Spiritual Practices and Mental Health:

Predictors of a Positive Relationship

by

Gary Hotson

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Abstract

This research was aimed in part at confirming findings that as levels of temporal features of spiritual practice increase (e.g., duration of meditation or prayer in years), mental health increases (both absence of psychological symptoms, and presence of well-being). It was also aimed at showing that the increase is not a function of time spent in practice, but of an increase in intensity or number of spiritual beliefs and attitudes, or of spiritual experiences, that arise with time spent in practice. The research was further aimed at exploring if, during earlier phases of spiritual practice, scores for a measure of uncertainty about religious issues increase, then decrease; and scores for mental health measures decrease, and then increase. Exploratory tests were conducted to find if mental health was differentially associated with types of spiritual practice (meditation, prayer), as well as with types of meditation (concentration, awareness) and types of prayer (e.g., petitionary, ritualistic). Adults in Winnipeg and Edmonton with a spiritual practice were recruited for the study. They were asked to complete questionnaires that measured spiritual beliefs and attitudes, spiritual experiences, psychological symptoms, presence of well-being, uncertainty about religious issues, features of participants' spiritual practice, and demographic information. Results were examined using correlations, multiple regression analysis, and analysis of variance. Some of the planned analyses could not be completed as none of the participants who completed the study were in early phases of spiritual development. The data showed that for participants who prayed, spiritual beliefs were associated with fewer symptoms, while spiritual experiences and frequency of practice were associated with increased symptoms. For meditators, spiritual experiences were associated with well-being, while spiritual beliefs were associated with a lack of

well-being. Mental health scores did not differ as a function of type of prayer or meditation, or as a function of the time spent practicing alone.

Overall, the results suggest that spiritual beliefs and experiences are better predictors of mental health than temporal features of a spiritual practice, and that the relationship between spiritual beliefs and experiences, and mental health, differs for those who pray and those who meditate.

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Chapter 1: Defining the Problem

It has been claimed that spiritual practices lead to improvements in mental health for some people (e.g., Goleman, 1975; Engler, 1984; Dossey, 1993; Boorstein, 1996; Kryka, 2000). However, it is unclear if some forms of spiritual practice promote mental health more than other practices. It is also unclear how a spiritual practice promotes mental health. One might suppose that a spiritual practice promotes spiritual development, which in turn leads to mental health. However, some authors (e.g., Boorstein, 1997) suggest that spiritual practices might encourage mental health independent of spiritual development. Furthermore, although spirituality and mental health are known to correlate positively (e.g., Thoresen, 1999; Koenig, McCullough, & Larson, 2001), a causal relationship (i.e., that one leads to the other) has not been firmly established. In fact, on close examination of the literature, one finds that the relationship between spirituality and mental health may not always be positive (MacDonald & Friedman, 2002; MacDonald & Holland, 2003; Elmer, MacDonald, & Friedman, 2003). For the most part, research has shown positive correlations between all three variables, i.e., spiritual practices, spirituality, and mental health. However, exceptions to these positive relationships also warrant attention. The aim of this research was closely to examine the relationship between these variables, particularly between spiritual practices and mental health, by addressing numerous weaknesses in the current literature.

Weaknesses in Spirituality/Mental Health Research

One of the primary weaknesses in the spirituality/mental health literature is that there are many definitions of key variables in the research, including mental health,

spirituality, and spiritual practices, as well as the related construct of existential well-being. To clarify the issues involved, each of these definitions is considered in turn.

Definitions of Mental Health

Two primary definitions of mental health are typically used in research and theoretical writings: (1) absence of symptoms, defined as the lack of Diagnostic and Statistical Manual of Mental Disorders (DSM; APA, 1994) symptoms, such as depression and anxiety, and (2) the presence of positive psychological states, often called psychological well-being, which may include factors such as determination, energy, and loving kindness (e.g., Walsh, 1995), or autonomy, self-acceptance, and personal growth (e.g., Ryff, 1989).

In a recent factor analysis, Ruini et. al., (2003) found that psychological well-being and absence of psychological symptoms were distinct factors, suggesting that they are independent of each other, and not just the opposite ends of a single continuum. Inspection of the literature suggests that transpersonal theorists and spiritual practitioners have recognized this distinction for years. For example, more than 15 years ago Kornfield (1993) recognized that some spiritual practitioners realized gains in some aspects of psychological well-being despite the lingering presence of pathology.

Researchers must be aware of this distinction also. Research on religious involvement shows that the way researchers define mental health may lead them to very different conclusions concerning the relationship between involvement and mental health. As Batson, Schoenrade, and Ventis (1993) summarize, "religious involvement is positively correlated with absence of mental illness. But it is negatively correlated with personal competence and control, [and] self actualization..." (p. 257). Thus, findings

from research defining mental health as the absence of symptoms should not be considered generalizable to research defining mental health as a state of psychological well-being. The concerns that arise from the definition problems are considered in detail below.

Definitions of Spirituality

Examination of research and theoretical writings suggest that there are three commonly used definitions of spirituality. First, spirituality has been regarded as an advanced stage of mental health or personal development. This definition is found in theory that proposes there are spiritual needs that are independent of psychological needs (e.g., Maslow, 1970) and in research which defines spirituality (or spiritual well-being) as largely equivalent to existential well-being (e.g., as emphasized in a measure by Ellison, 1983). Second, spirituality has been defined as a set of beliefs or attitudes. The belief in the existence of a higher power and the sacredness of life are characteristic of this definition of spirituality (e.g., as emphasized in a measure by Elkins et al., 1988). Third, spirituality has been defined as a type of experience, for example, a mystical experience. Mystical experiences usually have an ineffable and sacred quality to them, often characterized by a loss of the sense of self, and beliefs that all aspects of the universe are interrelated (Hood, 1975). Both theorists and researchers have adopted each of these definitions. However, this author's examination of the literature suggests that most measures of spirituality tend to reflect a combination of two or all three of the above.

There are also definitions of spirituality (e.g., Genia, 1996; Wilber, 2000a) that propose that spirituality is a dimension of functioning that may develop over time, and that the expression of spirituality might change as spirituality develops. However, these

definitions have not been adopted by researchers for the most part. If spirituality changes as it develops, it is possible that the relationship between spirituality and mental health is different for those with early forms of spirituality as compared to those with mature forms of spirituality. The current empirical literature does not account for this possibility. This author's examination of the literature suggests that most measures of spirituality only measure the most mature stages of spirituality, i.e., the degree to which a person's beliefs and attitudes, or experiences, mirror those of highly spiritual individuals, or of people who are accomplished with a spiritual practice.

Definitions of Existential Well-Being

Existential well-being is commonly defined as a sense of meaning and purpose in one's life. It may also reflect a feeling of competence, and a sense of being able to cope with the difficulties of everyday living (e.g., MacDonald, 2000a). In some research existential well-being is considered a form of mental health (e.g., Shek, 2002), and in other research it is considered a form of spirituality (e.g., Cohen et al., 2001). Often, measures of mental health include a component of existential well-being (e.g., Ryff, 1989), as do measures of spirituality (e.g., the Spiritual Well-Being Scale; Ellison, 1983). MacDonald et al. (1997, cited in 1999) completed a factor analysis of more than 18 of the most predominant measures of spirituality and related constructs used in transpersonal literature. Results of the factor analysis indicated that these measures tapped in to five constructs, one of which was Existential Well-Being (i.e., "positive existentiality such as meaning and purpose in life" p. 157). This finding raises two concerns. First, if existential well-being is properly considered a type of mental health, spirituality measures should not include this variable. Second, if a mental health measure that includes any degree of

existential well-being is correlated with a spirituality measure that also includes existential well-being, the result will be an artificially high correlation. With this source of error, it is possible that the generally positive correlations between spirituality and mental health reported in the empirical literature (e.g., Koenig, McCullough, & Larson, 2001) are somewhat overestimated. A clear definition of existential well-being that separates it out from spirituality will help avoid artificially high correlations, and allow for a more specific test of the relationship between spirituality and mental health.

Definitions of Spiritual Practices

Spiritual practices may take many forms. They have been variously defined as activities that "experientially dissolve dualism" (i.e., that yield a felt sense of the integration of one's physical and spiritual nature), or activities undertaken out of the belief in "the existence of a force, power, energy, or reality greater than the individual self, and the related belief that it is possible and desirable to experience a relationship with this reality" (Allen, 2001, p.178). With such definitions, many activities may be considered spiritual practices. Researchers have considered creative expression (Thayer, 1996), art (Rubin, 2001), attending religious services (Case & McMinn, 2001), or psychotherapy (Meisenhelder & Chandler, 2000) as forms of spiritual practice. Additionally, a variety of forms of psychological and spiritual practice have been discussed by authors such as Boorstein (1996) and Walsh (1999). The research on spiritual practices overlaps with research focusing on "religious behaviours" (e.g., Levin, 1994). For example, prayer may be considered both a spiritual practice and a religious behaviour. Church attendance might be considered a spiritual practice or a religious behaviour depending on the motivation for attending church. However, by the definitions

of spiritual practice, above, church attendance without the aim of dissolving dualism or to experience a relationship with a greater power, would not be considered a spiritual practice.

The present research is limited to the most recognized and studied forms of spiritual practice: prayer (Case & McMinn, 2001; Schwartz, 1999) and meditation (Walsh, 1993a). Separate literatures on these two forms of spiritual practice suggest that both forms of practice have a positive association with aspects of mental health. These literatures are reviewed further below.

Causal vs Correlational Relationship

As indicated above, a further weakness in the literature in general is a lack of research on a causal link between spirituality and mental health, i.e., whether spirituality leads to mental health, or whether mental health precedes spirituality. Research demonstrating a causal relationship in either direction would have significant implications for comprehending the relationship between spiritual practices and mental health. For example, if it were found that mental health (the presence of positive mental health, the absence of symptoms, or both) needs to be fostered before spirituality develops, the hypothesis that a spiritual practice leads to an increase in spirituality, which leads to an increase in mental health, would not be tenable. Research on this topic is reviewed below to establish the context for the current research.

Evidence of a Causal Relationship Between Spirituality and Mental Health

As suggested above, researchers have yet to conclusively establish if spirituality leads to mental health or vice versa. The literature review that follows outlines the research and theory pertaining to this important question.

Mental Health as a Precursor to Spiritual Development

Some theories and some research suggest that mental health may lead to spiritual development. The theory is reviewed first, followed by the research evidence.

Perhaps the most well known theoretical work supporting the position that spirituality evolves from mental health is that of Abraham Maslow (1970). A basic tenet of Maslow's hierarchy of needs is that basic conditions need to be in place before people will realize more advanced stages of development (Maslow, 1968). For example, people need to feel a sense of safety prior to being able to realize the importance of love and belonging. Likewise, people need to realize self-esteem (e.g., through success and status), which is generally considered a component of well-being, before they become concerned with self-actualizing, or addressing spiritual needs. Maslow's writings suggest that pathologies result when early needs go unmet (Maslow, 1968). For example, when people have not met their needs for safety, they will likely become anxious as well as emotionally and physically volatile. If people do not realize their needs for affection or self-esteem, they may become depressed, feel isolated, or become dependent on others. In each case, Maslow's model suggests that spiritual needs will not become a priority until the more basic physiological and psychological needs have been met. If Maslow's model is correct, and pathology is the result of a basic need having gone unmet (i.e., a psychological need rather than a spiritual need), it would be predicted that pathology would be inversely related to spiritual development. It would also be predicted that individuals will have resolved any pathology prior to developing spiritually.

As noted previously, there are three main definitions of spirituality in the literature: a stage of development, a cognitive orientation, and a type of experience;

however, Maslow focuses on only one of these definitions—specifically, spirituality as a stage of development in which spiritual needs and experiences become salient.

As does Maslow, researchers also conceptualize spirituality in such a manner as to preclude mental health developing after spirituality when they use measures of spirituality that incorporate forms of mental health into the definition. Some measures, such as the Spiritual Orientation Inventory (SOI; Elkins et al., 1988), include items such as "I am very cynical about the human race." This is a negatively worded item on the measure meant to reflect the antithesis of a spiritual belief (i.e., idealism). However, cynicism is also common in people with depression. Therefore, this item may also assess a form of pathology. That is, people who are depressed may be cynical and therefore score lower on this measure. However, the measure is not meant to assess mental health, but spirituality. Items such as this one all but preclude individuals with mental health issues from scoring high on some spirituality measures. This example illustrates that when researchers define spirituality as including mental health, or use spirituality measures that include mental health components, they cannot study these variables independent of one another.

Spirituality as a Precursor to Mental Health

Many individuals believe that spirituality can lead to mental health. For example, Lindgren and Coursey (1995) found that 83 percent of adults with serious mental illness felt that their spiritual beliefs helped them to cope with their respective illnesses. However, research evidence demonstrating that spirituality leads to mental health is scarce. Evidence favouring this viewpoint comes from two areas of research: studies concerning the effects of spiritual experiences (e.g., having a mystical experience) and

studies concerning the effects of spiritual practices (e.g., meditating). These studies include some quantitative research as well as many case reports.

Spiritual experiences. In general, spiritual experiences have been found to be associated with greater levels of mental health (Rippentrop et al., 2005; Hamilton & Jackson, 1997; Walsh, 1993a). However, much, but not all, of the empirical research coming to this conclusion has been correlational. Although research shows that spiritual experiences seem to correspond to higher levels of well-being (e.g., a sense of serenity), these studies rarely demonstrate causation. Case studies, however, are more suggestive of causation. Typically, case studies report that spiritual experiences appear to lead to mental health and not vice versa. For example, spiritual experiences in the midst of a series of therapy sessions can sometimes be a critical juncture after which great therapeutic gains are made (Holden, 2000). However, a critic might argue that therapy sessions preceding the spiritual experience might have improved a client's mental health enough to facilitate the spiritual experience. Regardless of this criticism, in case studies such as described in Holden (2000), the client's mental health seemed to improve dramatically after the spiritual experience. This finding is consistent with qualitative research studies (e.g., Kennedy & Kanthamani, 1995), which have shown that people who have had spiritual experiences, regardless of the cause, report that the experience was valuable, and resulted in an increased sense of well-being.

Spiritual practices/spiritual journeys. Authors in the field of transpersonal psychology (e.g., Walsh, 1993b; Boorstein, 1996) and researchers (e.g., Kryka, 2000) assert that spiritual practices can lead to increases in mental health such as improved empathy, an improved ability to cope, and greater patience. In his book written for the

general public, *Essential Spirituality* (1999), Walsh describes seven central practices "to awaken heart and mind" (i.e., the subtitle of his work). The exercises in the book are designed to cultivate kindness, love, joy, peace, vision, wisdom, and generosity. These exercises can be used for personal healing and/or for developing an advanced, spiritual, worldview. From this perspective, by both definitions of mental health outlined above, mental health may be improved by a spiritual practice. For example, a depressed person may cultivate joy (alleviating depression—a form of pathology), and someone without DSM symptoms may cultivate wisdom (related to well-being).

Spiritual journeys may be defined as a conscious decision to follow a spiritual path. It seems obvious that a spiritual practice alone does not constitute a spiritual journey, and that a spiritual journey may be undertaken without a spiritual practice. However, according to some transpersonal authors, a spiritual practice is integral to a spiritual journey and spiritual development (Wilber, 2000b).

Empirical research has yet to show what differences may exist between those who simply engage in a spiritual practice, and those who are on a spiritual journey (with or without a spiritual practice). That is, the degree to which a spiritual practice itself (i.e., behaviours such as meditating or praying) leads to improvements in mental health has not been determined. It is possible that being on a spiritual journey, with or without a practice, leads to mental health benefits. It is also possible that increases in spiritual experiences, or spiritual cognitions, that develop as a result of a spiritual practice may lead to improved mental health. A primary focus of the research below is to determine the degree to which improvements in mental health in the context of a spiritual practice is the

result of the spiritual practice itself (i.e., the behaviours), being on a spiritual journey, and/or of spiritual experiences and cognitions.

The results of the quantitative study by Kryka in 2000 support the arguments of the theoretical writings, case studies, and qualitative research discussed above. Kryka`s research was conducted with a group of chronically ill individuals. In this research, some individuals were exposed to Shamanic practices as part of their care, and the other individuals were not (i.e., the control group). The individuals who used Shamanic practices reported improved mental health as a result of the practices and corresponding experiences, whereas the control group did not report mental health improvements in the same time frame.

Kryka's study suggests that spiritual factors lead to improvement in forms of mental health, rather than the other way around. No quantitative studies are available suggesting that individuals who improve their mental health will begin to have more spiritual experiences, or tend to begin spiritual practices. However, there are also no studies showing that improved mental health does not lead to spiritual experiences or practices.

Dynamic Relationship Between Spirituality and Mental Health

Most research on spirituality and mental health makes use of a definition of spirituality that might be called "mature" or "realized" spirituality. That is, most measures of spirituality are designed to determine where people fall along a single continuum of spiritual development, from low to high. Inherent in the structure of these measures is an assumption that first, there is one ultimate expression of spirituality (i.e., one way to score high on the measure, regardless of the definition of spirituality used),

and second, individuals will increasingly express this form of spirituality as they develop spiritually. These measures do not account for the possibility that spirituality may be expressed in different ways as it develops. For example, the SOI (Elkins et al., 1988) might be seen as measuring mature spiritual development. The SOI distinguishes between nine different dimensions of spirituality. One of these dimensions is titled Fruits of Spirituality, and is assessed with items such as "Contact with the transcendent, spiritual dimension has helped me reduce my personal stress level," and "Contact with the transcendent, spiritual dimension has helped me to be more loving to others" (p.14). To recognize the fruits of spirituality, to any degree, it would seem at least in some cases that a person would need to have a fair amount of experience with the transcendent spiritual dimension, first, to recognize one has contact with this dimension, and second, to realize that any change in mental health is the result of having contact with this dimension. It is debatable if this would be the case for the spiritual novice, or even individuals with intermediate levels of spiritual development. While the items are rated on a likert scale, from strongly disagree to strongly agree, and thus capture a range of experiences with the fruits of spirituality, these items seem only likely to distinguish between individuals in later stages of spiritual development. They would not distinguish between individuals in earlier stages who have not had, or who do not recognize that they have had, contact with the transcendent, spiritual dimension.

The manner in which validity of the SOI was determined also shows a bias towards measuring mature spiritual development. Specifically, the items on the SOI were selected if they were congruent with the opinions of five individuals whom the research team considered highly spiritual. The items were not tested to determine if they

distinguish between individuals in early, intermediate, and advanced levels of spiritual development. Instead, it is assumed that individuals in early phases of spiritual development will endorse only a few of the items on the measure, while individuals in later phases of spiritual development will endorse many more. Such assumptions are not limited to the SOI. Examination of the literature shows that many researchers test the construct validity of spirituality measures by showing that individuals thought to be highly spiritual score high on the measure, and those who are not seen to be spiritual score low on the measure. Also, researchers have not determined if the measure distinguishes between individuals in early, intermediate, and later phases of spiritual development. Measures that focus on the degree to which a person reflects characteristics of highly spiritual individuals will not be able to distinguish between levels of early spiritual development when such levels are not characterized by features of mature spiritual development.

Writings on spirituality often do not define spirituality as a construct that could be measured on a single continuum. Instead, spirituality is described as a dynamic and/or stage-like construct that may change in form as it develops. Examination of both eastern and western models of spiritual development, for example, the Zen Buddhist Ox-herding pictures, and James Fowler's Stages of Faith development, respectively, reveals that early and mature spiritual development are much different in character. The Ox-herding pictures depict stages of spiritual development through the metaphor of taming an ox (Reps & Senzaki, 1998). A comparison of the first picture (an early stage of spiritual development) and last picture (a mature stage of spiritual development) reveals many differences. The first stage depicted by the pictures is that of seeking the ox. Individuals

who seek the ox are at a level in which they recognize the need to seek, in contrast to individuals who do not reach this level. Unlike the first stage, the last stage is not characterized by any degree of seeking. The last picture represents unification with the ox, and represents the ultimate state of enlightenment. Thus, individuals at the stage of spiritual development represented by the first picture have different goals than individuals at the level of development represented by the final picture. The former are seeking spirituality, the latter have embraced it.

Notice that the themes in the series of Ox-herding pictures cannot be captured by a single continuum. For example, the degree to which individuals are seeking the ox would not capture the idea of unifying with the ox, which is essential to the model. The degree to which one has unified with the ox does not capture many of the early stages of spiritual development where unification with the ox has not begun. Seeking the ox is not equivalent to being partially unified with it. They are qualitatively distinct stages.

Just as the Ox-herding pictures depict qualitatively different stages of spiritual development, James Fowler's model of faith development (1981) likewise depicts different stages of development. In Fowler's model, like development from the Zen Buddhist perspective, it is necessary to go through early stages in order to advance to later stages; yet, the first stage is very unlike the last stage. For example, the third stage in Fowler's model, a stage typical of early adulthood, Synthetic-Conventional Faith, is characterized by conformity to established belief systems. An individual at this stage adopts ideologies of the group to which he or she belongs, rather than developing personal beliefs. The sixth (last) stage, called Universalizing Faith, is characterized by the transcendence of the belief systems developed at earlier stages. Obviously, the third stage

and the sixth stage (i.e., early and mature adult faiths) are qualitatively very different from each other. There is no degree of mature faith seen in the third stage (i.e., no degree of transcendence of belief systems when individuals are first adopting belief systems). Given the differences between stages, the whole model cannot adequately be captured by a single continuum (e.g., the degree to which one has transcended early belief systems). There are no aspects of spirituality common to every stage.

As noted previously, most measures of spirituality assess the degree to which individuals exhibit characteristics of mature spiritual development. However, given the qualitative differences between early and mature spiritual development described above, researchers should keep in mind that their results may not generalize to individuals in stages of early spiritual development. For the most part, researchers have found that the higher individuals score on spirituality measures, the higher their mental health scores (both the lack of symptoms [e.g., depression] and the presence of well-being [e.g., serenity]; Koenig, McCullough, & Larson, 2001). However, given the considerations above, this research can be criticized for being too narrow in scope because it ignores early stages of spiritual development. Some writings and research (reviewed below) suggest there may be a negative relationship between stages of early spiritual development and mental health. Together, these results suggest that there may be a dynamic (changing) relationship between spirituality and mental health, where the relationship between these variables changes as individuals' level of spiritual development changes.

Evidence suggesting that the relationship between spirituality and mental health changes over time is found in transpersonal writings, as well as qualitative and

quantitative research. Popular transpersonal literature (e.g., Grof & Grof, 1990; Kason, 1994) suggests that some spiritual journeys begin with psychological distress or trauma. Some qualitative research supports this idea. For example, Hamilton and Jackson (1997) found that adversity (illness, abuse, trauma, or conflict) is a primary reason for people to become more aware of their spirituality. That is, after adverse experiences, people may come to see the world from a different, perhaps spiritual, perspective. For instance, they may come to appreciate the sacredness of life; or may realize that they have taken much for granted, and change their values and lifestyle as a result (i.e., parts of spirituality—definition 2). In addition, some quantitative research (e.g., Lawson, Drebing, Berg, Vincellette, & Penk, 1998) has shown that men (veterans in a substance abuse program) who were abused as children reported more spiritual experiences in adulthood than non-abused men. It would seem that the distress and trauma of the abuse facilitated spiritual experience in later life.

Not everyone who faces a trauma will necessarily have a spiritual experience, or develop a spiritual outlook on life. The research of Reinart and Bloomingdale (1999; described in more detail later) suggests that trauma may be a trigger for some individuals to develop spiritually, but may also hinder some individuals' spiritual development. Likewise, Kane, Cheston, and Greer (1993) suggest that traumas, such as childhood abuse, can hinder people's spiritual life. Conversely, developing a spiritual worldview is sometimes used as a way of coping with distress or trauma (Narayanasamy, 2002). In the research by Lawson et al. (1998) mentioned above, the research team found that the men who had suffered abuse as children showed an increase in some spiritual behaviours,

particularly an increase in prayer. Thus, in this case, it seems many of the abused men did not turn away from spirituality due to their abuse.

The research above suggests that adversity, trauma, and distress can trigger or facilitate some facets of spirituality in some individuals. Specifically, it suggests that there may be a downturn in mental health associated with early phases of spiritual development. This possibility contradicts the research suggesting the relationship between spirituality and mental health is *always* positive. The following discussion more closely considers models of spiritual development that are consistent with the possibility that the relationship between spirituality and mental health may fluctuate from negative to positive:

Theories Suggesting a Dynamic Relationship Between Spirituality and Mental Health

The idea that spirituality develops over time, and may develop in qualitatively unique stages related to mental health, was proposed over two millennia ago. In John 2:12-14, the apostle John wrote of stages of spiritual development, which he titled the stages of spiritual children, spiritual young men, and spiritual fathers. He recognized distinct characteristics of each stage: excitement and joy, wrestling and struggling, and spiritual confidence, respectively (Coe, 2000). The view of spiritual development put forth by the apostle John suggests that shifts in mental health, from positive to negative and back to positive, correspond to the progression through stages of spiritual development.

Perhaps we ought to be more surprised at the findings of modern research which consistently show a positive relationship between spirituality and mental health. Many religions take as a given that inherent in the human condition is distress, struggle, and

suffering. These religions suggest that people will face these realities as they develop spiritually. For example, from the Buddhist perspective, life is seen as imbued with suffering, and it is believed that "meditation…begins with experiencing grief" (Meadow & Kahoe, 1984, p.4). Likewise, Christianity views humankind as living in a fallen state as a result of original sin. From the Hindu perspective, humankind lives in ignorance of truth (Ornstein, 1992). If people internalize a variant of any of these teachings into their efforts to develop spiritually, they will need to accommodate these challenging concepts, which could lead to decreases in mental health. Yet, the notion that spiritual development may initially lead to lower levels of mental health is rarely seen in most research today. However, this lack of literature may be the function of research using measures of spirituality that only assess the stage of "spiritual fathers," and not the earlier stages where one may wrestle with hard or unpleasant lessons before coming to terms with them.

The models of Stanislov and Christina Grof, and Carl Jung. Popular and clinically important theories contrast with the research findings discussed above. These theories reflect the idea that spiritual development may be characterized by lower levels of mental health at some point, followed by growth and improved mental health. The following discussion reviews two of the most popular theoretical writings that suggest a dynamic relationship between spirituality and mental health: those of Stanislov and Christina Grof, and those of Carl Jung:

In their popular, informative book, *The Stormy Search for the Self* (1990), Grof and Grof differentiate between "spiritual emergences," "spiritual emergencies," and "dark night of the soul experiences." Grof and Grof consider these types of experiences

as part of some spiritual journeys. However, they can also be characterized as indicators of poor mental health (Watson, 1994). Clinicians often confuse spiritual emergencies and dark night experiences with psychotic breaks, acute major depressive disorder, or other serious DSM diagnoses (Lukoff, Lu & Turner, 1998). Medication is often prescribed to individuals who have such experiences, which can alleviate some of the feelings associated with the experience. In Grof and Grof's view, removing some of the feelings with medication may prevent a person from working through the experience to the conclusion—the "homecoming." Grof and Grof describe the homecoming as characterized by greater clarity and serenity (forms of well-being) in many cases.

Like the model proposed by Grof and Grof, the classical Jungian model of development suggests that lower levels of mental health accompanies spiritual development for some people. Jungians assert that within each person there is an unconscious drive to individuate or to become whole—a process Jung described as spiritual (Jung, 1990). Specific archetypes, which are the organizing principles of the unconscious mind, become more or less active throughout the process of individuation. These archetypes become active in a predictable sequence. As an archetype becomes active, it has a large effect on the individual. The more active the archetype becomes, the greater the effect on the person. One of the first archetypes to become active on the road to individuation is the Shadow—an archetype that represents the negative or repressed aspects of the self. When it becomes active, a person may feel upset, defensive, or threatened. If the Shadow becomes very active, a clinically significant form of poor mental health, such as depression, anxiety, or hostility can result. Ideally, when the Shadow becomes active, individuals accept and integrate the previously repressed

components of their psyches. In doing so, they move to a more advanced state of development. One of the last archetypes to become active is the Wise Old Man or Woman archetype—an archetype that, among other things, represents wisdom. When this archetype is active, a person typically feels serene and insightful. Jung's model of progress, from Shadow to Wise Old Man or Woman, has features in common with Grof and Grof's description of a spiritual emergency. Specifically, both writings, like those of the apostle John, suggest that a negative stage of mental health is typical of the initial stages of spiritual development, and that insight and wisdom develop afterwards.

It is important to note that these models do not reflect the processes of all people. Some individuals develop a spiritual worldview with relatively little discomfort (Grof and Grof, 1990), and some individuals are not greatly disturbed confronting Shadow material (Jung, 1990). It is also important to note that Grof and Grof, and Jung, define spirituality in a manner consistent with the second and third definitions of spirituality—as a form of spiritual cognition or spiritual experience. These theorists do not emphasize the first definition of spirituality—an advanced stage of mental health.

Ken Wilber's model. The purpose of the present discussion is to outline Ken Wilber's model of spiritual development for its bearing on the present research. In his book, *Integral Psychology* (2000b), Wilber suggests that pathology is possible at all stages of development, spiritual or otherwise. Wilber, drawing on material from object relations theory, outlines nine key developmental stages: physical, emotional, self-concept, role self, mature ego, centaur, psychic, subtle, and causal. Each of these stages has unique features and associated pathologies. For example, the first stage, that of the newborn, is characterized by an inability to distinguish one's self from the environment.

One does not develop a sense of self until one has experiences that teach the person to distinguish between self and the environment (e.g., self vs. others or objects; internal images from the unconscious vs. external reality). If people do not develop an appropriate sense of self, they may become unable to establish healthy boundaries between themselves and the environment in later life. Wilber calls these problems primitive pathologies. These pathologies include those in which people do not differentiate the real world from their fantasy (e.g., some forms of psychosis).

In his book, *Eye of Spirit* (2000a), Wilber discusses the relationship between spirituality and mental health in more detail. He recognizes a problem with multiple definitions of spirituality in the literature. In his book, he outlines two contrasting definitions of spirituality: (1) that spirituality is the highest level of development in all developmental lines, for example, the affective, cognitive, moral, or interpersonal lines, and (2) that spirituality is "the developmental line of ultimate concern, regardless of its content." (Wilber, 2000a, p. 221). What is of ultimate concern for a person will change over time, and will "show stage-like development." (Wilber, 2000b, p. 263). That is, drawing on the work of Fowler, Wilber seems to be suggesting that one's conception of ultimate reality develops in a manner much like other lines of development—from relatively concrete, egocentric, and simplistic, to sophisticated and transcendent. In the first definition, spirituality is defined as an advanced *level* of development, much like Maslow's definition discussed previously. In the second definition, spirituality is defined as a characteristic that develops over time and changes in *form* as it develops. Using the first definition, one can conclude that mental health precedes spirituality. That is, the highest level of development in any given developmental line (i.e., the spiritual level)

would not include pathology, since to be at the highest level one will have successfully passed through earlier levels where problems may occur that would result in pathology. Using the second definition posed by Wilber, one cannot conclude that mental health precedes spirituality or vice versa. According to the second definition, spirituality may develop fairly independently of other (i.e., non–spiritual) developmental lines. The spiritual developmental line is not *completely* independent of other developmental lines since the spiritual developmental line (i.e., the line which represents what is of ultimate concern for a person) will, in part, depend on development in other lines. For example, spiritual development will be impeded if one does not progress beyond concrete operational thought (i.e., a low level in the cognitive developmental line). Thus, these two lines are not completely independent. However, it is possible that one may be very advanced in the spiritual line of developmental and simultaneously be at very low levels in other lines of development. For example, a person may be highly developed in the spiritual line, but remain very underdeveloped in the affective line. Due to the low development in the affective line, the person may exhibit pathology. Thus, in this example, advanced spirituality and pathology will coexist.

It is worth noting that Wilber's preference is to define spirituality as a distinct line of development, defined by what is of ultimate concern for a person, and which therefore overlaps with other developmental lines (Wilber, 2000a). This definition is consistent with models that propose that the expression of spirituality will change as spirituality matures (Wilber, 2000b), for example, the models derived from the work of Fowler and Genia.

Research Suggesting a Dynamic Relationship Between Spirituality and Mental Health

Genia's stages of spiritual development. Genia (1990) developed a model of spiritual development and, subsequently, a measure based on the model. Taking a developmental perspective, Genia distinguishes between five different levels of spiritual development and outlines features typical of each stage. Genia argues that spiritual development will inevitably be influenced by other forms of development, such as cognitive and moral development. The first stage of Genia's model, egocentric faith, is characterized by egocentricity. In this stage, "perceptions of God are … based upon need gratification and accompanying affect" (p.87). The second stage, dogmatic faith, is characterized by the "dogmatic, authoritarian use of religion" (p.88) and might be described as a closed-minded approach to spirituality where scripture is the only authority, and is to be taken literally. In the third stage, called transitional faith, questioning and doubt may emerge in the process of internalizing a belief system. This stage may be marked by turmoil if one does not feel free to doubt. It seems highly likely that challenging beliefs that one has grown up with can be very disconcerting for some. During the fourth stage, reconstructed internalized faith, an internalized faith has become stable. It is not characterized by egocentricity or extrinsic motives. According to Genia, existential well-being may be realized in this stage. Finally, transcendent faith, the last stage of spiritual development, is characterized by features of mature spiritual development such as a "transcendent relationship to something greater than oneself, … commitment without absolute certainty," (p.93) and openness to diversity in religious views.

Reinert and Bloomingdale (1999) studied the relationship between spiritual development and mental health in a sample of adults. They used Genia's revised Spiritual Experience Index (SEI-R, Genia, 1997 as cited in Reinert and Bloomingdale, 1999) to divide research participants into four groups: spiritually underdeveloped (corresponding to Genia's stage of egocentric faith), dogmatic, transitional, and growth-oriented (the latter corresponding to Genia's reconstructed internalized and transcendent faiths combined). They then compared mental health scores of each group. They found that the spiritually underdeveloped group had more emotional distress (anxiety, depression, sleep disturbances) than the dogmatic group, which in turn had more distress than the growth-oriented group. Likewise, self-esteem was lowest for the underdeveloped group, somewhat higher among those in the dogmatic group, and highest in the growth-oriented group. This research does not demonstrate causation (i.e., that the participants' mental health concerns affected their level of spiritual development, or that participants' level of spiritual development influenced their mental health). Instead, it simply demonstrates that mental health concerns are more pronounced in those with earlier forms of spiritual development.

In the above research, the researchers also divided participants into two groups based on Trauma Symptom Checklist-40 scores (TSC-40; Briere & Runtz, 1989, cited in Reinert and Bloomingdale, 1999): those with a high likelihood of having been traumatized, and those unlikely to have been traumatized. They compared the spiritual and mental health patterns of the two groups. They conclude that trauma was generally associated with lower levels of spiritual development; however, some traumatized participants scored in the highest ranges of spiritual development. The personal

characteristics of the traumatized participants who reached high levels of spiritual development, and those who exhibited low levels of spiritual development were not reported in the research. However, these results support the hypothesis that trauma, which is associated with lower levels of mental health, may be a factor that triggers or facilitates spiritual development in some people, but may also hinder it in others.

Quest. In 1976 Daniel Batson developed a measure to research a component of religiosity he called Quest (Batson, 1991). The scale was designed such that participants scoring high on the Quest scale could be described as looking for answers to life's questions without the expectation of finding answers. Quest, therefore, measures a state of existential questioning—a state that might be considered the beginning of a spiritual journey. A high Quest score reflects an "open-ended, *active* approach to existential questions that resist clear-cut, pat answers" (Batson and Schoenrade,1991, my emphasis). This construct is consistent with the idea of a process of spiritual development; that is, like the construct of Intrinsic Religiosity (Allport & Ross, 1967), Quest measures a personal search for meaning. However, Quest also emphasizes the *active seeking* of answers and is, thus, very much in line with the idea of a journey. It is worth noting the parallel to the first stage depicted by the ancient Ox-herding pictures—seeking the Ox. Batson and his colleagues have described Quest as rooted in existential struggle (Batson, Schoenrade, Ventis, 1993), which is often thought to take place prior to mature stages of spiritual development (e.g., Genia, 1990, as discussed above), or to be a catalyst for a spiritual journey. However, rather than conceptualizing Quest as an early form of spiritual development, Batson and colleagues consider Quest to be a mature religious orientation. They suggest that Gandhi, who is generally considered to be a highly

spiritual person, had a Quest-like orientation to his spiritual life. Conversely, Watson, Howard, Hood, and Morris (1988) found that in a church group, Quest scores were higher for participants in late adolescence, and for young adults, compared to older adults (cited in Watson, Morris, & Hood, 1990), suggesting that Quest may represent an early form of spirituality. Thus, it is unclear which is the more appropriate interpretation of Quest scores—a reflection of early or mature spiritual development, or both. One possibility that would explain why the existential struggle measured by Quest might be seen as both a feature of early spiritual development and a mature religious orientation is that Quest could have both early and mature expression. Although it was not the focus of their research, in one study, Klassen and McDonald (2002) found that Quest had a nearly significant quadratic relationship with a scale of personal meaning. That is, high and low Quest scores were most associated with personal meaning, whereas mid-range scores showed the lowest relationship to personal meaning. To explain this finding, the authors suggest that mid-range Quest scores may reflect "tentative questing," while high Quest scores may reflect more rigorous questing, which may become a meaningful process in itself. That is, those who have not begun a search for answers to existential questions will score low on the Quest measure. Such people may have found personal meaning through their old worldviews, and may not have experienced a need to challenge those views. Those with mid-range Quest scores may have begun to seek the answers to existential and spiritual questions, and may have begun a spiritual journey. People seek such answers presumably because their old worldviews are no longer adequate. Thus Questing, when it begins, may also translate into an experience of loss of personal

meaning. Finally, those with high Quest scores may have established a more mature Quest-based spirituality in which they find meaning in the search itself.

Although Quest is called a scale of religiosity, some researchers (e.g., Watson, Morris, & Hood, 1990) believe that many of the Quest items are anti-religious; that is, they appear to contradict tenets of some mainstream religions, such as Christianity. For example, Quest measures the value that people place on questioning, and seeking answers to spiritual matters, which seems somewhat incompatible with a belief in the tenets of a religion that claims to hold the answers. These authors argue that a religious person would have more faith in their religion to provide answers, and not value seeking answers through a personal search. It may be counter-argued that religious individuals may value seeking answers to spiritual questions, *and* expect to find these answers through lessons taught by their religion.

There are a limited number of studies of spirituality and mental health that have used the Quest scale. These studies have often not shown the positive relationship with mental health described in most reviews of the spirituality mental health literature (e.g., Genia, 1996; Ventis, 1995). In fact, the data suggest that Quest scores are unrelated, or negatively related, to scores of mental health measures, and scores of some spirituality measures. Levick and Delaney (1987; cited in Batson, Schoenrade, & Ventis, 1993) found a positive correlation between Quest and the Beck Depression Inventory in a study using a sample of introductory psychology students. Genia (1996) found that participants with higher Quest scale scores reported *more* personal distress and lower spiritual well-being than those with lower Quest scores. Likewise, Kojetin, McIntosh, Bridges, and Spilka (1987), and Spilka, Kojetin, and McIntosh (1985) found that Quest was positively

related to anxiety. Pargament et al. (1987), using a shortened six item version of the Quest scale, did not find either a positive or negative relationship between Quest and mental health. Ventis, Batson, and Burke (1982; cited in Batson, Schoenrade, & Ventis, 1993) did not find a relationship between Quest and self-actualization in introductory psychology students. However, Batson, Schoenrade, and Ventis (1993) cite one unpublished manuscript (Leak et al., 1990), which showed a positive relationship between Quest and self-actualization in undergradate students. Finally, while not the focus of their research, Ryan, Rigby, and King (1993) reported exploratory analyses suggesting that Quest was not significantly correlated with markers of poor mental health, such as anxiety, depression, somatization, or social dysfunction scores, nor positive mental health, such as self-esteem, identity integration, or self-actualization scores, in either a Christian college sample, or a Protestant church sample.

It is interesting that studies have shown that the specific component of religiosity that involves a personal search for answers to have either no relationship, or a negative relationship, to components of mental health. If high Quest scores reflect the beginning of a spiritual journey for some people (as suggested in the research by Watson, Howard, Hood, and Morris, 1988), the data cited above would suggest that lower levels of mental health is commonly associated with initial stages of spiritual development. This finding would be consistent with the ideas of theorists like Grof and Grof, and would be in contrast to the generally accepted notion that spirituality and mental health are always positively related.

Both Genia and Quest appear to measure facets of early spiritual development (as opposed to "realized spirituality"), and both appear to have a different relationship to

mental health than most "realized spirituality" measures. It seems very clear that in order to determine a comprehensive picture of the relationship between spirituality and mental health, both early and mature stages of spiritual development should be addressed in research, such as by including measures such as Quest.

Summary: Theories and Research Concerning the Relationship Between Spirituality and Mental Health

At the beginning of this paper, three definitions of spirituality were outlined that reflect the most common definitions used in the literature: (1) spirituality as an advanced stage of mental health or development (i.e., beyond psychological mental health), (2) spirituality as a set of beliefs or attitudes (a specific cognitive orientation), and (3) spirituality as a type of experience (e.g., mystical experience). Researchers and theorists who ascribe to the first definition of spirituality (e.g., Maslow, Wilber's first definition of spirituality) suggest that mental health precedes spiritual development. In fact, the first definition precludes the possibility that spirituality may develop prior to the development of mental health. Researchers and theorists who ascribe to the second or third definition of spirituality (e.g., Kennedy & Kanthamani, 1995) have come to the conclusion that spirituality may lead to mental health.

Measures of spirituality used in research, for the most part, do not include the features of early spiritual development described in many models of spiritual development (e.g., Fowler, Genia, Wilber). Unlike most spirituality scales, the Quest scale, which may be one of the only measures of early spiritual development, does not show a consistently positive relationship with mental health. Furthermore, qualitative

research, case studies, and various theories suggest that stages of early spiritual development may be associated with lower levels of mental health initially.

Possible Links Between Spiritual Practices and Mental Health

Although spiritual practices may lead to mental health, how a practice leads to mental health is not clear. Is the practice alone sufficient to bring about mental health? Must people develop a spiritual worldview through their spiritual practice to realize mental health benefits? Does one need to have spiritual experiences to realize mental health benefits? The following review outlines variables known to be associated with both spiritual practices and mental health:

Spiritual Beliefs and Cognitions

Spiritual beliefs and cognitions may be an important variable mediating the relationship between spiritual practices and mental health. Some authors suggest that spiritual beliefs and attitudes may stem from spiritual practices (e.g., Walsh, 1993b). That is, spiritual practices may lead to spiritual insights, which may lead to spiritual beliefs and attitudes, or strengthen existing ones. However, it is unclear to what degree the relationship between spiritual practices and mental health is influenced by the increase in the number or strength of spiritual beliefs or attitudes that result from a practice.

Measures of spirituality often focus on the degree to which one holds spiritual beliefs and attitudes, which are not necessarily based on religious doctrine—for example, an attitude of concern for the pain and suffering of others, a belief that there is meaning and purpose to life, and a belief that there is more to the world and to life than is immediately evident (Elkins et al., 1988). It is worth noting that believing that there is meaning and purpose to life is also a common definition of existential well-being.

Spiritual Experiences

Research suggests that spiritual practices may sometimes induce or facilitate spiritual experiences (e.g., Astin, 1997). Likewise, near death experiences (Lukof & Lu, 1988; Kason, 1994), or abuse and trauma (e.g., Lawson, Drebing, Berg, Vincellette, & Penk, 1998) may trigger spiritual experiences.

Mystical experiences, a form of spiritual experience, are typically characterized by (1) a loss of the sense of self, (2) a sense of objects of perception being united or one, (3) an experience that animate and inanimate objects are "alive", (4) a sense of timelessness and spacelessness, (5) a sense of newly gained knowledge, (6) an ineffable quality to the experience, (7) intense and positive affect, and (8) a sense of sacredness (Hood, 1975). Lukoff (1985) adds that some mystical experiences include perceptual alterations (e.g., some auditory and visual hallucinations) and, sometimes, delusions. He suggests that delusions during a mystical experience usually have themes related to mythology.

In general, spiritual experiences, such as mystical experiences, have been shown to correlate positively with mental health (e.g., Kass et al, 1991; Wuthnow, 1978; both cited in Sink, 2000). West (1997) summarizes research demonstrating positive relationships between (1) spiritual experiences and well-being, (2) personal flexibility and spiritual experiences, and (3) divine relations (i.e. claims of contact with God) and a sense of well-being. Kennedy, Kanthamani, and Palmer (1994) studied the effects of psychic and/or transcendent/spiritual experiences on reported meaning in life of college students. The degree to which students valued transcendent and psychic experiences was measured by single items on a Likert scale (very valuable to very disruptive). Meaning in

life was measured with a "basic, global meaning-in-life item similar to those on multi-item questionnaires" (Kennedy, Kanthamani, and Palmer, 1994, p. 362). The researchers found that those who experienced transcendent experiences tended to have a greater overall sense of meaning in their lives. Furthermore, using similar research methods, Kennedy and Kanthamani (1995) found that, on average, the more spiritual experiences that a student had, the greater the sense of well-being. Sink (2000) also found a positive relationship between spiritual experiences and a sense of well-being. More specifically, Sink determined that spiritual experience accounted for 10% of participants' personal sense of well-being. The experiences that were rated by the participants as high in intensity, and as "transformative" accounted for 15% of participants' sense of well-being. This finding suggests that qualitative differences in spiritual experiences may also affect the relationship between spiritual experiences and mental health. Specifically, more intense experiences may lead to greater levels of mental health.

In their research, Kennedy, Kanthamani, and Palmer (1994) had participants report how subjectively valuable or detrimental their psychic or transcendent experiences were. Very few participants rated their experiences as detrimental. Ninety-one percent of participants who had transcendent experiences rated them as being valuable, or very valuable for their mental health or personal development. Seventy-two percent of the participants who had never had a transcendent experience, rated transcendent experiences as likely to be valuable to a person. Thus, transcendent experiences appear to have a positive effect on mental health at this subjective level. However, Kennedy et. al. did *not* find significant relationships between transcendent experiences and a measure of mental-health (five items representing well-being, used in the Medical Outcomes Study; Berwick

et al. 1991 cited in Kennedy, Kanthamani, and Palmer, 1994), self-reported health (a single item asking participants to rate their mental health on a Likert scale), or a measure of a healthy lifestyle (five items made up by the researchers to reflect aspects of a healthy lifestyle, e.g., "do you exercise regularly?").

If spiritual practices encourage spiritual experiences, and spiritual experiences lead to mental health, perhaps the positive relationship between spiritual practices and mental health is explained by the spiritual experiences elicited by the practice. If spiritual practices lead to spiritual beliefs and attitudes as well as spiritual experiences, both of which are, in turn, associated with mental health, then it is also important to determine if spiritual beliefs and attitudes and spiritual experiences contribute to mental health in unique ways.

Research by MacDonald (1999, 2000a) shows that spiritual beliefs and attitudes are positively associated with spiritual experiences. Participants with higher numbers of spiritual beliefs and attitudes, and/or stronger spiritual beliefs and attitudes, also reported higher numbers of spiritual experiences. However, in a factor analysis of many transpersonal measures (described in more detail below) the factor "spiritual cognitions" was found to be distinct from the factor "spiritual experiences." These findings suggest that there is some overlap between spiritual beliefs and attitudes, and spiritual experiences. However, beliefs and attitudes are sufficiently distinct from spiritual experiences to be considered unique variables. It is possible that these variables contribute to mental health in different ways.

Being on a Spiritual Journey

Some authors such as Walsh (1993b) and Wilber (2000a) suggest that having a spiritual practice is critical for one's spiritual development. An implication is that *awareness* of being on a journey is important for development. Some researchers would classify people as spiritual if they are seeking enlightenment (Roof, 1999, cited in Wink, 2003) or seeking answers to life's existential dilemmas (Stifoss-Hanssen, 1999, cited in Wink, 2003). It is possible that variability in the belief that one is on a journey would explain variability in mental health scores.

It is not clear how believing that one is on a spiritual journey is associated with mental health benefits gained from a spiritual practice. It is possible that the belief indicates a mental state of openness to change that is necessary to realize benefits from a practice. If this were the case, one would expect that the degree to which one believes that one is on a journey would explain variability in mental health scores above and beyond variability explained by spiritual beliefs and attitudes or spiritual experiences. However, the degree to which one believes that one is on a journey may be highly correlated with other spiritual beliefs and attitudes, and may not differentially account for improvements in mental health independent of these beliefs and attitudes.

Form of Practice

A weakness in many studies that demonstrate positive associations between mental health and spiritual practices is that they neglect to differentiate between forms of spiritual practice. For example, they do not differentiate between participants who pray, and participants who meditate. It is possible that some forms of spiritual practice do not lead to mental health benefits while others do. Combining data from participants who

engage in different spiritual practices may lead to results that do not accurately capture the relationship between specific spiritual practices and mental health.

In research, prayer is sometimes considered a spiritual practice and sometimes, a "religious behaviour." However, researchers do not distinguish between "spiritual prayer" and "religious prayer." In the discussion below, literature on the relationship between prayer and mental health, regardless of the classification of prayer (i.e., as a practice or religious behaviour), is considered. Literature on the relationship between meditation and mental health is also considered.

Astin (1997) found that meditation is associated with lower stress scores, which can be considered a form of well-being. Marquand (1995) found that repeating sounds, words, or phrases can induce physiological changes by, for example, inducing a relaxation response. He also found that a relaxation response can lead to physiological benefits similar to those that are brought on by meditation (for example, reduced stress). Since many forms of prayer and meditation may include repetition of sounds or phrases, it could be argued that the benefits of meditation are simply due to the relaxation that accompanies the practice. However, authors such as Walsh (1993a) observe that equating meditation with relaxation is not appropriate. Evidence for Walsh's position includes research showing that brain wave patterns are different during states of meditation than during states of relaxation. There is also evidence that meditation can bring about experiences such as strong emotional reactions, psychosomatic reactions, and mystical experiences, which are not typical of relaxed states (e.g., Engler, 1984).

Brown and Engler (1986) assessed the mental health of meditators with various levels of meditation experience. The mental health measure used in the study was the

Rorschach inkblot test, which assesses many personality variables, and is sensitive to many forms of pathology (Exner, 1993). Those participants relatively new to meditation, but who had a mystical experience during meditation, showed common neurotic conflicts; however, they did not show the defensiveness or reactivity typical of neurotics. It seems as though these individuals were better able to recognize the neurotic conflicts in themselves, and accept them, rather than react against them. In highly experienced meditators, who were considered to have reached high levels of spiritual development, there was no evidence of neurotic conflicts. This finding is consistent with the claim that enlightenment brings about a reduction in suffering (Walsh, 1993a).

Walsh (1993a) cites a study in which nursing home residents were divided into three groups: group one was taught meditation, group two was taught a relaxation technique, and group three, the control group, was not taught any technique. At the end of the study, those taught to meditate had better mental health scores on average than those in either the relaxation or control groups. Unexpectedly, the mortality rate in the group of meditators during the study was lower than in the other two groups.

Frequency of Practice

Results of some studies indicate that the frequency of a spiritual practice is associated with mental health benefits. Fry (2000) studied the relationship between the frequency of spiritual practices and well-being with a sample of elderly participants. Using multiple regression analysis, Fry found that a spiritual practice variable (the frequency of private prayer, meditation, or contemplation) was positively related to a psychological well-being variable (made up of items from Rosenberg's 1965 self esteem scale, and items assessing depression, anxiety, and happiness). Likewise, Francis and

Kaldor and colleagues (2002) found that frequency of prayer was associated with higher well-being scores (as assessed by The Bradburn Balanced Affect Scale) in a sample of adults when they controlled for age and gender of participants.

Other researchers have found that how often one engages in a spiritual practice may affect the outcome of the practice (Meisenhelder & Chandler, 2000). Hameril and Valentine (2001) found that more practiced meditators scored higher on scales of personal development than less practiced ones. In a review article, Levin (1994) reported that religiosity, *however operationalized*, was positively associated with health, such that higher levels of religious behaviours, attitudes, or experiences correspond to higher levels of health.

Poloma and Pendleton (1991) studied the effects of prayer and prayer experiences (i.e., feelings of closeness with God, or feelings of being led by God) on mental health. Using a large sample of adults and a telephone interview format, Poloma and Pendleton gathered information about the participants' frequency of prayer, frequency of prayer experiences (i.e., feelings of being led by God), and well-being (using items that they derived to reflect life satisfaction, existential well-being, negative affect, and happiness). Correlational analysis suggested that the frequency of prayer was associated with higher levels of life satisfaction. However, in a regression analysis, frequency of prayer was not a significant predictor of life satisfaction or well-being once a prayer-experiences variable was also included in the analysis. They concluded that the frequency of prayer *experiences* was more important to both general life satisfaction, and existential well-being, than frequency of prayer.

It is possible that the studies which have shown a positive relationship between the frequency of spiritual practices and mental health would not have come to the same conclusion had they controlled for the influence of spiritual beliefs and attitudes, and spiritual experiences, on mental health. It is possible that individuals who engage in frequent spiritual practices will also report a higher number of spiritual beliefs and attitudes, and spiritual experiences, than those with infrequent practices. Likewise, they may more often feel that they are on spiritual journeys. Poloma and Pendleton's (1991) research shows that the frequency of prayer may be a "misleading proxy" (p. 80) for other related variables that better account for mental health. Research has yet to determine the influence of the frequency of prayer on well-being when participants' levels of spiritual beliefs and attitudes are controlled. Likewise, research has yet to show the degree to which the frequency of meditation influences mental health independent of variables such as spiritual beliefs and attitudes, and spiritual experiences. Furthermore, research is needed to determine the influence of the frequency of both prayer and meditation not only on well-being, but on pathology, since it is possible that the frequency of practice may affect well-being and pathology differently.

Length of Practice

Studies have shown that there is a relationship between mental health and the length of one's spiritual practice. For example, authors in the field of transpersonal studies suggest that practitioners who have practiced many years are more likely to realize benefits from practice (e.g., Kornfield, 1993; Engler, 1984). It has been argued that certain aspects of positive functioning, such as the realization of one's goals and purposes, require effort and discipline that may well be at odds with short-term happiness

(Waterman, 1984, quoted in Ryff & Keyes, 1995). Thus, researchers might not expect individuals early in a spiritual practice to realize benefits from their practice, or might even expect more conflict and distress at the beginning of a practice (as found by Engler, 1984), followed by greater levels of well-being.

Some practitioners believe that extended periods of practice, such as at a retreat, can be of great value for one's mental health (e.g., Boorstein, 1997). One quantitative research study (MacLachlan, McAuliffe, Page, Altschul, & Tabony, 1999) is available on the topic. In this study, men and women completed measures of stress and pathology each year, for four years, while they participated in a Tibetan retreat. Results did not indicate that participant's mental health improved during the retreat. Thus, the data from this study do not support the conclusion that extended periods of practice will alleviate pathology.

While this research is admirable, it also has a number of weaknesses. First, the study did not make a distinction between positive mental health and the absence of pathology; only the latter was considered. It is possible that while the participants did not show a reduction in pathology, they may have shown increases in features of well-being such as personal growth or self-acceptance. Second, the study may have been subject to problems of attrition more so than most longitudinal research. The researchers speculated that some participants may have come to believe that the demands of the retreat (e.g., maintaining silence, and having no contact with the outside world) were in conflict with participation in the study and, therefore, discontinued participation. Of the 46 participants who began the study, only six completed the measures in each of the four years. Third, the characteristics of the participants in the study may not have been typical of the

general population. Therefore, the results of the study may not necessarily generalize to other individuals. That is, individuals who are interested in attending a four-year retreat may have different personal characteristics than individuals who are not interested in such retreats, and their mental health may be differentially affected by the retreat.

Limited evidence suggests that duration of a practice is associated with mental health. Quantitative research would be useful to validate this disposition.

Characteristics of Practitioner

The present author has not found any quantitative research suggesting that the relationship between spiritual practices and mental health is different as a function of a person's personal characteristics (e.g., personality dimensions such as introversion or extraversion) or demographics (e.g., age, gender, location, income). However, research has shown that age may mediate the relationship between the related construct of religiosity and mental health. Furthermore, research has shown that spiritual practices may differ for men and women. This research is reviewed below.

Meta-analyses have shown robust positive relationships between religiosity and mental health (Koenig et al., 2001). This relationship seems to exist "no matter how religion was defined or measured (i.e., as beliefs, experiences, behaviour, or attitudes)" (Thoreson, 1999). The rare studies that show a negative relationship between religiosity and mental health have used college students (Koenig, 1990; Allen, 1991, as cited in Kennedy, Kanthamani, & Palmer, 1994). Studies using older participants show, with much more consistency, a positive relationship between religiosity and mental health. This finding is consistent with some theoretical writings, which suggest that it is only in mid-adulthood that spiritual needs become salient. Prior to mid-adulthood, most people

must focus on establishing a stable ego and practical means for living (Jung, 1990). It is possible that some young people expressing a high degree of religiosity are doing so at the expense of establishing a stable ego. They may be overwhelmed trying to develop spiritually before they are psychologically ready or, perhaps, have turned to religion as a way of coping with various problems. In such conditions, a negative relationship between religiosity and mental health might be expected. Similarily, it is also possible that the relationship between spirituality and mental health is different for young people who engage in spiritual practices than for older people who engage in the same practices.

Numerous studies have shown that the spiritual practices of men and women, and those of younger and older people, may differ. For example, Kaldor and colleagues (2002) and Poloma and Pendleton (1991) found that women engaged in more frequent prayer than did men. Likewise, older participants were found to engage in prayer more often than younger participants. Moreover, Poloma and Pendleton (1991) found that prayer experiences may change as a function of both age and gender. These authors found that older participants and women had more prayer experiences than younger participants and men respectively. However, it is worth noting that the latter finding may be indirectly related to the finding that the older participants and women also prayed more. It is possible that these differences influence the relationship between spiritual practices and mental health for men versus women and for younger versus older participants.

Coe (2000) recognizes that "disciplines such as prayer ... [and] meditation... may have a qualitatively different feel at different stages in one's journey." Thus, the

relationship between spiritual practices and mental health may differ as a function of both age, and how far along individuals are on their spiritual journeys.

Hypotheses Tested

The present study consisted of two parts. Part one was concerned with the relationship between spiritual practices (prayer and meditation—henceforth collectively called spiritual practices) and mental health (absence of symptoms and well-being—henceforth collectively called mental health). Specifically, part one was aimed at determining if temporal features of a spiritual practice accounted for differences in mental health distinct from the differences accounted for by spiritual beliefs and attitudes, and spiritual experiences. Part two was concerned with the relationship between stages of early spiritual development and mental health. Exploratory analyses aimed to determine if the relationship between spiritual practices and mental health considered in part one was different for participants who prayed and those who meditated. Details are considered in the discussion of each analysis, below. Hypotheses tested were as follows:

Hypotheses: Part 1

Hypothesis 1. It was hypothesized that temporal features of spiritual practice (i.e., frequency of practice, number of years of practice, and the time spent in practice) would be positively associated with mental health (e.g., the higher the frequency, the better the mental health), but that these associations would be considerably weakened when the influence of spiritual beliefs and attitudes, and the influence of spiritual experiences were taken into account. It was hypothesized that spiritual beliefs and attitudes, and spiritual experiences, would be better predictors of mental health than temporal features of practice.

This hypothesis was based on research such as that of Poloma and Pendleton (1991) who found that the frequency of prayer was positively associated with mental health scores, but that this association was better explained by the "prayer experiences" of the participants.

Likewise, it was hypothesized that there would be positive associations between mental health and each of the following three variables: the number of years of practice, time spent in practice, and belief that one is on a spiritual journey (i.e., the greater the number of years practicing, the greater the mental health). As above, it was hypothesized that these associations would be considerably weakened when the influence of spiritual beliefs and attitudes, and spiritual experiences were taken into account. That is, mental health scores would not be associated with the numbers of years of practice, time spent in practice, or belief that one is on a spiritual journey, after accounting for the influence of spiritual beliefs and spiritual experiences.

Hypothesis 2. Based on Poloma and Pendleton's (1991) findings, it was also hypothesized that spiritual beliefs and attitudes, and spiritual experiences, would both be positively associated with the features of spiritual practices. That is, the higher the frequency of the spiritual practice, number of years of practice, or time spent in practice, the higher the number and/or strength of spiritual beliefs and attitudes, and of spiritual experiences.

Hypotheses: Part 2

Hypothesis 3. Watson, Howard, Hood and Morris (1988) found that Quest scores increased then decreased as a function of age in a sample of church members, and that the highest Quest scores were found in adolescents and early adults. Based on such findings,

it was hypothesized that, for novice practitioners, Quest scores would initially increase and then decrease as the amount of practice increases. Likewise, it was hypothesized that Quest scores would initially increase for participants who believed that they had been on a journey for a relatively short amount of time, then decrease once the participants had been on a journey for a considerable period of time.

Hypothesis 4. Engler (1984) observed that early phases of spiritual practice may lead to various forms of distress. Furthermore, Quest research (e.g., Genia, 1996) has often shown that Quest (which appears to measure an early phase of spiritual development) has a neutral or negative relationship with various mental health measures. This study thus hypothesized that there would be a negative relationship between early phases of spiritual practice and mental health. Specifically, it was hypothesized that for individuals in earlier phases of spiritual practice, mental health would initially decrease then increase as individuals gained more experience with their respective practices. Likewise, it was hypothesized that mental health scores would decrease and then increase as Quest scores increased.

Hypothesis 5. Finally, Quest, as a measure of an early phase of spiritual development, was hypothesized to be positively associated with spiritual beliefs and attitudes, and spiritual experiences. That is, it was predicted that as Quest scores increased, there would be a corresponding increase in (a) the number of spiritual beliefs and attitudes and/or strength of beliefs and attitudes, and (b) the number of spiritual experiences and/or intensity of the experiences. This hypothesis is based on research such as that of Thomas and Cooper (1980), who proposed that spiritual experiences may be facilitated by a state of openness—a state that may be captured by the Quest measure—as

well as research such as that of Klassen and McDonald (2002) who found that Quest scores corresponded to scores on a measure of personal meaning.

Exploratory Analyses

(1) The aim of exploratory analysis 1 was to determine if the relationships in hypothesis 1 and 2 were the same for those whose primary spiritual practice was prayer, and those whose primary spiritual practice was meditation. Kaldor, Francis, and Fisher (2002) found some differences in mental health between individuals who prayed and those who meditated. Thus, it is possible that the relationship between the practices and mental health will also be different for individuals who pray and those who meditate.

(2) The aim of exploratory test 2 was to explore the possibility that different types of prayer and different types of meditation had different relationships with mental health. Specifically, analyses were used to determine if mental health was different among participants who engaged in the following four types of prayer: petitionary, meditative, ritualistic, and colloquial; and three types of meditation: awareness, concentration, and "other" meditation. There is no research to this author's knowledge that examines the effects of type of prayer or meditation on symptoms and well-being.

(3) The aim of exploratory test 3 was to determine if spiritual practices in a group setting would have a different effect on mental health than solitary spiritual practices. There is no research at present that examines the effects of group versus solitary practice on mental health.

(4) The aim of exploratory test 4 was to determine the relationship between Quest and mental health. Currently there is not enough research on these variables to hypothesize a specific relationship.

Research Design

The design of the study was correlational in nature. To test the hypotheses outlined above, the design involved the following: participants with varying amounts of experience with prayer and meditation were recruited as described more fully under Method. They were given questionnaires that asked about demographic variables (e.g., age, gender), and their spiritual practices, including, for example, type of practice in which they engaged (type of prayer, meditation), frequency and duration of practice (e.g., length of session, number of years). Questionnaires were also used to assess mental health (SCL-90-R to assess symptoms, SPWB to assess well-being), and spirituality (ESI to measure spiritual beliefs and experiences, and Quest to measure early spirituality). Analyses were undertaken to determine which variables (features of practice and spirituality scores) predicted mental health scores (absence of symptoms, presence of well-being). The intention was also to examine the degree to which early versus mature spirituality, as measured by Quest, predicted mental health. Differences in mental health scores as a function of participants` type of practice (zen, yogic, or other meditation, ritualistic, meditative, colloquial, and petitionary prayer) were also examined.

Chapter II: Method

Participants

The initial goal of the research was to recruit 100 to 150 participants from community groups known to engage in either prayer or meditation (n = 50 to 75 from each group). This ideal sample size was determined from power analysis. It indicated that, in order to detect an effect size of d = .40, 99 participants would provide a power of .8, and 132 participants would provide a power of .9. However, the final sample size was somewhat less than this target (for reasons outlined below). To recruit participants, the researcher initially contacted over 50 different prayer or meditation groups in the Winnipeg and Edmonton areas with a request to recruit participants from the centers (recruitment procedures are described in more detail in the Procedure section below). The groups were contacted a second time if the researcher did not receive a response within two-months of the initial request. Twelve groups responded to the requests to participate. Of these, 3 declined and 9 consented. Two of the groups indicated that impending transitions in leadership of the respective groups precluded giving consent. A third group indicated that it was concerned that recruitment could not be done in such a way as to ensure the participants' anonymity within the centre, despite the protocol of the research for assuring anonymity. Participants were recruited from the 9 consenting groups.

Further participants volunteered for the study after hearing about it via word of mouth from the participants in the consenting prayer or meditation groups. In total, the researcher received requests for approximately 220 packages of study materials (as described in the Procedure section below). Of the 220 packages sent out, 89 were

completed and returned, for a response rate of 40 percent. Of the 89 participants to complete the measures, 32 were male, and 57 were female. Twenty-one practiced an exclusively prayer-based spiritual practice (no meditation), 24 practiced an exclusively meditation-based spiritual practice (no prayer), and 44 both prayed and meditated. Forty-six participants' primary spiritual practice was prayer, and 43 participants' primary spiritual practice was meditation. All participants were adults, and signed the informed consented form (see Appendix A).

Procedure

Prior to recruiting at a centre, the researcher contacted a person in a position of authority (e.g., a director or group leader) to gain the approval of the centre for the recruitment. The initial contact took the form of a letter or email (see Appendix B) or a phone call (in which case the content of Appendix B was communicated orally). Only after the centre provided approval of the research were participants recruited from that centre. These centres informed potential participants about the study by either (1) posting the recruitment poster (see Appendix C) in the center, (2) providing the information in Appendix C to potential participants via a centre-approved bulletin, either printed, or available by email or, (3) allowing the researcher to come to the centre to introduce the study to potential participants (see recruitment script, Appendix D). In most cases, persons interested in participating in the research contacted the researcher by phone or email to arrange to have the study's materials mailed to them (see Appendix C). The exceptions to the above were three centres that requested 18, 25, and 15 packages of study materials, and subsequently made them available for interested participants to pick up at the respective centres. Each package of study materials consisted of (1) an informed

consent form (see Appendix A), (2) a duplicate of the consent form, (3) an instruction form (see Appendix E), (4) the questionnaire (see Appendix F), (5) the study's measures (including Quest, Appendix G), and (6) a postage paid envelope for returning the completed materials to the researcher. The instruction form directed the participants (1) to complete the informed consent form prior to filling out the questionnaire and measures, (2) not to put identifying information on the envelope, questionnaire, or measures, and (3) to return the completed measures in the envelope provided (see Appendix E for details). When a completed package was received by the researcher, the consent form was separated from the response forms to ensure anonymity of the responses. The participant was then sent the debriefing form (Appendix J), which invited the participant to contact the researcher with any questions that may have arisen as a result of participating in the research.

Measures

Mental Health

Two forms of mental health were assessed in this research: positive mental health, and the absence of symptoms.

Positive mental health. Positive mental health was assessed with the Scales of Psychological Well-Being (SPWB; Ryff, 1989). Until recently, what it means to be psychologically healthy has not been a focus of psychological research (Ryff, 1998). There are few well-established measures of psychological health as a result. There are two common conceptions of well-being, the hedonic (level of happiness) and eudamonic, (levels of one's subjective sense of contentment coming from self-realization) (Waterman, 1997). Researchers have often equated "happiness" and "life satisfaction"

with psychological well-being. Based on philosophical writings on positive psychological functioning, for example "Maslow's (1968) conception of self-actualization, Roger's (1961) view of the fully functioning person, Jung's (1933; Von Franz, 1964) formulation of individuation, and Allport's (1961) conception of maturity" (Ryff, 1989, p.1070), Ryff (1989) developed the SPWB, a comprehensive measure of psychological well-being. The SPWB has six dimensions: Autonomy, Environmental Mastery, Personal Growth, Positive Relations With Others, Purpose in Life, and Self-Acceptance. The following are some characteristics typical of those who score high and low on each subscale of the SPWB as described by Ryff (2004):

Those who score high on the Autonomy scale can be described as self-determining, independent, and able to resist social pressures to act in certain ways. Those who score low on the Autonomy subscale are more likely to rely on the judgment of others to make decisions, and more likely to conform to social pressures.

Those who score high on the Environmental Mastery scale can be described as having a high sense of mastery and competency in managing the environment. They are more likely to make effective use of available opportunities. Those who score low on the Environmental Mastery scale may have difficulty managing everyday affairs, and feel unable to change or improve their environment.

Those who score high on the Personal Growth subscale can be described as being open to new experiences, seeing improvement in themselves and in their behaviour over time, and having a sense that they are realizing their potential. Those who score low on the Personal Growth subscale may have a sense of stagnation, feel uninterested in life, and do not have a sense that they are making self-improvements.

Those who score high on the Positive Relations with Others subscale can be described as having warm, satisfying, and trusting relationships with others. They are concerned about the welfare of others, and are capable of empathy, affection, and intimacy. Those who score low on this subscale may have few close relationships. They may feel isolated, or frustrated with interpersonal relationships.

Those who score high on the Purpose in Life subscale can be described as having goals in life, and a sense of directedness. They also feel that there is meaning to life. Those who score low on this subscale may lack a sense of meaning in life, and lack a sense of direction.

Those who score high on the Self-acceptance subscale can be described as having a positive attitude towards self, accepting good and bad qualities of themselves, and feeling positive about the lives they have lead. Those who score low on the Self-acceptance subscale feel dissatisfied with themselves, are troubled by personal qualities, and regret aspects of their pasts.

The subscales of Self-Acceptance and Environmental Mastery correlate highly with measures of happiness (e.g., negatively with the Beck depression inventory), life satisfaction (e.g., positively with the Life Satisfaction Index; Neugarten et al, 1961, as cited in Ryff, 1989), and self-esteem (e.g., positively with the Rosenberg Self Esteem scale; Rosenberg, 1965).

Ryff (1989) argues that the SPWB taps into facets of mental health that have been overlooked in well-being research, and that not been included in existing measures of mental health. Indeed, Ryff and Keyes (1995) found the subscales of Autonomy, Personal Growth, Positive Relations with Others, and Purpose in Life, while derived from theory

on positive psychological functioning, were not shown to be highly associated with other existing measures of well-being. Thus, Ryff's scale appears to represent a more complete definition of psychological well-being than previous measures of well-being.

The version of the SPWB recommended by its author consists of 14 items for each of the six dimensions (personal communication, Carol Ryff, February 26, 2004). Each of the items is answered based on a 6-point Likert rating scale ranging from strongly disagree to strongly agree. Some of the items are negatively worded. Scores for each scale therefore range from 14 to 84, with higher scores reflecting higher levels of well-being. Ryff (2004) reported that the internal consistency (alpha) coefficients of the 14-item form were strong, ranging from .83 (Autonomy) to .91 (Self-acceptance). She also reported that correlations of each 14-item scale with the original 20-item versions were very high, ranging from .97 (Autonomy and Personal Growth) to .99 (Self-Acceptance; Ryff, 2004). Keyes, Shmotkin, and Ryff (2002) found the alpha coefficient of the overall scale (84-item version) to be .81. They also determined that correlations among the subscales were modest, ranging from .13 to .46, suggesting the subscales represent independent elements of psychological well-being. Ruini et al. (2003) found that the Personal Growth, Positive Relations, Purpose in life, and Self-acceptance subscales of the SPWB had very good test-retest reliability over a one month period (test-retest correlations of .78 to .82), while the Autonomy and Environmental Mastery subscales had satisfactory test retest reliability (correlations of .21 and .31 respectively).

Psychological symptoms (absence of poor mental health). Psychological symptoms, the absence of which is often used as a measure of mental health, were assessed with the Symptom Checklist 90 – Revised (SCL-90-R; Derogatis & Savitz,

2000). The SCL-90-R is widely used in clinical settings as a screen for many types of clinical symptoms, for treatment planning, and to measure treatment outcomes. The SCL-90-R is also widely used in research (Robert et al. 2006). It is composed of nine subscales: Somatization, Obsessive Compulsion, Interpersonal Sensitivity, Depression, Anxiety, Hostility, Phobic Anxiety, Paranoid Ideation, and Psychoticism. From this measure one may also calculate a Global Severity Index (GSI), Positive Symptom Distress Index (PSDI), and Positive Symptom Total (PST). For the present research, the PST score was used as a measure of overall level of symptoms across all subscales. The SCL-90-R is considered both reliable and valid for measuring treatment outcomes (Robert et al. 2006).

Spirituality

Spiritual cognitions and spiritual experiences. Both spiritual cognitions and spiritual experiences were measured using MacDonald's Experiences of Spirituality Index (ESI, 2000; MacDonald & Holland, 2002a,b, 2003). The ESI is the result of a focused attempt to address a predominant weaknesses in the spirituality literature: that there are multiple measures of spirituality, many of which are based on different and divergent definitions of spirituality. In an analysis of 11 frequently used measures in transpersonal research, MacDonald et al. (1995) determined, through a factor analysis, that these measures tapped five distinct dimensions: a Cognitive Orientation Towards Spirituality (COS), an Experiential/ Phenomenological Dimension (EPD), Existential Well-Being (EWB), Paranormal Beliefs (PAR), and Religiousness (REL). MacDonald's measure was then created using the items that best represent each of the five factors or dimensions. The factors are defined as follows: The first factor, COS, is described as

"beliefs, attitudes, and perceptions regarding the nature and significance of spirituality as well as the perception of spirituality as having relevance and importance for personal functioning." The second factor, EPD, is defined as "experiences which are described as spiritual, religious, mystical, peak, transcendental and transpersonal." The third factor, EWB, "pertains to spirituality as expressed through a sense of meaning and purpose for existence, and a perception of self as being competent and able to cope with the difficulties of life and limitations of human existence." The fourth factor, PAR, is "related to beliefs of paranormal phenomena of a psychological nature (e.g., ESP, precognition, psychokinesis). The fifth factor, REL, "relates to the expression of spirituality through religious means" (MacDonald, 2000b, p.187-188).

The COS and EPD factors of the ESI reflect the common definitions of spirituality discussed in Chapter 1: a set of beliefs and attitudes, and a form of spiritual experience. Due to the manner in which the factors were derived, they are relatively independent of each other (i.e., each is a distinct factor). In the full version of the ESI, COS moderately correlates with EPD (r = .39; MacDonald, 2000b). The EWB factor reflects existential well-being independent of the COS or EPD factors. EWB has a very weak correlation with both COS (r = .08) and with EPD (r = .02; MacDonald, 2000b). The REL and PAR factors do not reflect constructs within the scope of this research and are, therefore, not discussed further.

The revised (shortened) version of the ESI consists of six items from the larger set of items for each of the five dimensions, and two general validity items. The factors considered in this study (COS, EPD) have demonstrated very good reliability and validity. Based on a large sample (N=938) MacDonald determined that the alpha

reliability coefficient of the revised COS factor is .87. The alpha reliability coefficient of the revised EPD factor is .81.

MacDonald tested the relationship between the ESI and the clinical scales of the Minnesota Multiphasic Personality Inventory (MMPI). He found no significant relationship between the COS and MMPI clinical subscales. The EPD factor was shown to have a negative relationship with the MMPI's social introversion scale. These findings suggest that these forms of spirituality (spiritual beliefs and attitudes and spiritual experiences) are not positively related to symptoms.

Type of spiritual practice. The Spiritual Practice Questionnaire (Appendix F) was developed to gather information about the participants and their spiritual practices. On the questionnaire, they were asked to provide demographic information (age and gender), the type of spiritual practice in which they engaged (prayer, meditation, or both), and information concerning their practice. Participants who both prayed and meditated were asked to report on each form of spiritual practice separately. They were also asked which practice they considered the more primary spiritual practice. Finally, participants were asked to indicate the degree to which they prayed or meditated alone or in a group.

The present research was limited to the spiritual practices of prayer and meditation. However, since prayer and meditation can take different forms, participants were asked details of their prayer and meditation practices. Participants' type of prayer was assessed with the items outlined in Poloma and Pendelton (1991; reproduced as item 10 in Appendix F). Type of meditation was assessed with a single item: "do you consider your meditation to be primarily (a) insight meditation, (b) concentration meditation, or (c) other?"

It is worth noting that the definition of spiritual practice used for this study—time spent in prayer or meditation—precluded participants from reporting on unusual forms of spiritual practice (e.g., engaging in continuous prayer) or of spiritual practices beyond the scope of this research (e.g., time spent in a creative process which seems to the participant to be a spiritual activity).

Frequency of spiritual practice. The frequency of spiritual practices was measured by a single item on a 7-point Likert scale (1="1 to 10 times per year" to 7="one or more times per day"; see Appendix F). Participants were also asked to provide a more specific estimate of the frequency of their practice (number of times per year).

Time spent per session. The amount of time participants spent engaging in their spiritual practices was measured by a single item on a 7-point Likert scale (1="1 to 10 minutes" to 7="more than 6 hours"; see Appendix F). Participants were also asked to provide a more specific estimate of the time spent practicing (in minutes) for an average session because some participants might have meditated or prayed for a few minutes, while others may have meditated or prayed for lengthy periods. If participants attended a spiritual retreat, they were asked to count only the time actually spent praying or meditating, rather than the entire time spent at the retreat.

Duration of spiritual practice. The length of time that participants engaged in their spiritual practice was measured by a single item on an 8-point Likert scale (1="less than 3 months" to 8="more than 15 years"; see Appendix F). It was anticipated that some participants would be relatively inexperienced with their spiritual practice, while other participants would have engaged in a practice for longer periods. Engler (1984) has suggested that psychological changes (e.g., developing insight) stemming from a

meditative practice are very slow in coming, and few changes are seen, even with daily practice, over a three month period. Based on this information, it was decided that the present study's Likert scale would begin with "less than 3 months."

Scores on this item were used to differentiate participants in earlier phases of spiritual practices from those with more established practices. The participants who indicated that they practiced for two years or less (i.e., a response of 1 to 4 on the Likert scale) were considered to be in the earlier phases of spiritual practice, while those who indicate that they practiced for more than two years (i.e., a response of 5 to 8 on the Likert scale) were considered to be more experienced practitioners.

Belief that one is on a spiritual journey. The degree to which participants believed they were on spiritual journeys was measured by a single item, on a 7-point Likert scale. Participants rated their degree of agreement with the statement "I believe I am on a spiritual journey" (1="not at all true" to 7="very true"). The middle of the Likert (i.e., a rating of 4) corresponds to the option "unsure" (see Appendix F).

Participants who reported being on a spiritual journey were also asked how long they felt that they had been on their journey. The length of time participants had been on a journey was measured by a single item on an 8-point Likert scale (1="less than 3 months" to 8="more than 15 years"; see Appendix F).

Scores for this item were used to differentiate between participants in early phases of spiritual journeys from those with more established journeys. The participants who indicated that they had been on a journey for two years or less (i.e., 1 to 4 on the Likert scale) were considered to be in the early phases of a journey, while those who indicated

that they had been on a journey for more than two years (i.e., 5 to 8 on the Likert scale) were considered to be in later phases of a journey.

Quest. As indicated in previous discussion, the Quest scale (see Appendix G) was developed in 1976 by Batson to measure a third dimension of religiosity to complement Allport and Ross's other two forms of religiosity: extrinsic and intrinsic religiosity. Also as indicated in previous discussion, Quest appears to measure a form of early spiritual development rooted in existential searching. It is in this latter context that Quest was included in the present study.

The Quest measure consists of 12 items measured with a 9-point Likert scale (1-"strongly disagree" to 9-"strongly agree"). Some of the items are negatively worded and are rescored. Scores on the Quest scale range from 0 to 108. In some research the total score is divided by 12 (i.e., the number of items on the measure) to make the range 0 to 9. Using this method, Batson, Schoenrade, and Ventis (1993) determined that the mean Quest score in a sample of undergraduates interested in religion was 4.99 with a standard deviation of 1.17. They also report that the inter-item alpha reliability coefficient is .78. The measure's validity is suggested by studies that show seminary students score higher on Quest than undergraduate students at a $p < .001$ level (Batson & Ventis, 1982). For the present research, raw Quest scores (i.e., ranging from 0 to 108) were calculated for each participant.

Chapter III: Results

In the discussion of the results below, the following variables are collectively called the "features of spiritual practice:" frequency of spiritual practice, time spent in spiritual practice, years of spiritual practice, and belief that one is on a spiritual journey. Likewise, COS and EPD are collectively called the "spirituality measures," and the SPWB and SCL-90-R are collectively called the "mental health measures." If the discussion concerns only one of the features or measures in a group, the individual feature or measure is specified.

Main Analyses

Scores Determined

For each participant, the following scores were determined: for the SCL-90-R, the Positive Symptom Total; for the Scales of Psychological Well-Being, the total well-being score; for Quest, the total score; and for the ESI, COS and EPD scores. Also, for each participant, age, gender, and Likert scale values for the features of spiritual practice variables (frequency, average length of time spent practicing, duration of practice, and degree of belief with the statement of being on a spiritual journey) were determined from the Background/Spirituality Questionnaire.

Descriptive Statistics

Table 1, below, shows descriptive statistics for participants' ages, and the continuous variables in the study. As the table shows, participants' ages ranged from 18 to 75 years, with a mean of 47.46 (SD = 15.12). Thus, adults with a wide range of ages are represented in the sample.

Table 1

Descriptive Statistics for Continuous Variables

Variable	n	Range	Mean	SD	Skew	Kurtosis
Age	89	18 - 75	47.46	15.12	-0.17	-1.00
Length on journey	88	0 - 8	7.08	2.22	-2.65	5.88
SPWB	89	265 - 489	404.55	51.38	-0.62	-0.09
SCL-90-R	89	3 - 168	42.00	36.34	1.27	1.37
COS	89	11 - 24	20.93	3.19	-1.10	0.59
EPD	89	0 - 24	13.58	7.44	-0.13	-1.30
Fq practice	89	1 - 7	5.85	1.53	-1.57	1.97
Length practice	89	1 - 6	2.00	1.11	1.44	2.61
Began practice	87	4 - 8	7.13	1.35	-1.26	0.17

SPWB = Scales of Psychological Well-being
SCL-90-R = Symptom Checklist 90 Revised
COS = Cognitive Orientation to Spirituality
EPD = Experiential Phenomenological Dimension
Fq practice = Frequency of primary practice (1-8 Likert scale)
Length practice = Length of primary practice (1-8 Likert scale)
Began practice = how long ago practice began (1-8 Likert scale).

There were high mean scores for two variables: Length on journey, and Beginning of practice, representing how long participants felt that they had been on a journey and how long ago they began their primary spiritual practice, respectively. Mean scores were 7.08 and 7.13 out of 8 respectively, which means that on average, the practitioners completing the study believed that they had been on spiritual journeys for a long period of time (8 to 15 years), and had engaged in their respective spiritual practices for a long period (also 8 to 15 years). Most participants who completed the measures considered themselves "experienced practitioners," and all had "established journeys," as defined by the criteria set above (i.e., having had a spiritual practice for two years or more, and feeling that one has been on a spiritual journey for two years or more). Only seven participants began their primary practice less than two years prior to the study, and none of the participants indicated being on a journey for less than two years. Additionally, seven participants indicated the item was not applicable to them. Therefore, there were no participants in early phases of spiritual development as defined above. The lack of novice practitioners precluded undertaking the planned analyses involving early versus mature spiritual development. Results for other variables in Table 1 are discussed further below.

Testing for Differences Between Participants Who Prayed and Those Who Meditated

Table 2, below, shows the mean scores for each of the main variables in the study for participants whose primary spiritual practice was prayer, and those whose primary practice was meditation (henceforth called the prayer group and meditation group).

T-tests were used to test for differences between the scores for the respective groups. To control for the possibility of spurious significance due to the use of multiple tests, alpha significance was set at the original alpha level divided by the number of tests

Table 2

Means of Independent Variables as a Function of Primary Spiritual Practice

Variable	Prayer	Meditation	t
n	46	43	-1.73
Age	47.26	47.67	-0.13
Frequency	6.15	5.53	1.94*
Length	1.43	2.60	-5.84***
Began	7.60	6.62	3.63***
Journey	7.00	7.16	-0.34
SPWB	399.37	410.09	-0.98
SCL-90-R	44.65	39.16	0.71
COS	20.83	21.05	-0.32
EPD	10.37	17.02	-4.69***
Quest	60.65	67.00	-1.56

*$p < .10$, **$p < .05$, ***$p < .001$
Frequency = frequency of primary spiritual practice (1-8 Likert scale)
Length = average length of time spent in primary practice (1-8 Likert scale)
Began = how long ago the participant began their primary practice (1-8 Likert scale)
Journey = how long the participant has been on a spiritual journey (1-8 Likert scale)
SPWB = Scales of Psychological Well-being
SCL-90-R = Symptom Checklist 90 Revised
COS = Cognitive Orientation to Spirituality
EPD = Experiential Phenomenological Dimension

(.05/9 = .0056). There were no significant differences between the average age of the prayer and meditation group participants. Likewise, there was no significant difference in mental health scores for the prayer and meditation groups, for either well-being or symptoms. There was also no difference in the frequency of prayer versus meditatation. The average length of time spent praying was significantly shorter ($p < .001$) than the average length of time spent meditating. Another difference found between the groups was that the prayer group had begun their practices earlier on average than the meditation group ($p < .001$). This result, in conjunction with the finding that the groups did not differ in age, indicates that those individuals who meditated began their practice later in life compared to those who prayed. Despite starting their meditative practices later in life on average, there was no significant difference between the meditation and prayer groups for the length of time participants felt that they had been on a spiritual journey.

Quest scores did not differ between the prayer and meditation groups, indicating that both prayer and meditation practices were equally amenable to a Quest-style orientation. The spiritual belief scores (COS) of the prayer and meditation groups were remarkably similar. Spiritual experience scores (EPD) differed between the two groups. The participants who meditated had higher spiritual experience scores on average than participants who prayed ($p < .001$).

Testing for Gender Differences

Table 3, below, shows the mean scores for each of the main variables in the study for male and female participants.

T-tests were used to test for differences between the scores for the two groups. There were no significant differences for male and female participants for any of the

Table 3

Means of Independent Variables as a Function of Gender

Variable	Male	Female
n	32	57
Age	47.03	47.70
Frequency	5.69	5.95
Length	1.94	2.04
Began	7.31	7.02
Journey	7.67	7.70
SPWB	394.97	409.93
SCL-90-R	38.72	43.84
COS	20.91	20.95
EPD	12.41	14.25
Quest	62.35	64.26

$*p < .10$, $**p < .05$, $***p < .001$
Frequency = frequency of primary spiritual practice (1-8 Likert scale)
Length = average length of time spent in primary practice (1-8 Likert scale)
Began = how long ago the participant began their primary practice (1-8 Likert scale)
Journey = how long the participant has been on a spiritual journey (1-8 Likert scale)
SPWB = Scales of Psychological Well-being
SCL-90-R = Symptom Checklist 90 Revised,
COS = Cognitive Orientation to Spirituality
EPD = Experiential Phenomenological Dimension

study's variables (*p* values ranged from .19 to .95) including age, features of a spiritual practice, mental health, spiritual beliefs, spiritual experiences, and Quest scores. As a result, there was no need to control for the effects of gender in any of the subsequent analyses.

Testing Hypothesis 1

Hypothesis 1 was (a) that there would be positive associations between features of spiritual practice and mental health, but (b) that spiritual beliefs and spiritual experiences would be more important predictors of mental health than features of a spiritual practice. To test hypothesis 1(a), Pearson correlations were determined for the relationships between the features of spiritual practice and scores for the mental health measures. These correlations are shown in Table 4, below.

Contrary to the hypothesized positive relationship, none of the eight correlations (i.e., between the four features of spiritual practice (Frequency, Length, Began, Journey) and the two mental health measures (SPWB, SCL-90-R)) was significant. The *r* values ranged from -.06 to .17. The *p* values ranged from .13 to .99. Thus, unlike previous research that has shown a connection between features of a spiritual practice and mental health, these results suggest that there is no such relationship.

To test hypothesis 1(b), two linear multiple regressions were undertaken. The dependent variables (DVs) in these regressions were the mental health measures, SPWB and SCL-90-R. In both regressions, the independent variables (IVs) were the spirituality measures, the features of spiritual practice, the type of spiritual practice, and the interaction between the type of spiritual practice and the spirituality measures.

Table 4

Correlation Matrix for Demographic Variables, Features of Spiritual Practice, Mental Health Measures, and Spirituality Measures.

Variable	1	2	3	4	5	6	7	8	9	10	11
1. Gender	-										
2. Age	.02	-									
3. Frequency	.08	.17	-								
4. Length	.04	.29**	.01	-							
5. Began	-.11	.25**	.08	-.05	-						
6. Journey	.21*	.12	.25**	.11	.08	-					
7. SPWB	.14	.18*	.00	.04	.05	.17	-				
8. SCL-90-R	.07	-.24**	.06	.04	-.04	-.10	-.66***	-			
9. COS	.01	.32**	.53***	.07	.21*	.43***	.20*	-.16	-		
10. EPD	.12	.28**	.25**	.40***	-.07	.29**	.29**	-.10	.51***	-	
11. Quest	.05	.16	-.04	.07	-.24**	.00	.14	-.15	.05	.28**	-

*$p < .10$, **$p < .05$, ***$p < .001$
Frequency = frequency of primary spiritual practice (1-8 Likert scale)
Length = average length of time spent in primary practice (1-8 Likert scale)
Began = how long ago the participant began their primary practice (1-8 Likert scale)
Journey = how long does participant feel like (s)he has been on a spiritual journey (1-8 Likert scale)
SPWB = Scales of Psychological Well-being
SCL-90-R = Symptom Checklist 90 Revised
COS = Cognitive Orientation to Spirituality
EPD = Experiential Phenomenological Dimension

The first regression analysis determined the variability in SPWB scores accounted for by the IVs above. The results of this regression are shown in Table 5, below.

The independent variables accounted for 13 percent of the variability in SPWB scores (i.e., *Adjusted* $R^2 = .13, p < .05$). Thus, spiritual beliefs, spiritual experiences, and features of a spiritual practice were significant predictors of participants' well-being scores.

As Table 5 shows, significant main effects were found for COS and EPD ($p < .05$). Interactions for P*COS (primary practice X spiritual beliefs) and P*EPD (primary practice X spiritual experience) were also significant ($p < .05$).These results indicate that, with other variables held constant, the relationships between well-being, and both spiritual beliefs and spiritual experiences, were different for participants who prayed, and those who meditated. Thus, following practice in the field, the main effects for COS and EPD are not discussed (Keppel, 1991). Rather, the specific relationships between spiritual beliefs and well-being, as well as spiritual experience and well-being, for participants who prayed, and those who meditated are discussed further below (see Exploratory Test 1).

The second regression determined how much variability in SCL-90-R scores was predicted by the same IVs as above. The results of this regression are shown in Table 6, below.

The independent variables accounted for 16 percent of the variability in SCL-90-R scores (i.e., *Adjusted* $R^2 = .16, p < .05$). Thus, spiritual beliefs, spiritual experiences, and features of their spiritual practice were significant predictors of the participants' symptom scores.

Table 5

Regression Analysis for Variables Predicting SPWB Scores (N=89)

$R^2 = 0.23^{**}$ Adjusted $R^2 = 0.13^{**}$

Variables	B	SE B	Beta
COS	17.63	6.46	1.03**
EPD	-6.78	3.11	-0.97**
Length	-3.89	5.92	-0.08
When	-1.33	4.77	-0.03
Frequency	-8.35	4.84	-0.22*
Journey	1.76	2.71	0.08
Primary	148.89	81.23	1.43*
P x COS	-11.84	4.40	-2.64**
P x EPD	6.51	2.11	1.99**

*$p < .10$, **$p < .05$, ***$p < .001$
COS = Cognitive Orientation to Spirituality
EPD = Experiential Phenomenological Dimension
Length = average length of time spent with primary spiritual practice
When = how long ago the primary practice began
Frequency = frequency of primary spiritual practice
Journey = how long participant feels (s)he has been on a spiritual journey
Primary = primary practice (1 = prayer, 2 = meditation)
P x COS = primary practice X Cognitive Orientation to Spirituality
P x EPD = primary practice X Experiential Phenomenological Dimension

Table 6

Regression Analysis for Variables Predicting SCL-90-R Scores (N=89)

$R^2 = 0.08^{**}$ Adjusted $R^2 = 0.16^{**}$

Variables	B	SE B	Beta
COS	-18.33	4.49	-1.52***
EPD	7.30	2.16	1.48**
Length	3.51	4.12	0.11
When	1.72	3.32	0.06
Frequency	6.16	3.36	0.23*
Journey	0.01	1.88	0.00
Primary	-156.06	56.44	-2.13**
P x COS	11.02	3.06	3.48**
P x EPD	-5.46	1.47	-2.36***

*$p < .10$, **$p < .05$, ***$p < .001$
COS = Cognitive Orientation to Spirituality
EPD = Experiential Phenomenological Dimension
Length = average length of time spent with primary spiritual practice
When = how long ago the primary practice began
Frequency = frequency of primary spiritual practice
Journey = how long participant feels (s)he has been on a spiritual journey
Primary = primary practice (1 = prayer, 2 = meditation)
P x COS = primary practice X Cognitive Orientation to Spirituality
P x EPD = primary practice X Experiential Phenomenological Dimension

As Table 6 shows, significant main effects were found for COS and EPD ($p <$ .001, and $p < .05$, respectively). Interactions for P*COS (primary practice X spiritual beliefs) and P*EPD (primary practice X spiritual experience) were also significant ($p <$ .05, and < .001, respectively). These results indicate that, with other variables held constant, the relationships between symptoms and both spiritual beliefs and spiritual experiences were different for participants who prayed and those who meditated. As above, following practice in the field, the main effects for COS and EPD are thus not discussed. Rather, the specific relationships between spiritual beliefs and well-being, as well as spiritual experience and well-being, for participants who prayed, and those who meditated are discussed further below (see Exploratory Test 1).

Hypothesis 1(b) was supported in that scores for the features of spiritual practice did not account for significant variability in the regression analysis when scores for spirituality measures were included in the analysis. That is, spiritual beliefs and spiritual experiences were better predictors of both well-being and symptoms than were features of spiritual practice. An interesting and unexpected finding was that the relationship between the spirituality measures and the mental health measures were different for participants who prayed and those who meditated. Exploratory test 1, below, explores the specific relationships between the spirituality measures and mental health measures for participants who prayed and those who meditated.

Testing Hypothesis 2

Hypothesis 2 was that the spirituality measures would be positively associated with the features of spiritual practice. For example, it was hypothesized that the more frequently a person engaged in a spiritual practice, the more spiritual experiences the

person would have. To test this hypothesis, Pearson correlations were determined for the relationships between the spirituality measures and the scores for the features of spiritual practice. Correlations between these variables are shown in Table 4.

Five of the eight correlations were significant, and one of the three remaining correlations approached significance. Specifically, the results were as follows: Spiritual belief scores correlated positively with the frequency of practice ($r = 0.53, p < .001$) and the length of time on a spiritual journey ($r = .43, p < .001$). There was a nearly significant relationship ($r = 0.21, p = .06$) between spiritual belief scores and how much time prior to the study participants began to practice prayer or meditation. The relationship between spiritual belief scores and how long participants prayed or meditated was not significant ($r = .07, p = .49$).

Spiritual experience scores correlated positively with frequency of practice ($r = .25, p < .05$), how long participants prayed or meditated ($r = .40, p < .001$), and with how long participants felt that they were on a spiritual journey ($r = .29, p < .05$). The relationship between spiritual experience scores and how much time prior to the study participants began their practice was not significant ($r = -.07, p = .54$).

Results generally supported Hypothesis 2, that the spirituality measures would be positively associated with the features of spiritual practice. Specifically, five of the eight relationships tested showed positive associations, and one further correlation was positive at a level nearing significance. For example, it was found that higher levels of spiritual beliefs were associated with greater frequency of spiritual practice, and both spiritual beliefs and spiritual experiences were positively associated with length of time on a spiritual journey.

Testing Hypothesis 3

Hypothesis 3 was that Quest scores would increase as individuals began a spiritual practice, and then decrease again after the individuals had practiced for a substantial amount of time. Likewise, it was hypothesized that Quest scores would increase as individuals began a journey then decrease once they had been on the journey for a considerable period of time. None of the participants who completed the measures had practiced for less than two years, and believed that he/she had been on a spiritual journey for less than two years. Thus, the relationships between Quest, and both length of practice, and length of journey, could not be examined.

Testing Hypothesis 4

Hypothesis 4 was that there would be a negative relationship between early phases of spiritual development and mental health. However, none of the participants in the present study were in early phases of spiritual development (as defined by the criteria of having practiced a spiritual practice for less than two years and believed that he/she had been on a spiritual journey for less than two years). Thus, the relationship between early phases of spiritual development and mental health could not be examined

Testing Hypothesis 5

Hypothesis 5 was that there would be a positive correlation between Quest and spiritual belief (COS) scores and between Quest and spiritual experience (EPD) scores. As Table 4 shows, Quest scores did not correlate significantly with spiritual belief scores ($p = .68$), but did correlate significantly with spiritual experience scores ($p < .05$). That is, the higher the Quest scores, the higher the spiritual experience scores. Thus, questing was not related to beliefs, but was positively related to frequency of spiritual experiences.

Exploratory Analyses

Exploratory Test 1

The aim of exploratory test 1 was to determine how the relationships between the scores for the spirituality measures and the scores for the mental health measures differed for participants who prayed, and those who meditated. To test these relationships, the sample was divided into prayer and meditation groups based on the primary practice of the participants. The two regressions completed in hypothesis 1 were repeated for both groups with the "type of practice" and interaction variables excluded. Thus, a total of four linear regressions were undertaken.

Regression 1: explaining well-being scores in participants who meditated. The first regression involved examination of how SPWB scores of participants who meditated were predicted by scores for the spirituality measures, and the scores for the features of spiritual practice. The results of this regression are shown in Table 7, below.

Results show that for participants who meditated, the spirituality measures and the features of the spiritual practice together were strong predictors of well-being (*Adjusted* $R^2 = .25, p < .05$). With other variables held constant, both spiritual beliefs (COS) and spiritual experiences (EPD) were significant predictors in this regression. Specifically, spiritual experiences were predictive of increases in well-being, while spiritual beliefs were predictive of decreases in well-being.

Regression 2: explaining well-being scores in participants who prayed. The second regression involved examination of how SPWB scores of participants who prayed were predicted by scores for the spirituality measures, and the scores for the features of spiritual practice. The results of this regression are shown in Table 8, below.

Table 7

Regression Analysis for Variables Predicting SPWB Scores for Participants Whose Primary Practice was Meditation (n=43)

$R^2 = 0.36^{**}$ Adjusted $R^2 = 0.25^{**}$

Variables	B	SE B	Beta
COS	-8.19	3.87	-0.47**
EPD	5.69	1.63	0.75**
Length	-10.55	6.75	-0.23
When	5.16	5.74	0.15
Frequency	-3.94	7.30	-0.10
Journey	3.90	3.99	0.16

*$p < .10$, **$p < .05$, ***$p < .001$
COS = Cognitive Orientation to Spirituality
EPD = Experiential Phenomenological Dimension
Length = average length of time spent with primary spiritual practice
When = how long ago the primary practice began
Frequency = frequency of primary spiritual practice
Journey = how long participant feels (s)he has been on a spiritual journey

Table 8

Regression Analysis for Variables Predicting SPWB Scores for Participants Whose Primary Practice was Prayer (n=46)

$R^2 = 0.16$ Adjusted $R^2 = 0.02$

Variables	B	SE B	Beta
COS	7.18	3.27	0.44**
EPD	-1.34	1.49	-0.17
Length	8.96	11.59	0.13
When	-11.37	8.64	-0.22
Frequency	-9.63	6.61	-0.25
Journey	0.98	3.76	0.05

*$p < .10$, **$p < .05$, ***$p < .001$
COS = Cognitive Orientation to Spirituality
EPD = Experiential Phenomenological Dimension
Length = average length of time spent with primary spiritual practice
When = how long ago the primary practice began
Frequency = frequency of primary spiritual practice
Journey = how long participant feels (s)he has been on a spiritual journey

Results show that for those participants who prayed, the spirituality measures and the features of spiritual practice were not strong predictors of well-being (*Adjusted* $R^2 = .02$, $p = .35$). Post hoc power analysis of this regression was 0.88, indicating a high likelihood of finding a significant relationship if one existed. Thus, with a high level of confidence, it can be concluded that neither spiritual beliefs or experiences, nor features of a spiritual practice, were related to well-being for participants who prayed.

Regression 3: explaining symptom scores in participants who meditated. The third regression involved examination of how SCL-90-R scores of participants who meditated were predicted by scores for the spirituality measures, and the scores for the features of spiritual practice. The results of this regression are shown in Table 9, below.

Results show that for those participants who meditated, the spirituality measures and the features of spiritual practice were not strong predictors of symptoms (*Adjusted* $R^2 = .14$, $p < .10$). Post hoc power analysis of this regression was 0.84. Thus, again, there was a high likelihood of finding a significant relationship if one existed. Thus, with a high level of confidence, it can be concluded that neither spiritual beliefs or experiences, nor features of a spiritual practice, were related to symptoms for participants who meditated.

Regression 4: explaining symptom scores in participants who prayed. The fourth regression involved examination of how SCL-90-R scores of participants who prayed were predicted by scores for the spirituality measures, and the scores for the features of spiritual practice. The results of this regression are shown in Table 10, below.

Results show that for those participants who prayed, the spirituality measures and the features of spiritual practice together were strong predictors of symptoms

Table 9

Regression Analysis for Variables Predicting SCL-90-R Scores for Participants Whose Primary Practice was Meditation (n=43)

$R^2 = 0.27^*$ Adjusted $R^2 = 0.14^*$

Variables	B	SE B	Beta
COS	6.47	2.60	0.59**
EPD	-2.55	1.09	-0.53**
Length	5.24	4.53	0.18
When	-4.30	3.85	-0.20
Frequency	-1.22	4.90	-0.05
Journey	-4.02	2.68	-0.26

*$p < .10$, **$p < .05$, ***$p < .001$
COS = Cognitive Orientation to Spirituality
EPD = Experiential Phenomenological Dimension
Length = average length of time spent with primary spiritual practice
When = how long ago the primary practice began
Frequency = frequency of primary spiritual practice
Journey = how long participant feels (s)he has been on a spiritual journey

Table 10

Regression Analysis for Variables Predicting SCL-90-R Scores for Participants Whose Primary Practice was Prayer (n=46)

$R^2 = 0.35^{**}$ Adjusted $R^2 = 0.24^{**}$

Variables	B	SE B	Beta
COS	-9.14	2.24	-0.71***
EPD	2.19	1.02	0.36**
Length	5.24	7.93	0.10
When	8.74	5.91	0.22
Frequency	9.79	4.52	0.33**
Journey	1.83	2.57	0.11

*$p < .10$, **$p < .05$, ***$p < .001$
COS = Cognitive Orientation to Spirituality
EPD = Experiential Phenomenological Dimension
Length = average length of time spent with primary spiritual practice
When = how long ago the primary practice began
Frequency = frequency of primary spiritual practice
Journey = how long participant feels (s)he has been on a spiritual journey

(*Adjusted* $R^2 = .24$, $p < .05$). With other variables held constant, spiritual beliefs (COS), spiritual experiences (EPD), and the frequency of prayer, were significant predictors in this regression. Specifically, for those participants who prayed, spiritual beliefs were predictive of decreases in symptoms, while spiritual experiences and the frequency of prayer were predictive of increases in symptoms.

In summary, the pattern in the relationships between the mental health variables and the spiritual belief and spiritual experience variables was very different for the prayer group and the meditation group. Among the participants who meditated, spiritual experiences were associated with increases in well-being, while spiritual beliefs were associated with decreases in well-being. Among the participants who prayed, spiritual beliefs were associated with decreases in symptoms, while spiritual experiences and frequency of prayer were associated with increases in symptoms.

Exploratory Test 2

The aim of exploratory test 2 was to explore the possibility that different types of prayer and different types of meditation might have different relationships with mental health. For this study, a distinction was drawn between four types of prayer: petitionary, meditative, ritualistic, and colloquial prayer. Likewise, a distinction was drawn between three types of meditation: awareness, concentration, or "other" meditation. The latter category included participants who meditated but would not describe their practice as an "awareness" or "concentration" meditation.

For the purpose of these analyses, participants were grouped by their primary type of prayer, or by their primary type of meditation. To determine participants' primary type of prayer, Poloma and Pendleton's (1991) scale was used (item 10 in Appendix F).

This scale measures the degree to which the participant engaged in each of the four types of prayer listed above. A score was calculated for each type of prayer by summing the participant's ratings for each item representing the respective type of prayer, and dividing this sum by the number of items representing that type of prayer. The participant's primary type of prayer was determined by the type of prayer with the highest average score. For example, if a participant had an average score of 4.5 on the items representing meditative prayer, and 3.5 for the items representing petitionary, ritualistic, and colloquial prayer, the participant would be classified as engaging in primarily "meditative prayer." All participants who prayed, regardless of the primary practice indicated, were included in the analyses below. In total, 61 participants indicated that they prayed. Forty-two engaged primarily in colloquial prayer, 11 engaged primarily in ritualistic prayer, and 7 engaged primarily in meditative prayer. Only one participant was considered to have a practice consisting of primarily petitionary prayer. This participant's data were excluded from the analysis, since the data from this participant were considered outliers in the data set.

An analysis of variance (ANOVA) for the scores for the two types of mental health and three types of prayer was undertaken to determine if there were significant differences for the mean mental health scores for participants who engaged in each type of prayer.

The results of the ANOVA are shown in Table 11, below. As the analysis in the table shows, there were no significant differences between the mean scores for symptoms (SCL-90-R) or well-being (SPWB) for participants engaging primarily in each of the

Table 11

Analysis of Variance of SCL-90-R Scores as a Function of Different Types of Prayer

Type of prayer	n	SD	mean	F	p
Coloquial	42	39.30	46.31		
Ritualistic	11	47.86	49.00		
Meditative	7	39.40	40.29	.10	.91

*$p < .10$, **$p < .05$, ***$p < .001$

Analysis of Variance of SPWB Scores as a Function of Different Types of Prayer

Type of prayer	n	SD	mean	F	p
Coloquial	42	50.93	403.86		
Ritualistic	11	44.09	398.09		
Meditative	7	60.48	398.71	.07	.93

*$p < .10$, **$p < .05$, ***$p < .001$

types of prayer. The data thus indicate that mental health was not related to type of prayer.

As with the participants who engaged in prayer, participants who meditated were classified into subgroups. In this case, classification was made according to the type of meditation that the participants indicated that they engaged in most frequently. Participants were classified as engaging in primarily awareness (n = 20), concentration (n = 18), or "other" meditation (n = 30) based on their response to item 10 of Appendix F (i.e., Do you consider your meditation to be primarily: insight meditation (e.g., Zen), concentration meditation (e.g., Yogic), or other?).

An ANOVA for the two types of mental health and three types of meditation was undertaken to determine if there were significant differences for the mean mental health scores for participants who engaged in different types of meditation. The results of the ANOVA are shown in Table 12, below. The ANOVA indicated that there were no significant differences for the mean scores for symptoms (SCL-90-R) or well-being (SPWB) for each group of meditators. The data thus indicated that mental health was not related to type of meditation.

In summary, results of exploratory test 2 indicate that there were no differences in symptoms or well-being as a function of the type of prayer or type of meditation in which participants engaged.

Exploratory Test 3

The aim of exploratory test 3 was to explore the possibility that spiritual practices undertaken in a group might influence mental health differently than spiritual practices undertaken alone. To test this hypothesis, a Pearson correlation was determined between

Table 12

Analysis of Variance of SCL-90-R Scores as a Function of Different Types of Meditation

Type of meditation	n	mean	F	p
Zen	20	35.65		
Yogic	18	47.56		
Other	30	41.70	.60	.55

*$p < .10$, **$p < .05$, ***$p < .001$

Analysis of Variance of SPWB Scores as a Function of Different Types of Meditation

Type of meditation	n	mean	F	p
Zen	20	420.15		
Yogic	18	395.89		
Other	30	410.33	1.04	.36

*$p < .10$, **$p < .05$, ***$p < .001$

scores for the item: "Approximately what percentage of your spiritual practice is done alone rather than in a group setting," and scores for the mental health measures. One participant did not complete the item assessing the degree of independent practice.

Neither the SCL-90-R nor the SPWB scores correlated significantly with the scores for percentage of spiritual practice done alone. Correlations were -.03 ($p = .76$), and .08 ($p = .48$), respectively. Furthermore, regression curve estimation analysis showed that the relationships between the percentage of spiritual practice done alone, and both the SCL-90-R and the SPWB scores were not quadratic or cubic in nature (p values ranged from .64 to .96).

In summary, neither symptoms nor well-being were related in any way to the degree to which participants engaged in their primary spiritual practice alone, or in a group.

Exploratory Test 4

The aim of exploratory test 4 was to explore the relationship between Quest scores and the scores for the mental health measures in order to determine the relationship between questing, and both well-being and pathology. As there was not enough research in the literature to predict the nature of the relationship between Quest and mental health, linear, quadratic, and cubic relationships between Quest scores and the scores for the spirituality measures were tested using curve estimation regression models.

Results indicate that there was a cubic relationship between Quest and SPWB scores ($R^2 = .09, p < .05$). Thus, as Quest scores increased, well-being scores initially increased, then leveled out, then increased again. There was no observable relationship

between Quest and SCL-90-R scores and, thus, it appears that symptoms were not related to questing.

In summary, results of exploratory test 4 indicate that Quest was related to well-being but not symptoms. The relationship between Quest and well-being was cubic, and thus high and low, but not mid-range, Quest scores were associated with increases in well-being.

Unpredicted Findings

The correlation matrix shown in Table 5 revealed some relationships between variables in the present study that were not associated with the main hypotheses and, thus, not predicted. Some of these relationships are beyond the scope of the present research, but may bear on future research and are, therefore, worth reviewing briefly.

Age of participants was positively associated with both spiritual beliefs and spiritual experiences. That is, as participants' age increased, so did their number and/or intensity of spiritual beliefs, and their number and/or intensity of spiritual experiences (r = .32 and r = .28, $p < .05$ for both correlations). Furthermore, there was a positive association between age of participants and length of time spent engaged in the spiritual practice (r = .29, $p < .05$). Thus, as participants' age increased so did the time spent praying or meditating.

Symptom scores correlated negatively with well-being scores (r = -.66, $p < .001$). Thus, as participants' level of symptoms increased, their level of well-being decreased.

Finally, spiritual experiences were positively associated with spiritual beliefs and with Quest (r = .51, $p < .001$ and r = .28, $p < .05$, respectively). That is, the higher the participants' number and/or intensity of spiritual experiences, the higher the number

and/or intensity of spiritual beliefs, and the higher the Questing orientation of the participants.

Chapter IV: Discussion

The following presentation includes a review of the results, discussion of the potential limitations of the study, and a summary of findings, and conclusions that can be drawn from them.

The Results in Review

The first hypothesis of the present research was that features of a spiritual practice would be positively associated with mental health, but that spiritual beliefs and spiritual experiences would have a stronger association with mental health. This hypothesis was partly supported.

As predicted, spiritual beliefs and spiritual experiences were better predictors of mental health than temporal features of a spiritual practice. That is, mental health was more strongly related to a practitioner's number and/or strength of spiritual beliefs, and number and/or intensity of spiritual experiences, than to temporal features, such as frequency of practice. This finding is consistent with the research of Poloma and Pendleton (1991) who found that spiritual experiences had a stronger relationship to mental health than frequency of prayer. These authors concluded that the positive relationship that they found between frequency of prayer and mental health might have been due to the positive association between frequency of prayer and spiritual experiences.

Unlike previous research (Fry, 2000; Kaldor, Francis, & Fisher, 2002; Meisenhelder & Chandler, 2000; Haimerl & Valentin, 2001; Carmody & Baer, 2007), results of the present research showed that the features of a spiritual practice (frequency of spiritual practice, time spent in spiritual practice, years of spiritual practice, and belief

that one is on a spiritual journey) did not correlate with either symptoms or well-being. Furthermore, regression analysis showed that when spiritual beliefs, spiritual experiences, and the other features of spiritual practice were controlled, frequency of prayer was associated with increased symptoms.

The latter finding was also shown in a study by Rippentrop and colleagues (2005). These researchers point out that the positive association between frequency of prayer and symptoms should not be interpreted to mean that increases in the frequency of prayer leads to an increase in symptoms. Instead, as Ellison and Levine (1998) suggest, it is possible that some individuals with symptoms use prayer as a means for coping and, therefore, pray more often than those without symptoms.

The reason that the present research did not show the positive correlations between features of spiritual practice and mental health shown in other studies is unclear. It is possible that the participants in the present study were more experienced practitioners on average than the participants in previous studies. Each of the participants in the present study had begun a spiritual practice more than two years prior to the research, and each acknowledged being on a spiritual journey for more than two years. It may be that features of a spiritual practice are associated with mental health for individuals with less experience with a practice, and not for individuals with an established practice.

In the present study, results indicate that number of years of prayer or meditation is not associated with mental health beyond two years of practice. These findings seem to contradict the suggestions of authors such as Engler (1984) and Kornfield (1993), who propose that experienced practitioners are likely to realize benefits from their practice.

However, it is not clear how many years of practice are necessary in order to realize benefits according to Engler or Kornfield. Regardless, it seems important that those who research spiritual practices and mental health distinguish between novice and experienced practitioners, as there may be different factors that lead to mental health benefits for each group.

Also contrary to prediction, results indicated that the relationship between mental health and spiritual beliefs, as well as the relationship between mental health and spiritual experiences, was different for participants who prayed, and those who meditated. These specific relationships were investigated in exploratory analysis 1, discussed further below.

The second hypothesis of the present research was that features of a spiritual practice would be positively associated with spiritual beliefs and spiritual experiences (e.g., the higher the frequency of the spiritual practice, the higher the number of spiritual beliefs). This hypothesis was partly supported.

Specifically, there was a positive relationship between number and/or intensity of spiritual beliefs, and frequency of prayer and meditation. It is possible that increases in number and/or intensity of spiritual beliefs may lead to increases in frequency of practice. It is also possible that increases in the frequency of a practice may lead to a greater number and/or intensity of spiritual beliefs.

Likewise, the results showed a positive relationship between number and intensity of spiritual beliefs, and length of a spiritual journey. It may be that an increase in spiritual beliefs promotes spiritual journeys, or it may be that time spent on a spiritual journey promotes an increase in the number of spiritual beliefs.

The data also showed a weak, nearly significant, positive relationship between spiritual beliefs and years of practice. This finding indicates that, for some participants, the number or intensity of their spiritual beliefs increased the longer that they engaged in their practice. However, the weakness of the association between these variables suggests that they were not related for many participants. It is possible that the number or intensity of spiritual beliefs may reach a plateau, or even possibly decrease for some individuals the longer they practice.

There was no association between spiritual beliefs, and length of prayer or meditation sessions. That is, the length of time participants prayed or meditated did not correspond to the number or intensity of spiritual beliefs. The reason for the lack of association is unclear.

Frequency and/or intensity of spiritual experiences was associated with the frequency of spiritual practice. That is, the more frequently participants' engaged in their practice, the more frequent and/or intense were their spiritual experiences. This result is consistent with the results of Poloma and Pendelton (1991). A possible explanation for this finding is that spiritual experiences arise from spiritual practices (Astin, 1997) and, therefore, as people practice more, they have more spiritual experiences. However, it is also possible that increases in spiritual experiences lead some individuals to pray or meditate more frequently. That is, spiritual experiences may be pleasant for some individuals and, if prayer or meditation leads to such experiences, they may pray or meditate more frequently in an effort to induce more spiritual experiences.

A positive relationship was found between frequency and/or intensity of spiritual experiences, and length of time on a spiritual journey. That is, the data indicated that the

longer participants were on a spiritual journey, the more frequent and/or intense their spiritual experiences. A possible explanation for this result is that some individuals may come to believe that they are on spiritual journeys once they begin to have spiritual experiences. Alternatively, some individuals may come to have more spiritual experiences once they come to believe that they are on journeys. That is, belief that one is on a spiritual journey may reflect a state of openness that permits or promotes spiritual experiences.

A positive relationship was found between frequency and/or intensity of spiritual experiences, and length of time spent praying or meditating. That is, the data indicated that the longer the participants practiced, the more frequent and/or intense were their spiritual experiences, as suggested by Astin (1997). However, it is also possible that increases in number or intensity of spiritual experiences lead individuals to pray or meditate for longer periods of time.

Results did not support the hypothesis that number and/or intensity of spiritual experiences would be associated with length of practice. Participants who had more experience with their practice were no more likely to have more, or more intense, spiritual experiences than those with less experience. It is possible that had the study included some practitioners with less than two years of practice, a relationship would have been found between number and/or intensity of spiritual experiences and length of practice. That is, it is possible that number and/or intensity of spiritual experiences increase during the first few years of practice, and then plateau.

An implication of these results is that many temporal features of a spiritual practice are associated with number and/or intensity of spiritual beliefs and experiences,

which are, in turn, associated with mental health. However, as noted above, temporal features in and of themselves were not strongly associated with mental health.

The third hypothesis of the present research was that Quest scores would initially increase for novice practitioners, but then decrease after the practitioners spent a substantial amount of time engaging their practices. It was likewise hypothesized that Quest scores would increase as practitioners began a spiritual journey, then decrease once they had been on the journey for a considerable amount of time. A novice practitioner was defined as a person who had a spiritual practice for less than two years, and who reported being on a spiritual journey for less than two years. None of the participants in the present research met the definition of a novice practitioner and, thus, hypothesis three could not be tested.

The fourth hypothesis of the present research was that, for novice practitioners, there would be a decrease, followed by an increase, in mental health as the participants became more experienced with their practice. As with hypothesis three, this hypothesis could not be tested because there were no novice practitioners in the study.

The fifth hypothesis of the present research was that Quest would be positively associated with number and/or intensity of spiritual beliefs and number and/or intensity of spiritual experiences. This hypothesis was partly supported. Specifically, correlational analysis showed that Quest scores were positively related to spiritual experience scores. Thus, having a Quest style orientation was associated with increased number and/or intensity of spiritual experiences. Conversely, Quest scores were not related to spiritual belief scores. Thus, a Quest-style orientation was found to be independent of number and/or intensity of spiritual beliefs.

Thomas and Cooper (1980) suggest that a state of openness will facilitate spiritual experiences. It is possible that a Quest-style orientation may reflect such a state. To conceptualize Quest as openness to experience is consistent with the position that a Quest-style orientation is rooted in existential searching and an openness to answers—a view proposed by Batson (1991), the author of the Quest measure.

Four exploratory analyses were undertaken to examine relationships in the data for which there is insufficient literature to be able to make predictions as to outcomes, as follows: The aim of exploratory analysis 1 was to examine the relationship between the mental health measures (symptoms and well-being) and the spirituality measures (number and/or intensity of spiritual beliefs and experiences) for participants who prayed, and for those who meditated. Four regression analyses were undertaken. Results indicated that, for those who prayed, number and/or intensity of spiritual beliefs were associated with fewer symptoms. However, number and/or intensity of spiritual experiences and the frequency of prayer were associated with increased numbers of symptoms. For those participants who meditated, number and/or intensity of spiritual experiences were associated with increased levels of well-being. However, number and/or intensity of spiritual beliefs were associated with decreases in well-being for these participants.

These results indicate that the relationship between spirituality and mental health may be more complex than some previous theory and research has suggested. For example, West (1997), Kennedy, Kanthamani, and Palmer (1994) and Sink (2000) found positive relationships between spiritual experiences and mental health. However, the present results indicate that this relationship does not hold for both those who pray and those who meditate.

To this author's knowledge, the present research is the first to show that number and/or intensity of spiritual experiences are positively associated with symptoms for participants who pray. Two possible reasons for this finding are as follows: First, number and/or intensity of spiritual experiences may lead to symptoms for individuals who pray. Thomas and Cooper (1980) suggest that a state of openness seems required to recognize and interpret a spiritual experience for what it is. It may be that individuals who pray are not as "open" to spiritual experiences as are individuals who meditate. That is, spiritual experiences may not be as well understood or sought after by individuals who pray compared to individuals who meditate. Spiritual experiences may be less familiar and less positive experiences for those who pray, and having a spiritual experience may lead to anxiety or other symptoms for those who pray. Second, symptoms may lead to more, or more intense, spiritual experiences for individuals who pray. That is, it is possible that spiritual experiences develop in reaction to symptoms. Indeed, Lukoff, Lu, and Turner (1988) found that physical or psychological distress can trigger spiritual experiences. However, the present results indicate that symptoms were associated with number and/or intensity of spiritual experiences only for participants who prayed and not those who meditated. No previous research, to the present author's knowledge, suggests that symptoms trigger spiritual experiences for individuals who pray and not individuals who meditate.

For the participants who meditated, number and/or intensity of spiritual experiences were associated with increases in well-being, while number and/or intensity of spiritual beliefs were associated with a decrease in well-being. The latter finding was not predicted. Two possible reasons are as follows: First, holding spiritual beliefs deters

or otherwise interferes with the development of well-being in individuals who meditate. Second, having lower well-being leads those who meditate to ascribe to more spiritual beliefs. That is, individuals with lower well-being may develop more spiritual beliefs in an effort to improve their well-being. For example, a person who is depressed may come to believe that he or she will become happier if he or she develops a spiritual worldview and, therefore, sets out to cultivate spiritual beliefs.

The findings for exploratory analysis 1 underscore the importance of distinguishing between prayer and meditation as forms of practice that have different relationships to mental health. Kaldor, Francis, and Fisher (2002) came to the same conclusion after finding mental health differences between prayer and meditation groups. Specifically, Kaldor and colleagues found that participants who meditated had high psychoticism scores, while those who prayed had low psychoticism scores. While the results of the present study are not consistent with those of Kaldor and colleagues, both studies suggest that there may be differences in mental health between individuals who pray as compared to individuals who meditate.

MacDonald (2000b) found that there was no relationship between spiritual beliefs or spiritual experiences and MMPI subscales. However, the present research shows that number and/or intensity of spiritual beliefs and experiences are not always positively associated with mental health, and that theses relationships may be affected by the type of spiritual practice in which one engages. Had MacDonald considered prayer and meditation groups separately, he might have come to a different conclusion.

The reason that prayer and the meditation affect different aspects of mental health is not clear. The following two explanations may account for these findings: First, prayer

may affect mental health differently than does meditation, in the same way that two medications may affect different aspects of mental health. Specifically, prayer may affect pathology while meditation affects well-being. Second, there may be differences between individuals drawn to a prayer-based practice, and individuals who are drawn to a meditation-based practice. Specifically, those drawn to prayer may be predisposed to decreases in pathology, while those drawn to meditation may be predisposed to increases in well-being. Finally, it is also possible that the difference in the average length of prayer compared to the average length of meditation could account for these differences. That is, had participants prayed as long as they meditated on average, the results would have been more similar between these groups.

Participants in the prayer and meditation groups in the present study were, on average, very similar in many domains. For example, there were no differences between the groups for age, mental health, or Quest scores. Furthermore, some of the features of spiritual practice (e.g., length of time on a journey) were equal for both groups. However, it is possible that there were subtle differences between the groups that were not assessed in the present research, and that these differences contributed to the divergent findings. For example, it may be that the participants undertaking a meditation practice were seeking increases in well-being more so than participants undertaking a prayer-based practice.

The finding that there were different relationships between types of spiritual practice, and both well-being and symptoms, underscores the importance of distinguishing between these forms of mental health. This finding is consistent with the conclusions of Ruini and colleagues (2003): that symptoms and well-being are

independent of each other, and not opposite ends of a single continuum. The findings are also consistent with a finding by Batson, Schoenrade, and Ventis, (1993): that religious involvement is associated with decreases in pathology, but not associated with well-being. The finding is also consistent with Kornfield (1993), who suggests that some meditators may develop well-being despite the presence of pathology. Indeed, based on the present results, one would predict that a person who meditates, and has both spiritual beliefs and spiritual experiences, might develop well-being, and simultaneously develop symptoms.

The aim of exploratory analysis 2 was to determine if type of prayer (ritualistic, colloquial, or meditative) or type of meditation (awareness, concentration, or "other") was differentially associated with symptoms or well-being. Results of the ANOVA for the three types of prayer and two forms of mental health yielded no significant differences in symptoms or well-being for participants who engaged in each of the types of prayer. Likewise, the ANOVA for the three types of meditation and two types of mental health yielded no significant differences in symptoms or well-being among participants who engaged in each of the types of meditation. Thus, mental health—either well-being or absence of symptoms—was not affected by the types of prayer or types of meditation practiced by the participants.

These findings indicate that each type of prayer, and each type of meditation, is equally associated with mental health. Thus, it does not appear to be the case that certain forms of prayer or meditation lead to improvements in mental health more so than others. However, it is worth noting that most of the participants who prayed engaged in a variety of forms of prayer. Results may have been different had the sample consisted of

participants who practiced each form of prayer relatively exclusively. Similarly, participants who meditated did not all practice one form of meditation exclusively.

It is possible that certain forms of practice are more or less suitable for different people. For example, ritualistic prayer may be most suitable for a person with an orientation towards organized activity, such as the judging (J) preference on the Myers-Briggs Type Indicator (Myers & Myers, 1995; Jung, 1971), and not suitable for a person with a different personality type. Participants in this study reported on their chosen practice. It seems likely that few participants would engage in a long-term practice in which they did not feel comfortable, or from which they did not realize benefits. Participants may have discovered, or been directed to, the practice that was most beneficial for them. This possibility may, in part, explain why each of the practices demonstrated equal associations with mental health. An experiment in which participants are randomly assigned to specific forms of practice, rather than their preferred practice, might show that different forms of practice are differentially associated with mental health.

The aim of exploratory analysis 3 was to determine if the degree to which a spiritual practice was undertaken alone, versus in a group, affected mental health scores. Results of the correlation and regression curve estimations for these variables indicated that there was no relationship between the percentage of practice undertaken alone for either symptoms or well-being. Thus, there do not appear to be any benefits associated with practicing alone versus practicing in a group setting. However, it is possible that some individuals may find the most benefit from solitary practice, and some may find the most benefit from group practice. For example, a person with social anxiety may not

benefit from a group practice, since the social anxiety might preclude appropriate focus on the practice. Given that the participants in this study had established practices, it seems likely that they had molded their practices in such a manner as to realize the most benefit. An experiment in which participants are randomly assigned to practice alone or in a group may show that one of the conditions has a greater association with mental health.

The aim of exploratory analysis 4 was to examine the relationship between Quest and both number and/or intensity of spiritual beliefs, and number and/or intensity of spiritual experiences. Each of these relationships is considered in turn.

Consistent with the findings of Ryan, Rigby, and King (1993), no relationship was found between Quest and symptoms. This finding is in contrast to other studies which have shown a negative relationship between the two variables (Genia, 1996; Levick & Delaney, 1987, cited in Batson, Schoenrade, & Ventis, 1993; Kojetin, McIntosh, Bridges, & Spilka, 1987; Spilka, Kojetin, & McIntosh, 1985). The reason for the contradictory findings between studies is unclear.

Quest scores were not linearly related to well-being scores. However, results of regression curve estimations indicated that there was a cubic relationship between Quest and well-being. That is, as Quest scores increased, well-being initially increased, then reached a plateau, then increased again. Thus, increases in well-being were associated with low and high Quest scores, and not with mid-range Quest scores. These results reflect an interesting parallel to the findings of Klassen and McDonald (2002). These researchers found that low and high Quest scores were most associated with personal

meaning. Specifically, they found that as Quest scores increased, personal meaning initially dropped, then increased.

Potential Limitations of the Present Study and Recommended Follow-up Research

Potential limitations of the present study, and the respective research avenues to address each limitation, are considered in turn.

One potential limitation to the present research is that the participants who completed this study may have had some unique attributes. The participants in this study were adults with established spiritual practices, living in primarily Christian communities. The present findings may therefore not apply to younger people (e.g., university students), people in earlier stages of spiritual development, or people who live in non-Christian communities. Thus, results may not generalize to all people with a prayer or meditation-based spiritual practice.

Furthermore, there was a low response rate from the participants. It is not clear if there was some systematic bias that may have led some individuals to complete the questionnaires, and others not. For example, it is possible that individuals in early stages of spiritual development felt ineligible for the study and did not, therefore, complete the questionnaires. Thus, researchers who aim to explore developmental differences in the relationship between spiritual variables and mental health should take extra steps to ensure that participants in early stages of spiritual development, or who have recently begun a spiritual practice, are included. Indeed, focused effort to recruit such participants is recommended since research and theory indicate that the relationship between spirituality and mental health may be different as a function of time spent in a spiritual practice.

A further potential limitation is that many of the participants engaged in both prayer and meditation. Participants were divided into prayer and meditation groups based on their primary spiritual practice. It is possible that participants in previous studies have had more exclusively prayer-based or exclusively meditation-based practices. In the future, researchers might consider studying the mental health of three groups of participants: participants with an exclusively prayer based practice, participants with an exclusively meditation based practice, and a third group consisting of participants with a combination of the two.

Although the present research has potential limitations, it nevertheless suggests strongly that number and/or intensity of spiritual beliefs and experiences are better predictors of mental health than temporal features of a spiritual practice, and that the relationship between number and/or intensity of spiritual beliefs and experiences, and mental health, differs for those who pray and those who meditate. The research further suggests that mental health is not differentially affected by different types of prayer or different types of meditation, nor by the amount of practice done alone as compared to a group setting.

Summary and Conclusions

In summary, main findings of the present research are as follows: For individuals with established spiritual practices, number and/or intensity of spiritual beliefs and number and/or intensity of spiritual experiences were stronger predictors of mental health than were features of spiritual practice (e.g., time spent practicing). However, spiritual beliefs and spiritual experiences affected mental health differently for those who prayed and those who meditated. Higher levels of spiritual belief were associated with lower

levels of psychological symptoms for those who prayed, and with higher levels of symptoms for those who meditated. Higher levels of spiritual experience were associated with higher levels of well-being for those who meditated, and with lower levels of well-being for those who prayed. No mental health differences were found as a function of the type of prayer or meditation practiced by participants, or as a function of the percentage of practice engaged alone. Finally, it was found that, as Quest scores increased, well-being initially increased, then reached a plateau, then increased again. No relationship was found between Quest and symptoms.

Potential limitations of the research are as follows: First, participants all reported engaging in their practices for a relatively long time. Thus, differences between those with relatively new practices and those with established practices could not be determined. Second, many participants practiced both prayer and meditation, and/or multiple types of prayer or meditation. Results may have been different had the participants engaged in one spiritual practice exclusively, or one form of prayer or meditation. Further research would be useful to address these potential limitations by ensuring the participation of those relatively new to their practices, by distinguishing between participants who engage in prayer or meditation exclusively from those who practice both, and finally, by distinguishing between participants who practice only one form of prayer or meditation from those who practice multiple forms.

Overall, the findings indicate that there is a relatively strong relationship between mental health and both number and/or intensity of spiritual beliefs and number and/or intensity of spiritual experiences, and that these relationships differ as a function of the type of spiritual practice. Furthermore, results suggest that number and/or intensity of

spiritual beliefs and experiences have a larger association with mental health than temporal features of a practice. Thus, the relationship between spiritual practices and mental health may be more complex than that suggested by previous research. The findings of the present research demonstrate that refinements are needed in the way that the relationship between spirituality and mental health is researched. For example, there is a need to distinguish between prayer and meditation as forms of spiritual practice, between symptoms and well-being as forms of mental health, and between spiritual beliefs and experiences as forms of spirituality. Future research, which builds upon the present findings, will lead to a better understanding of the relationship between spirituality and mental health, and the role of specific spiritual practices in fostering specific forms of mental health.

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Appendix A

Research Participation Consent Form

UNIVERSITY OF MANITOBA | Department of Psychology

190 Dysart Road
Winnipeg, Manitoba
Canada R3T 2N2
Telephone (204) 474-9338
Fax (204) 474-7599

RESEARCH PARTICIPATION CONSENT FORM

Research Project: Spirituality and health study

Researcher: Gary Hotson, M.A., C. Psych. Cand.

Supervisor: R. Ronald Niemi, Ph. D., Associate Professor

This consent form, a copy of which will be left with you for your records and reference, is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

The research for which you are being asked to give your consent to participate is Gary Hotson's Ph.D. thesis. Gary is a doctoral student in the Clinical Psychology Training Program at the University of Manitoba. The purpose of this research is to examine the relationships among aspects of spirituality, spiritual practices, and mental health. Specifically, this research aims (1) to determine which features of a person's spirituality and of spiritual practices promote health, and (2) to develop a better understanding of the process of spiritual development, and corresponding changes in health.

Your participation is voluntary and declining to participate will have no negative consequences. Participation in this research will involve completing questionnaires pertaining to your spiritual practice (e.g., the frequency of your practice) and questionnaires related to mental health. These questionnaires are in the large envelope accompanying this form. The questionnaires are to be completed anonymously. Thus, you should write your name only on this consent form. The questionnaires should take 35 to 45 minutes to complete.

When you have completed the questionnaires, please seal them along with your signed consent form in the addressed, postage-paid envelope provided, and mail them back to the primary researcher. Once your materials are received, your consent form will be separated from your questionnaires to ensure your anonymity. Please note that you will need to write your email or mailing address on this consent form if you would like to receive a feedback form.

All consent forms and questionnaires will be stored in a locked room at the University of Manitoba. They will be destroyed one year following the completion of the final manuscript. The data gathered in this study will be converted into a numerical computer file, which will not contain any personal information. As per standard research protocols, this numerical file will be destroyed after 7 years.

The results of this study will be reported in the researcher's doctoral dissertation. Results may also be reported at a conference, or in a journal article. Material published in any form will be written in such a way that no individual can be identified.

It is expected that this study will be completed in December, 2007, at which time a summary of the results will be provided to all participants. Please indicate below how you would like a summary of the results. The summary can be emailed to you, or can be mailed to you. The full doctoral dissertation will be accessible through the Psychology Department's thesis library, and be on reserve at the Dafoe library at the University of Manitoba.

Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. In no way does this waive your legal rights nor release the researchers or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time, and /or refrain from answering any questions you prefer to omit, without prejudice or consequence. Your continued participation should be as informed as your initial consent, so you should feel free to ask for clarification or new information throughout your participation.

This research has been approved by the Psychology/ Sociology Research Ethics Board at the University of Manitoba. If you have any questions or concerns about this study, you can contact the researcher, Gary Hotson (email umhotso0@cc.umanitoba.ca), his supervisor, Dr. Ronald Niemi ((204) 474-8260, or email niemirr@ms.umanitoba.ca), or the Human Ethics Secretariat ((204) 474-7122, or e-mail margaret_bowman@umanitoba.ca).

_____	_____	_____
Participant's Signature	Printed name	Date

☐ I would like a **feedback form** emailed or mailed to me at:
_____ (optional for participants who will complete the study without the researcher or assistant present)

Pease indicate how you would like to receive the **summary of the results** (check one)

☐ I would like a copy of the results emailed to:
_____

☐ I would like a copy of the results mailed to:
_____

Appendix B

Letter to Prospective Prayer and Meditation Centres

UNIVERSITY OF MANITOBA | Department of Psychology

190 Dysart Road
Winnipeg, Manitoba
Canada R3T 2N2
Telephone (204) 474-9338
Fax (204) 474-7599

Dear (Director / leader of prayer or meditation centre),

My name is Gary Hotson. I am working towards my doctorate in Clinical Psychology at the University of Manitoba. For my dissertation research, I have chosen to study the relationships among aspects of spirituality, spiritual practices, and mental health. Specifically, my research aims (1) to determine which features of a person's spirituality and of spiritual practices promote health, and (2) to develop a better understanding of the process of spiritual development, and corresponding changes in health.

I am writing to you to ask first, if I may recruit participants from your Centre, and second, have participants fill out questionnaires at the Centre. I am aiming to recruit 75 participants with a prayer-based spiritual practice, and 75 with a meditation-based practice from centres across the city. If you grant permission, my preferred method for recruiting participants will be to come to the Centre and introduce the study to a group of individuals, and ask for volunteers. I will have a brief conversation with interested persons to ensure that they understand the procedure for completing the study. Following this conversation, I will distribute the study materials.

Alternatively, I can post a memo in your Centre (a copy of the memo is enclosed), which will direct interested persons to contact me about volunteering for the study. In this case I will converse with them by phone or email. As above, I will ensure that they understand the procedure for completing the study. I will then arrange to deliver the study materials to them.

In order to become participants, interested persons will be asked to read and sign an informed consent form (enclosed). This form describes the general purpose of the study and provides important information concerning the study (e.g., the questionnaires will be filled out anonymously). After signing, they will complete questionnaires pertaining to their spiritual practice (e.g., the frequency of their practice) and questionnaires related to mental health (e.g., their outlook on life). The questionnaires will take approximately 35 to 45 minutes to complete.

My preference is that participants complete the materials at the Centre while I am present. Alternatively, participants may complete the materials alone at their convenience. This latter option would be suitable if you prefer that participants not complete the materials at the centre, or if the participants prefer to complete the materials elsewhere. The participants who complete the questionnaires with me present will hand

in the completed materials to me. I will then provide them with a feedback form, which describes the study in more detail (e.g., the hypotheses of the study). Participants who complete the questionnaires if I am not present will need to seal the consent form and completed questionnaires in an envelope, which will be provided. I will arrange to receive the materials in one of two ways. First, if a secure location is available at the Centre, the participants can drop off the materials at the location. I will pick them up at a later time. Second, if there is no suitable location available, I will provide the participants with a postage paid envelope to mail the materials back to me. Once I receive the materials, I will send the participants the feedback form. As above, I will either leave the feedback form in the secure location at the Centre, if such a location is available, or mail or email it to the participants as per their preferences.

When the study is completed (approximately May, 2008), results will be provided to all participants.

This research has been approved by the Psychology/Sociology Research Ethics Board at the University of Manitoba. Part of the requirements of the Psychology/Sociology Research Ethics Board is that I obtain a letter of permission from a person in authority at the Centre indicating that this research has been approved by the Centre. If this research is acceptable at your Centre, would you be so kind as to complete the enclosed Letter of Approval form?

If you are not able to sign on behalf of the Centre, would you refer this letter and the enclosed documents to someone who could do so? Alternatively, you could call me at the phone number shown below to tell me who else I might approach.

Please feel free to contact me for further information: phone (780) 642-2989, or email umhotso0@cc.umanitoba.ca. Alternatively, you may contact my supervisor, Dr. Ronald Niemi, phone (204) 474-8260, or email niemirr@ms.umanitoba.ca.

Your support of this research would be greatly appreciated. Thank you for your consideration.

Sincerely,

Gary Hotson, M.A., C.Psych. Cand. (Manitoba)

Appendix C

Recruitment Advertisement for Centres

UNIVERSITY OF MANITOBA | Department of Psychology

190 Dysart Road
Winnipeg, Manitoba
Canada R3T 2N2
Telephone (204) 474-9338
Fax (204) 474-7599

Spirituality, Spiritual Practices, and Mental Health

What is the relationship?

Gary Hotson, a doctoral student in the Clinical Psychology Program at the University of Manitoba, is conducting research on the relationship between aspects of spirituality, features of spiritual practices, and mental health.

If you have a spiritual practice including prayer or meditation, please consider volunteering approximately 45 minutes of your time to participate in this research. Participation requires only that you fill out questionnaires. This research has been approved by the Psychology/ Sociology Research Ethics Board at the University of Manitoba, and this centre.

If you are interested in participating, or have questions, please call Gary at (780) 642-2989 (feel free to leave a message), or email him at:

umhotso0@cc.umanitoba.ca

Appendix D

Script to Recruit Participants

Script to Recruit Participants

Forward note:
Some centres may have a secure location available in which participants and I can leave study materials for each other, while others may not. The following script to recruit participants is tailored to accommodate both scenarios. Sections beginning "[script option 1]" will be read if a location is available. Sections beginning "[script option 2]" will be read if a location is not available.

Script:
My name is Gary Hotson. I am working towards my doctorate in clinical psychology at the University of Manitoba. As part of my program, I will complete a dissertation. I have chosen to study the relationships among aspects of spirituality, spiritual practices, and mental health. Specifically, my research has two aims. The first is to determine which features of a person's spirituality and of spiritual practices promote health. The second aim is to develop a better understanding of the process of spiritual development, and corresponding changes in health.

To complete my research, I will require approximately 150 volunteers with spiritual practices involving prayer or meditation to complete a series of questionnaires. Some of the questionnaires pertain to spiritual practices. Others are health related. The questionnaires will take approximately 35 – 45 minutes to complete. All of the information gathered will be kept strictly confidential. Your participation will be anonymous. I am here today to ask if anyone here is interested in participating in this research.

If you are interested, I will provide you with a package of materials. It will include an informed consent form, an instruction sheet, and the questionnaires. The informed consent form introduces the research, and reviews the steps that will be taken to ensure your materials remain confidential. The instruction sheet lists the steps required to finish the questionnaires and return them. You will notice there are two options to complete the materials. One, you may complete the materials while I am here, and hand them back to me when you are finished.

[script option 1]
Two, you may complete the materials at your convenience, and return the materials to ___(room identification)___, where I will pick them up at a later date.

[script option 2]
Two, you may complete the materials at your convenience, and mail the materials back to me in a postage paid envelope.

When I receive your completed questionnaires, you will be given a feedback form, which will give you further information about the study. If you complete the study with me present, I will give you the feedback form when you hand in your materials.

[script option 1]
If you complete the study without me present, I will leave your feedback form in ___(room identification)___, once I pick up your materials.

[script option 2]
If you complete the study without me present, I will mail or email the feedback form to you.

The results of the completed study will be provided to everyone who participates. It is expected that the study will be completed by May, 2006.

Are there any questions?

Thank you for considering volunteering your time.

I have the study materials here. Those who like to participate please come and see me at _____.

Appendix E

Questionnaire Instruction Sheet

Questionnaire Instruction Sheet

Included in this package are questionnaires related to your spiritual practice as well as health-related questionnaires.

Please follow these instructions when completing the questionnaires:

1) Be sure that you have read, understood, and signed the consent form prior to continuing.

2) Complete the questionnaires without consulting anyone else, and record your personal responses to each of the items.

3) Fill out the questionnaires as fully as possible. There are no right or wrong answers, or "better" answers, to any of the items.

4) To ensure that your anonymity is maintained, please do not put your name on these questionnaires, or the envelope they came in.

5) When you have finished the questionnaires please seal all the materials in the stamped envelope provided and mail the envelope back to the researcher.

Once your materials are received, your consent form will be separated from your questionnaires to ensure your anonymity.

Please feel free to call the researcher with any questions you may have at (780) 642-2989, or email at umhotso0@cc.umanitoba.ca

Thank you.

Appendix F

Spiritual Practice Questionnaire

Spiritual Practice Questionnaire

Please indicate the following information about yourself,

1) Gender (check one): _____ Male _____ Female

2) Age: _____ years

For the following questions *spiritual practices* will be defined as:

Time spent in prayer or meditation

3) Does your spiritual practice include (check one or both):

☐ Prayer ☐ Meditation

4) If you checked both, which do you consider your primary spiritual practice (check one):

☐ Prayer ☐ Meditation

5) Approximately what percentage of your spiritual practice is done **alone** rather than in a group setting? (please circle one)

10 20 30 40 50 60 70 80 90 100 %

6) Please describe your spiritual practice (e.g., what does your practice entail, how would you describe the aim of your practice):

_____

_____

_____

_____

Questions 7 to 9 ask details about your spiritual practice. The left column asks about prayer, the right column asks about meditation. Please fill in the column that applies to you, or both columns if you pray *and* meditate as part of your spiritual practice.

7) **Frequency of spiritual practice**

How often do you engage in **prayer** as a spiritual practice?

Circle one number (1 – 7) that is closest to the frequency of your practice, and specify a more precise value in the box below if you can.
Please read the options carefully.

		Times per year
1	10 or less times per year	1 – 10
2	aprox once per month	12
3	Once every few weeks	30
4	Once per week	52
5	2 or 3 times per week	104 -156
6	4 or 5 times per week	208 - 260
7	One or more times per day	>365

Please estimate a specific value (times per year)

_____

How often do you engage in **meditation** as a spiritual practice?

Circle one number (1 – 7) that is closest to the frequency of your practice, and specify a more precise value in the box below if you can.
Please read the options carefully.

		Times per year
1	10 or less times per year	1 – 10
2	aprox once per month	12
3	Once every few weeks	30
4	Once per week	52
5	2 or 3 times per week	104 -156
6	4 or 5 times per week	208 - 260
7	One or more times per day	>365

Please estimate a specific value (times per year)

_____

8) **Time spent in spiritual practice**

How long do you engage in **prayer** once you begin?

Circle one number that is closest to the length of time of your typical practice, and specify a more precise value in the box below if you can.

1 1 – 10 min
2 11 – 30 min
3 31 – 60 min
4 61 min to 1 ½ hrs (90 min)
5 1 ¾ – 3 hrs
6 3 ½ – 6 hrs
7 more than 6 hrs

Please estimate a specific value (in minutes)

_____

How long do you engage in **meditation** once you begin?

Circle one number that is closest to the length of time of your typical practice, and specify a more precise value in the box below if you can.

1 1 – 10 min
2 11 – 30 min
3 31 – 60 min
4 61 min to 1 ½ hrs (90 min)
5 1 ¾ – 3 hrs
6 3 ½ – 6 hrs
7 more than 6 hrs

Please estimate a specific value (in minutes)

_____

9) **Length of spiritual practice**

How long ago did you begin **prayer** as a spiritual practice?	How long ago did you begin **meditation** as a spiritual practice?
Circle one number that is closest to the length of time since you began your practice, and specify a more precise value in the box below if you can.	Circle one number that is closest to the length of time since you began your practice, and specify a more precise value in the box below if you can.
1 less than 3 months ago **2** 3 – 6 months ago **3** 6 months – 1 year ago **4** 1 year – 2 years ago **5** 2 years – 4 years ago **6** 4 years – 8 years ago **7** 8 years – 15 years ago **8** more than 15 yrs ago	**1** less than 3 months ago **2** 3 – 6 months ago **3** 6 months – 1 year ago **4** 1 year – 2 years ago **5** 2 years – 4 years ago **6** 4 years – 8 years ago **7** 8 years – 15 years ago **8** more than 15 yrs ago
*note – if the length of your practice falls under two options, for example, precisely 1 year ago, please circle the lower value.	*note – if the length of your practice falls under two options, for example, precisely 1 year ago, please circle the lower value.
Please estimate a specific value (specify months or years) _____	Please estimate a specific value (specify months or years) _____

10) **Types of prayer and meditation**

If you meditate:
People meditate in different ways. Using the following scale, please indicate from 1 to 7 how characteristic the following statements are of your meditation sessions:

1	**2**	**3**	**4**	**5**	**6**	**7**
Never			half of my meditation sessions			Always

How often do you:
a) attempt to clear your mind? _____
b) focus on the contents of your mind from moment to moment? _____
c) focus on a predetermined thought or idea? _____

Do you consider your meditation to be primarily: (please circle one)
d) insight meditation (e.g., Zen)
e) concentration meditation (e.g., Yogic)
f) other

If you pray:
People pray in different ways. Using the following scale, please indicate from 1 to 7 how characteristic the following statements are of your prayer:

1	2	3	4	5	6	7
Never			half of my prayer			Always

Please note, God is expressed in different terms and understood in different ways by different people. Please interpret the word God in the questions below to mean your understanding of God.

How often do you:

a) Ask God to provide guidance in making decisions? _____
b) Ask God for material things you may need? _____
c) Thank God for God's blessings? _____
d) Spend time just quietly thinking about God? _____
e) Ask God to forgive your sins? _____
f) Read from a book of prayers? _____
g) Talk with God in your own words? _____
h) Ask God to speak and then listen for God's answer? _____
i) Ask for material things your friends or relatives may need? _____
j) Spend time just "feeling" or being in the presence of God? _____
k) Recite prayers that you have memorized? _____
l) Spend time worshipping or adoring God? _____
m) Ask God to lessen world suffering? _____
n) Spend time telling God how much you love God? _____
o) Spend time reflecting on religious texts? _____

11) **Belief that you are on a spiritual journey**

How true is the following statement: "I believe I am on a spiritual journey"?
Circle one number that is closest to degree with which you agree with this statement.

1 Not at all true
2 Not true
3 Somewhat not true
4 Unsure
5 Somewhat true
6 True
7 Very true

12) **Length of time on a spiritual journey**

If you believe you are on a spiritual journey, how long do you feel you have been on your journey?

Circle one number that is closest to the length of time you have been on a spiritual journey, and specify a more precise value in the box below if you can.

0 Not applicable
1 less than 3 months ago
2 3 – 6 months ago
3 6 months – 1 year ago
4 1 year – 2 years ago
5 2 years – 4 years ago
6 4 years – 8 years ago
7 8 years – 15 years ago
8 more than 15 yrs ago

*note – if the length of time on your journey falls under two options, for example, precisely 1 year ago, please circle the lower value.

Please estimate a specific value (specify months or years)
_____

Appendix G

Quest (Batson, 1976)

Quest

1. As I grow and change, I expect my religion also to grow and change. 1 2 3 4 5 6 7 8 9 strongly disagree neutral strongly agree
2. I am constantly questioning my religious beliefs 1 2 3 4 5 6 7 8 9 strongly disagree neutral strongly agree
3. It might be said that I value my religious doubts and uncertainties. 1 2 3 4 5 6 7 8 9 strongly disagree neutral strongly agree
4. I was not very interested in religion until I began to ask questions about the meaning and purpose of my life. 1 2 3 4 5 6 7 8 9 strongly disagree neutral strongly agree
5. For me, doubting is an important part of what it means to be religious. 1 2 3 4 5 6 7 8 9 strongly disagree neutral strongly agree
6. I do not expect my religious convictions to change in the next few years. 1 2 3 4 5 6 7 8 9 strongly disagree neutral strongly agree
7. I find religious doubts upsetting. 1 2 3 4 5 6 7 8 9 strongly disagree neutral strongly agree
8. I have been driven to ask religious questions out of a growing awareness of the tensions in my world and in my relation to the world. 1 2 3 4 5 6 7 8 9 strongly disagree neutral strongly agree
9. My life experiences have led me to rethink my religious convictions. 1 2 3 4 5 6 7 8 9 strongly disagree neutral strongly agree

10. There are many religious issues on which my views are still changing. 1 2 3 4 5 6 7 8 9 strongly disagree neutral strongly agree
11. God wasn't very important to me until I began to ask questions about the meaning of my own life. 1 2 3 4 5 6 7 8 9 strongly disagree neutral strongly agree
12. Questions are far more central to my religious experience than are answers. 1 2 3 4 5 6 7 8 9 strongly disagree neutral strongly agree

Appendix H

Debriefing Form: Spirituality & Health Study

UNIVERSITY OF MANITOBA | Department of Psychology

190 Dysart Road
Winnipeg, Manitoba
Canada R3T 2N2
Telephone (204) 474-9338
Fax (204) 474-7599

Debriefing Form: Spirituality & Health Study

The study you have participated in is Gary Hotson's doctoral thesis research. The aim of the research is to explore the relationship between spiritual practices and mental health. Specifically, this study aims to determine what aspects of a person's spirituality, and what aspects of a spiritual practice, are most strongly associated with mental health. Some research suggests that mental health may be higher in those who hold greater numbers of spiritual beliefs and attitudes, or have very strong spiritual beliefs and attitudes. Other research suggests that mental health may be higher in those who have greater numbers of spiritual experiences, or very intense spiritual experiences. Still other research suggests that the frequency of a spiritual practice, or the degree of experience with a practice, is associated with higher levels of mental health. No research to date has shown which of these variables is most important, or if they are all equally important predictors of mental health.

For the purposes of this study, mental health is defined as both the presence of positive features of mental health (e.g., a positive self-image) and the absence of negative features of mental health (e.g., sadness). This distinction is sometimes overlooked in other studies.

The second aim of this study is to explore the possibility that the relationship between spirituality and mental health may change over time. Some theoretical literature suggests that the relationship between spirituality and mental health may initially be negative and later become positive. Most researchers do not assess early spirituality, and therefore do not consider this possibility.

The third aim of the study is to examine if there are differences in the relationship between (1) prayer and mental health, and (2) meditation and mental health. You were asked to indicate your age and gender on one of the questionnaires so that this research will be able to explore if age or gender makes a difference in any of the relationships mentioned above.

Thank you for your participation in this study. It is expected that the study will be completed by December, 2007, at which time a summary of results will sent to you as indicated on your consent form. You may also access a copy of the study at the University of Manitoba from either the Dafoe Library or the thesis library in the psychology department. Any comments on this study can be sent to researcher, Gary

Hotson, (phone (780) 642-2989, or email umhotso0@cc.umanitoba.ca), or his supervisor, Dr. Ronald Niemi ((204) 474-8260, or email niemirr@ms.umanitoba.ca)

If participation in this research has led you to wish to speak to someone for counselling, please contact the Psychological Service Centre at the University of Manitoba ((204) 474-9222).

Some references for those interested in reading more about the relationship between spirituality and mental health are given below.

Grof , C. & Grof, S. (1990) The stormy search for the self: personal development through transformational crises. New York, NY: Penguin Putnam Inc.

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