes and God’s greatness and God’s achievements and God’s blessings, and thinking about what is involved in pleasing God, what it means to fully respond to God. (p. 74)

As such, Christian meditation should center on things pertaining to God, and not be self-centered or mindless. In this context, Demarest (1999) understands meditation as a method to move one’s focus from oneself and from the world so that the individual can “prayerfully ponder and muse” (p. 133) on God’s Word, attributes, abilities, and works. These will be the distinctive characteristics of Christian meditation compared to secular meditation.

While some emphasize cognitive components in Christian meditation, others take the functional aspects of Christian meditation in defining the terms. One of the main functions of Christian meditation is associated with awareness of communion with God. Finley (2004) defines Christian meditation as a means of promoting and deepening one’s awareness of response to God’s presence. He clarifies this concept by saying that meditation is a “transformative process of shifting from surface, matter-of-fact levels of consciousness to more interior, meditative levels of awareness of the spiritual dimensions of our lives” (Finley, 2004, p. 5). Thus, meditation can have a significant role in moving one’s internal being toward God. This is also true when Merton (1960) says,

One who really meditates does not merely think, he also loves, and by his love - or at least by his sympathetic intuition into the reality upon which he reflects - he enters into that reality and knows it so to speak from within, by a kind of identification. (p. 52)

The reality here is the presence of God and the in-depth relationship with Him that is revealed in Scripture.
Interestingly, for scholars in Western Christianity, Christian meditation does not seem to be merely a means of deepening awareness of God. Rather, it is a spiritual discipline to foster one’s spiritual growth by helping people live in obedience to God’s will. Foster (1998) states that Christian meditation is “the ability to hear God’s voice and obey his word” (p. 17). Stephan (2001) uses the term “surrendering” but conveys the same meaning: “Meditation is the process of active surrendering yourself to God with a pure and loving heart, without any thought of receiving something in return” (p. 93). Thus, meditation in the Christian tradition may be a tool to move people from self-centered life to God-centered life by increasing the ability to know and obey God’s will.

**Purposes.** As described above, Christian meditation has been defined in various ways by numerous Christian writers and thinkers. Likewise, there seems no definitive answer as to the purposes of Christian meditation. This may reflect the diverse effects of Christian meditation on a Christian’s life. The main purpose of Christian meditation is to increase one’s knowledge of self and God (Johnson, 1987; Merton, 1960, 1996). These two objects of awareness are complementary. Merton (1996) explains this by saying,

> Our knowledge of God is paradoxically a knowledge not of him as the object of our scrutiny, but of ourselves as utterly dependent on his saving and merciful knowledge of us. It is in proportion as we are known to him that we find our real being and identity in Christ. (p. 83)

Thus, to fully know God requires knowing oneself in His truths.

By meditating on the truths and spiritual realities revealed in Scripture, people may find who they really are in the light of His truths. This awareness eventually leads them to the deepest understanding of God. This goal of meditation is achieved by a spiritual status which has been
called eternal oneness with God (Finley, 2004, p. 32), a deeper union with Christ (Merton, 1960, p. 105), or a familiar friendship with Jesus (Foster, 1998, p. 19).

However, knowing God and self through a deeper experience through meditation is not the final goal. The internalization of Biblical truths about God and one’s life and the application of them in current life are also essential purposes of meditation. Johnson (2007) asserts that meditation promotes godly emotions and behaviors revealed in Scripture (e.g., love of God), which are associated with a change of brain structure. Additionally, arranging the mind before God is also a potential purpose of meditation. Packer and Carolyn (2006) state that prayerful introspection in meditation gets one’s thoughts into order before God. This is what Finley (2004) called clear-minded thinking, which resulted in discursive meditation. For Packer (1973), a cleared mind as a goal of deliberative meditation is apparent; the purpose of meditation is “to clear one’s mental and spiritual vision of God, and to let his truth make its full and proper impact on one’s mind and heart” (p. 22).

Ultimately, the pursuit of the aforementioned goals contributes directly and indirectly to the construction of an emotional and spiritual space, which Christ may work through for transforming the inner personality (Foster, 1998). Through meditating on the truth of God (e.g., greatness of God and His glory) in Scripture and of one’s own nature ( littleness and sinfulness), the individual bears the fruit of the Holy Spirit (e.g., humility); while meditating on the divine mercy and love of God in Scripture people become comforted and peaceful. (Packer, 1973). Benner (2010) states that lectio divina was also developed for transformational purposes. According to him, the practices help people to open themselves to God so they might “be touched, awakened, realigned, integrated and healed” (p. 13). These are the goals of Christian meditation, but at the same time these could be considered to be unique effects of Christian
meditative practice.

Given the spiritual nature of these goals and effects, it may not be possible to empirically validate all of them. However, this does not mean that testing Christian thought and belief through Christian history is not necessary. Rather, this is a role that Christian scholars should take in order to have a conversation with secular scholars, ultimately testifying to the effectiveness of an explicitly Christian methodology towards individuals’ well-being. This is also the goal of this research. A detailed explanation about the effectiveness of Christian meditation will be provided in a later section.

**Primary focuses.** In addition to the purposes of Christian meditation given above, the objects of the spiritual discipline should be discussed. Whitney (1997) demonstrates that the focus of meditation should be on something in Scripture or informed by Scripture, indicating four general objects of meditation: (a) God’s Word, (b) God’s creation, (c) God’s providence, and (d) God’s character. Clearly, the objects of Christian meditation are all associated with God. This fact reflects that Christian meditation requires accurate knowledge about God in order to appreciate the fullness of truth about Him.

The Scripture reveals that God in His oneness is triune: God is the Father, Jesus is the Son, and the Holy Ghost is the Spirit of the Father and the Son (e.g., Matt. 28:19; John 10:30; 1 Cor. 12:4-6; 2 Cor. 13:14, etc.). This concept is the basic foundation of the theological term Trinity, which means there is one God in three Persons (see Ware (2005) for a more detailed explanation on the Trinity, each person’s role and their divine relationship). It is natural to conclude that one cannot know God at all without the concept of a triune God; Irenaeus (as cited in Ryken & LeFebvre, 2011) illustrated this by saying, “Without the Spirit it is not possible to
behold the [Son] of God, nor without Son can any draw near the Father; for the knowledge of the Father is the Son, and the knowledge of the Son of God is through the Holy Spirit” (pp. 13-14).

This Trinitarian truth is foundational not only to Christian theology, but also to the practice of Christian meditation because the triune God shapes human life by inviting His people into the divine communion in which the Father, the Son, and the Holy Spirit are engaged. Peterson (2005) explains:

We are baptized in the name of the Trinity. Our Christian lives are an immersion in the triune God, God the Father, God the Son, and God the Holy Spirit. We are shaped by this triune life. We are now participants in the company of the God who creates heaven and earth, who enters history and establishes salvation as its definitive action and who forms a community to worship and give witness to his words and work. (p. 303)

In considering the richness of blessings given by this divine relationship, it is understandable that many Christians take the triune God seriously as an object of meditation. For example, Champlin (2011) limits the objects of Christian meditation to what is revealed in Scripture, especially the acts and attributes of the triune God, the Father (Creator), the Son (Redeemer), and the Holy Spirit (Comforter or Sustainer). Pertaining to the Trinity as the object of Christian meditation, Balthasar (1989) makes a strong argument for this by saying, “Meditation can take place only where the revealing man, God’s Son, Jesus Christ, reveals God as his Father: in the Holy Spirit of God, and we may join in probing God’s depths, which only God’s Spirit probes” (p. 10).

**Empirical Research Outcomes**

**Eastern meditation.** It is no longer news to the field of psychotherapy and counseling that religious or spiritual meditation leads to numerous meaningful positive outcomes. For example, mindfulness meditation is one of the most well-researched and widely used methods of
meditation in public practice and in psychotherapy. Many meta-analysis studies have proven that mindfulness meditation or a modified version of the method are effective in treating stress (Chiesa & Serretti, 2009; Grossman, Niemann, Schmidt, & Walach, 2004; Ledesma & Kumano, 2009), anxiety and depression (Hofmann, Sawyer, Witt, & Oh, 2010; Klainin-Yobas, Cho, & Creedy, 2012), and chronic pain (Veehof, Oskam, Schreurs, & Bohlmeijer, 2011), and in increasing overall psychological well-being (Eberth & Sedlmeier, 2012).

In addition, there have been numerous studies conducted to prove the effectiveness of Eastern transcendental meditation. The results provide reasonably strong evidence that transcendental meditation supports reduced anxiety (Dillbeck, 1977; Eppley, Abrams, & Shear, 1989), reduced stress (Alexander et al., 1993; Jevning, Wilson, & Smith, 1978; MacLean et al., 1994), reduced physiological tension (Dillbeck & Orme-Johnson, 1987), increased cognitive and behavioral flexibility and performance for elders (Alexander, Langer, Newman, Chandler, & Davies, 1989), lowered blood pressure related to hypertension (Alexander et al., 1996; Rainforth et al., 2007; Schneider et al., 1995), reduced mortality (R. H. Schneider et al., 2005), decreased symptoms related to post-traumatic stress disorder (Brooks & Scarano, 1985), as well as reduced alcohol and substance abuse (Alexander, Robinson, & Rainforth, 1994; Haaga et al., 2011).

More recently, transcendental meditation has been expanded to a more comprehensive form of meditation practice, called passage meditation (see Easwaran, 2008, for detailed information). This nonsectarian meditation practice, which integrated religious passages (e.g., the “Discourse on Good Will” of the Buddha’s Sutta Nipata, the Prayer of Saint Francis, or Psalm 23) into a well-structured form of meditation practice, also revealed its efficacy for caregivers’ perceived stress, burnout, mental health, and psychological well-being (Oman, Hedberg, & Thoresen, 2006), relational care-giving self-efficacy (Oman, Richards, Hedberg, &
Thoresen, 2008) and compassionate love (Oman, Thoresen, & Hedberg, 2009). Additionally, the benefits of meditation include reducing college students’ perceived stress and increasing capacity to forgive (Flinders, Oman, Plante, Shapiro, & Thoresen, 2008). Passage meditation as a therapeutic element for psycho-spiritual integrative therapy is also shown to be effective for the improvement of physical, psychological, and spiritual well-being in women with breast cancer (Corwin, Wall, & Koopman, 2012).

As seen above, findings on psychological and physiological symptom reduction from passage meditation outcome studies are consistent with numerous results of transcendental meditation and mindfulness meditation. This indicates that meditative approaches could be an alternative for people with various forms of distress. However, because of worldview differences, Christian persons may not utilize and benefit from these methods. This study addresses this need by seeking to provide empirical support for an explicitly Christian approach to meditation practice.

**Christian devotional meditation.** To date, there have been a relatively small number of empirical studies that have addressed the psychotherapeutic effectiveness of explicit Christian devotional meditation. The first notable study was conducted by Carlson et al. (1988) with the intention to examine the efficacy of Christian devotional meditation in acquiring relaxed states such as peace and calmness. Using a randomized pretest-posttest control group design, comparing Christian meditation with progressive muscle relaxation techniques, the researchers provided twelve Christian college students with a two-week meditation program or progressive muscle relaxation training. The results indicated that both interventions produced positive psychological and physiological effects in fostering relaxation against stress related symptoms. However, it was found that participants in the devotional meditation condition showed less anger,
anxiety, and muscle tension, as measured by reduced EMG (Electromyography) activity, than those in the progressive muscle relaxation condition.

With a randomized controlled trial design, Wachholtz and Pargament (2005) performed a study to compare spiritual meditation to secular meditation and relaxation control groups. They divided sixty-eight college-aged students into three groups. Each group practiced its assigned technique for two weeks. In the spiritual meditation group, participants freely selected one phrase among four spiritual meditative phrases (i.e., “God is peace,” “God is joy,” “God is good,” and “God is love”), while the secular meditation group participants used secular meditative phrases (i.e., “I am content,” “I am joyful,” “I am good,” and “I am happy”). The results showed that participants in the spiritual meditation group experienced better psychological, physiological, and spiritual health such as less trait anxiety, more positive mood, greater spiritual well-being, and longer pain tolerance than participants in the other two groups. From these findings it is assumed that objects of meditation, at least for Christians, are critical elements in producing positive physiological, psychological, and spiritual outcomes.

Wachholtz and Pargament (2008) attempted to examine the efficacy of spiritual meditation in fostering pain tolerance, decreasing various symptoms related to migraine headache, and enhancing spiritual health. Eighty-three college-aged students (75 women and 8 men) were included in the study. The spiritual meditation condition was compared with three other conditions such as Internally Focused Secular Meditation, Externally Focused Secular Meditation, and Muscle Relaxation. Unlike their previous study, the researchers asked their participants to practice an assigned technique for 20 minutes a day for a month. The findings revealed that spiritual meditation generated better positive psychological outcomes (i.e., reduced perceived level of anxiety and negative affect, increased self-efficacy, and enhanced existential
well-being), physiological outcomes (i.e., reduced frequency of migraine headaches and increased pain tolerance), and spiritual health.

Most recently, Edwards and Edwards (2012) also conducted empirical research to examine feelings and thoughts experienced while meditating on the Trinity. Ten Christian volunteers’ neurophysiologic data (such as electroencephalography, electromyography, blood volume pulse, and respiration activity) were monitored and recorded from pre-meditation condition to post-meditation. Phenomenological analysis and neurophysiological findings revealed that participants of the Trinitarian meditative study experienced an increase in a relaxed state of body and a more focused state of consciousness.

**Attachment to God.** In regards to spiritual health, this study attempted to assess the individuals’ spiritual outcomes and change in attachment to God from Christian meditation training. The impact of Christian devotional meditation on God attachment is difficult to predict because of the absence of empirical data. Anderson, Davis, Moriarty, and Thomas (2011) provided research evidence that the Christian outpatient’s’ image of God and attachment to God can be affected by a specifically tailored group-psychotherapy that includes psycho-educational, dynamic-interpersonal, and cognitive interventions. As an exploratory investigation, their study has demonstrated the efficacy of an 8-week manualized group treatment on God image and attachment to God.

In the replication study which utilized Anderson et al.’s (2011) same treatment protocol, Rasar et al.’s (2013) empirical outcomes indicated otherwise. There were no significant differences among a manualized group treatment, Bible study group, and a waiting list control group in the participants’ image of God, attachment to God, and religious coping. In the end, therefore, the researchers have concluded: “. . . Perhaps God attachment change may be harder to
realize than anticipated” (Rasar et al., 2013, p. 274).

As the above research outcomes demonstrate, initial findings indicate that an explicitly Christian meditative approach was associated with better outcomes than secular meditation and progressive muscle relaxation. However, due to several weaknesses noted in chapter one in the existing studies, further investigation is required in order to draw a stronger conclusion that Christian meditation is a better coping method for Christians in reducing stress, anxiety, or depression related symptoms, while increasing spiritual outcomes. Notable weaknesses include a remarkably small number of published studies, a lack of cultural variation among participants, and relatively small number of participants. These present limitations in the generalizability of the findings from their research.

However, Christian mental health professionals cannot totally ignore the initial findings that Christian meditation produced more beneficial outcomes than secular meditation and secular relaxation techniques. These exploratory investigations play a significant role in the field of Christian counseling and psychotherapy by providing an initial preliminary empirical evidence base for using Christian meditation as a way of coping with various physiological, psychological, and spiritual distresses. Accumulating additional findings with better designs will form a more solid evidence base to encourage Christian care providers to confidently use explicitly Christian meditation practices as an alternative method to other relaxation skills when clinically appropriate. Clearly, this study is needed to build this solid empirical foundation.

**Summary**

This chapter presented overall reviews of the two interventions employed in this study, progressive muscle relaxation and Christian devotional meditation, emphasizing their historical and theoretical backgrounds and clinical outcomes. Literature showed that over the last three
decades Progressive muscle relaxation training and Eastern oriented relaxation techniques have been used to promote relaxation in both public and clinical fields. Progressive muscle relaxation is one of the most successful techniques for overcoming stress, anxiety, and depression, reducing physical tensions and enhancing positive emotional states across the various race-ethnic, age, and gender groups. However, there has been ignorance about the use of Christian devotional meditation to promote individuals’ mental health. Only four studies examined the efficacy of the method. Considering the historical fact that Christian devotional meditation has been a significant method for achieving and sustaining Christians’ well-beings, further study is necessary to contribute to the growing body of literature on Christian devotional meditation.
CHAPTER THREE: METHODS

Research Design

Following IRB approval, the present study employed a multisite randomized trial, comparing two treatment groups at pre- and post-treatment at two churches located in Northern Virginia in order to investigate the comparative effectiveness of Christian Devotional Meditation (CDM) versus Progress Muscle Relaxation (PMR) on participants’ symptoms of psychological distress (i.e., depression, anxiety, and stress) and spiritual outcomes. Individuals who meet inclusion and exclusion criteria were randomly assigned to either the CDM group or the PMR group. For this procedure, the researcher utilized a table of random numbers. Forty-one individuals received CDM, whereas thirty-eight individuals received PMR. Each participant was assessed utilizing the assessment packet prior to the onset of intervention and at the conclusion of intervention.

Selection of Participants

The participants in this study were seventy nine Korean immigrants and students who are living in Northern Virginia. The subjects were self-identified evangelical Christians. The study was advertised in person to the church leaders who are currently associated with the Washington Christian Counseling Institute. Additionally, as a part of the recruiting procedure, an official letter requesting permission to conduct research and a sample of a human subject research consent form were sent to the senior pastors and small group leaders at five churches in the Washington D.C. area. Face-to-face meetings were also used to request the pastors and small group leaders to encourage their church members to participate in the research. They referred interested participants to the researcher for more information, giving the individuals the researcher’s email and phone number. Flyers were made available for church bulletin boards, so
that interested participants may contact the researcher for further information. The researcher also announced the study in church Sunday school classes, passing around a sign-up sheet where people can leave their name, email address, and phone number to volunteer and for additional information. In the end, two churches participated in this study. On a designated day, church members were brought into a designated room at each church.

The initial assessment interview was used to screen all potential participants for their eligibility and willingness to participate. Inclusion criteria consisted of (a) self-identifying as a Christian adult (i.e., age 18-65 years of age), (b) ability to speak and read Korean, and (c) ability to understand and sign an informed consent form (written in both Korean and English). Exclusion criteria will be (a) currently having significant medical or neurological disorders that prevent safe randomization into the PMR group, (b) currently experiencing psychotic symptoms, (c) reported alcohol or substance dependency, (d) currently taking antidepressant or anti-anxiety medication, (e) currently receiving psychotherapy or professional counseling, (f) currently experiencing suicidal or homicidal ideation, or (g) having any condition or life circumstance that precludes participation in two weeks of intervention.

Instrumentation

To study the efficacy of CDM on mental health issues such as depression, anxiety, and stress in Korean adult Christians in the United States, the subjects were asked to complete a variety of assessment measures. In addition to mental health related measures, the participants’ attachment style to God and spiritual health outcome were also assessed by using self-administered questionnaires. The subjects responded to the questionnaires both before and after the two weeks of intervention.
The Center for Epidemiological Studies-Depression Scale (CES-D; Radloff, 1977)

The CES-D was used to assess the subjects’ depressive symptoms. The CES-D is a widely used self-report measure of depressive symptoms in the general population. The scale consists of 20 items such as “I was bothered by things that usually don’t bother” and “People were unfriendly.” Each of the items is rated by a standard four-point Likert-type scale of possible responses (i.e., 1 = None, 2 = One or two days a week, 3 = Three or four days per week, and 4 = Five days or more per week). Higher scores on the CES-D reflect higher levels of depressive symptoms.

The CES-D has been used in various studies with the Korean population. Hurh and Kim (1990) first translated and utilized the CES-D to assess Korean immigrants’ mental health. Noh, Avison, and Kaspar (1992) then supplemented the weakness of the first Korean version of the CES-D (CES-D-K) in assessing depressive symptoms in Korean immigrants in Canada. For this study, Chon, Kwon, and Kim’s (1999) Korean version of the scale was used, which integrated three different Korean versions of the measure which were then currently available. In the researchers’ validational study, the internal consistency of the integrated version of the CES-D-K was .91. The final items were loaded into four factors, which was the same as the original version of the CES-D.

The Brief Symptom Inventory-18 (BSI-18; Derogatis, 2001)

The BSI-18 was used to measure the participants’ psychological distress based on the individuals’ perceived level of distress over the last seven days. The BSI-18 is a shortened form of the 53-item Brief Symptom Inventory (Derogatis, 1993). A total of 18 items are accompanied by a 5-point Likert type scale, ranging from 0 = Not at all to 4 = Extremely. The BSI-18 consists of three subscales, including somatization (e.g., “Pains in heart or chest”), depression (e.g.,
“Feeling lonely”), anxiety (“Feeling so restless you couldn’t sit still”), and an overall Global Severity Index, which is designed to assess the test taker’s overall level of psychological distress. Cronbach’s alpha for internal consistency of the original study for the subscales of somatization, depression, and anxiety were .74, .84, and .79.

The Korean version of the BSI-18 (BSI-18-K; Park, Woo, & Chang, 2012) demonstrated similar internal consistency to the original version of BSI-18: Somatization = .73, Depression = .80, and Anxiety = .81. Overall, Cronbach’s alpha was .89. The BSI-18-K Somatization subscale was significantly related to the Health Concerns subscale of the Minnesota Multiphasic Personality Inventory-2 (MMPI-2). In addition, the Depression subscale of the BSI-18 was significantly related to the Depression subscale of MMPI-2, whereas the Anxiety subscale of the BSI-18-K was significantly related to the Anxiety subscale of the MMPI-2. Park et al. (2012) concluded that the BSI-18-K fits better into a four-factor model instead of a three-factor model that the BSI-18 demonstrated. However, a three-factor was rejected at a very low level of significance. The three items out of 6 items in the Anxiety subscale loaded on another factor, which the authors named Phobia subscale. Given the low level of significance and the authors’ suggestion for further research with a non-college aged sample to verify their findings, this study reported the three subscales of the original version.

The Attachment to God Scale (AGS; Rowatt & Kirkpatrick, 2002)

The AGS was used to assess the participants’ perceived level of security in having a relationship with God. The AGS is created based on Kirkpatrick and Shaver’s (1992) foundational work on attachment to God theory, which defines three types of attachment to God: secure, anxious, and avoidant. The AGS is a 9-item self-report questionnaire, scored on a 7-point Likert type scale from 1 = Not at all characteristic of me to 7 = Very characteristic of me. The
AGS consists of two subscales, Avoidance (6 items) and Anxiety (3 items). Item scores are summed to yield an overall attachment to God score. A lower score indicates a more secure attachment to God. Internal reliability for the Avoidance subscale was .92, while it was .80 for the anxiety subscale. The researchers measured concurrent and construct validity by evaluating the correlations of the AGS with other measures. In particular, the avoidance dimension of the measure was negatively correlated to a loving image of God ($r = -.74, p < .001$), intrinsic religious orientation ($r = -.60, p < .001$), and doctrinal orthodoxy ($r = -.59, p < .001$). In contrast, a strong positive correlation was found between the anxious attachment dimension and extrinsic religious orientation ($r = .38, p < .001$).

The Korean version of the AGS (AGS-K) was translated and validated by Choi (2005) with 395 participants from various religious traditions such as Protestant (28.0%), Catholic (28.1%), Buddhism (7.3), others (2.0%), and atheism (33.7%). Factor analysis revealed that AGS-K has a two-factor structure, which is the same as the original AGS. Cronbach’s alpha for the internal consistency reliability was high for the avoidance dimension ($r = .93, p < .05$), whereas for the anxious dimension it was only .53. The researcher noted that this outcome may have been influenced by the over 40% of subjects who did not have a theistic religious tradition (e.g., Buddhism and Atheism).

The convergent and divergent validities of the AGS-K were assessed by using the various subscales of the Spiritual Assessment Inventory such as Awareness, Disappointment, Realistic Acceptance, Grandiosity, Instability and the Hypersensitive Narcissism Scales. As expected, the Avoidance dimension of the AGS-K was negatively correlated to Awareness ($r = -.82, p < .001$), Realistic Acceptance ($r = -.76, p < .001$), Grandiosity ($r = -.52, p < .05$), and Instability ($r = -.12, p < .05$); whereas the Anxiety dimension was only correlated to Disappointment ($r = .50, p$
<.001) and Instability ($r = -.40, p < .001$).

**The Perceived Stress Scale (PSS; Sheldon, Kamarck, & Mermelstein, 1983)**

To assess the participants’ levels of perceived stress, the PSS was utilized in this study. The PSS is a 10-item 5-point Likert-type self-report questionnaire, rating from 0 = *Never* to 4 = *Very often*. The scale measures stress-related feelings and thoughts during the last month (e.g., “In the last month, how often have you been upset because of something that happened unexpectedly”). Coefficient alpha reliability for the scale ranged from .84 to .85 at the $p < .05$ level in three samples in the original study. The two-day test-retest correlation in the college student sample was .85. The PSS was significantly correlated to The Life Event Score of smoking-cessation sample ($r = .33$ to .49 $p < .01$). Cohen and Williamson (1988) demonstrated the PSS fits most adequately into a two-factor structure.

The Korean version of PSS (PSS-K) was validated by Park and Seo (2010) with 368 college students. The results of the exploratory and confirmatory factor analysis revealed that items of the PSS-K are best categorized into two factors, negative perception and positive perception. The Cronbach’s alpha of the PSS-K was .77 for the negative perception dimension and .74 for the positive perception dimension. The negative perception dimension was significantly positively correlated to the Depression and Anxiety subscales of the Symptom Checklist-90-Revised ($r = .58$ to .60, $p < .001$) and the Negative Affect subscale of the Positive and Negative Affect Scale ($r = .58, p < .001$). The positive perception dimension of the PSS was significantly positively correlated to the Depression subscale ($r = .34, p < .001$) and the Anxiety subscale ($r = .28, p < .001$), and negatively correlated to the Positive Affect subscale ($r = -.43, p < .001$).
The Theistic Spirituality Outcome Survey (TSOS; Richards et al., 2005)

For the assessment of the participants’ spiritual outcomes, a Korean translation of the TSOS was administered. This survey is a 17-item self-administered measure that was developed to assess spiritual outcomes of psychotherapy. Each item is rated using a 5-point Likert-scale (1 = Never to 5 = Almost Always). The TSOS is based on three factors as follows: the Love of God (e.g., “I felt God’s love”), Love of Others (e.g., “I felt forgiveness toward others”), and Love of Self (e.g., “I felt worthy”).

A reliability analysis indicated that the three subscales had internal consistency as follows: Cronbach’s alpha of .93 (the Love of God subscale), .80 (the Love of Others subscale), and .80 (the Love of Self subscale). The Pearson correlation coefficients revealed that the TSOS was significantly positively correlated with SWB subscales: with the RWB ($r = .57, p < .001$) and with the EWB ($r = .49, p < .001$). The measure was significantly negatively correlated with the Outcome Questionnaire ($r = -.33, p < .0001$; Lambert et al., 1996) and the Symptom Checklist-90-Revised ($r = -.24, p < .01$; Derogatis, 1994).

No validation study had been conducted for the Korean version of the TSOS (TSOS-K) at the time this research was conducted. To establish semantic equivalence of the TSOS-K, the back-translation method (Brislin, 1970) was used. After the TSOS was translated into Korean by the researcher, a Korean and English bi-lingual licensed clinical social worker who has been working in the field of counseling/psychotherapy over 20 years re-translated the draft of the TSOS-K into English without referring to the original version. The researcher compared the original version of the TSOS with the Korean back-translated version of the TSOS. Adjustments in the Korean version were made based on these results. By doing this, the accuracy of the TSOS-K was verified.
Research Procedure

Recruitment and Random Assignment

After receiving the Liberty University Institutional Review Boards’ approval and permission from participating churches, data collection commenced. Adult Korean Christians in northern Virginia were selected by the stated recruitment procedure in the above section. As a part of the screening procedure, a self-report interview sheet and the informed consent containing general information of the study were provided via e-mail or direct delivery through the Church leaders or pastors or directly from the researcher (See Appendix A for the interview sheet and Appendix B for the general informed consent form). The researcher included his phone number and email address on the sheet to permit potential participants to ask questions about the interview sheet and the study.

Once the recruitment had been completed, eligible participants were randomly assigned to either the CDM or PMR group, ensuring that each participant has an equal probability of being assigned to any of the groups within the study. For the random assignment procedure, this researcher used the table of random numbers technique. The individuals were invited to participate by e-mail or by phone. They were asked not to discuss the activities of their group outside the group context so as to limit any potential diffusion of intervention across groups.

After the random assignment, the researcher met with interested participants either in groups or individually at each church. In each participating church, the informed consent for the specific intervention (See Appendix C and D for the CDM and PMR informed consent forms) and assessment measures were given by the researcher to groups of interested participants in a private room in the church at the first session. The researcher explained the informed consent for the specific intervention verbally and responded to questions. Then, participants were asked to
complete the designated assessment measures of this study, the CES-D-K, BSI-18-K, TSOS-K, AGS-K, and PSS-K, as well as a general demographic information sheet (See Appendix E for the demographic questionnaire).

**Interventions**

Individuals in both the CDM and PMR groups participated in a two-week treatment. The interventions were taught once in separate two-hour group face-to-face sessions. Each session consisted of (a) administration of pre-intervention assessment questionnaires and (b) brief presentation about stress and management techniques, and (c) the practical exercise of the technique. Then, the participants of both groups were asked to practice each allocated exercise daily at home for 2 weeks. For the self-practice of CDM and PMR, written instructions and a pre-recorded audio CD of instructions were provided. For those who are familiar with using their smart phones, the same audio instruction in mp3 format was sent via email.

**Christian devotional meditation.** The subjects in the CDM group received interventions directly by the researcher, focusing three basic procedures. First, the researcher provided a brief presentation about anxiety, depression, and stress. Second, he explained CDM as a coping method against those negative emotions. Last, the participant had an opportunity to practice CDM in the place, following audio instruction CD. The CDM procedure in this study was adapted from Garzon’s (2013) Scriptural Truth Meditation, which includes God’s Character Version and Bible Passage Version, and modified for Korean adults.

**Progressive muscle relaxation.** At the first session, the participants in the PMR treatment group received (a) a brief presentation about anxiety, depression, and stress, (b) explanation about PMR as a coping method against stress and anxiety (i.e., its basic rationale, specific procedures, and potential application for depression, anxiety, and stress), (c) step-by-
step skill training of PMR, targeting 16 muscle groups: (1) dominant hand and forearm, (2) dominant upper arm, (3) non-dominant hand and forearm, (4) non-dominant upper arm, (5) forehead, (6) upper cheeks and nose, (7) lower face, (8) neck, (9) chest, (10) abdomen, (11) dominant upper leg, (12) dominant calf, (13) dominant foot, (14) non-dominant upper leg, (15) non-dominant calf, and (16) non-dominant foot. The participants also had a chance to practice PMR in the place with audio instruction. The PMR protocol for this study was adapted from Bernstein, Carlson, and Schmidt’s (2007) book.

**Log Recording and Debriefing**

CDM or PMR manuals, which include instructions and a practice record log to be completed at the end of each daily CDM or PMR session, were given to all participants in the CDM and PMR treatment groups (See Appendix F and J). For the entry log, participants were asked to indicate how many times they practiced the allocated techniques and whether or not they used the audio instruction CD for their at-home practices.

Within the first 2-3 days following the training session, the researcher contacted each participant by telephone to assess for any psychological distress and trouble-shoot any problems, ensure proper usage of CDM/PMR, and encourage intervention adherence. The telephone check-in was done again approximately one week later for the same purposes. Two weeks after the first session, the subjects participated in a second and final session at the same place where the first session was held. The participants were again asked to complete a post-treatment assessment packet, which includes the CES-D, BSI-18, TSOS, AGS, and PSS.

Following these quantitative assessments, qualitative assessment also occurred. Through semi-structured questioning to each treatment group, the participants shared their experiences of CDM/PMR. The group interviews were conducted by using Debriefing Questionnaires in order
to highlight the most effective therapeutic features, the biggest challenges in practicing CDM/PMR, and any thoughts or insights from their experiences (See Appendix H and L for the questionnaire). In addition to semi-structured questions, the questionnaire contains rating scale questions, asking (a) the participants’ perceived level of overall discomfort while practicing CDM/PMR, (b) perceived changes in negative emotions comparing the first day of the at-home practice, (c) and their level of satisfaction of the intervention.

Then, the nature of the study was fully debriefed. As a part of the debriefing, the researcher explained the other intervention to each group participant. At the end of the second meeting, the PMR group participants had the opportunity to learn and practice CDM and vice versa. In doing so, all participants eventually learned both interventions so that they may potentially cope with depression, anxiety, or stress with the method which is the best fit for them.

The researcher individually contacted the participants who did not attend the post-assessment meeting via email and phone to get their post-assessment measures and debrief. The subjects who did not make the post intervention meeting received the written instruction of the other intervention with an audio instruction mp3 file via email. They were encouraged to ask questions by email or phone.

Research Processing and Analysis

Data Handling Safeguards

Prior to joining the study, the potential participants responded to the initial brief assessment interview, which covers inclusion and exclusion criteria, using yes/no type questions. This screening procedure was conducted two ways, via email or through face-to-face interviews. For the privacy protection of email interview participants, Google Drive Forms were used. Potential participants received a Google Drive spreadsheet link via email and were asked to
respond to a brief assessment interview online. All the collected assessment data were automatically kept in this researcher’s personal password-protected Google Drive spreadsheet, which has a high level of privacy and security. The researcher’s Google account was protected by a 2-Step Verification security system that requires a personal password and a verification code sent to a personal phone via text or voice call for signing in. Prescreening interviews conducted in person provided the same assessment questionnaire but in the printed format. All the collected data were kept in a locked drawer in the researcher’s office, which is also secure and locked.

At the first scheduled meeting, eligible participants completed the pre-intervention assessment packet, which includes a demographic questionnaire, CES-D-K, BSI-18-K, AGS-K, PSS-K, and TSOS-K. No names were used, but rather each assessment packet was assigned an identification number for secure data handling and control, as well as storage. When the researcher distributed the questionnaires to the participants, the numbers and names (code-book) were recorded in a Microsoft Excel document, which was kept secure by using a password to prevent others from viewing it. The code-book and hard copies of the assessment questionnaire data were stored separately.

When the participant returned the assessment measures, the measures were examined to see if high distress indicators (such as severe depression, suicidality, or extreme anxiety) were endorsed. For such cases, the researcher planned to assess the participant further to determine if an immediate referral for mental health care or other crisis intervention is warranted. In order to take proper measures for the referral, the researcher was prepared to have an email or phone conversation with a local mental healthcare professional (e.g., Cedarbrook Clinic, located at Rockville, MD).

At the second scheduled meeting, each participant was given the post-intervention
assessment packet, which has the same identification number of the pretest packet. All the received questionnaires were kept at the same secure and locked location in a locked drawer. The codebook was stored on a password-protected computer and backed up on a password-protected flash drive.

Analysis

Descriptive statistics (i.e., a chi-square test of independent and an independent samples of $t$-test) were used to describe the basic features of the data and to accurately characterize the variables such as participants and their perceived levels of stress, anxiety, depression, God attachment, and spirituality. Also, the retention rate of this study was calculated. Then, using an independent samples $t$-test, this study compared the pretest scores of the participants in the Christian devotional meditation condition and the progressive muscle relaxation condition to determine if there is a significant difference between two groups at baseline assessment. Within group mean differences were analyzed by using a paired samples $t$-test. Additionally, effect size was calculated to denote the magnitude of improvement in the Christian devotional meditation group compared to the magnitude of improvement in the progressive muscle relaxation group. In doing so, this study was able to assess the statistical and practical significance of the differences. The results obtained from each site and combined total data were presented separately.

A one-way analysis of covariance (ANCOVA) was employed to determine if there are significant differences between the Christian devotional meditation and progressive muscle relaxation groups on various dependent variables. ANCOVA was preferred because it increases statistical power and control by compelling out the effects of the nuisance continuous variables that would otherwise inflate the experimental errors. In this pretest-posttest experimental study, the pretest scores of each assessment measurement are being used as the covariate. This current
study examined if ANCOVA reveals the efficacy of Christian devotional meditation compared to progressive muscle relaxation, showing significant differences at the $p < .05$ level of significance on each of four measures (i.e., CES-D-K, BSI-18-K, AGS-K, and PSS-K) at the post treatment assessment. For TSOS-K and Avoidance subscale of Attachment to God, an independent samples $t$-test was calculated, because the assumption of ANCOVA was not satisfied.

**Summary**

This empirical study used a multisite randomized trial design, comparing two treatment groups at two churches located in Northern Virginia. Seventy-nine Korean adult Christians were recruited in completing the study. To assess the subjects’ stress, anxiety, depression, and spiritual health, a total of five measures were used (i.e., CES-D-K, BSI-18-K, AGS-K, PSS-K, and TSOS-K) at pre- and post-interventions. The subjects were asked to participate in the training meeting. They then practiced either CDM or PMR at home for two weeks with audio instructions. In the debriefing meeting, they administrated the same assessment measures. For data analyses, a chi-square test of independent, an independent samples of $t$-test, a paired-samples $t$-test, and ANCOVA were computed.
CHAPTER FOUR: RESULTS

Restatement of the Purpose

The purpose of this study was to examine the comparative effectiveness of two weeks of Christian devotional meditation versus progressive muscle relaxation on stress, anxiety, depression, and overall spiritual health among a sample of nonclinical Korean adults recruited from the community. In this chapter, the results of the study are analyzed and presented. First, an overview of demographic characteristics of the participants in this study is presented by using descriptive statistics. Second, collected data from two research locations are analyzed in accordance with the research hypotheses generated for this study. Last, a brief summary completes the chapter.

Descriptive Statistics

The data was collected from two churches located in the northern Virginia area. All subjects for the study consisted of Korean adult Christians. In total, 115 people were assessed for eligibility and 112 met the specified criteria for entry into the study (A flow diagram of the study is presented in Figure 1). Seven individuals dropped out after random assignment before receiving the intervention, due to their unavailability. A total of 56 received CDM, while 49 received PMR. Twenty-six participants dropped out during the intervention period (15 in the CDM group and 11 in the PMR group) due to various personal reasons such as business trips and hospitalization, and 79 (75.2%) of the 105 participants completed the baseline and follow-up measurements.

In detail, a total number of 29 people were included in the study at church A: 16 in the first experimental group receiving CDM and 13 in the second experimental group receiving PMR. Five participants dropped out during the intervention. Four were in the CDM group and
one was in the PMR group. Twelve participants in each of two conditions completed the study, making for 24 participants in all. At church B, a total of 76 people were recruited and were randomly assigned into two groups of CDM and PMR. Twenty-one participants failed to complete the treatment protocols during the study. Eventually, a total number of 55 completed the study: 29 participants in CDM and 26 participants in PMR condition.

Figure 1. A Flowchart of Study Participants

A chi-square test of independence was performed on those who completed the study as compared with those who dropped out of the study to determine if there were significant differences between the two churches with respect to attrition. Table 4-1 presents dropout rates
by sites. The results indicate that no significant relationship was found, $\chi^2(1) = 1.21, p = .27$.

Table 4-1

*Chi-Square for Participant Dropout Rate*

<table>
<thead>
<tr>
<th>Site</th>
<th>Completed</th>
<th>Dropped out</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Church A</td>
<td>24 (82.8%)</td>
<td>5 (17.2%)</td>
<td>29 (100%)</td>
</tr>
<tr>
<td>Church B</td>
<td>55 (72.4%)</td>
<td>21 (27.6%)</td>
<td>76 (100%)</td>
</tr>
<tr>
<td>Total</td>
<td>79</td>
<td>26</td>
<td>105</td>
</tr>
</tbody>
</table>

Note. No significant relationship was found at $p < .05$

Descriptive statistics were calculated to provide the baseline characteristics of the sample of 79 participants who remained and completed the study. Demographic data included gender, age, marital status, years in the U.S., and years being a Christian. As table 4-2 shows, the final sample consisted of 27 male (34.2%) and 52 female (65.8%), ranging in age from 19 to 65 years ($M = 37.18, SD = 12.39$). With respect to marital status, participants were categorized as single, married, or divorced. More than half of the subjects (57%) were married. In terms of level of education, the majority of participants (70.9%) reported having a Bachelor’s degree. Mean monthly household income was $5,000 to $7,999. The mean year of being a Christian was 22.65 ($SD = 13.17$). The participants have been in the U.S. a mean length of 16.11 years ($SD = 7.96$).

To test whether background characteristics differed between the two research sites at baseline, two-sided $\chi^2$ and $t$-tests were performed. Table 4-3 provides descriptive information collected from church A and church B. There are significant differences between the two churches across the respective demographic and descriptive variables. The first is participants’ gender, $\chi^2(1) = 17.89, p < .05$. This is because, as described in the table, only female participants were recruited from women’s ministry of Church A. Additionally, an independent-samples $t$-test showed that there was significant difference between age means of the participants of church A...
and B, \( t(77) = 2.99, p < .05 \). The mean age of church A was significantly higher (\( M = 43.21, SD = 9.17 \)) than church B (\( M = 34.55, SD = 12.76 \)). The marital status of participants between the two churches was also significantly different, \( \chi^2(2) = 15.12, p < .05 \). Church A participants were mostly married (75%) at the first meeting, while half of participants at church B were singles.

Table 4-2

*Baseline Characteristics of the final sample*

<table>
<thead>
<tr>
<th>Variable</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment Group-CDM/PMR</td>
<td>41/38</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>27 (34.2%)</td>
</tr>
<tr>
<td>Female</td>
<td>52 (65.8%)</td>
</tr>
<tr>
<td>Age</td>
<td>19-65</td>
</tr>
<tr>
<td>Range</td>
<td></td>
</tr>
<tr>
<td>( M (SD) )</td>
<td>37.18 (12.39)</td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>31 (39.2%)</td>
</tr>
<tr>
<td>Married</td>
<td>45 (57%)</td>
</tr>
<tr>
<td>Divorced</td>
<td>3 (3.8%)</td>
</tr>
<tr>
<td>Monthly Household Incomes</td>
<td></td>
</tr>
<tr>
<td>Less than $2,000</td>
<td>1 (1.3%)</td>
</tr>
<tr>
<td>$2,000 to $3,999</td>
<td>7 (8.9%)</td>
</tr>
<tr>
<td>$3,000 to $4,999</td>
<td>16 (20.3%)</td>
</tr>
<tr>
<td>$5,000 to $7,999</td>
<td>26 (32.9%)</td>
</tr>
<tr>
<td>$8,000 to $9,999</td>
<td>16 (20.3%)</td>
</tr>
<tr>
<td>$10,000 or more</td>
<td>13 (16.5%)</td>
</tr>
<tr>
<td>Highest Education</td>
<td></td>
</tr>
<tr>
<td>High school</td>
<td>15 (19%)</td>
</tr>
<tr>
<td>Bachelor’s degree</td>
<td>56 (70.9%)</td>
</tr>
<tr>
<td>Master’s degree</td>
<td>7 (8.9%)</td>
</tr>
<tr>
<td>Doctoral degree</td>
<td>1 (1.3%)</td>
</tr>
<tr>
<td>Years in the U.S.</td>
<td>16.11 (7.96)</td>
</tr>
<tr>
<td>Years as a Christian</td>
<td>22.65 (13.17)</td>
</tr>
</tbody>
</table>
Table 4-3

Descriptive Data by Site

<table>
<thead>
<tr>
<th>Variable</th>
<th>Church A</th>
<th>Church B</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>n</em></td>
<td>24</td>
<td>55</td>
</tr>
<tr>
<td>Treatment Group-CDM/PMR</td>
<td>12/12</td>
<td>29/26</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>0 (0%)</td>
<td>27 (49.1%)</td>
</tr>
<tr>
<td>Female</td>
<td>24 (100%)</td>
<td>28 (50.9%)</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td>21-59</td>
<td>19-65</td>
</tr>
<tr>
<td>M (SD)</td>
<td>43.21 (9.17)</td>
<td>34.55 (12.76)</td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>3 (12.5%)</td>
<td>28 (51%)</td>
</tr>
<tr>
<td>Married</td>
<td>18 (75%)</td>
<td>27 (49%)</td>
</tr>
<tr>
<td>Divorced</td>
<td>3 (12.5%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Monthly Household incomes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than $2,000</td>
<td>1 (4.2%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>$2,000 to $3,999</td>
<td>1 (4.2%)</td>
<td>6 (10.9%)</td>
</tr>
<tr>
<td>$3,000 to $4,999</td>
<td>6 (25%)</td>
<td>10 (18.2%)</td>
</tr>
<tr>
<td>$5,000 to $7,999</td>
<td>6 (25%)</td>
<td>20 (36.3%)</td>
</tr>
<tr>
<td>$8,000 to $9,999</td>
<td>5 (28%)</td>
<td>11 (20%)</td>
</tr>
<tr>
<td>$10,000 or more</td>
<td>5 (28%)</td>
<td>8 (14.5%)</td>
</tr>
<tr>
<td>Highest Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High school</td>
<td>3 (12.5%)</td>
<td>12 (21.8%)</td>
</tr>
<tr>
<td>Bachelor’s degree</td>
<td>18 (75%)</td>
<td>38 (69.1%)</td>
</tr>
<tr>
<td>Master’s degree</td>
<td>3 (12.5%)</td>
<td>4 (7.3%)</td>
</tr>
<tr>
<td>Doctoral degree</td>
<td>0 (0%)</td>
<td>1 (1.8%)</td>
</tr>
<tr>
<td>Years in the U.S.</td>
<td>18.25 (7.43)</td>
<td>15.18 (8.07)</td>
</tr>
<tr>
<td>Years as a Christian</td>
<td>22.67 (15.50)</td>
<td>22.64 (12.17)</td>
</tr>
</tbody>
</table>

*Note.* Significant differences were found in participants’ gender, age, and marital status between Churches A and B.

Additionally, two-sided \(\chi^2\) and *t*-tests were performed in order to test whether background characteristics differed between the two treatment groups at baseline. No statistically significant differences were found between the final samples in any of the baseline characteristics. The results are presented in Table 4-4.
Table 4-4

Descriptive Data by Treatment Group

<table>
<thead>
<tr>
<th>Variable</th>
<th>CDM</th>
<th>PMR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>n</strong></td>
<td>41</td>
<td>38</td>
</tr>
<tr>
<td>Site-Church A/Church B</td>
<td>12/29</td>
<td>12/26</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>13 (31.7%)</td>
<td>14 (36.8%)</td>
</tr>
<tr>
<td>Female</td>
<td>28 (68.3%)</td>
<td>24 (63.2%)</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td>21-65</td>
<td>19-59</td>
</tr>
<tr>
<td>M (SD)</td>
<td>37.29 (12.47)</td>
<td>37.05 (12.47)</td>
</tr>
<tr>
<td><strong>Marital Status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>16 (39.0%)</td>
<td>15 (39.5%)</td>
</tr>
<tr>
<td>Married</td>
<td>24 (58.5%)</td>
<td>21 (55.3%)</td>
</tr>
<tr>
<td>Divorced</td>
<td>1 (2.4%)</td>
<td>2 (5.3%)</td>
</tr>
<tr>
<td><strong>Monthly Household incomes</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than $2,000</td>
<td>0 (0%)</td>
<td>1 (2.6%)</td>
</tr>
<tr>
<td>$2,000 to $3,999</td>
<td>4 (9.8%)</td>
<td>3 (7.9%)</td>
</tr>
<tr>
<td>$3,000 to $4,999</td>
<td>4 (9.8%)</td>
<td>12 (31.6%)</td>
</tr>
<tr>
<td>$5,000 to $7,999</td>
<td>14 (34.1%)</td>
<td>12 (31.6%)</td>
</tr>
<tr>
<td>$8,000 to $9,999</td>
<td>10 (24.4%)</td>
<td>6 (15.8%)</td>
</tr>
<tr>
<td>$10,000 or more</td>
<td>9 (22%)</td>
<td>4 (10.5%)</td>
</tr>
<tr>
<td><strong>Highest Education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High school</td>
<td>6 (14.6%)</td>
<td>9 (23.7%)</td>
</tr>
<tr>
<td>Bachelor’s degree</td>
<td>30 (73.2%)</td>
<td>26 (68.4%)</td>
</tr>
<tr>
<td>Master’s degree</td>
<td>4 (9.8%)</td>
<td>3 (7.9%)</td>
</tr>
<tr>
<td>Doctoral degree</td>
<td>2 (2.4%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td><strong>Years in the U.S.</strong></td>
<td>17.05 (9.01)</td>
<td>15.11 (6.62)</td>
</tr>
<tr>
<td><strong>Years as a Christian</strong></td>
<td>21.80 (12.81)</td>
<td>23.55 (13.65)</td>
</tr>
</tbody>
</table>

*Note.* No significant differences (2-tailed $\chi^2$ and $t$) between groups.

Unadjusted pre-treatment scores on all dependent variables by site for subjects from two churches and treatment group for subjects in the CDM and PMR treatment conditions are presented in Table 4-5. Pre-treatment comparability on the dependent variables was assessed by using an independent-samples $t$-test. There were no significant differences ($p < .05$) by site or group on any of the dependent variables.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Pretreatment</th>
<th>Test Statistics</th>
<th>Treatment Group</th>
<th>Test Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Site</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Church A</td>
<td>Church B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>n</td>
<td>24</td>
<td>55</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSI-18-K (0-72)</td>
<td>20.75 (13.69)</td>
<td>14.89 (12.70)</td>
<td>1.84</td>
<td>77</td>
</tr>
<tr>
<td>SOM (0-24)</td>
<td>5.96 (5.20)</td>
<td>4.07 (4.20)</td>
<td>1.70</td>
<td>77</td>
</tr>
<tr>
<td>DEP (0-24)</td>
<td>7.67 (4.54)</td>
<td>5.80 (5.52)</td>
<td>1.45</td>
<td>77</td>
</tr>
<tr>
<td>ANX (0-24)</td>
<td>7.13 (5.04)</td>
<td>4.98 (4.53)</td>
<td>1.86</td>
<td>77</td>
</tr>
<tr>
<td>CESD-K (20-80)</td>
<td>36.71 (9.85)</td>
<td>34.71 (9.06)</td>
<td>.87</td>
<td>77</td>
</tr>
<tr>
<td>TSOS-K (17-85)</td>
<td>61.04 (11.26)</td>
<td>57.16 (13.35)</td>
<td>1.24</td>
<td>77</td>
</tr>
<tr>
<td>PSS-K (0-40)</td>
<td>19.25 (6.69)</td>
<td>18.75 (6.05)</td>
<td>.33</td>
<td>77</td>
</tr>
<tr>
<td>AGS-K (9-63)</td>
<td>24.67 (8.33)</td>
<td>24.42 (8.37)</td>
<td>.12</td>
<td>77</td>
</tr>
<tr>
<td>Avoidance (6-42)</td>
<td>13.54 (6.23)</td>
<td>12.78 (5.90)</td>
<td>.51</td>
<td>77</td>
</tr>
<tr>
<td>Anxiety (3-21)</td>
<td>11.13 (3.27)</td>
<td>11.62 (4.455)</td>
<td>-.47</td>
<td>77</td>
</tr>
<tr>
<td></td>
<td>CDM</td>
<td>PMR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>n</td>
<td>41</td>
<td>38</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSI-18-K (0-72)</td>
<td>18.00 (14.19)</td>
<td>15.24 (12.08)</td>
<td>.92</td>
<td>77</td>
</tr>
<tr>
<td>SOM (0-24)</td>
<td>5.46 (5.35)</td>
<td>3.76 (3.42)</td>
<td>1.66</td>
<td>77</td>
</tr>
<tr>
<td>DEP (0-24)</td>
<td>6.51 (5.04)</td>
<td>6.21 (5.60)</td>
<td>.25</td>
<td>77</td>
</tr>
<tr>
<td>ANX (0-24)</td>
<td>5.98 (5.06)</td>
<td>5.26 (4.45)</td>
<td>.66</td>
<td>77</td>
</tr>
<tr>
<td>CESD-K (20-80)</td>
<td>35.39 (9.21)</td>
<td>35.24 (9.50)</td>
<td>.07</td>
<td>77</td>
</tr>
<tr>
<td>TSOS-K (17-85)</td>
<td>60.07 (11.99)</td>
<td>56.47 (13.55)</td>
<td>1.25</td>
<td>77</td>
</tr>
<tr>
<td>PSS-K (0-40)</td>
<td>19.07 (6.05)</td>
<td>18.71 (6.47)</td>
<td>.25</td>
<td>77</td>
</tr>
<tr>
<td>AGS-K (9-63)</td>
<td>24.37 (8.63)</td>
<td>24.63 (8.06)</td>
<td>-.14</td>
<td>77</td>
</tr>
<tr>
<td>Avoidance (6-42)</td>
<td>13.12 (6.12)</td>
<td>12.89 (5.89)</td>
<td>.16</td>
<td>77</td>
</tr>
<tr>
<td>Anxiety (3-21)</td>
<td>11.22 (4.18)</td>
<td>11.74 (4.24)</td>
<td>-.54</td>
<td>77</td>
</tr>
</tbody>
</table>

Note. No significant differences (2-tailed t) between church A and church B on pre-treatment scores for all variables. In addition, there was no significant difference between treatment groups.


The underlined score of the range indicates a positive outcome on that measure.
Results of Hypotheses Testing

There were six research hypotheses explored in this study. To investigate the effect of CDM on the outcome measures, t-test and analyses of covariance (ANCOVA) were performed on the post-test data, using pre-test scores as covariates (Table 4-6 presents pretest and posttest scores of CDM and PMR groups).

Table 4-6

Pre-Treatment and Post-Treatment Data

<table>
<thead>
<tr>
<th>Variable</th>
<th>CDM (n = 41)</th>
<th>PMR (n = 38)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pretest</td>
<td>Posttest</td>
</tr>
<tr>
<td></td>
<td>M (SD)</td>
<td>M (SD)</td>
</tr>
<tr>
<td>BSI-18-K (0-72)</td>
<td>18.00 (14.19)</td>
<td>10.46 (10.74)</td>
</tr>
<tr>
<td>SOM (0-24)</td>
<td>5.46 (5.35)</td>
<td>3.76 (4.60)</td>
</tr>
<tr>
<td>DEP (0-24)</td>
<td>6.51 (5.04)</td>
<td>3.32 (3.44)</td>
</tr>
<tr>
<td>ANX (0-24)</td>
<td>5.98 (5.06)</td>
<td>3.39 (3.78)</td>
</tr>
<tr>
<td>CESD-K (20-80)</td>
<td>35.39 (9.21)</td>
<td>29.12 (7.57)</td>
</tr>
<tr>
<td>TSOS-K (17-85)</td>
<td>60.07 (11.99)</td>
<td>63.83 (9.43)</td>
</tr>
<tr>
<td>PSS-K (0-40)</td>
<td>19.07 (6.05)</td>
<td>14.37 (5.35)</td>
</tr>
<tr>
<td>AGS-K (9-63)</td>
<td>24.37 (8.63)</td>
<td>21.22 (7.67)</td>
</tr>
<tr>
<td>Avoidance (6-42)</td>
<td>13.12 (6.12)</td>
<td>10.78 (4.53)</td>
</tr>
<tr>
<td>Anxiety (3-21)</td>
<td>11.22 (4.18)</td>
<td>10.10 (4.37)</td>
</tr>
</tbody>
</table>


Assumptions of ANCOVA

There are two important assumptions of ANCOVA in addition to the assumptions of any linear model: statistical independence of the covariate and treatment effect and homogeneity of regression slopes (Field, 2013). The first assumption is verified by confirming that all of the pre-
test scores are not different across the CDM and PMR groups in the analysis. For the second assumption, a homogeneity of regression test was conducted to determine if the slopes of the regression lines that related pretest and posttest measures of each assessment measure varied systematically across CDM and PMR groups. Table 4-7 summarizes the interaction between the covariate (i.e., pretest score) and treatment condition (i.e., CDM and PMR).

Table 4-7

Test of Homogeneity of Regression for the Outcome Measures

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment Condition × PSS-K</td>
<td>45.68</td>
<td>1</td>
<td>45.68</td>
<td>2.52</td>
<td>.11</td>
</tr>
<tr>
<td>Treatment Condition × BSI-K</td>
<td>126.26</td>
<td>1</td>
<td>126.26</td>
<td>2.38</td>
<td>.12</td>
</tr>
<tr>
<td>Treatment Condition × BSI-SOM</td>
<td>12.23</td>
<td>1</td>
<td>12.23</td>
<td>1.36</td>
<td>.24</td>
</tr>
<tr>
<td>Treatment Condition × BSI-ANX</td>
<td>6.58</td>
<td>1</td>
<td>6.58</td>
<td>.86</td>
<td>.35</td>
</tr>
<tr>
<td>Treatment Condition × BSI-ANX</td>
<td>21.75</td>
<td>1</td>
<td>21.75</td>
<td>2.43</td>
<td>.12</td>
</tr>
<tr>
<td>Treatment Condition × CESD-K</td>
<td>59.16</td>
<td>1</td>
<td>59.16</td>
<td>1.18</td>
<td>.27</td>
</tr>
<tr>
<td>Treatment Condition × TSOS-K</td>
<td>228.15</td>
<td>1</td>
<td>228.15</td>
<td>4.32*</td>
<td>.04</td>
</tr>
<tr>
<td>Treatment Condition × AGS-K</td>
<td>15.23</td>
<td>1</td>
<td>15.23</td>
<td>.49</td>
<td>.48</td>
</tr>
<tr>
<td>Treatment Condition × AGS-AVO</td>
<td>93.63</td>
<td>1</td>
<td>93.63</td>
<td>5.82*</td>
<td>.01</td>
</tr>
<tr>
<td>Treatment Condition × AGS-ANX</td>
<td>.21</td>
<td>1</td>
<td>.21</td>
<td>.01</td>
<td>.89</td>
</tr>
</tbody>
</table>

Note. *Significant at p < .05.

As summarized in Table 4-7, there were two significant effects in the interaction between TSOS-K pretest score and treatment condition and the interaction between AGS-AVO pretest score and treatment condition. The assumption of homogeneity of regression slopes was not satisfied. However, except for these measures, the interaction between pretest scores and
treatment conditions across the other measures were not significant, indicating that the slopes were homogeneous. Therefore, the ANCOVA for PSS-K, BSI-K, BSI-SOM, BSI-ANX, BSI-DEP, CES-D-K, AGS-K, and AGS-ANX was considered valid.

**Analysis for Hypothesis One**

Hypothesis 1: Participants in the CDM condition will experience reductions in levels of perceived stress which will be at least comparable to those in the PMR condition at post-test.

A one-way between subjects ANCOVA was performed to examine the effect of treatment on the participants’ stress level after controlling for the effect of pretest score measured by PSS-K. The covariate, pretest score of PSS-K, was significantly related to PSS-K posttest score, $F(1, 76) = 79.18, p < .001$. As presented in Table 4-8, there was a significant effect of treatment on the participants’ perceived level of stress, $F(1, 76) = 12.61, p = .001$, with CDM participants’ stress scores significantly lower ($M = 14.37, SD = 5.35$) than those of PMR participants ($M = 17.55, SD = 6.82$).

Table 4-8

**Analysis of Covariance for PSS-K**

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>$F$</th>
<th>$p$</th>
<th>$\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest PSS-K</td>
<td>1462.85</td>
<td>1</td>
<td>1462.85</td>
<td>79.18**</td>
<td>&lt; .001</td>
<td>.51</td>
</tr>
<tr>
<td>Treatment Condition</td>
<td>233.09</td>
<td>1</td>
<td>233.09</td>
<td>12.61*</td>
<td>.001</td>
<td>.14</td>
</tr>
</tbody>
</table>

*Note. *Significant at $p < .05$; **Significant at $p < .001$

PSS-K = Perceived Stress Scale Korean Version.

A paired samples $t$-test revealed that there was a statistically significant difference between pretest ($M = 19.47, SD = 6.05$) and posttest ($M = 14.37, SD = 5.35$) in CDM condition, $t(40) = 6.21, p < .001$. No within group difference was found in PMR group. The results are presented in Table 4-9. Based on the significant improvement of CDM group indicated by
ANCOVA and \( t \)-test, the first alternative hypothesis was accepted.

Table 4-9

*A Paired Samples T-Test for PSS-K*

<table>
<thead>
<tr>
<th>Source</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDM PSS-K</td>
<td>Pretest</td>
<td>41</td>
<td>19.07</td>
<td>6.05</td>
<td>6.21*</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>Posttest</td>
<td>41</td>
<td>14.37</td>
<td>5.35</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PMR PSS-K</td>
<td>Pretest</td>
<td>38</td>
<td>18.71</td>
<td>6.47</td>
<td>1.59</td>
<td>37</td>
</tr>
<tr>
<td></td>
<td>Posttest</td>
<td>38</td>
<td>17.55</td>
<td>6.82</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* *Significant at* \( p < .001 \)

PSS-K = Perceived Stress Scale Korean Version

**Analysis for Hypothesis Two**

Hypothesis 2: Participants in the CDM condition will experience reductions in levels of perceived anxiety which will be at least comparable to those in the PMR condition at posttest.

An ANCOVA was conducted to compare the means of the posttest scores of Anxiety subscale of BSI-18-K, controlling out the effect of the pretest score of the measure. The covariate, pretest score of BSI-K-ANX, was significantly related to BSI-K-ANX posttest score, \( F (1, 76) = 85.83, p < .001 \). The result of the ANCOVA indicated that the main effect for treatment condition was not significant but did show a trend towards significance, \( F (1, 76) = 3.57, p = .06 \), with CDM participants’ anxiety subscale scores exhibiting a trend towards being significantly lower \( (M = 3.39, SD = 3.78) \) than PMR participants \( (M = 4.13, SD = 4.19) \), after controlling out the effect of pretest score. The results are shown in table 4-10.

Even though results of the ANCOVA on the BSI-K-ANX showed that there was no statistically significant differences \( (p < .05) \) between the mean posttest scores, a paired samples \( t \)-test to compare the mean pretest score to the mean posttest score revealed the statistically significant decrease in both groups. The results are presented in Table 4-11. The mean on the
pretest of the BSI-K-ANX in PMR group was 5.26 \((SD = 4.45)\), and the mean on the posttest was 4.13 \((SD = 4.13)\). A significant decrease from pretest to posttest was found, \(t(37) = 2.15, p = .03\). A paired samples \(t\)-test also showed a statistically significant decrease in BSI-K-ANX scores from pretest \((M = 5.98, SD = 5.06)\) to posttest \((M = 3.39, SD = 3.78)\), \(t(40) = 4.89, p < .001\), in CDM condition, while no difference was found in PMR condition. The mean decrease of CDM group was greater than PMR group (1.13 for PMR group and 2.59 for CDM group). Thus, the second alternative hypothesis was accepted.

Table 4-10

Analysis of Covariance for BSI-K-ANX

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>(F)</th>
<th>(p)</th>
<th>(\eta^2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest BSI-K-ANX</td>
<td>649.26</td>
<td>1</td>
<td>649.26</td>
<td>85.83*</td>
<td>&lt; .001</td>
<td>.53</td>
</tr>
<tr>
<td>Treatment Condition</td>
<td>27.02</td>
<td>1</td>
<td>27.02</td>
<td>3.57</td>
<td>.06</td>
<td>.04</td>
</tr>
</tbody>
</table>

*Significant at \(p < .001\)

BSI-K-ANX = Brief Symptom Inventory-18 Korean Version Anxiety Subscale.

Table 4-11

A Paired Samples T-Test for BSI-K-ANX

<table>
<thead>
<tr>
<th>Source</th>
<th>(N)</th>
<th>(M)</th>
<th>(SD)</th>
<th>(t)</th>
<th>(df)</th>
<th>(p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDM BSI-K-ANX</td>
<td>41</td>
<td>5.98</td>
<td>5.06</td>
<td>4.89**</td>
<td>40</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Posttest</td>
<td>41</td>
<td>3.39</td>
<td>3.78</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PMR BSI-K-ANX</td>
<td>38</td>
<td>5.26</td>
<td>4.45</td>
<td>2.15*</td>
<td>37</td>
<td>.03</td>
</tr>
<tr>
<td>Posttest</td>
<td>38</td>
<td>4.13</td>
<td>4.13</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant at \(p < .05\); ** Significant at \(p < .001\)

BSI-K-ANX = Brief Symptom Inventory-18 Korean Version Anxiety Subscale.

Analysis for Hypothesis Three

Hypothesis 3: Participants in the CDM condition will experience reductions in levels of perceived depression which will be at least comparable to those in the PMR condition at posttest.
ANCOVA was utilized to test the alternative hypothesis with the CES-D-K pretest score serving as a covariate. As presented in Table 4-12, the results of an ANCOVA showed that the pretest score was significantly related to CES-D-K posttest score, \( F(1, 76) = 57.97, p < .001 \). There was a statistically significant difference between the two treatment groups, \( F(1, 76) = 11.17, p = .001 \). The depression mean of CDM participants was significantly lower \( (M = 29.12, SD = 7.57) \) than PMR participants \( (M = 34.34, SD = 10.90) \). Only the CDM practice produced a statistically significant decrease from pretest \( (M = 35.39, SD = 9.21) \) to posttest \( (M = 29.12, SD = 7.57) \), \( t(40) = 5.87, p < .001 \). The results are presented in Table 4-13.

Table 4-12

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>( F )</th>
<th>( p )</th>
<th>( \eta^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest CES-D-K</td>
<td>2896.95</td>
<td>1</td>
<td>2896.95</td>
<td>57.97**</td>
<td>&lt; .001</td>
<td>.43</td>
</tr>
<tr>
<td>Treatment Condition</td>
<td>558.27</td>
<td>1</td>
<td>558.27</td>
<td>11.17*</td>
<td>.001</td>
<td>.12</td>
</tr>
</tbody>
</table>

Note. *Significant at \( p < .05 \); **Significant at \( p < .001 \)

CES-D-K = Center for Epidemiologic Studies Depression Scale Korean Version.

Interestingly, as indicated in Table 4-13, the results of a paired samples \( t \)-test showed that conditions of both treatments produced a statistically significant decrease on the depression subscale of BSI-K, \( t(40) = 5.33, p < .001 \) for CDM and \( t(37) = 2.16, p = .03 \) for PMR. To compare the mean scores of the two groups, ANCOVA was performed. The results of ANCOVA on BSI-K-DEP indicated that the pretest score of the measure was significantly related to the posttest score, \( F(1, 76) = 72.66, p < .001 \). The main effect of the group condition on the posttest score was statistically significant, \( F(1, 76) = 6.38, p = .01 \), with CDM participants’ mean score significantly lower \( (M = 3.32, SD = 3.44) \) than PMR participants’ mean score \( (M = 4.87, SD = 4.87) \). The results of ANCOVA on BSI-K-DEP are presented in Table 4-14. Thus, the results
support the acceptance of the hypothesis.

Table 4-13

A Paired Samples T-Test for BSI-DEP & CESD-K

<table>
<thead>
<tr>
<th>Source</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDM BSI-DEP</td>
<td>Pretest</td>
<td>41</td>
<td>6.51</td>
<td>5.04</td>
<td>5.33**</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>Posttest</td>
<td>41</td>
<td>3.32</td>
<td>3.44</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PMR BSI-DEP</td>
<td>Pretest</td>
<td>38</td>
<td>6.21</td>
<td>5.60</td>
<td>2.16*</td>
<td>37</td>
</tr>
<tr>
<td></td>
<td>Posttest</td>
<td>38</td>
<td>4.87</td>
<td>4.87</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CDM CES-D-K</td>
<td>Pretest</td>
<td>41</td>
<td>35.39</td>
<td>9.21</td>
<td>5.87**</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>Posttest</td>
<td>41</td>
<td>29.12</td>
<td>7.57</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PMR CES-D-K</td>
<td>Pretest</td>
<td>38</td>
<td>35.24</td>
<td>9.50</td>
<td>.642</td>
<td>37</td>
</tr>
<tr>
<td></td>
<td>Posttest</td>
<td>38</td>
<td>34.34</td>
<td>10.90</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. *Significant at p < .05; **Significant at p < .001

BSI-DEP = The Brief Symptom Inventory-18 Korean Version Depression subscale; CES-D-K = Center for Epidemiologic Studies Depression Scale Korean Version.

Table 4-14

Analysis of Covariance for BSI-K-DEP

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
<th>η²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest BSI-K-DEP</td>
<td>661.42</td>
<td>1</td>
<td>661.42</td>
<td>72.66**</td>
<td>&lt; .001</td>
<td>.48</td>
</tr>
<tr>
<td>Treatment Condition</td>
<td>58.13</td>
<td>1</td>
<td>58.13</td>
<td>6.38*</td>
<td>.01</td>
<td>.07</td>
</tr>
</tbody>
</table>

Note. *Significant at p < .05; **Significant at p < .001

BSI-K-DEP = Brief Symptom Inventory-18 Korean Version Depression Subscale.

Analysis for Hypothesis Four

Hypothesis 4: Participants in the CDM condition will demonstrate greater overall spiritual health than those in the PMR condition at post-test.

Two measures were utilized to assess participants’ spiritual health, TSOS-K and AGS-K.

As the assumption of homogeneity of regression slopes was not satisfied with the participants’ TSOS-K measure scores, an independent samples t-test was conducted to examine the
hypothesis. As presented in Table 4-15, the results of a *t*-test comparing the mean scores of CDM group and PMR group revealed a significant difference between the two groups at posttest, *t*(77) = 3.12, *p* = .003. The mean of the CDM group was significantly higher (*M* = 63.83, *SD* = 9.43) than PMR group (*M* = 55.95, *SD* = 12.86). Thus, the alternative hypothesis was accepted.

Additionally, an ANCOVA was performed to determine if the effect of treatment groups on participants’ AGS-K and two subscales scores varied by group, covarying out the effect of pre-test scores. Interestingly, the results of ANCOVA for anxiety subscale of AGS-K did not show the significant difference between two groups, *F*(1, 76) = 2.15, *p* = .14, with CDM participants’ mean score not being significantly lower (*M* = 10.10, *SD* = 4.37) than PMR participants (*M* = 11.50, *SD* = 3.69), even after covarying out the effect of the pretest score. Results are summarized in Table 4-16.

Table 4-15

<table>
<thead>
<tr>
<th>Source</th>
<th>Pretest <em>M (SD)</em></th>
<th>Posttest <em>M (SD)</em></th>
<th><em>t</em></th>
<th><em>df</em></th>
<th><em>p</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>CDM</td>
<td>60.07 (11.99)</td>
<td>63.83 (9.43)</td>
<td>3.12*</td>
<td>77</td>
<td>.003</td>
</tr>
<tr>
<td>PMR</td>
<td>56.47 (13.55)</td>
<td>55.95 (12.86)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note. *Significant at *p* < .05

TSOS-K = Theistic Spiritual Outcomes Survey Korean Version

Table 4-16

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th><em>F</em></th>
<th><em>p</em></th>
<th><em>η²</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest AGS-K-ANX</td>
<td>393.92</td>
<td>1</td>
<td>393.92</td>
<td>34.13*</td>
<td>&lt; .001</td>
<td>.31</td>
</tr>
<tr>
<td>Treatment Condition</td>
<td>24.84</td>
<td>1</td>
<td>24.84</td>
<td>2.15</td>
<td>.14</td>
<td>.08</td>
</tr>
</tbody>
</table>

*Note. *Significant at *p* < .001

AGS-ANX = Attachment to God Scale Korean Version Anxiety Subscale
However, the results of statistical analyses for the avoidant subscale of AGS-K and AGS-K total scores revealed significant main effects of the treatment. As presented in Table 4-17, an independent samples t-test comparing the mean scores of the CDM and PMR groups found a significant difference between the means of the two groups, $t(77) = 2.03$, $p = .04$. The mean of the CDM group was significantly lower ($M = 10.78$, $SD = 4.53$) than PMR group ($M = 13.13$, $SD = 5.71$). While the avoidance God attachment subscale mean score of participants with CDM was decreased, the mean score of participants with PMR was increased.

Table 4-17

<table>
<thead>
<tr>
<th>Source</th>
<th>Pretest $M (SD)$</th>
<th>Posttest $M (SD)$</th>
<th>$t$</th>
<th>df</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDM</td>
<td>13.12 (6.12)</td>
<td>10.78 (4.53)</td>
<td>2.03*</td>
<td>77</td>
<td>.04</td>
</tr>
<tr>
<td>PMR</td>
<td>12.89 (5.89)</td>
<td>13.13 (5.71)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. *Significant at $p < .05$

AGS-AVO = Attachment to God Scale Korean Version Avoidance Subscale

Table 4-18

<table>
<thead>
<tr>
<th>Source</th>
<th>$SS$</th>
<th>df</th>
<th>$MS$</th>
<th>$F$</th>
<th>$P$</th>
<th>$\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest AGS-K</td>
<td>2036.42</td>
<td>1</td>
<td>2036.42</td>
<td>66.10**</td>
<td>&lt; .001</td>
<td>.46</td>
</tr>
<tr>
<td>Treatment Condition</td>
<td>208.08</td>
<td>1</td>
<td>208.08</td>
<td>6.75*</td>
<td>.01</td>
<td>.08</td>
</tr>
</tbody>
</table>

Note. *Significant at $p < .05$; **Significant at $p < .001$

AGS-K = Attachment to God Scale Korean Version

Additionally, the results of ANCOVA for the total AGS-K score found significant mean difference between two treatment groups. The results are presented in Table 4-18. The covariate, the AGS-K pretest score, was significantly related to posttest score, $F(1, 76) = 66.10$, $p < .001$. The main effect of group condition was significant, $F(1, 76) = 6.75$, $p = .01$. The participants’
God attachment mean score, which indicates a high score as less secure relationship with God, was significantly lower ($M = 21.22, SD = 7.67$) than PMR participants ($M = 24.63, SD = 7.39$). The results of ANCOVA for AGS-K also support the acceptance of the fourth alternative hypothesis.

**Analysis for Hypothesis Five**

Hypothesis five: Participants in the CDM condition will report a similar frequency of at-home skills practice to participants in the PMR condition.

To test the hypothesis, an independent samples $t$-test was performed, comparing the mean frequency of at-home skills practice between CDM and PMR groups. As presented in Table 4-19, the results of $t$-test revealed that there was a significant difference between the mean of the two groups, $t(77) = 2.17, p = .03$. The participants in CDM treatment condition practiced more times ($M = 10.80, SD = 7.37$) than the participants in PMR condition ($M = 7.68, SD = 5.05$). Thus, the study accepts the alternative hypothesis.

Table 4-19

<table>
<thead>
<tr>
<th>Source</th>
<th>CDM M (SD)</th>
<th>PMR M (SD)</th>
<th>$t$</th>
<th>$df$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practice Frequency</td>
<td>10.80 (7.37)</td>
<td>7.68 (5.05)</td>
<td>2.17*</td>
<td>77</td>
<td>.03</td>
</tr>
<tr>
<td>Audio Instruction Usage</td>
<td>7.29 (6.97)</td>
<td>4.47 (3.57)</td>
<td>2.33*</td>
<td>77</td>
<td>.02</td>
</tr>
</tbody>
</table>

*Significant at $p < .05$

CDM = Christian Devotional Meditation; PMR = Progressive Muscle Relaxation.

Additionally, the $t$-test was conducted to examine if there is a significant difference in the use of audio instruction for at-home skills practice. The results showed that the audio instruction usage means of the two groups were significantly different, $t(77) = 2.33, p = .02$. The mean of
CDM group was significantly higher ($M = 7.29$, $SD = 6.97$) than the mean of PMR group ($M = 4.47$, $SD = 3.57$).

**Analysis for Hypothesis Six**

Hypothesis 6: Participants in the CDM condition will report a similar level of satisfaction in assigned practice as participants in the PMR condition.

To assess the participants’ perceived level of satisfaction on two weeks of practice with allocated skills in dealing with stress, anxiety, and depression, the participants were asked to rate on 5-point Likert scale (from 1 = *Not satisfied at all* to 5 = *Very much satisfied*). As shown in Table 4-20, an independent samples $t$-test revealed a marginally significant difference between the CDM and PMR groups in self-ratings of practice satisfaction, $t(77) = 2.17$, $p = .047$. The satisfaction mean of the CDM group was 3.88 ($SD = 1.12$), while the mean of PMR participants was 3.42 ($SD = .85$). Thus, the alternative hypothesis was accepted.

Table 4-20

<table>
<thead>
<tr>
<th>Source</th>
<th>CDM</th>
<th>PMR</th>
<th>$t$</th>
<th>$df$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfaction</td>
<td>3.88 (1.12)</td>
<td>3.42 (.85)</td>
<td>2.17*</td>
<td>77</td>
<td>.047</td>
</tr>
</tbody>
</table>

*Note* *Significant at* $p < .05$; *Participants rated their satisfaction on a 5-point Likert scale ranging from 1 = *Not satisfied at all* to 5 = *Very much satisfied.*

CDM = Christian Devotional Meditation; PMR = Progressive Muscle Relaxation.

**Additional Findings**

At the second meeting, the participants voluntarily responded to a debriefing questionnaire which includes a few questions and practice satisfaction scale (See Appendix H for CDM group debriefing questionnaire and Appendix I for PMR group). This section briefly
summarizes the participants’ responses to two questions. Tables 4-21 and 4-22 summarize the respondents’ comments for the PMR practice and CDM practice, respectively.

Table 4-21

Comments of the Participants on PMR Practice after Two Weeks Training

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Emotional domain</th>
<th>Cognitive domain</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Feeling peaceful (6)*</td>
<td>Detaching from negative thoughts (2)</td>
</tr>
<tr>
<td></td>
<td>Detaching from negative emotions (3)</td>
<td>Organizing thoughts (1)</td>
</tr>
<tr>
<td></td>
<td>Feeling relieved from stress (3)</td>
<td>Thinking rationally (1)</td>
</tr>
<tr>
<td></td>
<td>Controlling stress (1)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Feeling comfort (1)</td>
<td></td>
</tr>
<tr>
<td>Physical domain</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Relieving muscle tension (3)</td>
<td>Having personal time (4)</td>
</tr>
<tr>
<td></td>
<td>Sleeping well (1)</td>
<td>Easy to practice (1)</td>
</tr>
<tr>
<td></td>
<td>Relieving fatigue (1)</td>
<td></td>
</tr>
<tr>
<td>Challenges</td>
<td>Time management (17)</td>
<td>Unfamiliarity with practicing (4)</td>
</tr>
<tr>
<td></td>
<td>Forgetting (5)</td>
<td>Muscle cramp (3)</td>
</tr>
<tr>
<td></td>
<td>Lack of motivation (5)</td>
<td>Feeling sleepy (3)</td>
</tr>
<tr>
<td></td>
<td>Distracting thoughts (4)</td>
<td>Joint pain (1)</td>
</tr>
<tr>
<td></td>
<td>Distractive atmosphere (4)</td>
<td>Fatigue (1)</td>
</tr>
<tr>
<td>Suggestions</td>
<td>For effective outcomes,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- PMR should be practiced regularly (4)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- PMR should be practiced in a quiet and secluded area (1)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Individual should be highly motivated (1)</td>
<td></td>
</tr>
</tbody>
</table>

Note. *Numbers in italics correspond to the number of participants who made these comments.

PMR = Progressive Muscle Relaxation

The PMR group participants answered the question, “What are the strengths of progressive muscle relaxation in dealing with your negative symptoms such as stress, anxiety, and depression?” The respondents’ answers were categorized into three major domains. The first was emotional domain. The emotional benefits include feeling peaceful and comfort, detaching from negative emotions, feeling relieved from stress, etc. Additionally, a few of the participants...
were able to detach themselves from negative thoughts and organize thoughts while practicing PMR. Some of them reported physical benefits from the PMR practice such as relieving muscle tension and fatigue.

Table 4-22

Comments of the Participants on CDM Practice after Two Weeks Training

<table>
<thead>
<tr>
<th>Strengths</th>
<th>In regard to God</th>
<th>In regard to self</th>
<th>In regard to situation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focusing on God (5)</td>
<td>Feeling peaceful (16)</td>
<td>Reflecting upon oneself (5)</td>
<td>Seeing the situation from God’s perspective (5)</td>
</tr>
<tr>
<td>Experiencing God’s presence (3)</td>
<td>Seeing oneself from God’s perspective (2)</td>
<td>Detaching from negative emotions (2)</td>
<td>Forgetting one’s stressful situation (1)</td>
</tr>
<tr>
<td>Feeling intimacy with God (3)</td>
<td>Sleeping well (2)</td>
<td>Learning to be patience (1)</td>
<td>Freed from fear (1)</td>
</tr>
<tr>
<td>Relying on God (1)</td>
<td>Experiencing physical healing (1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Realizing God’s care (1)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Challenges</th>
<th>Time management (12)</th>
<th>Unfamiliarity with practicing (3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distracting thoughts (12)</td>
<td>Limited audio instruction (1)</td>
<td></td>
</tr>
<tr>
<td>Distractive atmosphere (7)</td>
<td>Worry (1)</td>
<td></td>
</tr>
<tr>
<td>Lack of motivation (4)</td>
<td>Cell phone (1)</td>
<td></td>
</tr>
<tr>
<td>Feeling sleepy (3)</td>
<td>Stress (1)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Suggestions</th>
<th>For effective outcomes, CDM should be practiced</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Regularly (3)</td>
</tr>
<tr>
<td></td>
<td>In the morning (1)</td>
</tr>
<tr>
<td></td>
<td>In a quiet and secluded area (1)</td>
</tr>
</tbody>
</table>

*Note.* Numbers in italics correspond to the number of participants who made these comments. CDM = Christian Devotional Meditation.

They also answered the question, “What was the biggest challenge in practicing progressive muscle relaxation practice?” Many of them mentioned time management as a biggest challenge. Some of them just forgot to practice it due to their busy schedules. Distracting
thoughts and atmosphere interfered with the practice. As expected, a few stated they were not motivated to practice it on a daily basis. Physical states of the participants mattered in practicing PMR. A total number of eight participants stated that their negative physical condition and health interrupted their practice.

The same questions were given to the participant with CDM. The first question was “What are the strengths of Christian devotional meditation in dealing with your negative symptoms such as stress, anxiety, and depression?” The participants’ responses were categorized into three areas: God, self, and situations. In regard to God, five participants stated that Christian devotional meditation helped them to focus only on God. Three of them reported that they experienced God’s presence while meditating on God’s words or characteristics. Another three felt intimacy with God through meditation practice.

Most people stated that they were feeling peaceful in practicing CDM as well as detaching from negative emotions. In addition to these emotional effects, participants mentioned cognitive gains that they got from the practice such as reflection upon self or situation. Interestingly, one of the participants with CDM practice reported that he experienced the alleviation of itchy skin from an allergy. Additionally, five participants stated that they could see the stressful situations from God’s perspective. Also, one of them stated that she could forget the situation while practicing CDM.

The second question was “What was the biggest challenge in practicing Christian devotional meditation practice?” Most respondents mentioned time management as the biggest challenge in practicing the Christian meditation regularly. Many of them stated their meditation practices were disturbed by their own distracting thoughts or distractive atmosphere in practicing CDM. A few participants reported that it was hard to get themselves to practice CDM due to
their unfamiliarity with the method.

**Summary**

Chapter Four provided statistical data and its analyses for each research hypothesis. The descriptive statistical analyses revealed that the research participants in CDM and PMR groups were fairly equivalent across two research sites in terms of their gender, age, marital status, monthly household incomes, highest education, years in the U.S., and years as a Christian. The dropout rate was not significantly different between the two groups.

Table 4-23


<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
<th>η²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest PSS-K</td>
<td>1462.85</td>
<td>1</td>
<td>1462.85</td>
<td>79.18***</td>
<td>&lt; .001</td>
<td>.51</td>
</tr>
<tr>
<td>Treatment Condition</td>
<td>233.09</td>
<td>1</td>
<td>233.09</td>
<td>12.61**</td>
<td>.001</td>
<td>.14</td>
</tr>
<tr>
<td>Pretest BSI-K-ANX</td>
<td>649.26</td>
<td>1</td>
<td>649.26</td>
<td>85.83***</td>
<td>&lt; .001</td>
<td>.53</td>
</tr>
<tr>
<td>Treatment Condition</td>
<td>27.02</td>
<td>1</td>
<td>27.02</td>
<td>3.57</td>
<td>.06</td>
<td>.04</td>
</tr>
<tr>
<td>Pretest CES-D-K</td>
<td>2896.95</td>
<td>1</td>
<td>2896.95</td>
<td>57.97***</td>
<td>&lt; .001</td>
<td>.43</td>
</tr>
<tr>
<td>Treatment Condition</td>
<td>558.27</td>
<td>1</td>
<td>558.27</td>
<td>11.17**</td>
<td>.001</td>
<td>.12</td>
</tr>
<tr>
<td>Pretest BSI-K-DEP</td>
<td>661.42</td>
<td>1</td>
<td>661.42</td>
<td>72.66***</td>
<td>&lt; .001</td>
<td>.48</td>
</tr>
<tr>
<td>Treatment Condition</td>
<td>58.13</td>
<td>1</td>
<td>58.13</td>
<td>6.38*</td>
<td>.01</td>
<td>.07</td>
</tr>
<tr>
<td>Pretest AGS-K-ANX</td>
<td>393.92</td>
<td>1</td>
<td>393.92</td>
<td>34.13***</td>
<td>&lt; .001</td>
<td>.31</td>
</tr>
<tr>
<td>Treatment Condition</td>
<td>24.84</td>
<td>1</td>
<td>24.84</td>
<td>2.15</td>
<td>.14</td>
<td>.08</td>
</tr>
<tr>
<td>Pretest AGS-K</td>
<td>2036.42</td>
<td>1</td>
<td>2036.42</td>
<td>66.10***</td>
<td>&lt; .001</td>
<td>.46</td>
</tr>
<tr>
<td>Treatment Condition</td>
<td>208.08</td>
<td>1</td>
<td>208.08</td>
<td>6.75*</td>
<td>.01</td>
<td>.08</td>
</tr>
</tbody>
</table>

*Note. *Significant at p < .05; **Significant at p < .01; ***Significant at p < .001
Results from an independent samples $t$-test revealed that there was no difference on the pretest scores of all assessment measures. This study utilized the Statistical Package for the Social Sciences (SPSS) to conduct an individual samples $t$-test, paired samples $t$-test, and ANCOVA to test six hypotheses (See Table 4-23 and 4-24). According to results, all six alternative hypotheses are accepted.

Table 4-24

*An Independent Samples T-Test for TSOS-K & AGS-AVO*

<table>
<thead>
<tr>
<th>Source</th>
<th>Pretest $M$ (SD)</th>
<th>Posttest $M$ (SD)</th>
<th>$t$</th>
<th>df</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSOS-K</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CDM</td>
<td>60.07 (11.99)</td>
<td>63.83 (9.43)</td>
<td>3.12</td>
<td>77</td>
<td>.003</td>
</tr>
<tr>
<td>PMR</td>
<td>56.47 (13.55)</td>
<td>55.95 (12.86)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGS-K-AVO</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CDM</td>
<td>13.12 (6.12)</td>
<td>10.78 (4.53)</td>
<td>2.03</td>
<td>77</td>
<td>.04</td>
</tr>
<tr>
<td>PMR</td>
<td>12.89 (5.89)</td>
<td>13.13 (5.71)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* *Significant at $p < .05$; **Significant at $p < .01$  
TSOS-K = Theistic Spiritual Outcomes Survey Korean Version; AGS-ANX = Attachment to God Scale Korean Version Anxiety Subscale
CHAPTER FIVE: SUMMARY, CONCLUSIONS, & RECOMMENDATIONS

Summary

In the last three decades, research has explored many aspects of meditation and its efficacy as a coping method against negative physiological and psychological distresses. It is a known fact that numerous studies have examined the efficacy of Eastern and secular meditation as a sole intervention or in combination with psychotherapeutic approaches (for the recent review see Sedlmeier et al., 2012). However, few empirical studies were found in the literature that specifically examined the efficacy of explicit Christian meditation. The purpose of this randomized comparative study was to contribute to the field of Christian psychology and Christian counseling by examining the comparative effectiveness of Christian devotional meditation versus progressive muscle relaxation on stress, anxiety, depression, and overall spiritual health among a sample of nonclinical Korean Christian adults recruited from the community for two weeks.

Based upon the t-test and ANCOVA statistical methods for this study, Christian devotional meditation has indicated to yield significant results for Korean adult Christians. In general, the CDM group reported lower stress, anxiety, and depression, and greater spiritual health. This chapter includes a discussion of the data in relation to the hypotheses under investigation, followed by implications for practice and research, recommendations for the future study, and limitations.

Conclusions

Alternative Hypothesis One

In hypothesis 1, it was predicted that participants in the CDM condition would experience reductions in levels of perceived stress which will be at least comparable to those in the PMR
condition at post-test. This hypothesis was completely supported by the results of one-way between subjects ANCOVA, which was that the participants with CDM practice reported significantly lower stress than the participants with PMR practice at posttest. Furthermore, only the participants who practiced CDM for two weeks experienced a statistically significant decrease in perceived level of stress from pretest scores to posttest scores as measured by PSS-K. On the contrary, there was no significant improvement on the stress measurement mean score between the pretest and posttest of PMR condition.

**Alternative Hypothesis Two**

In hypothesis 2, it was predicted that the participants in the CDM condition would experience reductions in levels of perceived anxiety which will be at least comparable to those in the PMR condition at post-test. Following two weeks of technique practice, there was no significant difference between CDM group and PMR group at posttest. Both treatments were effective in terms of reducing participants’ perceived level of anxiety on pretest-posttest after two weeks at-home practice. However, the CDM group showed better treatment effects than the PMR group for participants’ anxiety. These finding resulted in the acceptance of the alternative Hypothesis 2.

**Alternative Hypothesis Three**

In hypothesis 3, it was predicted that participants in the CDM condition would experience reductions in levels of perceived depression which will be at least comparable to those in the PMR condition at post-test. Two depression measures were utilized to assess the participants’ perceived level of depression, the CES-D and BSI-DEP. On the self-reported depression measure, the CES-D score, there was a significant main effect for treatment. After two weeks at home training, the mean scores on the depression measure between the two treatments were
significantly different. This means the CDM was more effective in treatment of depression. Furthermore, only the CDM participants reported significant improvement in their depression when the pretest scores were compared to posttest scores. However, the participants in the PMR condition did not report significantly low BSI-DEP scores after the two-week treatment.

On the other hand, the results of BSI-DEP were different in both treatments. Both CDM and PMR treatments showed statistically significant improvement on their depression from pretest to posttest. The self-reported depression scores also displayed a pattern of results supporting the hypothesis. There was a significant mean difference between the two groups on the depression measures, with the CDM participants reporting significantly lower depression than the PMR participants. Based on these results, the alternative hypothesis 3 was supported.

**Alternative Hypothesis Four**

In hypothesis 4, it was predicted that participants in the CDM condition would demonstrate greater overall spiritual health than those in the PMR condition at post-test. Expectedly, the differences between the CDM group and the PMR group were statistically significant at posttest on two measures, TSOS-K and AGS-K, which were used to assess the participants’ spiritual health. The participants with CDM practice reported significantly higher spiritual health outcome measure than the PMR participants. Additionally, CDM group showed more secure attachment to God than the PMR participants at posttest. No statistical improvements were found in the PMR group from pretest to posttest on all related measures, TSOS-K, AGS-K, AGS-AVO, and AGS-ANX. These outcomes resulted in the acceptance of alternative hypothesis 4.

**Alternative Hypothesis Five**

In hypothesis 5, it was predicted that participants in the CDM condition would report a
similar frequency of at-home skills practice to participants in the PMR condition. The results indicated that those with CDM group practiced significantly more than the participants with PMR. The CDM participants practiced an average of 10 times during the two weeks, while the PMR participants practiced the at-home training 7 times. Thus, hypothesis 5 was accepted.

Alternative Hypothesis Six

In hypothesis 6, it was predicted that participants in the CDM condition would report a similar level of satisfaction in assigned practice as the participants in the PMR condition. There was significant difference on the participants’ perceived level of satisfaction for the treatment at posttest. The CDM group reported slightly higher satisfaction with the treatment than PMR group. Thus, the alternative hypothesis 6 was accepted.

Interaction with the Empirical Literature

The results of this study strongly uphold the existing literature on explicit Christian meditation as a meaningful component in the treatment of psychological distress and spiritual health. Carlson et al. (1988) demonstrated that meditating on the Scriptural material (i.e., Psalm 23) for ten minutes in a laboratory setting three times a week for two weeks was able to produce less stress related muscle tension, anxiety and anger than the participants practicing PMR training. Wachholtz and Pargament (2005) found that spiritual meditation using the phrase, “God is peace,” “God is joy,” “God is good,” and “God is love” resulted in better mental health (i.e., more positive mood and less anxiety) and greater daily spiritual experience than secular meditation and relaxation technique in structured situation (i.e., a cold water bath).

It is not surprising, therefore, that the results of the current study would be effective in decreasing the participants’ perceived level of stress and anxiety in addition to increasing spiritual health. It is noteworthy that the findings of this study were not only similar to previous
research comparing explicit Christian meditation to PMR or other secular mediation, but also extend the findings of current literature. First of all, since this study targeted Korean adult Christians, there is more confidence to draw the conclusion of CDM being effective in dealing with negative psychological distress and promoting spiritual health of non-Caucasians. Additionally, given that previous research studies used only college aged students, the findings of this study contribute to the literature by utilizing adult sample in the study. By doing so, the findings of this study can support the efficacy of CDM across the age range.

Second, this study utilized a self-rated stress measure to assess the individual’s level of stress in response to daily life. In previous studies, the alterations of the participants’ stress were measured by physiological outcomes or a self-report questionnaire on muscle tension over various muscle groups. However, with the use of a psychological instrument (i.e., the PSS) for measuring the perception of stress this study was able to assess and analyze the effects of CDM on the participants’ psychological dimension of stress. Additionally, the stress measure helped the present study to investigate if CDM may reduce participants’ daily life stress.

Third, no previous research study found that explicit Christian meditation has a significant therapeutic effect on individual’s depression compared to PMR and secular meditation. Wachholtz and Pargament (2008) attempted to examine the impact on Spiritual meditation on depression over the course of a one month study, but the results indicated that there was no difference among Spiritual meditation, secular meditation, and muscle relaxation groups. The current study’s findings, however, supported that regular practice of Christian devotional meditation can be more effective in decreasing individual’s depression compared to PMR, in addition to stress and anxiety.

Fourth, this study overcomes the weakness that Carlson et al.’s (1988) study has. That is...
the researchers did not employ sequential muscle tension in terms of progressive muscle relaxation. They asked the participants to relax their body as much as they could do, instead of giving sequential muscle relaxation instructions. This study, however, utilized the abbreviated version of progressive muscle relaxation, targeting 16 muscle groups of the body. Thus, the present study can more confidently conclude that the results were superior to PMR.

Fifth, one unique finding of this research is that Christian meditation on Scriptural verses and God’s characteristics appear to have an additive effect that enhances the participants’ adherence on the treatment practice, given that the participants with CDM in this study practiced significantly more than those in PMR condition. While this result is perhaps limited by the population used in this study, it does suggest that interventions which are religiously congruent represent a culturally sensitive adaptation to treatment that can enhance treatment compliance. Based on this observation, one hypothesis as to why the CDM participants reported greater positive outcomes over all dependent variables than the PMR participants could be explained by the additional practice.

Last, the significant improvements on the measures of the AGS and the avoidant subscale of the AGS made by CDM are in disagreement with Rasar et al.’s (2013) study that showed positive God attachment change was hard to produce. In their study, both specifically tailored treatment to God attachment and Bible study failed to create a significant difference on college students’ God attachment style, compared to no treatment control group. The present study, on the contrary, revealed that overall God attachment and avoidant God attachment style could be changed toward being more secure attachment to God with two weeks meditation on Scriptural verses and God’s characteristics. However, the lack of improvement on anxious God attachment style found in this study requires further investigation.
Implication for Practice

Practical implications, which could prove beneficial for clients in counseling practice, were derived from this research project. The current empirical study provided some evidence that CDM may be effective in decreasing Christian adult client’s perceived level of psychological distresses such as stress, anxiety, and depression, although caution is taken in making this statement since nonclinical subjects were used in this study. The primary implication of this study for practice, therefore, is that CDM may be useful as a Christian accommodative treatment for stress, anxiety, and depression in a nonclinical sample. Specifically, the findings suggest that in the church setting, CDM could be utilized as a coping method in the treatment of those with negative psychological distresses.

The CDM protocol administrated for this study was simple. The audio instructions helped the participants to practice CDM easily. Thus, those engaged in providing pastoral or lay Christian counseling may utilize CDM with the Scriptural verses and God’s characteristics emphasized specifically on God’s sustaining and caring, targeting nonclinical clients. However, it should be noted that to be effective, CDM practice requires a strong commitment, which includes a 10-15 minute meditation at least three days a week for at least two weeks.

Furthermore, the effectiveness of CDM to promote spiritual health is apparent, when it is compared to the PMR group, which takes a role of control group for this specific dependent variable. As shown in the CDM group, a significant increase in spiritual health outcomes, composed of love of God, others, and self, following two weeks treatment period, this type of treatment could be used to support the client’s spiritual healing. However, the treatment provider should be attentive in applying this practice to those who have an anxious type of attachment to God when using the treatment exclusively for the purpose of increasing the client’s perceived
level of security with God. The lack of significance of the impact that CDM has on anxious attachment to God found in this study requires further investigation.

Additionally, despite the rising popularity of mindfulness meditation, adult Korean Christians tend to see it in a negative manner due to its Buddhist origin. This is why mindfulness was not used as the comparative group in this study. Given this reality, CDM may represent a culturally sensitive adaptation of meditation-related treatment methods for conservative adult Korean Christians.

**Implications for Research**

This study demonstrated that CDM is effective in reducing stress, anxiety, and depression in Korean adult Christians. Additionally, the effects of CDM were superior to PMR treatment. It is also noteworthy that CDM had an effect on the participants’ spiritual health. Seemingly, however, the value of this empirical study is not limited to these findings.

In a broad sense, this study is one of the significant attempts to validate the efficacy of explicit Christian resources found in Christian traditions, such as prayer, praise and worship, solitude, fasting, devotional reading, etc. In other words, the significance of this study is to provide evidence to the field of psychotherapy and professional counseling in scientific language. By doing this, Christian researchers could become more interested in replicating this type of study as well as attempting to conduct additional investigations. This, eventually, will accumulate the empirical evidence so that Christian health professionals can use Christian methods with appropriately religious Christian clients. Moreover, even non-Christian care providers could take a method such as CDM to improve their Christian clients’ physiological, psychological, social, and spiritual well-beings.
Recommendations for Future Research

Given that only four empirical research studies have been conducted for the validation of CDM as a coping method for physiological, psychological, and spiritual distress, the need of further study is apparent. It is important that the selection of various population needs to be considered. Specifically, the study should be conducted targeting people from other ethnic backgrounds besides Caucasian or Korean, such as African American, Hispanic, or Indian. Additionally, the efficacy of CDM for other generations other than college students or adults need to be investigated. No research has been conducted to test the impact of CDM on children, adolescents, and elders. Furthermore, the findings of this study limit the application of CDM to individuals with mild to moderate symptoms of stress, anxiety, or depression. In other words, the clinical effects of those who struggle with severe disorders need to be evaluated. This would strengthen the generalizability of the findings.

In addition, for the specific explanation of CDM, future research should be conducted in clinical settings instructed by mental health professionals. Also, other empirical research studies should compare the effectiveness of CDM with those of other types of meditations (e.g., mindfulness and transcendental meditation) and relaxation skills (Yoga, diaphragmic breathing, guided imagery, etc.) to specify the therapeutic components of CDM. It was noted in this study that mindfulness was seen negatively for this population.

Furthermore, there are several recommendations for the investigators who intend to replicate the present study. The first is to control treatment adherence in terms of commitment to practice so that the variance of practice frequency cannot interfere with drawing a solid conclusion. The second is to control the Christian participants’ openness to psychotherapeutic method which they may be unfamiliar with. The third is to have a no-treatment control group and
follow-up assessment in order to draw more solid conclusions. The last is to employ separate treatment instructors for each treatment group who do not have knowledge of the research design, purpose, and hypotheses so that the threats to internal validity would likely decrease.

**Limitations of the Study**

This study has several limitations that should be taken into account. The absence of random selection of research participants adds to the study’s limitations in a couple of ways. Since the participants were Christians selected from local churches, there could be potential threats to drawing a strong conclusion. The CDM participants may have had preexisting familiarity with Christian meditation or Quiet Time with Scriptural verses. Meanwhile, the participants allocated in PMR group may not have been familiar with the muscle relaxation technique. Additionally, the participants may have a preference of a Christian method and doubt the efficacy of PMR. So it is possible that this could have limited the PMR participants’ willingness to practice, eventually resulting in a lack of improvement in PMR condition, compared to CDM condition across all variables.

Furthermore, the sample in this study composed of Korean adult Christians exclusively. Thus, the results produced in this study should be applied to other populations with attentiveness. Also, no participants reported severe level symptoms of stress, anxiety, and depression to the extent that referral should be made. Thus, the efficacy of CDM on severe levels of stress, anxiety, and depression was questionable.

Although the results indicated that CDM was effective in increasing spiritual health and promoting secure attachment to God, no solid explanation was made for the lack of improvement in anxious attachment to God in this study. Thus, the application of CDM for the Korean adult Christians who have anxious attachment God issues requires additional caution.
Another limitation of this study was the lack of research control. In particular, the researcher, who was not blind to condition, treatment goals, and research hypotheses, administrated the first meetings for both conditions over two church sites. Even though the intervention in this study was focused on at-home practice and the first meeting aimed at giving instructions on how to practice the technique, the presence of the researcher may have introduced experimenter’s bias into the study.

In addition, due to the absence of a no treatment control group, the possibility that the changes of participants’ level of stress, anxiety, and depression observed in both groups were due to normal maturational processes cannot be excluded. Moreover, this study was not designed to collect follow-up data. Thus, the long-term effect of each treatment cannot be evaluated. Another critical limitation in terms of research control is that the frequency of each practice was recommended but not obligated. As a result, even though the statistical results indicated that the CDM was more efficacious than PMR on all variables, the potential existed that the mean differences between the CDM and PMR groups may have been due to different frequencies of the practices.

**Summary**

The results of the study revealed that while both CDM and PMR practices were efficacious in decreasing anxiety and depression, CDM was statistically more efficacious. Additionally, only the CDM group showed significant reductions in stress level and improved spiritual health. CDM group participants appeared to practice the techniques more than PMR, reporting greater satisfaction on the training. These findings were congruent with earlier empirical studies on Christian meditative approach. Furthermore, this study contributed to the field of Christian psychology and Christian counseling by providing the empirical evidence of
the efficacy of CDM. However, given that this research has several limitations, further investigation is warranted.
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APPENDIX A: Initial Assessment Interview Form
초기 사정 면접 양식

Please provide the following information for your participation in the study. This information will be kept confidential. Please leave blank any questions you do not understand and contact the interviewer.

연구 참여를 위하여 아래의 질문에 답하여 주시기 바랍니다. 답변에 대한 비밀은 철저하게 보장됩니다. 궁금한 사항이 있으면 빈칸으로 남겨 두시고 인터뷰 담당자에게 연락을 해주시기 바랍니다.

Name (이름): ______________________
Date of Birth (생년월일): _____ / _____ / ____  Age (나이): ______
Phone (전화번호): ______________________ May I call you (전화를 드려도 됩니까)? ( Y / N )
Email (이메일): ______________________ May I email you (이메일을 드려도 됩니까)? ( Y / N )

1. Are you Christian (기독교인이십니까)? ( Y / N )
   If yes, please specify denomination (그렇다면, 교단을 알려주세요): ______________________

2. Are you currently experiencing any psychiatric problems (최근에 정신과적인 질환을 앓고 계십니까)? ( Y / N )
   If yes, please specify (그렇다면, 어떤 질환인지 알려주세요): ______________________

3. Are you experiencing any physical health concerns (최근에 신체적 건강에 대하여 걱정이 있으십니까)? ( Y / N )
   If yes, please specify (그렇다면, 무엇인지 알려주세요): ______________________

4. Are you currently taking medications (현재 약을 복용하고 계십니까)? ( Y / N )
   If yes, please specify (그렇다면, 무엇인지 알려주세요): ______________________

5. Are you currently receiving psychiatric, psychotherapy, and/or professional counseling services (현재 정신과적 치료, 심리치료, 혹은 상담을 받고 계십니까)? ( Y / N )
   If yes, please specify (그렇다면, 자세히 알려주세요): ______________________

6. Are you currently experiencing suicidal or homicidal ideation (최근에 자살이나 자해 혹은 타인을 해하려는 상상이나 충동을 느끼신 적이 있습니까)? ( Y / N )

7. Are you having any condition or life circumstance that precludes participation in two weeks of intervention (2주의 프로그램에 참여하시기에 공란한 상황이나 일이 있으십니까)? ( Y / N )

If you have any question about this interview form, please do not hesitate to contact the researcher via the number, 703-531-9401 or email address, jkim26@liberty.edu. 궁금한 사항이 있으시면 전화번호와 이메일을 통하여 연락을 주시기 바랍니다 (703-531-9401, jkim26@liberty.edu).
APPENDIX B: General Informed Consent Form_English & Korean

연구 참여 동의서

You are invited to be in a research study of evaluating the efficacy of stress management technique on the individual’s perceived level of stress, anxiety, depression, and spiritual health for two weeks. You were selected as a possible participant because this study targeted Korean Christian immigrants and students who are living in Northern Virginia. I ask that you read this form and ask any questions you may have before agreeing to be in the study.

여러분은 이에 스트레스 관리 기법이 스트레스, 근심, 우울, 영적인 건강에 주는 영향을 측정하는 연구에 참여하시게 됩니다. 여러분이 참여하시는 이유는 본 연구가 북버지니아 지역의 크리스천 한국인 이민자와 학생들이 본 연구의 대상으로 했기 때문입니다. 이 동의서에 있는 내용을 잘 읽어보시고 이 연구의 참여에 동의하시기 전에 질문이 있으시면 편하게 질문해 주시기 바랍니다.

This study is being conducted by Jinse Kim, Pastoral Care and Counseling Ph.D student at Liberty University.

이 연구는 리버티 대학의 목회 돌봄과 상담 과정에서 Ph.D 학위를 진행중인 김진세에 의해서 진행됩니다.

Background Information 배경정보:

The purpose of this study is to examine the efficacy of stress management skills on stress, anxiety, depression, and overall spiritual health among a sample of nonclinical Korean adults recruited from the community for two weeks.

이 연구의 목적은 여러분께 스트레스 관리 기법을 알려드리고, 2 주 동안 그 기법을 꾸준하게 연습했을 때 스트레스, 불안, 우울, 그리고 전반적인 영적인 건강에 어떤 변화가 일어나는지를 측정하는 것입니다.

Procedures 연구과정:

If you agree to be in this study, I would ask you to do the following things:

First of all, you will be asked to sign in this informed consent form and complete a self-report interview sheet. It should take approximately 10 minutes to complete the interview. Then you will be informed the specific meeting information for the first meeting via email. The interventions will be given once in a 2-hour group face-to-face session. The first session consists of (a) administration of pre-intervention assessment questionnaires (30 min), (b) brief presentation about stress and management techniques (1 hour), and (c) the practical exercise of the technique (30 min). After that, you will be asked to practice the stress management skills for about 15 minutes with audio instruction CD daily at home for 2 weeks. You will be asked to complete a daily practice log, recording the frequency of your daily skill practice. After two weeks, all participants will be gathered together for the post-intervention assessment. This session will last about 2 hours.

만약 여러분이 이 연구에 동의하시게 되면, 저는 다음의 과정을 진행할 것입니다:

가장 먼저, 여러분은 이 연구 동의서를 읽어 보신 후에 동의 서명을 하시고, 사전 인터뷰를 작성하시게 될 것입니다. 이 과정은 약 10 정도 소요됩니다. 그 후에, 여러분은 이메일을 통해서 첫 모임에 대한 구체적인 정보를 받게 되실 것입니다. 그 후, 첫 모임에서 다른 참여자들과 함께 (a) 사전 검사지 작성, (b) 스트레스 관련 세미나, (c) 스트레스 관리 기법의 실제 연습을 하게 되실 것입니다. 이를 위해 약 2 시간 정도 소요될 것이라고 생각됩니다. 이 모임 후에, 각각의 참여자들은 나눠드릴 CD의 안내에 따라 2 주 동안 각자의 집에서 그 기법을 매일 약 15 분의 연습을 하시게 됩니다. 연습을 하시는 과정에서 나눠드릴 기록표에 얼마나 연습하셨는지를 기록하시게 됩니다. 2 주 후에 다시 모여 사후 검사를 작성하고, 훈련의 소감 등을 나누게 됩니다. 마지막 모임도 약 2 시간 정도 소요될 것입니다.
Risks and Benefits of being in the Study

1. The risks involved in being in this study are low. Specific information about risks involved in your specific stress management technique will be given to you at the group meeting. The benefits to participation are to learn skills to manage daily stress, anxiety, and depressed mood. Your specific stress management technique will be given to you at the group meeting.

2. The benefits to participation are to learn skills to manage daily stress, anxiety, and depressed mood. If you choose to participate, you will be asked to complete the initial brief assessment interview, which covers inclusion and exclusion criteria, using yes/no type questions. For the privacy protection of email interview participants, Google Drive Forms was used. All the collected assessment data are automatically kept in this researcher’s personal password-protected Google Drive spreadsheet, which has a high level of privacy and security. This researcher’s Google account is protected by a 2-Step Verification security system that requires a personal password and a verification code sent to a personal phone via text or voice call for signing in.

Confidentiality

1. The records of this study will be kept private. In any sort of report I might publish, I will not include any information that will make it possible to identify a subject. Research records will be stored securely and only this researcher will have access to the records. The records of this study will be kept private. In any sort of report I might publish, I will not include any information that will make it possible to identify a subject. Research records will be stored securely and only this researcher will have access to the records.

2. If you choose to participate, you will be asked to complete the initial brief assessment interview, which covers inclusion and exclusion criteria, using yes/no type questions. For the privacy protection of email interview participants, Google Drive Forms was used. All the collected assessment data are automatically kept in this researcher’s personal password-protected Google Drive spreadsheet, which has a high level of privacy and security. This researcher’s Google account is protected by a 2-Step Verification security system that requires a personal password and a verification code sent to a personal phone via text or voice call for signing in.

3. All the collected data of the printed format of initial assessment questionnaire are kept in a locked drawer in the researcher’s office, which is also secure and locked.

4. No names were used for the pre-intervention assessment packet. Rather, each assessment packet was assigned an identification number for secure data handling and control, as well as storage. The numbers and names (code-book) will be recorded in a Microsoft Excel document, which was kept secure by using a password to prevent others from viewing it.

5. All the questionnaires received today will be kept in the same secure and locked drawer. The code-book will be stored on a password-protected computer and backed up on a password-protected flash drive.
Compensation 보상: You will not receive compensation for your participation in my research.

Voluntary Nature of the Study 연구의 자발적 참여:

Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with Liberty University. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships. 

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, you are encouraged to contact the Institutional Review Board, 1971 University Blvd, Suite 1837, Lynchburg, VA 24515 or email at irb@liberty.edu.

You will be given a copy of this information to keep for your records.
Statement of Consent 연구 참여 동의:

I have read and understood the above information. I have asked questions and have received answers. I consent to participate in the study.
나는 제공된 정보를 읽고 이해하였습니다. 질문할 기회가 있었고, 답변을 받았습니다. 나는 이 연구의 참여에 동의합니다.

Name 이름: _______________ Signature 서명: _______________ Date 날짜: _______________

Signature of Investigator 연구자 서명: _________________________ Date 날짜: _______________

IRB Code Numbers: 1796.031414

IRB Expiration Date: 03/13/2015
APPENDIX C: Informed Consent Form for Christian Devotional Meditation Group
연구 참여 동의서_기독교 말씀 묵상 그룹

You are invited to be in a research study of evaluating the efficacy of Christian Devotional Meditation on the individual’s perceived level of stress, anxiety, depression, and spiritual health for two weeks. You were selected as a possible participant because this study targeted Korean Christian immigrants and students who are living in Northern Virginia. I ask that you read this form and ask any questions you may have before agreeing to be in the study.

This study is being conducted by Jinse Kim, Pastoral Care and Counseling Ph.D student at Liberty University.

Background Information
배경정보:

The purpose of this study is to examine the efficacy of Christian Devotional Meditation on stress, anxiety, depression, and overall spiritual health among a sample of nonclinical Korean adults recruited from the community for two weeks.

Procedures
연구과정:

If you agree to be in this study, I would ask you to do the following things:

Risks and Benefits of being in the Study
본 연구의 위험과 유익:

1. Most people who practice Christian devotional meditation (CDM) will find that it helps them relax, reduces their stress, and deepens their relationship with the Lord. However, a few people...

여러분은 이제 기독교 말씀 묵상이 스트레스, 근심, 우울, 영적인 건강에 주는 영향을 측정하는 연구에 참여하시게 됩니다. 여러분이 참여하시는 이유는 본 연구가 북버지니아 지역의 크리스천 한국인 이민자와 학생들이 본 연구의 대상으로 했기 때문입니다. 이 동의서에 있는 내용을 잘 읽어보시고 이 연구의 참여에 동의하시기 전에 질문이 있으시면 편하게 질문해 주시 바랍니다.

이 연구는 리버티 대학의 목회 돌봄과 상담과정에서 Ph.D 학위를 진행중인 김진세에 의해서 진행됩니다.

이 연구의 목적은 여러분께 스트레스의 대응 기법으로서의 기독교 말씀 묵상의 방법을 알려드리고, 2 주 동안 그 관리 기법을 꾸준하게 연습했을 때 스트레스, 불안, 우울, 그리고 전반적인 영적인 건강에 어떤 변화가 일어나는지를 측정하는 것입니다.

만약 여러분이 이 연구에 동의하시게 되면, 저는 다음의 과정을 진행할 것입니다:

다른 참여자들과 함께 (a) 사전 검사지 작성, (b) 스트레스 관련 세미나, (c) 기독교 말씀 묵상의 실제 연습을 하게 되실 것입니다. 이를 위해 약 1시간 30분 정도 소요될 것이라고 생각됩니다. 이 모임 후에, 각각의 참여자들은 나뇌드럼 CD의 안내에 따라 2주 동안 각자의 집에서 그 기법을 매일 약 15분의 연습을 하시게 됩니다. 연습을 하시는 과정에서 나뇌드럼 기록표에 열람을 연습해볼 것을 기록하시게 됩니다. 2주 후에 다시 모여 사후 검사를 하게 됩니다. 마지막 모임도 약 2시간 정도 소요될 것입니다.

1. Most people who practice Christian devotional meditation (CDM) will find that it helps them relax, reduces their stress, and deepens their relationship with the Lord. However, a few people...
may experience CDM in a way that increases their anxiety or produces a flashback of a traumatic experience. If this were to happen to you, please stop the meditation immediately and contact me. I will be glad to talk with you, problem-solve, and provide you with a referral to a mental health professional if necessary. 기독교 말씀 목상은 연습하는 사람들 대부분은 긴장을 완화하는 결과스트레스를 줄이는 것 그리고 하나님과의 관계가 깊어지는 것에 도움을 얻습니다. 그러나 소수의 사람들중에서는 과거에 충격적인 기억들이 되살아 나거나 걱정이 증가되는 경우도 있습니다. 만약 이러한 일이 여러분에게 일어난다면, 그 연습을 바로 중단하고 본 연구자에게 연락을 주시기 바랍니다. 그 일에 어떻게 다룰 수 있는지를 함께 나누도록 하겠습니다. 또한 만약 필요하다면, 정신 건강을 돌보는 전문가를 추천해 드리도록 하겠습니다.

2. The benefits to participation are to learn skills to manage daily stress, anxiety, and depressed mood. 참여하신 분들은 본 연구를 통하여 일상 생활의 스트레스나, 근심, 우울을 다루는 기법을 배우실 수 있을 것입니다.

Confidentiality 비밀보장:

1. The records of this study will be kept private. In any sort of report I might publish, I will not include any information that will make it possible to identify a subject. Research records will be stored securely and only this researcher will have access to the records. 본 연구의 기록은 본 연구자의 개인적인 공간에 잘 보관이 될 것입니다. 만약 본 연구를 가지고 어떤 종류의 출판이 이뤄진다고 할 때, 본 연구자는 참여자의 신상을 파악하게 되는 어떠한 정보도 포함되지 않을 것입니다. 연구의 결과는 안전하게 보관될 것이며, 오직 본 연구자만 그 기록을 열람할 수 있을 것입니다.

2. Prior to joining the study, you responded to an initial brief assessment interview, which covers inclusion and exclusion criteria, using yes/no type questions via email or through face-to-face interviews. For the privacy protection of email interview participants, Google Drive Forms was used. All the collected assessment data are automatically kept in this researcher’s personal password-protected Google Drive spreadsheet, which has a high level of privacy and security. This researcher’s Google account is protected by a 2-Step Verification security system that requires a personal password and a verification code sent to a personal phone via text or voice call for signing in. 본 연구가 시작되기 전에 여러분은 이메일을 통해서나 혹은 인쇄된 문서 형식으로 짧은 사전초기 사정 면접양식을 작성하셨을 것입니다. 이메일로 작성하신 분들의 정보 보호를 위하여, 구글 드라이브 양식이 사용되었습니다. 모든 수집된 정보는 자동적으로 본 연구자의 개인 비밀번호로 보호되는 매우 높은 수준의 보안이 구글 드라이브에 저장되었습니다. 본 연구자의 구글 계정은 구글의 2 단계 개인 확인 시스템으로 보호되고 있습니다. 계정에 접속하기 위해서는 먼저 아이디와 비밀번호를 입력해야 하고, 그 후에 입력되어 있는 휴대 전화기 번호로 보내주는 인증번호를 입력 했을 때에만 접속이 가능합니다.

3. All the collected data of the printed format of initial assessment questionnaire are kept in a locked drawer in the researcher’s office, which is also secure and locked. 인쇄된 문서를 통해서 사정 면접 양식을 작성하신 분들의 자료는 본 연구자의 사무실에 있는 서랍에 잠금 장치로 잠겨 있는 상태로 보관되고 있습니다. 연구자의 사무실 역시 잠금 장치가 있는 사람만 접근이 가능합니다.

4. No names were used for the pre-intervention assessment packet. Rather, each assessment packet was assigned an identification number for secure data handling and control, as well as storage. The numbers and names (code-book) will be recorded in a Microsoft Excel document, which was kept secure by using a password to prevent others from viewing it. 모든 설문지들은 어떠한 이름도 기록되지 않았습니다. 대신에 프라이버시 보호를 위하여 식별할 수 있는 번호가 부여될 것입니다. 그 같은 번호는 코드북에 이름과 함께 기록되어 비밀번호로 보호할 수 있는 마이크로소프트 엑셀 파일 형태로 저장될 것입니다.

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5. All the questionnaires received today will be kept in the same secure and locked drawer. The code-book will be stored on a password-protected computer and backed up on a password-protected flash drive.

오늘 작성하실 질문지들은 역시도 같은 안전한 방식으로 보관될 것입니다. 코드북은 비밀번호로 보호되는 컴퓨터와 비밀번호로 보호되는 휴대용 저장장치에 컴퓨터 파일 형태로 보관될 것입니다.

6. All the data will be kept for three years after the conclusion of this study. Following the storage period, the data will be destroyed in a manner of protecting your confidentiality. Hard copies of the data will be shredded and electronic data files will be deleted from all storage devices including any recycling bins.

모든 자료는 본 연구 종료 후에 3년간 저장이 될 것입니다. 그리고 그 기간 후에는 모든 자료들이 개인 정보 보호 차원에서 버려질 것입니다. 인쇄된 질문지들은 모두 파쇄 될 것이고, 전자 문서들과 자료들은 모두 삭제될 것입니다.

Compensation 보상:

You will not receive compensation for your participation in my research.
본 연구의 참여에는 보상이 포함되어 있지 않습니다.

Voluntary Nature of the Study 연구의 자발적 참여:

Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with Liberty University. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.
이 연구는 여러분의 자발적인 참여를 통해 이뤄지는 것입니다. 참여를 할지 혹은 하지 말지에 대한 여러분의 결정은 여러분의 현재 혹은 미래에 리버티 대학과의 관계에 어떤 영향도 주지 않을 것입니다. 참여를 결정하셨다고 할 지라도, 모든 질문에 답을 하셔야 하는 것은 아니며, 또한 어느 때나 참여를 그만 두실 수 있음을 기억해 두시기 바랍니다.

Contacts and Questions 연락처와 질문사항:

The researcher conducting this study is Jinse Kim. You may ask any questions you have now. If you have questions later, you are encouraged to contact me via the number, 703-531-9401 or email address, jkim26@liberty.edu. You can also contact Faculty Advisor, Fernando Garzon, Psy. D. (434-592-4054, fgarzon@liberty.edu).
본 연구자의 이름은 김진세입니다. 궁금한 사항이 있으시면 지금 질문하셔도 됩니다. 만약 나중에 질문사항이 생기시면, 제 전화번호와 이메일을 통하여 연락을 주시기 바랍니다 (703-531-9401, hizkiah@gmail.com). 혹은, 본 연구의 수퍼바이저인 Dr. Fernando Garzon (434-592-4054, fgarzon@liberty.edu)에게 연락을 주셔도 됩니다.

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, you are encouraged to contact the Institutional Review Board, 1971 University Blvd, Suite 1837, Lynchburg, VA 24515 or email at irb@liberty.edu.
만약, 본 연구에 관하여 본 연구자가 아닌 다른 사람에게 질문을 하고 싶으시다면, 리버티 대학교의 임상 시험 심사 위원회로 연락을 주시기 바랍니다.
Institutional Review Board
주소: 1971 University Blvd, Suite 1837, Lynchburg, VA 24515
이메일: irb@liberty.edu.

You will be given a copy of this information to keep for your records.
여러분도 제공하여 드리는 이 동의서 사본 한 장을 보관해두시기 바랍니다.

Statement of Consent 연구 참여 동의:

I have read and understood the above information. I have asked questions and have received answers. I consent to participate in the study.
나는 제공된 정보를 읽고 이해하였습니다. 질문할 기회가 있었고, 답변을 받았습니다. 나는 이 연구의 참여에 동의합니다.

Name 이름: _______________ Signature 서명: _______________ Date 날짜: _______________

Signature of Investigator 연구자 서명: ______________________ Date 날짜: _______________

IRB Code Numbers: 1796.031414

IRB Expiration Date: 03/13/2015
You are invited to be in a research study of evaluating the efficacy of progressive muscle relaxation technique on the individual’s perceived level of stress, anxiety, depression, and spiritual health for two weeks. You were selected as a possible participant because this study targeted Korean Christian immigrants and students who are living in Northern Virginia. I ask that you read this form and ask any questions you may have before agreeing to be in the study.

This study is being conducted by Jinse Kim, Pastoral Care and Counseling Ph.D student at Liberty University.

**Background Information**

The purpose of this study is to examine the efficacy of progressive muscle relaxation technique on stress, anxiety, depression, and overall spiritual health among a sample of nonclinical Korean adults recruited from the community for two weeks.

Risks and Benefits of being in the Study

1. Most people who practice progressive muscle relaxation (PMR) will find that it helps them relax and reduces their stress. However, a few may experience muscle cramps during the

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practice of PMR. If this were to happen to you, please stop the meditation immediately and contact me. I will be glad to talk with you and problem-solve. 본 연구의 위험성은 미비하여 여러분의 일상 생활의 범주를 벗어나지 않습니다. 정진적 근육 이완 기법을 연습하는 사람들 대부분은 기장을 완화하는 것과 스트레스를 줄이는 것에 도움을 얻습니다. 그러나, 소수의 사람들은 정진적 근육 이완 기법을 연습하다가 근육이 뭉치는 경우를 경험하곤 합니다. 만약 이러한 일이 여러분에게 일어나면, 그 연습을 바로 중단하고 본 연구자에게 연락을 주시기 바랍니다. 그 앞에 어떻게 다룰 수 있는지를 함께 나누도록 하겠습니다.

2. The benefits to participation are to learn skills to manage daily stress, anxiety, and depressed mood. 참여하신 분들은 본 연구를 통하여 일상 생활의 스트레스나, 근심, 우울을 다루는 기법을 배우실 수 있을 것입니다.

Confidentiality 비밀보장:

1. The records of this study will be kept private. In any sort of report I might publish, I will not include any information that will make it possible to identify a subject. Research records will be stored securely and only this researcher will have access to the records. 본 연구의 기록은 본 연구자의 개인적인 공간에 잘 보관이 될 것입니다. 만약 본 연구를 가지고 어떤 종류의 출판이 이루어진다고 할 때면, 본 연구자는 참여자의 신상을 파악하게 되는 어떠한 정보도 포함되지 않을 것입니다. 연구의 결과는 안전하게 보관될 것이며, 오직 본 연구자만 그 기록을 열람할 수 있을 것입니다.

2. Prior to joining the study, you responded to an initial brief assessment interview, which covers inclusion and exclusion criteria, using yes/no type questions via email or through face-to-face interviews. For the privacy protection of email interview participants, Google Drive Forms was used. All the collected assessment data are automatically kept in this researcher’s personal password-protected Google Drive spreadsheet, which has a high level of privacy and security. This researcher’s Google account is protected by a 2-Step Verification security system that requires a personal password and a verification code sent to a personal phone via text or voice call for signing in.

본 연구가 시작되기 전에 여러분은 이메일을 통해서나 혹은 인쇄된 문서 형식으로 짧은 사전 초기 사정 면접 양식을 작성하였을 것입니다. 이메일로 작성하신 분들의 정보 보호를 위하여, 구글 드라이브 양식이 사용되었습니다. 모든 수집된 정보는 자동적으로 본 연구자의 개인 비밀번호로 보호되는 매우 높은 수준의 보안이 구글 드라이브에 저장되었습니다. 본 연구자의 구글 계정은 구글의 2 단계 개인 확인 시스템으로 보호되고 있습니다. 계정에 접속하기 위해서는 먼저 아이디와 비밀번호를 입력해야 하고, 그 후에 입력되어 있는 휴대 전화기 번호로 보내주는 인증번호를 입력 했을 때에만 접속이 가능합니다.

3. All the collected data of the printed format of initial assessment questionnaire are kept in a locked drawer in the researcher’s office, which is also secure and locked. 인쇄된 문서를 통해서 사정 면접 양식을 작성하신 분들의 자료는 본 연구자의 사무실에 있는 서랍에 잠금 장치로 잠겨 있는 상태로 보관되고 있습니다. 연구자의 사무실 역시 잠금 장치가 있는 사람만 접근이 가능합니다.

4. No names were used for the pre-intervention assessment packet. Rather, each assessment packet was assigned an identification number for secure data handling and control, as well as storage. The numbers and names (code-book) will be recorded in a Microsoft Excel document, which was kept secure by using a password to prevent others from viewing it.

모든 설문지들은 어떠한 이름도 기록되지 않았습니다. 대신에 프라이버시 보호를 위하여 식별할 수 있는 번호가 부여될 것입니다. 그 같은 번호는 코드북에 이름과 함께 기록되어 비밀번호로 보호할 수 있는 마이크로소프트 엑셀 파일 형태로 저장될 것입니다.
5. All the questionnaires received today will be kept in the same secure and locked drawer. The code-book will be stored on a password-protected computer and backed up on a password-protected flash drive.
오늘 작성하신 질문지들은 역시도 같은 안전한 방식으로 보관될 것입니다. 코드북은 비밀번호로 보호되는 컴퓨터와 비밀번호로 보호되는 휴대용 저장장치에 컴퓨터 파일 형태로 보관될 것입니다.

6. All the data will be kept for three years after the conclusion of this study. Following the storage period, the data will be destroyed in a manner of protecting your confidentiality. Hard copies of the data will be shredded and electronic data files will be deleted from all storage devices including any recycling bins.
모든 자료는 본 연구 종료 후에 3년간 저장이 될 것입니다. 그리고 그 기간 후에는 모든 자료들이 개인 정보 보호 차원에서 버려질 것입니다. 인쇄된 질문지들은 모두 파쇄 될 것이고, 전자 문서들과 자료들은 모두 삭제될 것입니다.

Compensation 보상:
You will not receive compensation for your participation in my research.
본 연구의 참여에는 보상이 포함되어 있지 않습니다.

Voluntary Nature of the Study 연구의 자발적 참여:
Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with Liberty University. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.
이 연구는 여러분의 자발적인 참여를 통해 이뤄지는 것입니다. 참여를 할지 혹은 하지 말지에 대한 여러분의 결정은 여러분의 현재 혹은 미래에 리버티 대학과의 관계에 어떤 영향도 주지 않을 것입니다. 참여를 결정하셨다고 할 지라도, 모든 질문에 답을 하셔야 하는 것은 아니며, 또한 어느 때나 참여를 그만 두실 수 있을 것을 기억해 두시기 바랍니다.

Contacts and Questions 연락처와 질문사항:
The researcher conducting this study is Jins Je Kim. You may ask any questions you have now. If you have questions later, you are encouraged to contact me via the number, 703-531-9401 or email address, jkim26@liberty.edu. You can also contact Faculty Advisor, Fernando Garzon, Psy. D. (434- 592-4054, fgarzon@liberty.edu).
본 연구자의 이름은 김진세입니다. 궁금한 사항이 있으시면 지금 질문셔셔도 됩니다. 만약 나중에라고 질문사항이 생기시면, 제 전화번호와 이메일을 통하여 연락을 주시기 바랍니다 (703-531-9401, hizkiah@gmail.com). 혹은, 본 연구의 수퍼바이저인 Dr. Fernando Garzon (434-592-4054, fgarzon@liberty.edu)에게 연락을 주셔도 됩니다.

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, you are encouraged to contact the Institutional Review Board, 1971 University Blvd, Suite 1837, Lynchburg, VA 24515 or email at irb@liberty.edu.
만약, 본 연구에 관하여 본 연구자가 아닌 다른 사람에게 질문을 하고 싶으시다면, 리버티 대학교의 임상 시험 심사 위원회로 연락을 주시기 바랍니다.
Institutional Review Board
주소: 1971 University Blvd, Suite 1837, Lynchburg, VA 24515
이메일: irb@liberty.edu.

You will be given a copy of this information to keep for your records.
여러분도 제공하여 드리는 이 동의서 사본 한 장을 보관해두시기 바랍니다.

Statement of Consent 연구참여동의:

I have read and understood the above information. I have asked questions and have received answers. I consent to participate in the study.
나는 제공된 정보를 읽고 이해하였습니다. 질문할 기회가 있었고, 답변을 받았습니다. 나는 이 연구의 참여에 동의합니다.

Name 이름: ______________ Signature 서명: ______________ Date 날짜: ______________

Signature of Investigator 연구자 서명: __________________________ Date 날짜: ______________

IRB Code Numbers: 1796.031414

IRB Expiration Date: 03/13/2015
APPENDIX E: Demographic Questionnaire

1. **What is your gender** 당신의 성별은 무엇입니까?
   1) Male 남자
   2) Female 여자

2. **What is your age** 당신의 연령은 몇 세 입니까? 만 ________세

3. **How long have you been living in the United States** 당신은 미국에 현재까지 얼마나 오래 거주해 왔습니까? __________ 년

4. **How long have you been a Christian** 기독교인이 된지 얼마나 되었습니다? __________ 년

5. **What is your current marital status** 당신은 결혼 하셨습니까?
   1) Single 미혼
   2) Living with another 동거
   3) Married 결혼
   4) Separated 별거
   5) Divorced 이혼
   6) Widowed 사별
   7) Other 기타

6. **What is your monthly household income** 당신 가족의 월수입 총액은 얼마나입니까?
   1) Less than $2,000 2,000 불 이하
   2) $2,000 to $3,999 2,000 불-3,999 불
   3) $3,000 to $4,999 3,000 불-4,999 불
   4) $5,000 to $7,999 5,000 불-7,999 불
   5) $8,000 to $9,999 8,000 불-9,999 불
   6) $10,000 or more 10,000 불 이상

7. **What is the highest level of education you have completed** 당신의 최종학력은 무엇입니까?
   1) No schooling completed 초등학교 이하
   2) Elementary school 초등학교
   3) Middle school 중학교
   4) High school 고등학교
   5) Bachelor’s degree 대학
   6) Master’s degree 대학원 - 석사
   7) Doctoral degree 대학원 - 박사 혹은 그 이상
This log is designed to help you record how many times you practice Christian devotional meditation. Please fill out the form below, following the instructions. If you meditate once on a particular day, circle “1.” If you did it twice or more, circle “2.”

본 기록표는 두 주간 지내시면서 성경적 진리를 얻만큼 묵상하셨는지를 기록하기 위해 준비된 것입니다. 매일 매일 묵상을 얻만큼 하셨는지를 기록해보시기 바랍니다. 한번도 안 하셨으면 0, 한 번 하셨으면 1, 두 번 이상 하셨으면 2에 표를 해주시기 바랍니다.

<table>
<thead>
<tr>
<th>첫째주 1st Week</th>
<th>Day 1</th>
<th>Day 2</th>
<th>Day 3</th>
<th>Day 4</th>
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<tr>
<td>Traits of God</td>
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<tr>
<td>성경 구절</td>
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<th>둘째주 2nd Week</th>
<th>Day 8</th>
<th>Day 9</th>
<th>Day 10</th>
<th>Day 11</th>
<th>Day 12</th>
<th>Day 13</th>
<th>Day 14</th>
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<td>하나님의 성품</td>
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APPENDIX G: Progressive Muscle Relaxation Log
점진적 근육 이완 연습 기록표

This log is designed to help you record how many times you practice progressive muscle relaxation. Please fill out the form below, following the instructions. If you practice once on a particular day, circle “1.” If you did it twice or more, circle “2.”

본 기록표는 두 주간 지내시면서 점진적 근육 이완 기법을 얼마나 연습하셨는지를 기록하기 위해 준비된 것입니다. 매일 이완 연습을 얼마나 하셨는지를 기록해보시기 바랍니다. 한번도 안 하셨으면 0, 한 번 하셨으면 1, 두 번 이상 하셨으면 2에 O표를 해주시기 바랍니다.

<table>
<thead>
<tr>
<th>첫째주 1st Week</th>
<th>Day 1</th>
<th>Day 2</th>
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<tr>
<td>연습 횟수</td>
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<tr>
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<tr>
<td>연습 횟수</td>
<td>0 / 1 / 2</td>
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APPENDIX H: Debriefing Questionnaire for Christian Devotional Meditation Group

말씀 묵상 그룹 용 연구 사후 질문지

Please share experiences you had while practicing Christian devotional meditation in the last two weeks (2주간 묵상을 연습을 하시면서 느끼신 점을 아래의 질문을 통해 기록해 주시기 바랍니다).

1. Did you experience any discomfort (묵상을 하시면서 불편함은 없으셨습니까)?
   (Very much, 매우 불편했음) 1 ----- 2 ----- 3 ----- 4 ----- 5 (Not at all, 전혀 불편하지 않았음)

Please specify (자세히 말씀 주세요):
_____________________________________________________________________________________
_____________________________________________________________________________________
_____________________________________________________________________________________

2. Do you have any improvement in negative emotions (e.g., stress, anxiety, and depression) compared to those of the first day of practice (연습 첫 날과 연습 마지막 날을 비교하면 나게 있는 부정적 감정 우울, 좌절, 스트레스 등을 나아졌습니까)?
   (Not at all, 전혀 나아지지 않았음) 1 ----- 2 ----- 3 ----- 4 ----- 5 (Very much, 매우 나아짐)

3. What was the biggest challenge in practicing Christian devotional meditation practice (묵상 연습을 하는 것에 있어서 방해되는 것이 무엇이었나요)?
_____________________________________________________________________________________
_____________________________________________________________________________________
_____________________________________________________________________________________

4. What are the strengths of Christian devotional meditation in dealing with your negative symptoms such as stress, anxiety, and depression (부정적 감정 우울, 좌절, 스트레스 등을 다루는 것에 있어 묵상 연습의 강점/장점이 무엇이던가요)?
_____________________________________________________________________________________
_____________________________________________________________________________________
_____________________________________________________________________________________

5. Do you have any thoughts or insights after the meditation practice (e.g., what did you learn from this two-week treatment?) (기타 나누고 싶은 이야기나 묵상 중 깨달았던 점 등이 있으십니까? 예를 들어, 2주간의 연습을 통해 배운 것이 있으십니까)?
_____________________________________________________________________________________
_____________________________________________________________________________________
_____________________________________________________________________________________

6. Are you satisfied this meditation practice in dealing with your stress, anxiety, and depression last two weeks (지난 이 주간 자신의 스트레스, 근심, 우울감을 다루는 것에 있어 묵상 훈련에 만족하십니까)?
   (Not at all, 전혀 만족하지 않음) 1 ----- 2 ----- 3 ----- 4 ----- 5 (Very much, 매우 만족함)
APPENDIX I: Debriefing Questionnaire for Progressive Muscle Relaxation Group
점진적 근육 이완 기법 그룹 응 연구 사후 질문지

Please share experiences you had while practicing progressive muscle relaxation in the last two weeks (2주간 이완 기법 연습을 하시면서 느끼신 점을 아래의 질문을 통해 기록해 주시기 바랍니다).

1. Did you experience any discomfort (근육 이완 기법을 연습하시면서 불편함은 없으셨습니까)?
   (Very much, 매우 불편했음) 1 ----- 2 ----- 3 ----- 4 ----- 5 (Not at all, 전혀 불편하지 않았음)

Please specify (자세히 말씀 주세요):
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________

2. Do you have any improvement in negative emotions (e.g., stress, anxiety, and depression) compared to those of the first day of practice (연습 첫 날과 연습 마지막 날을 비교하면 나게 있는 부정적 감정 우울, 좌절, 스트레스 등은 나아졌습니까)?
   (Not at all, 전혀 나아지지 않았음) 1 ----- 2 ----- 3 ----- 4 ----- 5 (Very much, 매우 나아짐)

3. What was the biggest challenge in practicing progressive muscle relaxation practice (점진적 근육 이완 연습을 하는 것에 있어서 방해되는 것이 무엇이었나요)?
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________

4. What are the strengths of progressive muscle relaxation practice in dealing with your negative symptoms such as stress, anxiety, and depression (부정적 감정 우울, 좌절, 스트레스 등을 다루는 것에 있어 근육 이완 연습의 강점/장점이 무엇이었죠)?
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________

5. Do you have any thoughts or insights after progressive muscle relaxation practice?” (기타 나누고 싶은 이야기나 근육 이완 연습 중 깨달았던 점 등이 있으심니까? 예를 들어, 2주간의 연습을 통해 배운 것이 있으심니까)?
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________

6. Are you satisfied this progressive muscle relaxation practice in dealing with your stress, anxiety, and depression last two weeks (지난 이 주간 자신의 스트레스, 근심, 우울감을 다루는 것에 있어 근육 이완 연습에 만족하십니까)?
   (Not at all, 전혀 만족하지 않음) 1 ----- 2 ----- 3 ----- 4 ----- 5 (Very much, 매우 만족함)