THE RELATIONSHIP BETWEEN RELIGIOSITY/SPIRITUALITY AND MENTAL HEALTH IN COLLEGE STUDENTS, MEDIATED BY MEANING IN LIFE

By

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To my mom

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LIST OF ABBREVIATIONS

BAI	Beck Anxiety Inventory
CES-D	Center for Epidemiological Studies of Depression
EXT	Extrinsic Religiosity
MIL	Meaning in Life
RCI	Religious Commitment Inventory
RQI	Religious Quest
SAI	Spiritual Assessment Inventory

Abstract of Thesis Presented to the Graduate School
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The relationship between religiosity/spirituality and mental health remains inconclusive (Jansen et al., 2009). This study examined the existing models religion and spirituality with the specific purposes of a) determining how religious commitment, spiritual awareness, religious quest, and extrinsic religious correlate with depression and anxiety, b) examining meaning in life as a mediator between religiosity/spirituality and mental health. This study looked specifically at college students, a population that is highly susceptible to depression and anxiety due to the pressures associated with being in college (Haas, 2003). This study drew from existing data gathered from a multisite university and college study. Students who participated in this study completed computerized questionnaires. The instruments utilized for this study were the Religious Commitment Inventory, the Spiritual Assessment Inventory, the Religious Quest Inventory, the Intrinsic/Extrinsic Religiosity Scale Revised, the Meaning in Life Questionnaire, and the Center for Epidemiological Studies on Depression, and the Beck Anxiety Inventory. Contrary to this study's hypotheses, religious commitment was found to be positively correlated with depression and anxiety, and spirituality was found to be non-significant with depression and anxiety. Religious quest was the only variable of

religiosity/spirituality that showed a negative correlation with depression and anxiety and was the only variable of religiosity that supported a mediating effect of meaning in life. All variables of religiosity and spirituality reported a significant positive relationship with meaning in life, and meaning in life was significantly negatively correlated with depressive symptoms and symptoms of anxiety. Significant indirect effects were found between all measures of religiosity/spirituality, meaning in life, and depression/anxiety symptoms. These significant indirect effects showed that there are significant implications for the role that meaning in life plays in the relationship between religiosity/spirituality and mental health, although it was not explained by mediation.

CHAPTER 1
INTRODUCTION

Depression and anxiety remain a top concern for health worldwide, particularly among college students (Jansen et al., 2010). In early studies of emotional instability conducted in the late 50s and early 60s, research was concentrated in elite campuses such as Oxford and Cambridge (Haas, 2009). Elevated suicide rates at these schools led researchers to believe that emotional problems such as depression and anxiety were due to immense academic pressure (Haas, 2009). However, it became apparent that depression and anxiety among the college population in general, not just elite schools, was higher than the general population (Haas, 2009). In a study of the prevalence of depression and anxiety in college students, Eisenburg, Gollust, Golberstein, & Hefner (2007) found the rate of any depression or anxiety disorder to be 15.6% among undergraduate college students. The realization of a need for depression and anxiety intervention in youth, particularly in the college population, has surfaced (Haas, 2009).

In 2009, a study utilizing the American College Health Association's National College Health Assessment survey found that 26% of college students experienced symptoms of depression in the last school year, and 14.4% of women and 7.6% of men reported anxiety (Lindsey, Fabiano, & Stark, 2009). Furthermore, the 2003 National Survey of Counseling Center Directors reported an increase in the number of students seeking counseling services for severe psychological disturbances, including depression, anxiety-driven eating disorders, and personality problems that interfere with social and academic functioning (Gallagher, Zhang, & Taylor, 2003).

Spirituality and religiousness have both been shown to protect against mental health problems such as depression and anxiety (Jansen, Motley, & Hovey, 2010). However, there are many ways to define and assess religiousness. Religiosity has been measured in several ways, including religious commitment and spirituality. Religious commitment entails measurable ways in which an individual is committed to a religion, such as church attendance and time devoted to religious study (Batson & Ventis, 1983, Worthington, Wade, Hight, McCullough, Berry, Ripley, & O'Connor, 2003). Spirituality is typically measured in terms of spiritual maturity, or the extent to which an individual adheres to an existential view of life (Hall & Edwards, 2003). On the other hand, religiosity has also been measured in terms of ways that might have a negative effect on mental health, such as extrinsic religiosity and religious quest. An extrinsic religious orientation is considered an immature orientation that is motivated by external gains, such as appearance (Allport & Ross, 1967). Religious quest involves the extent to which an individual is actively seeking answers to questions about religion (Batson& Scheonrade, 1991). Measuring religiosity and spirituality from these different aspects has yielded different results regarding how being religious or spiritual may protect against depression and anxiety.

This study will examine meaning in life as a mediator to explain the relationship between religiosity/spirituality and mental health. From a cognitive perspective, meaning in life may explain the protective nature of religiosity/spirituality on mental health as it provides a way for individuals to make sense of difficult circumstances (Frankl, 1968). Religious commitment and spirituality may contribute to higher levels of meaning in life, as they are aspects of religiosity that research has shown to denote a greater

adherence to religion and existential beliefs. Extrinsic religiosity and religious quest may correlate with lower levels of meaning in life, as they are aspects of religiosity that either denote a shallow religious orientation, or an uncertainty regarding religious beliefs. Having a higher sense of meaning may provide individuals with the cognitive tools necessary to be resilient through difficult times as opposed to becoming susceptible to depression and/or anxiety.

The purpose of this study will be to examine the mediating effect of meaning in life. Since previous mental health research has found different results depending on the measurement of religiousness, this study will explore whether the impact of religiousness may be better explained by its impact on meaning in life. As shown in Figure 1-1, meaning in life will be hypothesized to mediate the relationship between variables of religiosity/spirituality and variables of mental health. When the mediator, meaning in life, is controlled for, the relationship between religiosity/spirituality variables and mental health variables should significantly decrease. The following hypotheses will be examined:

1) Religious commitment and spiritual awareness will be negatively correlated with depression and anxiety,
2) Extrinsic religiosity and religious quest will be positively correlated with depression and anxiety,
3) Religious commitment and spiritual awareness will be positively correlated with meaning in life,
4) Extrinsic religiosity and religious quest will be negatively correlated with meaning in life,
5) Meaning in life will be negatively correlated with depression and anxiety,
6) Meaning in life will mediate the relationship between religious commitment, spiritual awareness, extrinsic religiosity, and religious quest and depression and anxiety.

Males and females respond differently to symptoms of depression and anxiety, and may therefore present with different results regarding how religiosity/spirituality and meaning in life affect depression and anxiety. This possibility of differences between genders will be explored through a research question as opposed to a hypothesis, as research is not clear regarding exactly how males and females respond to each variable of religiosity and meaning in life.

7) How does the relationship between a) extrinsic religiosity, religious commitment, spiritual awareness, religious quest; b) meaning in life, and c) depression and anxiety differ for males and females?

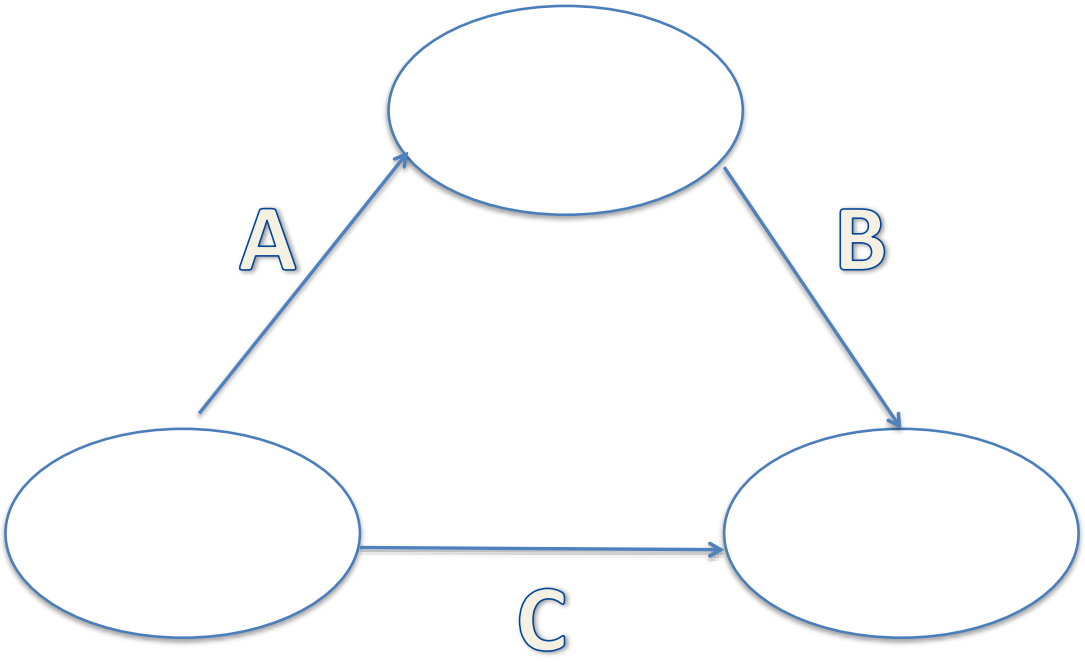

Figure 1-1. Mediation model

CHAPTER 2
REVIEW OF THE LITERATURE

The effect of religiosity and spirituality on mental health has been researched and studied for several years and is gaining increased attention. Existing literature widely supports a protective effect that being religious or spiritual has on mental health outcomes such as depression and anxiety (Jansen, Motley, & Hovey, 2010). Moreover, being self-identified as not religious has been identified as a risk factor for greater levels of depression and anxiety among college students (Khavari & Harmon, 1982). Being female has also been identified as a risk factor for depression and anxiety (Davenport & Lane, 2006). Because depression and anxiety are separate diagnoses and differ in their definitions, it is important to understand the nature of both in order to fully grasp how they may be uniquely affected by religiosity and spirituality (Sternthal, Williams, Musick, & Buck, 2010).

Depression

Depression is a growing concern for adolescents, particularly among the college-aged population. Young adults aged 18-24 report higher rates of Major Depressive Disorder (MDD), diagnosed when a depressed mood lasts longer than two weeks, as well as Depressed Mood, diagnosed when symptoms of depression are experienced (Lindsey et al., 2009). The Center for Disease Control and Prevention (CDC) reports that 9.7% of 20-24 year olds and 7.5% of 15-19 year olds met criteria for MDD, and between 30-40% reported depressed mood, which occurs when symptoms of depression are experienced, but not enough symptoms to meet diagnosis for MDD (Riole, 2002). According to the 2002 American College Health Association's (ACHA) National College Health Assessment, research points to various factors contributing to

depression, including lack of a sense of familial support, family history of substance use, trauma, low self-esteem, introversion, a need to please others, feeling hopeless or helpless, and having negative thoughts and beliefs about the world, future, and the self (Lindsey et al., 2009).

Some symptoms of a Major Depressive Episode listed in the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) include 1) a depressed mood most of the day, nearly every day as noted by subjective report or observation made by others, 2) diminished interest or pleasure in all, or almost all, activities, 3) significant weight loss when not dieting or weight gain, insomnia or hypersomnia, nearly every day, 4) psychomotor agitation or retardation nearly every day, 5) fatigue or loss of energy nearly everday, 6) feelings of worthlessness or excessive or inappropriate guilt nearly every day, 7) diminished ability to concentrate nearly every day, and 8) recurrent thoughts of death, recurrent suicidal ideations without specific plan, or a suicide attempt (DSM-IV TR, 2000). A person must experience five or more symptoms during the same two week period, with at least one symptom being depressed mood or loss of interest or pleasure, to meet diagnosis for a Major Depressive Episode (DSM-!V TR, 2000). More than one episode (with an interval of at least two months) will meet diagnosis for MDD (DSM-IV TR, 2000). A larger number of emerging adults often experience some of these symptoms without meeting the criteria for diagnosis. This study will examine symptoms of depression among the college-aged population as individuals may be experiencing symptoms without necessarily meeting diagnostic criteria.

It is important to note that depression consistently affects females at higher rates than males (Mahmoud et al., 2010). Khalil, A., Rabie, M., Abd-El-Aziz, M., El-Rasheed,

A., & Sabry, W. (2012), in their study of depression in adolescent females, noted that a higher prevalence of depressive symptoms in females than males may be due to biological changes associated with puberty, genetics, sociocultural factors, or a cognitive predisposition. Because depression is largely influenced and defined by a sense of hopelessness and lack of connectedness to others, depression may be specifically influenced by the ability of religiosity and spirituality to have an impact on these areas (Sternthal et al., 2010). Religiosity and spirituality may help to provide young adults with a sense of hope, and also provide social support and connectedness.

Anxiety

Although MDD and general anxiety disorder (GAD) are quite often found to be co-morbid, they are separate diagnoses that are defined by a separate list of diagnostic criteria (Kessler, Gruber, Hettema, Hwang, Sampson, & Yonkers, 2007). The diagnosis of GAD has evolved from a set of physiological symptoms, such as sweating, racing heart, and gastrointestinal problems associated with episodes of panic, to a greater psychological-driven set of symptoms to include insomnia and difficulty concentrating (Hettema, 2008). Diagnostic criteria for GAD include persistent worries, obsessions, restlessness/edginess, fatigue, difficulty concentrating, muscle pain or tension, tremors, insomnia, sweating, nausea, diarrhea, shortness of breath, and rapid heartbeat (DSM IV TR, 2000). Epidemiological studies, and reports such as the National Comorbidity Survey, have shown that approximately 4% and 7% of the population have met criteria for GAD (Keesler, 2000), with age of onset typically being in the late teens or 20's. GAD, left untreated, is often chronic, producing a lifetime prevalence of between 20 and 30% (Kessler, 1994). Because GAD is often co-morbid with depression, GAD in its true form often goes unnoticed, as worrying is often thought of as normal (Keesler, 2000).

This poses a special threat to young adults in college; they may view anxiety as a “normal” part of college, and, in the absence of another disorder, such as depression, they may not realize that an onset of GAD has occurred (Keesler, 2000). GAD is characterized by worrying that impedes an individual’s ability to get through the day. The worrying that accompanies GAD may also cause an inability to concentrate, focus, or sleep, Moreover, an individual with GAD may also experience a general sense of dread and fear without a rational source. As with depressive symptoms, this study will be looking at symptoms of anxiety that might not necessarily meet criteria for a diagnosis of GAD, as individuals may experience symptoms without having a diagnosis.

As with depressive symptoms, religiosity and spirituality may have positive implications for symptoms of anxiety, as being religious or spiritual may provide young adults with a source of hope through stressful and uncertain times (Khavari & Harmon, 1982). Aspects of religiosity, such as religious commitment to attendance and personal prayer time, may protect against symptoms of anxiety (Maltby, 1999; Hertsgaar & Light, 1984). However, other aspects of religiosity, such as religious quest, may exacerbate, or contribute to, anxiety symptoms, as having unanswered existential questions may cause greater anxiety during difficult circumstances (Kojetin, McIntosh, Bridges, and Spilka, 1987).

Cognitive Theory

Cognitive theory posits that individuals react to life events based largely on their perceptions of these events. George Kelley, an early pioneer of cognitive theory, held that "a person's processes are psychologically channelized by the ways in which he anticipates events" (Kelly, 1977, p. 358-59). An individual’s emotional reaction to events can be attributed to the way in which that individual perceived the events as opposed to

the actual events themselves. Kelly (1977) used cognitive theory to support his psychotherapeutic approach of challenging client's perceptions of reality as opposed to focusing on the unconscious state. Kelly (1977) proposed that an individual's perception of the world could be broken down into constructs, or ways in which one differentiates or relates events with other events. Kelly theorized that these constructs were influenced by the individual's existential beliefs. Similarly, Jessing Bering (2002) postulated that cognitive skills are required to find meaning behind life events, and that meaning grounded in religious or spiritual purpose influenced one's ability to successfully cope with life events. Bering (2002) noted that an ability to attach meaning to cognitive interpretations of life events is an ability that could enable individuals to make sense of why certain things happen. While reactions to life events may be explained by an individual's perception, an individual's ability to cope and make sense of life events may be explained by the individual's ability to attach meaning to the events (Bering, 2002).

Aaron Beck formulated an intervention for symptoms of depression and anxiety based upon tenets of the cognitive theory (Clark & Beck, 2010). Cognitive therapy is a therapeutic approach to depression and anxiety that focuses upon an individual's maladaptive thoughts and perceptions of him/herself and the world (Clark & Beck, 2010). A large part of the success of cognitive therapy is its ability to help an individual redirect attention from thoughts that contribute to anxiety and depression (DeRubeis, 2010). The redirection of maladaptive thoughts has been shown to have a direct effect on the individual's psychological well-being, providing immediate symptom relief (Clark & Beck, 2010). Upon learning how to recognize irrational, maladaptive thoughts, one

can gain the ability to redirect those thoughts to something that is more solution-focused and reality-based (Clark & Beck, 2010).

The research of Beck also supported that many cases of MDD can be attributed to a preoccupation with thoughts of hopelessness, while GAD can be traced to a preoccupation with thoughts of danger (Beck, Brown, Steer, Eidelson, & Riskin, 1987). Given these cognitive sources of depressive and anxiety symptoms, religiosity and spirituality may provide a non-therapeutic approach to depression and anxiety because of the implications of providing meaning in life. The extent to which an individual is able to perceive meaning behind life events may determine the amount of depression and/or anxiety an individual experiences as a result of those events; if the individual is able to perceive meaning, then the individual is less likely to experience maladaptive thoughts related to stressful events. Moreover, religiosity and spirituality may play a large role in the ability of an individual to find meaning in life (Steger, 2008). As Lerner et al. (2006) note, this relationship is difficult to measure because of the complexity involved in measuring different aspects of religiosity and spirituality. Religiosity and spirituality can be measured from several aspects, depending on how they are defined. This study will include several measures of spirituality and religiosity, for the purposes of creating a robust picture of the many ways one can be religious or spiritual.

Religiousness and Spirituality Defined

A sharp distinction once existed between the conceptual definitions of religiousness and spirituality and their use in social sciences. For researchers, religiousness was typically associated with affiliation with an institution, specific religious practices, doctrine, and the recognition of the autonomy of an external power. Spirituality, on the other hand, was associated with an internal passion and subjectivity

toward a spiritual experience (Hill & Pargament, 2003, Zinnbauer, Pargament, Cole, Rye, Butter, & Belavich, 1997). Conceptualizing these two constructs has proved to be difficult as the definitions and distinctions between the two are quite diverse. A negative connotation typically accompanies the use of the term religious, as it can imply the sacrifice of individual thought and freedom for subjection to the authority of an institution and/or doctrine (Hill & Pargament, 2003). Spirituality generally connotes freedom, and is thought of more positively and something that is internally chosen and driven by passion instead of institutional obligation (Hill & Pargament, 2003).

The concept of spirituality and its separation from religiousness came about in the United States as Americans, particularly the baby boomer generation who came out of organized religions of the 1960s and 1970s, began to become secularized and focus more on New Age spirituality (Zinnbauer et al., 1997). A segment of this generation began to define themselves as spiritual but not associated with a religion. Since then, the definitions differentiating the two terms have been unclear and highly subjective, meaning different things to different people.

However, as Hill & Pargament's (2003) study on the conceptualization of religion and spirituality reveal, spirituality and religiousness are not necessarily the polar opposite concepts that they were once believed to be. In fact, Hill & Pargament (2003) argued that maintaining such a distinction would pose dangers for future research. Their study revealed that a majority of individuals who would identify themselves as religious would also define themselves as spiritual. As found to be true by Zinnbauer et al. (1997) as well as Pargament, Sullivan, Balzer, Haitama, & Raymark (1995), while religiousness and spirituality may have different conceptual terms, and mean different things to

different people, they are not necessarily conceptually independent of one another. While a large number of individuals who would self-identify as spiritual may not necessarily identify themselves as religious, there are few individuals who would identify themselves as religious but not spiritual (Zinnbauer et al., 1997). As Zinnbauer et al. (1997) found, a majority of individuals who identify themselves as spiritual but not religious do so out of a dislike for organized religion for reasons such as being hurt by the clergy or a dislike for the authoritarianism and doctrine of organized religion. However, it is this distaste for organized religion that Zinnbauer et al. (1997) as well as Pargament et al. (1995) argue that the term "religious" should be kept in social sciences as an all-encompassing term for the spiritual, the religious, and the religious and spiritual.

Although religiosity and spirituality are related conceptually, they are defined and measured in different ways. In order to reveal the complexities of religiosity and spirituality that Pargament et al. (1995) and Zinnbauer et al. (1997) refer to, it is necessary to measure all aspects of each concept.

Religious Commitment

Worthington (2003) defined religious commitment as "the degree to which a person adheres to his or her religious values, beliefs, and practices and uses them in daily living" (p. 85). Worthington (1988) used a religious commitment model to look more closely at how religion affects individuals both positively and negatively and under what conditions. He hypothesized that the extent to which individuals were positively affected by religion were those who were the most committed to their religion (Worthington, 1988). Variables that have been used to measure religious commitment include membership, participation in religious activities, and adherence to religious

creed (Hill & Hood, 1999). In this study, religious commitment is measured in terms of these variables, as well as variables such as amount of time reading books related to an ascribed religion, and how much a religion affects an individual's daily life decisions.

Spirituality

Hall & Edwards (2002) were motivated by the growing criticism of previous models of religious orientation, and the heavy focus on religiosity in relation to mental health, and sought to create a model with an alternative theoretical foundation that was based primarily on an individual's level of spirituality. The spiritual assessment inventory (SAI) was created as a result of a growing need to have an instrument assessing spirituality that is theory based, and would have clinical implications. The SAI was created to meet the need for an assessment of spirituality that is based on psychometric variables and can be used in a clinical setting (Hall & Edwards, 2002). Hall & Edwards (2002) drew on the research supporting object relations theory as a framework for measuring the role that spirituality can play in mental health. Object relations theory holds that the relationships formed with primary caregivers in infancy will dictate relationships with other "objects" later in life. In Hall & Edwards (2002) development of the Spiritual Assessment Inventory, God serves as the "object", and the level of maturity of an individual's relationship with God is measured by their relational maturity (Hall & Edwards, 2002). Hall & Edwards (2001) argued, "one's relational/emotional development is mirrored in one's relationship with the Divine, however that is perceived by the individual" (p. 341). Hall & Edwards' (1996) research supported a positive correlation between relational maturity and awareness of God.

The SAI consists of two dimensions, Quality of Relationship with God and Awareness of God. Within these dimensions, Hall & Edwards (1996) also found five

factors, or subscales, including awareness, realistic acceptance, disappointment, grandiosity, and instability. These subscales were revealed, through their research, to be factors that are indicative of the maturity of the individual's relationship with God (Hall & Edwards, 1996). The SAI was created to be useful in measuring these elements of relational maturity for the purposes of being indicative of an individual's ability to handle mental distress, such as depression and anxiety (Hall & Edwards, 2002). This study will focus specifically on the subscale Awareness of God. From a cognitive perspective, having an awareness of a higher power may affect an individual's perception of life events; if an individual is aware of a higher power, that individual may be more likely to consider how that higher power will influence his/her life.

Extrinsic Religious Orientation

Gordon Allport, in his study of religion in the 1940s and 50s, posited that individuals form either an intrinsic or extrinsic orientation to religion. An intrinsic orientation is associated with a mature religious development. An intrinsically religious individual views religion as a means in and of itself, and is not motivated towards religion by egocentric desires (McConnell, 1969). Extrinsic religious orientation, however, is identified as an immature religious orientation. An individual who has an extrinsic religious orientation views religion as a means to a desired end. The motivation is in what can be gained by "being religious", whether social status, social networks, solace, or personal identity is the basis for motivation. The primary differentiating aspect between extrinsic and intrinsic religious orientation, according to Allport, is that to an extrinsically religious person, religion is a means to a desired end (i.e. social acceptance, support, etc.), and to an intrinsically religious person, the religion itself is the end (Lavric, 2011). Allport's definition of intrinsic religiosity is similar to

Worthington's (2003) definition and view of religious commitment. Worthington hypothesized that a religiously committed individual would have greater mental health, because the individual would begin to view his/her world through religious schemas and use religious doctrine to help find meaning to different circumstances. This is very similar to Allport's theory that intrinsically motivated individuals are motivated to adhere to a religion simply because of the religion itself and not because of any external gains. Worthington (2003) also notes that, because of similarities between intrinsic religious motivation and Allport's intrinsic religious orientation, several items in the Religious Commitment Inventory were similar to items measuring intrinsic religiosity in Allport's Religious Orientation Scale. Because of these similarities, intrinsic religiosity will not be measured in this study. Previous research has largely supported extrinsic religiosity being related to higher levels of depression and anxiety, due to insufficient coping mechanisms during difficult times; extrinsically religious individuals tend to rely more on social acceptance and social standing for fulfillment, and are thus not cognitively prepared to handle difficult life circumstances (Maltby & Lewis, 1996). Furthermore, when an individual is depressed or anxious, that individual typically becomes less pleasant to be around, leading to a decrease in socialization (Maltby & Lewis, 1996). If the socialization aspect of religiosity is what the person depends on for support through difficult times, then a loss of it will promote greater depression and anxiety then if that individual was able to cope based on the religion itself (Maltby & Lewis, 1996).

Religious Quest

A third orientation was added to Allport's intrinsic/extrinsic model after criticism that being intrinsic or extrinsic in religiosity did not appropriately measure the extent to which an individual's religion affects his/her life. Batson and Ventis (1983) argued that some of

the very characteristics that Allport used to describe mature religion, or intrinsic religiosity, were left out of his Religious Orientation Scale. These components include the ability to integrate one's religion in facing ethical or moral issues, such as the problem of evil, exploring doubt about one's religion, and realizing that one can never fully understand an ascribed religion, and therefore one is always on a "quest" to learn more. These characteristics make up a third religious orientation that Batson and Ventis (1982) termed religious quest. Batson and Ventis (1982) argued that a true indication of religious maturity is the ability to embrace doubt in regards to religion and embrace a critical attitude. Batson and Raynor-Prince (1983) further argue that past studies linking intrinsic religiosity to open-mindedness and exploration of religious doubt never resulted in a positive relationship.

In their 1983 study, Batson and Raynor-Prince sought to further research the correlation of intrinsic religiosity and flexibility and open-mindedness toward religion. They utilized a Religious Paragraph Completion Test (RPCT). The RPCT prompted the testers to complete paragraphs beginning with cognitively complex issues, such as "When I consider my own death…", (Batson & Raynor-Prince, 1983). The RPCT was scored based on content. This method eliminated the risk of a social desirability bias, which Batson believed was responsible for falsely identifying individuals as intrinsically religious using Allport's Religious Orientation Scale (Batson & Raynor-Prince,1983). The results of their research supported their hypothesis that religious quest was a third way of being religious, as individuals who were identified as intrinsically religious did not demonstrate flexibility or open-mindedness toward their religion through their answers. However, Batson et al. (1983) could not conclude whether individuals who identified

with a religious quest orientation were psychologically better off than those who were intrinsically religious. Although psychologists may encourage self-exploration and open-mindedness, Batson and Raynor-Prince (1983) admitted that quest-oriented individuals may lack the peace of mind that intrinsically religious individuals may have. Because of the nature of exploring doubts and questions related to religion, Batson & Raynor-Prince (1983) noted that individuals who are engaging in religious quest may be experiencing more psychopathology, such as depression and anxiety. A lack of assurance in religious faith may increase depression and anxiety, where assurance in the religion may otherwise have protected against it (Batson & Raynor-Prince, 1983).

In this study, religious quest will be defined as an exploration of doubt and questions regarding an individual's religion.

Relationship of Religiousness/Spirituality to Depression and Anxiety

With the various ways of defining and measuring spirituality and religiosity, the effects of religion and spirituality on depressive and anxiety symptoms are not yet completely understood. Research supports that religiosity and spirituality do have a negative relationship with symptoms of depression and anxiety, but it is not understood what components of religion and spirituality are responsible for this negative effect (e.g., intrinsic, extrinsic, commitment, spirituality, etc.). From the research that has been conducted regarding the relationship of religiosity/spirituality to mental health, religious commitment and spirituality have largely been shown to be negatively correlated with symptoms of depression and anxiety (Worthington, 1988; Allport, 1967), while extrinsic religiosity and religious quest seem to be positively correlated with symptoms of depression and anxiety (Maltby & Lewis, 1996; Batson & Raynor-Prince, 1983).

Depression. Berry (2011) sought to examine a correlation between religiosity and depressive symptoms. Because empirical research is not clear on the most appropriate way to measure religiosity and spirituality, Berry (2011), did not adhere to one theoretical framework, but utilized several instruments in order to capture different aspects of religiosity and spirituality (similar to this study). The Spiritual Meaning Scale was used to measure the extent to which religiosity and spirituality have meaning in an individual's life, the Intrinsic Religious Motivation Scale was used to measure intrinsic religiosity, the Brief Religious Coping Scale was used to measure religiosity and spirituality as coping mechanisms, and the Religious Background and Behavior Questionnaire were used to measure how much an individual adheres to religious practices (Berry, 2011). The results of Berry's (2011) study showed a negative correlation between religion and symptoms of depression. Berry concluded that religiosity and spirituality have a direct protective effect on depression (Berry, 2011). He attributed the direct affect to the possibility that religiosity and spirituality possess "an irreducible quality that is grounded in a transcendent being" (Berry, 2011, p 81). This conclusion drawn by Berry (2011), that an individual can be protected from depression and anxiety just by believing in a higher power, supports the protective value that spirituality may have on depression and anxiety. Berry (2011) further concluded that more research still needed to be conducted explaining why, and under what circumstances, religion and spirituality becomes protective.

Murphy et al. (2000) hypothesized that a mediating factor may be responsible for a negative correlation between levels of religiousness and spirituality and symptoms of depression and anxiety. Utilizing the Spiritual Well-Being Scale and measuring the

frequency of both private and public religious practice (a measure of religious commitment), Murphy et al. (2000) studied levels of religiousness and spirituality among mental health patients diagnosed with depression, and compared them to levels of hopelessness. Murphy et al. (2000) utilized only the Religious Well-Being (RWB) subscale of the Spiritual Well-Being scale to measure religious belief. The RWB subscale measures well-being specifically in relation to God, and asks questions such as “I believe that God is concerned with my problems” (Murphy et al., 2000). Results of the study showed a negative correlation between religious belief and depression, mediated by hopelessness (Murphy et al., 2000). This supports the idea that belief in a religion or higher power will help protect against depression, possibly by increasing levels of hope. This idea that simply believing in a religion is enough to positively contribute to an individual’s emotional state is an idea that is congruent with underlying tenets of the Spiritual Assessment Inventory, particularly the Awareness of God subscale (Hall & Edwards, 2002). That is, belief in a higher power may be sufficient to decrease levels of depression. A negative correlation was not found between frequency of private and public religious practice and depression (Murphy et al., 2000). Murphy et al. (2000) concluded that more longitudinal research needed to be done on specific aspects of being religious and how they correlate to hopelessness.

Phillips & Henderson (2006) conducted research that focused specifically on the correlation of religiosity to depressive symptoms among college students. They utilized a questionnaire that asked respondents for a self-report of their perceived level of religiosity. The self-report involved a question asking participants “How religious are you?” with responses ranging from “a little”, “some” “very”, to “not at all”. Their results

supported previous research that those who identified as “highly religious” were among those college students with the lowest rates of depressive symptoms (Phillips & Henderson, 2006). This research supports the argument for religious commitment being protective against depression, as self-identifying as “very religious” suggests religious commitment. However, Phillips & Henderson (2006) admitted that further research needed to be done concerning what specific components of being religious affected symptoms of depression.

Rasic, Kisely, & Langile (2011) utilized a self-report survey to measure religious importance and religious service attendance (a variable of religious commitment), and rates of depression along with other risky behaviors. Rasic et al. (2011) found that, among females, higher importance of religion was related with lower levels of depressive symptoms, and more religious attendance was protective against depression. However, these associations were not found among males.

Anxiety. Jansen et al. (2010) sought to examine the relationship of religion and spirituality to symptoms of depression and anxiety in college students based on religious affiliation, particularly Protestant Christianity and Catholicism. Jansen et al. (2010) measured religiosity based on the amount of influence religion has in an individual’s life. Jansen et al. (2010) utilized a religious beliefs and influence questionnaire that measured each individual’s religious affiliation, the level of religious influence in the individual’s life, the individual’s level of religiosity, and the individual’s rate of church attendance. The results did not show a difference based on specific affiliation (Jansen et al., 2010). However, among those who identified as being religious, no difference was found in anxiety, while a negative correlation was found between

anxiety levels and church attendance (Jansen et al., 2010). Jansen's et al. (2010) results suggested that, when considering anxiety, church attendance (a variable of religious commitment) was a determining factor.

Koenig (2004) also acknowledged mixed results being found among the literature examining the correlation between religion, spirituality and symptoms of anxiety. Koenig (2004) suggested that anxiety levels might increase among highly religious individuals but only in relation to participating in risky activities that contradict their beliefs, and therefore may be a protective form of anxiety.

Peterson & Roy (1985) sought to examine a negative correlation between religious commitment and anxiety symptoms, positing that church attendance would be correlated with lower levels of anxiety because an individual with greater church attendance would attach a greater level of religious meaning to negative life events, and also would have a greater support network of like-minded peers. Peterson & Roy (1985) employed a random telephone survey of 450 participants, randomly selected from the telephone directory in the Memphis area. They utilized an interview-style methodology, with a single item addressing religious attendance, and three items addressing symptoms of anxiety. Peterson & Roy (1985) noted a negative correlation was found between religious commitment and symptoms of anxiety, supporting the protective effect of church attendance.

Lavric & Flere (2007) sought to measure a correlation between intrinsic/extrinsic religiosity, religious quest, and anxiety. Lavric & Flere (2007) utilized the Intrinsic/Extrinsic – Revised scale, developed by Gorsuch & McPherson (1985), to measure extrinsic religiosity, a 12-item measure of the religious quest orientation was

used to measure religious quest, and the State Trait Anxiety Inventory (Spielberger et al., 1970) was used to measure anxiety. The sample consisted of undergraduate college students from four different cultural samples, including 470 students from Maribor, Slovenia, 439 students from Sarajevo, Bosnia, and Herzegovina, 427 students from Nis, Serbia, and 450 students from Auburn, Alabama. Lavric & Flere (2007) found religious quest to be positively correlated with trait anxiety, among all samples, while extrinsic religiosity was either positively correlated with or non-significant with anxiety symptoms.

Koenig (2004) also acknowledged mixed results being found among literature examining the correlation between religious, spirituality and anxiety. Koenig (2004) suggested that anxiety levels might increase among highly religious individuals but not in relation to participating in risky activities that contradict their beliefs, and therefore may be a protective form of symptoms of anxiety.

Conclusions. Existing research regarding the effect of religiosity/spirituality on mental health has yielded different results, depending upon how religiosity and spirituality are measured. Berry (2011) noted that measuring religiosity and spirituality is so complex that utilizing different measures is necessary in order to capture how various ways of being religious or spiritual can affect mental health. When religiosity is measured in terms of religious commitment, research has largely shown a negative correlation with depression and anxiety (Worthington, 1988). Religious commitment is typically reflective of a greater adherence to a religion, and thus may play a greater role in an individual's life. Moreover, greater commitment to a religion may also lead to a greater network of support to help an individual through difficult times (Pargament,

1997). Research has also supported the protective role that simply being aware of a higher power may play against depression and anxiety (Hall & Edwards, 2002; Berry, 2011). Research by Murphy et al. (2000) also supported how a belief in a higher power that is concerned with one's problem may be correlated with lower levels of symptoms of depression/anxiety.

While research has supported the protective effect that religious commitment and spiritual awareness have on depression and anxiety symptoms, extrinsic religiosity and religious quest have been shown to have a positive correlation with both. The work of Burris (1994) resulted in either a non-significance or positive correlation between extrinsic religiosity and anxiety, among samples of various cultures. Burris' (1994) research also showed a consistent positive correlation between religious quest and anxiety symptoms among different cultures.

Meaning in Life Related to Religiosity and Spirituality

Religiosity and spirituality are known to contribute to meaning in life, as an individual who is religious or spiritual has most likely considered a greater purpose or meaning to life. When defining meaning in life, Mascaro & Rosen (2006) alleged that individuals may have a spiritual meaning to life, in which "beliefs and spiritual forces" underlie meaning, or they may have personal meaning, with a sense of purpose that is not dictated by factors such as religion or spirituality. Frankl (1968) theorized that individuals are better able to cope with difficult circumstances if they have an established meaning in life, because they are able to believe that a higher power or reasoning is at work. Being religious or spiritual may lead to a higher sense of meaning in life because individuals can acknowledge a purpose or reason for why things happen (Frankl, 1968).

Cotton et al. (2005) sought to examine the differences between religious and spiritual development in adolescents. Cotton et al. (2005) asked spiritual well-being questions, regarding life purpose and meaning in life, and religious well-being questions, regarding an adolescent's well-being specifically in relation to God and religion. Cotton et al. (2005) found spirituality to be a greater predictor of levels of depression in adolescents, and concluded that religion did not matter to adolescent well-being if that adolescent did not feel a sense of purpose and meaning in life. Cotton et al. (2005) showed that meaning in life needed to be in an integral part of spiritual/religious development for religious or spirituality to have any positive benefits to mental health. Peterson & Roy (1985) noted that a religious or spiritual adherence has the ability to help individuals cope with difficult circumstances not because it removes unpleasant emotional reactions, but because it has the ability to attach meaning to the situation.

As religious commitment and spirituality have been shown to be more indicative religious/spiritual maturity, they are believed to contribute more to an individual sense of meaning in life. Religious quest and extrinsic religiosity, on the other hand, may decrease meaning in life, because of their implications of uncertainty and superficiality.

Meaning in Life Related to Depression and Anxiety

Victor Frankl (1968) proposed the idea that having a sense of meaning in life can greatly protect against negative mental health outcomes, such as depression and anxiety, when he authored "Man's Meaning to Life". In the publication, Frankl reflected upon his experiences in a Nazi concentration camp, and reported that it was his sense of meaning and purpose that helped him cope with a nightmarish situation. Aaron Beck (1967), a cognitive theorist, also argued the role that meaning in life can play in the

presence of depression and anxiety. Beck (1967) posited that, from a cognitive perspective, an individual is more likely to become susceptible to greater symptoms of depression and anxiety if that individual does not feel a sense of purpose and meaning in life. If an individual cannot perceive meaning behind negative life events, then that individual will be more prone to becoming depressed or anxious as a result of those events (Beck, 1967). If an individual is lacking a personal sense of meaning to life, that individual is more likely to be vulnerable to psychopathologies (Yalom, 1980). Battista and Almond (1973), in reviewing the existing theories of meaning in life, concluded that individuals who have a sense of meaning in life are individuals who are positively committed to meaning in life, possess a framework from which to view their lives, view their lives in relation to this framework, and perceive this relationship to a framework as fulfillment. A cognitively healthy sense of religiosity and spirituality, such as being religiously committed or spiritually aware, may provide this framework from which individuals can view their lives with a sense of meaning.

Steger et al. (2008) posited that meaning in life is associated with psychological well being because individuals are more likely to feel as if they are important, and are better able to make sense of the world. Steger (2008) defines meaning in life as "the extent to which people comprehend, make sense of, or see significance in their lives, accompanied by the degree to which they perceive themselves to have a purpose, mission, or over-arching aim in life." Furthermore, as Ryff (1989, p. 1071) pointed out, "One who functions positively has goals, intentions, and a sense of direction, all of which contribute to the feeling that life is meaningful." Having meaning and purpose in

life is more likely to lead to positive mental health. When considering religiosity and spirituality, meaning in life may explain the relationship with depression and anxiety.

Meaning in Life as a Mediator

Because religiosity and spirituality have been shown to contribute to meaning in life, and meaning in life has been shown to decrease the rates of depression and anxiety, it can be argued that the presence of meaning in life is a mediator between religiosity and spirituality and depression and anxiety. Sorajjakool, Aja, Chilson, & Ramirez-Johnson (2008) pointed out that spirituality and religious commitment can protect against depression and anxiety symptoms because they enable individuals to rationalize, or find meaning in, pain and difficult circumstances. Thus, religious commitment and spirituality may be correlated with lower levels of symptoms of depression and anxiety because of the cognitive implications of the presence of meaning in life.

On the other hand, religious quest and extrinsic religiosity may be related with higher levels of depression and anxiety symtpoms. An individual who is engaging in religious quest may have more unanswered questions regarding religion, which may contribute anxiety or depression (Batson & Ventis, 1982), and an extrinsically religious individual is likely to have superficial reasons for being religious, and thus is not benefitting psychologically from the religion (Allport, 1967). Because of the nature of doubt and lack of assurance associated with religious quest, and the superficial nature associated with being extrinsically religious, religious quest and extrinsic religiosity are likely to be associated with lower levels of meaning in life. These lower levels of meaning in life are likely to explain a positive correlation with depression and anxiety.

Research has supported the protective nature that religiosity and spirituality have against depression and anxiety. This protective nature supports the notion that the level of religiosity and spirituality in young adults should be considered more in depth in models of cognitive theory. However, the relationship that religiosity and spirituality have with depression and anxiety varies depending on how religiosity and spirituality are defined and measured.

Current Study

Among the existing literature, research that specifically studies the different ways of being religious or spiritual for the purposes of knowing which is the greatest protector against depression and anxiety symptoms remains inconclusive. As Dew et al. (2008, p. 382) state, "what precise dimensions of religion and spirituality may contribute to any protective or injurious effects remain unclear." A better understanding of why religiosity and spirituality can protect against mental health problems will enhance our understanding of how religiosity and spirituality contribute to psychological health and well being. The literature suggests that exactly why religiosity and spirituality can either protect against or contribute to depression and anxiety has not yet been revealed, and it may be mediated by a cognitive factor, perhaps a sense of meaning in life. This study will take a closer look at different aspects of religiosity and spirituality for the purpose of better understanding exactly how religion and spirituality affects depression and anxiety in young adults and will explore the mediating effect of meaning in life. This study will specifically look at religious commitment, spirituality extrinsic religious orientation, and religious quest, to determine how each aspect relates with depression and anxiety when they are mediated by meaning in life.

CHAPTER 3
METHODOLOGY

Research Design

The research design for this study is a cross-sectional design. Bryman (2008) notes that researchers use a cross-sectional design when they are interested in variation. In this study, variation in religiosity and spirituality is being measured. This variation is significant because it will show which aspects of religiosity and spirituality correlate positively or negatively with depression and anxiety. David de Vaus (2001) and Bryman (2008) further point out that for a cross-sectional design to be applicable, the data must be collected at a single point in time. In this study, the data consists of results from a survey that was administered once. There was not a pre-test or post-test and no longitudinal observations were made.

Another qualifying characteristic of the cross sectional design is that it involves naturally formed groups (de Vaus, 2001). In an experiment, groups are formed by random allocation, and each group is assigned some form of a treatment, or no treatment (de Vaus, 2001). In a cross sectional design, however, groups form themselves based on the differences that already exist (de Vaus, 2001). Groups will be formed based on participants' self-reported levels of religiosity and spirituality.

Data Collection

Sample. This study drew from an existing data set. Data was gathered from undergraduate college students from 30 universities and colleges from across the U.S. The mean age of the sample is 19.77. The data set consisted of 1859 (27.5%) males, and 4946 (72.7%) females. The sample is ethnically diverse, including 7.2% black, 63.3% white, 10.6% East Asian, 13.9% Hispanic, and 3.1% South Asian. Religious

preferences represented in the sample include 792 (11.6%) who claimed no religion, 447 (6.5%) who claimed agnostic, 185 (2.7%) who claimed atheist, 2307 (33.8%) who claimed Protestant, 1860 (27.2%) who identified as Roman Catholic, and 299 (4.2%) who chose “other”.

Participants who had missing data and did not complete the instrumentations were removed. Also, participants who did not fall into the age range of 18-25 were removed, as this age range is when religious and spiritual development is the most essential. After the participants with missing data were removed, the differences between the groups were minimal. The number of males and females in each group were approximately the same. The percentage of males differed little (26.1% to 27.5%), as did the percentage of females (70.1% to 72.7%). The mean age of participants only differed by .52 years, suggesting that those who had missing data were slightly younger.

The ethnic distribution between the missing and non-missing groups were approximately the same. Slightly fewer participants who claimed an ethnicity of “black” were removed for missing data (8.5% to 7.2%), while slightly more participants who self-identified as “white” increased (58.5% to 63.3%). Differences between other ethnic groups, including Hispanic, Middle Eastern, East Asian, South Asian, and Colored South African were within 1%. Overall, those who were removed for missing data did not differ significantly from those who were included in the study. The study had an overrepresentation of females (72.7% compared with national average of 50.92%), and a low African American population (7.2%) compared to national college population data,

which reports approximately 10% of students enrolling in college self-identify as “black” (College Board, 2010).

Procedure

This study drew from existing data from a Multisite University Study of Identity and Culture (Schwartz, 2009). Data collection for the MUSIC study occurred from 2008 to 2009 and included approximately 10,000 students. Students at each university or college were offered extra credit or other incentives for participating in the study. The study was voluntary, and participants were informed of their right to skip any questions they did not feel comfortable answering. The survey was advertised to the students during class, but completion of the survey occurred outside of class. The survey was available online and took approximately 90-120 minutes to complete. All sites for the study received approval from each university or college’s Institutional Review Board, with the University of Miami as the lead site. Six of the data collection sites were located in the Northeast, seven in the Southeast, seven in the Midwest, three in the Southwest, and seven in the West. The sites were a mix of large and small state universities and private universities. Surveys were administered to students in the fields of psychology, sociology, business, family studies, education, and human nutrition.

Instrumentation

Religious Commitment

The Religious Commitment Inventory-10 (RCI-10) combines earlier versions of inventories measuring religious commitment that were either too long, lacked psychometric support, or were limited to only Judeo-Christian religions (Worthington et al., 2003). The RCI-10 operationalizes religious commitment as membership in religious organizations, participation in religious activities, attitudes toward religious experiences,

and adherence to religious creed (Worthington et al., 2003). The RCI-10 was shortened from the RCI-17 in order to be more conveniently used in a clinical setting. The shortening of the RCI-17 to the RCI-10 resulted from a culmination of research (Worthington, 2003). When tested with other measures of religious value, including the RCI-17, the RCI-10 had a coefficient alpha of .93, showing strong internal consistency. Internal consistency was further established in this study, which showed a cronbach's alpha of .937.

In research by Worthington (2003), high scores on the RCI-10 correlated with high scores on the Rokeach's Value Survey, and low scores on the RCI-10 correlated with low scores on the Rokeach's Value Survey, supporting construct validity (Worthington, 2003). The Rokeach's Value Survey contains two sets of 18 values that participants must rank in order of importance to their value system (Worthington, 2003). If "salvation" is ranked in the top 5 of the participant's list, than the participant is considered to be religiously committed (Worthington, 2003). Construct validity was further supported in a study showing significant correlation between the intrapersonal subscale and self-rated religious commitment (Worthingon, 2003). Criterion-related validity was established by calculating Pearson correlation coefficients for the full-scale RCI-10, Intrapersonal Religious Commitment, and Interpersonal Religious Commitment and frequency of attendance of religious activities. Intrapersonal religious commitment is a subscale referring to an individual's attitude and belief towards religion, and interpersonal religious commitment is a subscale referring to how much an individual participates in religious services/activities. Frequency of religious activities was significantly related to the full-scale RCI-10 and both subscales (Worthington, 2003).

The RCI-10 utilizes a response format of a Likert scale 4-point response, ranging from “Strongly Disagree” to “Strongly Agree”. Sample items from the inventory include “I often read books and magazines about my religion”, and “My religious beliefs guide my whole approach to life”.

Spirituality

The spiritual assessment inventory (SAI) was created as a result of a growing need to have an instrument assessing religiousness and spirituality that could have clinical application. The SAI includes two dimensions, Quality of Relationship with God and Awareness of God, and five subscales, including Awareness, Realistic Acceptance, Disappointment, Grandiosity, and Instability (Hall & Edwards, 2003). Although the SAI contains several subscales, this study only focused on the subscale Awareness. The other subscales used in the SAI are grounded in object relations theory, and as this study is utilizing a theoretical framework of cognitive theory, the Awareness subscale was the most appropriate. After feedback that there was some confusion with terminology, particularly regarding the Grandiosity subscale, the SAI was revised in 2002 following studies of the validity of the revised instrument. Items were added to the Grandiosity subscale to increase internal consistency, and qualifiers were dropped to give the instrument more clarity (Hall & Edwards, 2002). Correlations with the Bell Object Relations Inventory (BORI), an inventory that is conceptually similar to the SAI, supported construct validity of the SAI (Hall & Edwards, 2003). When measured for internal consistency, Cronbach’s coefficient alpha’s of each subscale were found to be .95 for the subscale of Awareness, .90 for the subscale of disappointment, .83 for the Realistic Acceptance subscale, .73 for the Grandiosity subscale, and .84 for the Instability subscale (Hall & Edwards, 2003). This study looked specifically at the

Awareness subscale, as the other subscales draw largely from object-relations theory. The Awareness subscale in this study produced a Cronbach's alpha of .955.

The SAI utilizes a Likert scale 5-point response format, with responses ranging from "Not at all true" to "Very true". Sample items include " I have a sense of how God is working in my life", and "There are times when I feel frustrated with God".

Extrinsic Religiosity

To measure participants' extrinsic religiosity, items were taken from Allport & Ross's (1967) Religious Orientation Scale. This scale operationalizes extrinsic religious orientation as immature religious orientation in which an individual uses religion for external gains. Allport & Ross's (1967) original Religious Orientation Scale (ROS) contained 20 items. Of these 20 items, 10 were utilized for this study. The original ROS utilized a response format of a 5-point Likert scale, ranging from "Strongly Disagree" to "Strongly Agree". The response format utilized for this study is a 5-point Likert scale ranging from "Not applicable to me" to "I definitely agree". The items utilized for this study comprised of 10 items measuring extrinsic religious orientation. The items used in this study are also formatted according to the Age Universal Intrinsic-Extrinsic Scale. The Age Universal I-E Scale was created so that the ROS would be able to be used with children and adolescents as well as adults (Gorsuch & Venable, 1983). Analyses of internal reliability of the Age Universal Scales showed reliability coefficients, such as alpha coefficients and Cronbach's Alphas, of .68 for extrinsic religiosity items (Gorsuch & Venable, 1983). This compares with coefficients of .73 for extrinsic scales that were found in analyses of the original ROS (Gorsuch & Venable, 1983). In this study, an alpha coefficient of .865 was shown for the extrinsic religiosity subscale, further establishing reliability.

The initial work of Allport established discriminant validity for the ROS (Allport & Ross, 1967). Donahue (1985) reported previous tests of validity conducted on the ROS. When the ROS was compared against other measures of religiousness, including the Religious Belief Scale, the correlation between participants' self-report of importance of religion and the Intrinsic subscale of the ROS was .76, establishing convergent validity for the intrinsic subscale. Donahue (1985) reported convergent validity for the extrinsic subscale when it was compared with other measures of negative religiosity, including measures of dogmatism and prejudice, which are characteristics that Allport & Ross (1967) identified as present in individuals who are extrinsically religious. Extrinsic religiosity was shown to be positively correlated with prejudice and dogmatism. Samplle items from the extrinsic religiosity scale include "I go to church because it helps me make friends", and "I pray mainly to gain relief and protection".

Religious Quest

Batson & Ventis (1982) suggested that there was a third aspect of religious orientation that needed to be measured in addition to intrinsic and extrinsic religiosity. The "Quest" scale was created to measure the act of personally exploring questions and doubts about one's religion (Batson & Schoenrade, 1991). Having a high level of religious quest would denote being open-minded toward existential questions (Batson & Schoenrade, 1991). The original six-item quest scale addressed three dimensions, including a person's "readiness to face existential questions without reducing their complexity", "self-criticism and perception of religious doubts as positive", and "openness to change" (Batson & Schoenrade, 1991). Test-retest reliability of the original scale had a correlation of .63. Several tests measuring internal consistency produced Cronbach's alpha averaging between .45 and .50 (Batson & Schoenrade, 1991). In an

effort to improve the internal consistency of the scale, more items were added. The new, longer version of the quest scale contains 12 items. The 12-item scale produced a Cronbach's alpha of .81 and correlated .87 with the original scale (Batson & Schoenrade, 1991). The data in this study produced a Cronbach's alpha coefficient of .804. Sample items include "As I grow and change, I expect my religion also to grow and change", "I am constantly questioning my religious beliefs", and "My life experiences have led me to rethink my religious convictions".

Studies comparing the Quest scale to the Intrinsic and Extrinsic scales have shown low correlation, showing that the Quest scale measures something that the Intrinsic and Extrinsic scales do not.

Meaning in Life

The Meaning in Life Questionnaire was created to encompass various definitions of meaning in life (Steger, 2006). Moreover, the Meaning in Life Questionnaire was designed to capture meaning in life as relative to an individual's own definition of where meaning is derived from.

To generate a Meaning in Life Questionnaire (MLQ), theories and measures of meaning in life were reviewed to compile an overarching sample of items (Steger, 2006). An original compilation of eighty-three items were reduced to forty-four items after content specificity and clarity were considered. Factor analysis determined two factors, presence of meaning in life, and search for meaning in life. Factors 1 and 2 were pulled from the item pool to establish a 17-item scale.

The remaining Presence and Search subscales of the Meaning in Life Questionnaire were further tested for convergent and discriminant validity by again being correlated with other measures (Steger, 2006). The presence subscale was

positively correlated with life satisfaction, positive emotions, intrinsic religiosity, extraversion, and agreeableness, and negatively correlated with depression, negative emotions, and neuroticism, establishing convergent validity. The final measure consisted of five items per subscale, after goodness-of-fit tests showed that this model would best satisfy internal consistency and items that adequately fit the subscales. Reliability of the MLQ was established after test-retest results produced alpha coefficients of .81 and .84. This study produced a Cronbach's alpha of .696.

Anxiety Symptoms

The Beck Anxiety Inventory (BAI) was used to measure anxiety in participants. The BAI is a self-report inventory of anxiety, and was created to be a measure that properly distinguished between symptoms of depression and symptoms of anxiety (Beck, Epstein, Brown, & Steer, 1988). Before the creation of the BAI, most measures of anxiety were highly intercorrelated with measures of depression (Beck et al., 1988). The BAI is a 21-item scale of symptoms of anxiety. For this study, 18 of the 21 items were used, and a Likert 5-point response format was used, with responses ranging from "Strongly disagree" to "Strongly agree". Sample items include "I have had difficulty falling asleep this week" and "This week, I have been afraid of what was going to happen to me."

In studies of reliability, the BAI has shown to be highly internally consistent, with an alpha coefficient of .94 (Fydrich, 1992). The correlation between the BAI and Diary Anxiety was found to be .54, also establishing convergent validity (Fydrich, 1992). Diary Anxiety is a self-reporting monitoring form in which participants are asked to rate their anxiety daily on a scale from 0 to 8, and complete forms regarding their mood. This correlation was significantly higher than when the BAI was compared with Diary

Depression, supporting discriminant validity (Fydrich, 1992). Internal consistency was also established in this study, with an alpha coefficient of .946.

Depressive Symptoms

Depression was measured using the Center for Epidemiologic Studies Depression scale (CES-D). The CES-D was developed to measure symptoms of depression among the general population (Radloff, 1977). The CES-D differs from other measures of depression in that is not used solely for the diagnosis of depression, but may also measure severity of depressive symptoms among individuals who do not meet the diagnosis criteria for depression (Radloff, 1977). The items chosen for the CES-D were chosen from other measures of depression at the time, including the Beck Depression Inventory. Components of depression that are addressed in the CES-D were chosen from the existing literature on depression. These components include depressed mood, feelings of guilt and worthlessness, feelings of helplessness and hopelessness, psychomotor retardation, loss of appetite, and sleep disturbance (Radloff, 1977). The scale contains 20 symptoms of depression that may be experienced by the general population; a clinically depressed individual would be expected to experience more than a healthy individual (Radloff, 1977). Measures of internal consistency, including the coefficient alpha and Spearman-Brown, were .85 among the general population, and .90 in a patient sample (Radloff, 1977). This study produced an alpha coefficient of .858.

In tests of validity, the scale discriminated well between the general population and patient population, and discriminated moderately in levels of severity of depressive symptoms among the general population (Radloff, 1977). Sample items include “During

the past week, I was bothered by things that don't usually bother me", and "During the past week, I felt that I was just as good as other people".

Table 3-1. Demographic information

Variable	Frequency	Percent
Gender		
Male	1859	27.5
Female	4946	72.7
Ethnicity		
Black	489	7.2
White	4327	63.3
East Asian	722	10.6
Hispanic	951	13.9
South Asian	212	3.1
Middle Eastern	136	1.3
Colored-South African	5	.1
Religious Preference		
No Religion	792	11.6
Agnostic	447	6.5
Atheist	185	2.7
Protestant	2307	33.8
Assemblies of God/Pentecostal	99	1.4
Roman Catholic	1860	27.2
Orthodox Christian	58	.8
Jewish	227	3.3
Mormon	206	3.0
Jehovah's Witness	11	.2
Muslim	86	1.3
Hindu	67	1.0
Buddhist	129	1.9
Other	299	4.4
Annual Family Income		
Below 30K	1239	18.1
30K-50K	1219	17.8
50K-100K	2230	32.6
Above 100K	2001	29.3
Family Form		
Intact	4577	67.0
Separated/Divorced	1372	20.1
Stepfamily	129	1.9
Never Married	204	3.0
Other	36	.5

CHAPTER 4
DATA ANALYSIS

Descriptive Statistics

Descriptive statistics for each variable are summarized in Table 4-1. Mean scores are provided for each gender separately along with the results of an independent samples t-test to examine for differences between groups. The mean scores among the instruments were all significantly higher for females than for males, with the exception of scores on the CES-D. The mean score for depressive symptoms in females (mean = 55.0) was not significantly lower than the mean score for depressive symptoms in males (mean = 54.37), contradicting previous research stating that females experience depressive symptoms at higher rates than males. In all other measures, the mean score for females was significantly higher than males (Mahmoud et al., 2010; Khalil et al., 2012).

Test of Hypotheses

H1: Religious commitment and spiritual awareness will be negatively correlated with depression and anxiety.

Hypothesis 1 was tested using correlation. As shown in Table 4-2, religious commitment was positively correlated with depression and anxiety (r = .037, p < .01 for anxiety, r = .061, p < .01 for depression), and spiritual awareness had a non-significant relationship with both depression and anxiety (r = -.015, ns for anxiety, and r = .009, ns for depression). Hypothesis 1 posed that both religious commitment and spiritual awareness would be negatively correlated with depression and anxiety. The correlations did not support this hypothesis. The correlations with depression and anxiety were non-significant for spirituality. The correlations were significant for religious commitment, but the correlations were in the opposite direction than what was hypothesized; a positive

correlation occurred between religious commitment and mental health when a negative one was hypothesized.

H2: Extrinsic religiosity and religious quest will be positively correlated with depression and anxiety

Hypothesis 2, which posed that extrinsic religiosity and religious quest would be positively correlated with depression and anxiety, was partially supported for extrinsic religiosity. Opposite of expectations, religious quest was negatively correlated with depression (r = -.140, p < .01) and anxiety (r = -.140, p < .01) (see Table 4-1). As expected, extrinsic religiosity was positively correlated with depression (r = .044, p < .01), but had a non-significant relationship with anxiety (r = .019, ns).

H3: Religious commitment and spiritual awareness will be positively correlated with meaning in life

The religiosity/spirituality variables religious commitment and spiritual awareness were positively correlated with meaning in life. As shown in Table 4-2, religious commitment was positively correlated with meaning in life, (r = .283, p < .01), and spiritual awareness also resulted in a positive correlation with meaning in life (r = .362, p < .01). These correlations support Hypothesis 3.

H4: Extrinsic religiosity and religious quest will be negatively correlated with meaning in life

Hypothesis 4, which stated that meaning in life would be negatively correlated with extrinsic religiosity and religious quest, was not supported. Instead, meaning in life was positively correlated with extrinsic religious orientation (r = .192, p < .01) and positively correlated with religious quest (r = .182, p < .01) (see Table 4-2). Meaning in life was positively correlated with all measures of religiosity and spirituality.

H5: Meaning in life will be negatively correlated with depression and anxiety

As shown in Table 4-2, meaning in life was significantly negatively correlated with both depression and anxiety (r = -.274, p < .01 for anxiety, r = -.238, p < .01 for depression), supporting Hypothesis 5. As shown in Table 4-2, the correlations were significant. In sum, a higher level of religious quest, religious commitment, extrinsic religious orientation, and spiritual awareness were correlated with a greater sense of meaning in life, and a greater sense of meaning in life was negatively correlated with depression and anxiety.

> **H6:** Meaning in life will mediate the relationship between extrinsic religiosity, religious commitment, spiritual awareness, and religious quest, and depression and anxiety

Testing for mediation is appropriate when a significant relationship exists between independent and dependent variables, independent variables and a mediator, and a mediator and the dependent variables (Baron & Kenny, 1986). The proposed steps by Baron and Kenny (1986) were utilized to test for mediation between these variables. Control variables in the tests for mediation included gender and age (18-25). Controlling for age and gender were the initial step in the analysis. Similar to the results from the t-tests, gender was significantly associated with anxiety symptoms (BAI) (b = -1.139, B = -.031, p < .05) but not with depressive symptoms (CES-D) (b = -.593, B = -.022, ns). Likewise, age was not significantly correlated with anxiety symptoms (BAI) b = -.156, B = -.015, ns), but was with age (b = -.327, B = -.043, p < .01).

First, significance in the relationships between spirituality and religiosity and the mediator, meaning in life, were tested. When tested with regression, all variables of religiosity and spirituality were found to be significantly positively related with meaning in life (see the first column of Table 4-4). The second step proposed by Baron and Kenny

(1986) involved establishing a relationship between the mediator, meaning in life, and the dependent variables, depression and anxiety. A test of regressions showed significant negative relationships between meaning in life and both depression and anxiety (column 2 of Table 4-4).

Finally, significance was established between the predictor variables (religious commitment, spiritual awareness, religious quest, and extrinsic religiosity) and the outcome variables (depression and anxiety). When tested by regression, a non-significant relationship was shown to exist between spiritual awareness and both depression (b = .010, B = .009, ns) and anxiety (b = -.025, B = -.017, ns), and between extrinsic religiosity and anxiety (b = .052, B = .016, ns). Religious commitment was significantly positively related with depression (b = .083, B = .062, p < .01) and anxiety (b = .065, B = .036, p < .01). Religious quest was significantly negatively related with both depression (b = -.143, B = -.141, p < .01) and anxiety (b = -.190, B = -.141, p < .01). Finally, extrinsic religiosity was significantly positively related with depression (b = .104, B = .043, p < .01).

The fourth step is to examine the relationship between the independent variable and dependent variable controlling for the mediator. When the mediating effect of meaning in life was controlled for, the significant relationship between religious quest and both depression (b = -.103, B = -.102, p < .01) and anxiety (b = -.127, B = -.094, p < .01) decreased, as expected. This decrease in the regression coefficients showed that when meaning in life is included in the relationship, religious quest has less of a negative influence on both depression and anxiety. However, when meaning in life was controlled for in the relationships between religious commitment and anxiety (b = -.036,

B = -.554, *p* < .01) and depression (*b* = .187, *B* = .139, *p* < .01), and between extrinsic religiosity and depression (*b* = .219, *B* = .090, *p* < .05), the regression coefficients increase. This increase suggests that meaning in life actually amplified the negative effect that religious commitment and extrinsic religiosity had on depression and anxiety. A test of mediation did reveal a mediating relationship between religious quest and depression and anxiety, with meaning in life as a partial mediator, partially supporting Hypothesis 6.

The regression coefficient for religious commitment and both depression and anxiety increased when meaning in life was controlled for, signifying that meaning in life actually amplified a positive correlation between religious commitment and both variables of mental health. This increase in the regression coefficients shows that religious commitment, meaning in life, and depression and anxiety did not meet the expectations of mediation. These results also did not support the hypothesis.

It was not appropriate to test for mediation of meaning in life between spirituality and depression or anxiety, as spirituality did not have a significant relationship with either depression or anxiety; the relationship between these variables failed to meet the requirements for mediation. The relationship between spirituality, meaning in life, and depression and anxiety did not result as hypothesized.

Extrinsic religiosity did not have a significant relationship with anxiety, so meaning in life was not tested as a mediator as the relationship did not meet the requirements for mediation. Extrinsic religiosity had a significant positive relationship with depression, and when meaning in life was tested as a mediator, the regression coefficient increased, suggesting that meaning in life amplified the positive correlation. This

amplification is opposite of what was expected and did not fall in line with the hypothesis.

Meaning in life mediated the relationship between religious quest and both depression and anxiety, as the regression coefficients between religious quest and both depression and anxiety decreased when meaning in life was controlled for. When meaning in life is included with religious quest, the correlation with depression and anxiety becomes more negative. This meets the requirements for mediation, although it is opposite of the relationship that was expected to occur between religious quest, meaning in life, and depression and anxiety.

The Sobel test for significance is recommended by Baron and Kenny (1986) as the final step in testing for indirect effects. The Sobel test establishes significance between the independent and dependent variables through the intervening variable (e.g. meaning in life).

First, Sobel tests were conducted on the non-mediating relationships. The Sobel tests were significant for the effect of spiritual awareness on both depression and anxiety, with meaning in life as an indirect variable. Although meaning in life did not mediate the relationship between spiritual awareness and depression and anxiety, it was shown to indirectly affect the influence of spiritual awareness on both depression and anxiety.

The Sobel tests were conducted on the mediating relationships as well. The Sobel coefficients were found to be significant in the relationships between religious quest and depression and anxiety

It is important to note that the regression coefficient increased when a mediating effect of meaning in life was tested between religious commitment and both depression and anxiety, and between extrinsic religiosity and depression (see Table 4-4). This showed that, although meaning in life is significantly negatively correlated with both depression and anxiety, meaning in life seemed to amplify the positive association between religious commitment and extrinsic religiosity on depression and anxiety. These relationships also reported significant Sobel coefficients. These results suggest that a test of mediation may not be appropriate between these variables; meaning in life may not have a mediating effect on religious commitment and depression and anxiety, or on extrinsic religiosity and depression. Moreover, as Cohen (1988) suggests, the significant correlations between the predictor variables (religious commitment and extrinsic religiosity) and the outcome variables (depression and anxiety) could be due to the large sample size as opposed to any true meaningful correlation. Cohen (1988) argued that if a sample size is large enough, than any correlation other than zero becomes significant. Although the correlations between these variables are significant, they may not actually be meaningful, and therefore, the mediating variable (meaning in life) may not truly have anything to mediate. Cohen (1988) argued that a correlation of .10 is small, and .30 is medium. The correlation coefficient for these variables fall below the “small” range, which Cohen (1988) labeled as not large enough to be meaningful although it is significant. Again, the significance may be attributed to the large sample size. It could be that meaning in life may act as a moderator. A post-hoc analysis for moderation was conducted and will be discussed following hypothesis testing.

H7: When testing for relationships between religiosity/spirituality variables, depression and anxiety, and meaning in life, a difference will be seen between males and females.

Hypothesis 7 proposed that mediation would differ for males and females. In females, the relationship between extrinsic religiosity and anxiety (*b* = .008, *B* = .003, ns) was not significant, nor was the relationship between extrinsic religiosity and depression (*b* = .050, *B* = .020, ns). Moreover, religious commitment was not significantly correlated with anxiety (*b* = .032, *B* = .018, ns), but had a positive significant relationship with depression (*b* = .050, *B* = .038, *p* < 01). Spiritual awareness was not significant with depression (*b* = -.020, *B* = -.018, ns), but was significantly related with anxiety (*b* = -.051, *B* = -.034, *p* < .05). For females, the mediating effect of meaning in life was seen in the relationship between religious quest and both depression (*b* = -.123, *B* = -.124, *p* < .01, MIL controlled for: *b* = -.083, *B* = -.084, *p* < .01) and anxiety (*b* = -.159, *B* = -.118, *p* < .01, MIL controlled for: *b* = -.100, *B* = -.074, *p* < .01). When meaning in life was tested as a mediator between religious commitment and depression, the regression coefficient increased (*b* = .160, *B* = .121, *p* < .01). The coefficient also increased when meaning in life was tested as a mediator between spiritual awareness and anxiety (*b* = -.855, *B* = -.265, *p* < .01).

In males, extrinsic religiosity was significantly positively correlated with both depression (*b* = .227, *B* = .092, *p* < .01) and anxiety (*b* = .152, *B* = .049, *p* < .05). Likewise, religious commitment was positively correlated with both depression (*b* = .167, *B* = .117, *p* < .01) and anxiety (*b* = .151, *B* = .084, *p* < .01). Spiritual awareness was significantly related with depression (*b* = .095, *B* = .077, *p* < .01) but not anxiety (*b* = .046, *B* = .029, ns). Also in males, the mediating effect of meaning in life was only

supported between religious quest and both depression (b = -.192, B = -.181, p < .01, MIL controlled for: b = -.152, B = -.143, p < .01) and anxiety (b = -.267, B = -.198, p < .01, MIL controlled for: b = -.196, B = -.146, p < .01). In religious commitment, when meaning in life was controlled for, the regression coefficient increased both for depression (b = .256, B = .179, p < .05) and anxiety (b = .221, p < .05).

These results support Hypothesis 7. The mediation of meaning in life in the relationship between religiosity/spirituality was seen differently in males and females. Extrinsic religiosity had no significant relationship with depression or anxiety in females, while it had a positive association with both depression and anxiety in males. Religious commitment had no significant association with anxiety in females, while in males, it was significantly related with both depression and anxiety. Similar in both males and females was the significant relationship between spiritual awareness and both depression and anxiety. Also similar in males and females was the mediating effect of meaning in life between religious quest and both depression and anxiety. Also, as shown in Table 4-1, mean scores for females on all instruments were consistently higher than mean scores for males, with the exception of the CES-D.

Post-Hoc Analysis of Moderation

Because a mediating effect of meaning in life between religious commitment and depression and anxiety, and between extrinsic religiosity and depression was not supported, moderation was tested for a follow-up analysis. Baron and Kenny (1986) note that when the presence of a variable, such as meaning in life, influences how much an independent variable predicts a dependent variable, the third variable may have a moderating effect on the independent and dependent variable. Moreover, because the correlation coefficients were so small, falling into a “small” range as theorized by Cohen

(1988), they may be too small to have any true meaning; the significance may only be due to the large sample size (Cohen, 1988). Testing for moderation was conducted using multiple regression, creating interaction terms for the relationships between the predictor variables and the moderator. Multiplying the predictor and moderating variable created interaction terms. This term was entered into the regression equation following inclusion of the independent and moderator variables. If the interaction term was statistically significant, it was determined that moderation occurred. As shown in Table 4-7, a moderating effect of meaning in life between religious commitment and both depression ($b = -.014$, $B = -.294$, $p < .01$) and anxiety ($b = -.025$, $B = -.403$, $p < .01$) was supported. Moderation was not supported between extrinsic religiosity, meaning in life, and depression ($b = -.007$, $B = -.074$, ns).

To examine the moderation effect meaning in life scores were split into two groups, high and low, using a median split (median = 21.00). Regressions between the independent variable and the dependent variable were run separately by each group (high and low). As shown in Table 4-8, the regression coefficients in the lower meaning in life group ($b = .316$, $B = .158$, $p < .01$) were higher than the coefficients in the higher meaning in life group ($b = .061$, $B = .039$, $p < .05$) for the association between religious commitment and anxiety. This relationship showed that when levels of meaning in life were high, religious commitment became less associated with anxiety than when levels of meaning in life were low. This same association was found in the relationship between religious commitment and depression, moderated by lower meaning in life ($b = .234$, $B = .157$, $p < .01$) and higher meaning in life ($b = .094$, $B = .077$, $p < .01$). The higher regression coefficient in the lower meaning in life group showed that when

participants had a higher level of meaning in life, religious commitment became less associated with depression, and when levels of meaning in life were low, the association between religious commitment and depression increased. Meaning in life significantly decreased the association of religious commitment on depression and anxiety when meaning in life scores were high.

Follow up tests of moderation were also conducted based on gender. In females, a mediating effect of meaning in life was supported between religious commitment and depression (b = -.008, *B* = -.189, p < .014). A significant interaction term supported a moderating effect of meaning in life between religious commitment and anxiety (b = -.020, B = -.330, p < .01). After splitting meaning in life scores into a high (b = .090, B = .074, p < .01) and low (b = .181, B = .125, p < .01) sense of meaning in life, meaning in life was shown to significantly protect against the negative impact that religious commitment had on depression, as seen in Table 4-10. When meaning in life levels were high, religious commitment was less associated with depression than when meaning in life levels were low.

In males, testing for a moderating effect of meaning in life was shown to be appropriate between religious commitment and depression (b = -.024, B = -.476, p < .01) and anxiety (b = -.036, B = -.554, p < .01), as well as between extrinsic religiosity and depression (b = -.021, B = -.220, p < .05) and anxiety (b = -.043, B = -.349, p < .01), evidenced by significant interaction terms, as seen in Table 4-9. After splitting meaning in life into high low scores, a high sense of meaning in life (b = .085, B = .057, ns) was shown to protect against the negative impact of religious commitment on anxiety more than the low meaning in life group (b = .407, B = .207, p < .01). Similarly, the higher

meaning in life group (b = .110, B = .089, p < .05) showed a greater protection against anxiety than the lower meaning in life group (b = .346, B = .222, p < .01) when religious commitment was experienced. Finally, males who identified as extrinsically religious experienced greater protection against depression when meaning in life was high (b = .202, B = .084, p < .05) as opposed to low (b = .344, B = .143, p < .01). Extrinsically religious males also experienced greater protection against anxiety when meaning in life was high (b = .202, B = .084, p < .05) as opposed to low (b = .344, B = .143, p < .01).

Summary

Mediation

Results showed that spiritual awareness was not significantly associated with depression and anxiety, and that religious commitment was significantly positively associated with both depression and anxiety, although the correlations were small. These findings did not support the hypothesis that spiritual awareness and religious commitment would be negatively correlated with both depression and anxiety. As expected, extrinsic religiosity was positively associated with depression, but had a non-significant relationship with anxiety. Religious quest had a significant negative relationship with both depression and anxiety. Spiritual awareness and religious commitment were both positively correlated with meaning in life, as expected. However, extrinsic religiosity and religious quest were also positively associated with meaning in life, when it was hypothesized that they would not be correlated with greater levels of meaning in life. Mediation of meaning in life was only seen as expected between religious quest and depression and anxiety. Due to non-significance, mediation was not appropriate for spiritual awareness and depression and anxiety, or for the relationship between extrinsic religiosity and anxiety. However, although mediation was not

supported, tests for indirect effects were significant and still suggest an important relationship between religiosity/spirituality, meaning in life, and depressive/anxiety symptoms. When tested for mediation, meaning in life was not supported as a mediator between religious commitment and depression and anxiety, or between extrinsic religiosity and depression. Meaning in life was tested for moderation instead.

Moderation

Because mediation was not supported between religious commitment and the outcome variables, as well as between extrinsic religiosity and depression, it was suspected that meaning in life may have a moderating effect between the variables as opposed to a mediating effect. Moderation was also suspected to explain the relationship because the relationship between religiosity/spirituality and the outcome variables changed dramatically when meaning in life was added in the equation, it just changed in a way that was not expected. Moderation was tested by establishing significant interaction terms. A significant interaction term existed between religious commitment and depression and anxiety, supporting that meaning in life has a moderating effect between religious commitment and depression and anxiety; when meaning in life is high, religious commitment became less correlated with depression and anxiety than when meaning in life is low. In females, moderation was supported in the relationship between religious commitment and depression. In males, moderation was supported in the relationship between religious commitment and both of the outcome variables, as well as between extrinsic religiosity and both of the outcome variables.

Table 4-1. Descriptive statistics for mean differences in measurement scores, by gender

Variable	Range	Male – Mean (SD) n = 1859	Female – Mean (SD) n = 4946	t	Sig.	Mean Difference	Confidence Interval Mean Difference
RCI	10 – 44	23.44 (9.18)	24.47 (9.07	4.12	.000	1.02	.54 – 1.51
SAI	9 – 45	23.05 (10.62)	25.35 (10.89)	7.83	.000	2.30	1.73 – 2.88
EXT	5 – 25	12.82 (5.29)	14.12 (4.89)	9.20	.000	1.30	1.02 – 1.58
RQI	12 – 84	48.70 (12.35)	49.73 (12.02)	3.14	.002	1.03	.39 – 1.68
MIL	5 – 30	20.07 (5.15)	21.19 (5.03)	8.16	.000	1.12	.85 – 1.39
CES-D	20 – 100	54.37 (13.09)	55.00 (11.93)	1.82	.069	.63	-.05 – 1.31
BAI	18 – 90	41.06 (16.62)	42.22 (16.22)	2.57	.010	1.16	.28 – 2.04

MIL = Meaning in Life; SAI = Spiritual Awareness; RQI = Religious Quest; RCI = Religious Commitment; EXT = Extrinsic; CES-D = Depression; BAI = Anxiety

Table 4-2. Correlations between variables in the study

	Gender	Age	Religious Quest	Religious Commitment	Extrinsic Religiosity	Spiritual Awareness	Meaning in Life	Anxiety
Age	.033**	.						
Religious Quest	-.038**	.009						
Religious Commitment	-.050**	.017	.087**					.
Extrinsic Religiosity	-.115**	-.013	.006	.667**				
Spiritual Awareness	-.094**	.030*	.128**	.798**	.656**			
Meaning In Life	-.098**	.080**	.182**	.283**	.192**	.362**		
Anxiety	-.032**	-.016	-.140**	.037**	.019	-.015	-.274**	
Depression	-.023	-.044**	-.140**	.061**	.044**	.009	-.238**	.823**

**p < .05, **p < .01*

Table 4-3. Correlations between variables in the study by gender

	Age	Religious Quest	Religious Commitment	Extrinsic Religiosity	Spiritual Awareness	Meaning in Life	Anxiety	Depression
Age		.016	.008	-.006	.030	.069**	-.012	-.050**
Religious Quest	-.001		.131**	.039**	.164**	.177**	-.118**	-.125**
Religious Commitment	.043	-.027		.661**	.799**	.298**	.018	.038**
Extrinsic Religiosity	-.020	.087**	.680**		.639**	.185**	.003	.021
Spiritual Awareness	.042	.020	.795**	.688**		.376**	-.034*	-.020
Meaning In Life	.080**	.182**	.283**	.192**	.362**		-.264**	-.246**
Anxiety	-.023	-.198**	.082**	.049*	.028	-.313**		.821**
Depression	-.026	-.181**	.116**	.092**	.076**	-.231**	.827**	

**p < .05, **p < .01; Males under shading, Females above shading*

Table 4-4. Results of each step of regression analysis

Predictor to Mediator	Mediator to Outcome	Predictor to Outcome	Predictor to Outcome (mediator controlled for)	Sobel (se)	R^2
Religious Commitment					
RCI to MIL	MIL to CES-D	RCI to CES-D	RCI to CES-D		
.155* (.006)	-.580* (.029)	.083* (.016)	.187* (.016)	-15.807*(.006)	.074
	MIL to BAI	RCI to BAI	RCI to BAI		
	-.899* (.038)	.065* (.022)	.221* (.022)	-17.44*(.008)	.078
Religious Quest					
RQI to MIL	MIL to CES-D	RQI to CES-D	RQI to CES-D		
.074* (.005)	-.580* (.029)	-.143* (.012)	-.103* (.012)	-11.89*(.004)	.069
	MIL to BAI	RQI to BAI	RQI to BAI		
	-.899* (.038)	-.190* (.016)	-.127* (.016)	-12.54(.005)	.086
Spiritual Awareness					
SAI to MIL	MIL to CES-D	SAI to CES-D	SAI to CES-D	17.110*(.006)	
.165* (.005)	-.580* (.029)	.010 (.014) ns			.069
	MIL to BAI	SAI to BAI	SAI to BAI	-19.222*(.008)	
	-.899* (.038)	-.025 (.018) ns			.085
Extrinsic Religiosity					
EXT to MIL	MIL to CES-D	Extrinsic to CES-D	Extrinsic to CES-D		
.185* (.012)	-.580* (.029)	.104* (.030)	.219* (.029)	-12.201*(.009)	.066
	MIL to BAI	Extrinsic to BAI	Extrinsic to BAI		
	-.899* (.038)	.052 (.040) ns		-12.91*(.013)	.082

*Coefficient b and (se) reported for each variable; * denotes p < .05; MIL = Meaning in Life; SAI = Spiritual Awareness; RQI = Religious Quest; CES-D = Depression; BAI = Anxiety; EXT = Extrinsic*

Table 4-5. Results of each step of regression analysis – males

Predictor to Mediator	Mediator to Outcome	Predictor to Outcome	Predictor to Outcome (mediator controlled for)	Sobel (se)	R^2
Religious Commitment					
RCI to MIL	MIL to CES-D	RCI to CES-D	RCI to CES-D		
.128* (.013)	-.588* (.058)	.167* (.033)	.187* (.016)	-7.046*(.011)	.084
	MIL to BAI	RCI to BAI	RCI to BAI		
	-1.014* (.072)	.151* (.042)	.221* (.022)	-8.083*(.016)	.133
Religious Quest					
RQI to MIL	MIL to CES-D	RQI to CES-D	RQI to CES-D		
.077* (.009)	-.588* (.058)	-.192* (.024)	-.152* (.024)	-6.520*(.007)	.072
	MIL to BAI	RQI to BAI	RQI to BAI		
	-1.014* (.072)	-.267* (.031)	-.196* (.030)	-7.299*(.011)	.117
Spiritual Awareness					
SAI to MIL	MIL to CES-D	SAI to CES-D	SAI to CES-D		
.144* (.011)	-.588* (.058)	.095 (.029) ns		-8.000*(.011)	.075
	MIL to BAI	SAI to BAI	SAI to BAI		
	-1.014* (.072)	-.025 (.018) ns	:	-9.575*(.015)	.113
Extrinsic					
EXT to MIL	MIL to CES-D	EXT to CES-D	EXT to CES-D		
.172* (.022)	-.588* (.058)	.227* (.057)	.339* (.056)	-6.172*(.016)	.070
	MIL to BAI	EXT to BAI	EXT to BAI		
	-1.014* (.072)	.152* (.073)	.337* (.070)	-6.822*(.026)	.109

*Coefficient b and (se) reported for each variable; * denotes p < .05; MIL = Meaning in Life; SAI = Spiritual Awareness; RQI = Religious Quest; EXT = Extrinsic; RCI = Religious Commitment; CES-D = Depression; BAI = Anxiety*

Table 4-6. Results of each step of regression analysis – females

Predictor to Mediator	Mediator to Outcome	Predictor to Outcome	Predictor to Outcome (mediator controlled for)	Sobel (se)	R^2
Religious Commitment					
RCI to MIL	MIL to CES-D	RCI to CES-D	RCI to CES-D		
.165* (.008)	-.578* (.033)	.050* (.019)	.187* (.016)	-13.342*(.007)	.076
	MIL to BAI	RCI to BAI	RCI to BAI		
	-.855* (.044)	.032 (.025) ns	Indirect Effects	-14.135*(.010)	.083
Religious Quest					
RQI to MIL	MIL to CES-D	RQI to CES-D	RQI to CES-D		
.073* (.006)	-.578* (.033)	-.123* (.014)	-.083* (.014)	-9.981*(.004)	.069
	MIL to BAI	RQI to BAI	RQI to BAI		
	-.855* (.044)	-.159* (.019)	-.100* (.019)	-10.302*(.006)	.075
Spiritual Awareness					
SAI to MIL	MIL to CES-D	SAI to CES-D	SAI to CES-D		
.173* (.006)	-.578* (.033)	.020 (.016) ns		-14.963*(.007)	.068
	MIL to BAI	SAI to BAI	SAI to BAI		
	-.855* (.044)	-.051 (.021) ns		-16.107*(.009)	.074
Extrinsic					
EXT to MIL	MIL to CES-D	EXT to CES-D	EXT to CES-D		
.191* (.014)	-.578* (.033)	.050 (.035) ns		-10.752*(.010)	.065
	MIL to BAI	EXT to BAI	EXT to BAI		
	-.855* (.044)	.008 (.047) ns		-11.156*(.015)	.178

*Coefficient b and (se) reported for each variable; * denotes p < .05; MIL = Meaning in Life; SAI = Spiritual Awareness; RQI = Religious Quest; RCI = Religious Commitment, EXT = Extrinsic; CES-D = Depression; BAI = Anxiety*

Table 4-7. Each step of moderation analysis to find significant interaction term

	b	Beta	Standard Error	Sign.	Adjusted R^2
RCI to BAI					
Age	.112	.011	.117	ns	
Gender	-2.125	-.058	.425	.01	
RCI	.769	.429	.088	p < .01	
MIL	-.434	-.135	.098	.01	
RCI x MIL	-.025	-.403	.004	.01	.097
RCI to CES-D					
Age	-.156	-.020	.089	ns	
Gender	-1.205	-.044	.322	.01	
RCI	.487	.362	.067	.01	
MIL	-.358	-.149	.074	.01	
RCI x MIL	-.014	-.294	.003	.01	.079
EXT to CES-D					
Age	-.155	-.020	.090	ns	
Gender	-1.027	-.037	.326	.01	
EXT	.355	.146	.119	.01	
MIL	-.532	-.221	.079	.01	
EXT x MIL	-.007	-.074	.006	ns	.066

RCI = Religious Commitment; EXT = Extrinsic; CES-D = Depression; BAI = Anxiety

Table 4-8. Moderation by high and low meaning in life

	b	Beta	se	Significance
RCI to BAI				
High Meaning in Life	.061	.039	.028	.05
Low Meaning in Life	.316	.158	.028	.01
RCI to CES-D				
High Meaning in Life	.094	.077	.025	.01
Low Meaning in Life	.234	.157	.021	.01

RCI = Religious Commitment; CES-D = Depression; BAI = Anxiety

Table 4-9. Each step of moderation analysis for interaction terms by gender

	b	Beta	se	Significance	Adjusted R^2
Females					
RCI to CES-D					
Age	-.240	-.032	.104	.05	
RCI	.348	.265	.079	.01	
MIL	-.466	-.196	.088	.01	
RCI x MIL	-.008	-.189	.003	.05	.075
Males					
RCI to BAI					
Age	.217	.022	.214	ns	
RCI	1.065	.588	.157	.01	
MIL	-.323	-.100	.176	ns	
RCI x MIL	-.036	-.554	.007	.01	
RCI to CES-D					
Age	.056	.007	.173	ns	
RCI	.777	.545	.127	.01	
MIL	-.142	-.056	.142	ns	
RCI x MIL	-.024	-.476	.006	.01	.091
EXT to BAI					
Age	.225	.023	.217	ns	
EXT	1.202	.383	.280	.01	
MIL	-.559	-.173	.177	.01	
EXT x MIL	-.043	-.349	.013	.01	.112
EXT to CES-D			.		
Age	.073	.009	.175	ns	
EXT	.768	.310	.226	.01	
MIL	-.394	-.155	.143	.01	
EXT x MIL	-.021	-.220	.011	.05	.072

RCI = Religious Commitment; BAI = Anxiety; CES-D = Depression; EXT = Extrinsic

Table 4-10. Moderation by gender and high and low meaning in life

	b	Beta	se	Significance
Females				
RCI to CES-D				
High MIL	.090	.074	.024	.01
Low MIL	.181	.125	.029	.01
Males				
RCI to BAI				
High MIL	.085	.057	.055	ns
Low MIL	.407	.207	.057	.01
RCI to CES-D				
High MIL	.110	.089	.045	.05
Low MIL	.346	.222	.045	.01
EXT to BAI				
High MIL				
Low MIL				
EXT to CES-D				
High MIL	.202	.084	.088	.05
Low MIL	.344	.143	.071	.01

RCI = Religious Commitment; MIL = Meaning in Life; EXT = Extrinsic; CES-D = Depression; BAI = Anxiety

CHAPTER 5
CONCLUSIONS

Discussion

The purpose of this study was to examine how different aspects of religiosity and spiritually impact depression and anxiety, with meaning in life mediating the relationship. This study particularly studied undergraduate college students aged 18-25, as they represent a population especially susceptible to depression and anxiety. This study was unique in that it examined different aspects of religiosity and spirituality individually, to determine how they may be related to mental health. Aspects of religiosity and spirituality that have been related with lower levels of psychopathologies, such as religious commitment and spiritual awareness, as well as those believed to be related with higher rates of mental health difficulties, such as extrinsic religiosity and religious quest, were examined. The population for this study consisted of students from various universities, both private and public, across several states. Students completed an online questionnaire and were offered extra credit as compensation.

Hypothesis 1 posed that a negative correlation would exist between religious commitment and spiritual awareness and depression and anxiety. This hypothesis was based on literature supporting the protective effect that religiosity can have on mental health, particularly in the areas of religious commitment and an internalization of religious beliefs (Koenig, 2009). Unlike other studies that have shown religious commitment to be negatively correlated with mental health problems, in this study, religious commitment was positively related to both symptoms of depression and anxiety. Koenig (2009) argued that religious commitment may increase anxiety if individuals who are religiously committed are also participating in activities that

contradict their beliefs. Undergraduate college students may be exposed to opportunities for risky behavior (such as parties, binge drinking) at higher rates than the general population, which may offer an explanation as to why religiously committed young adults in college might also experience more anxiety. Higher levels of anxiety and depression among religiously committed young adults in college may by attributed to greater demands on their time, or pressure to conform to religious ideals.

Spiritual awareness, on the other hand, had no significant relationship with symptoms of depression or anxiety. This is contradictory to research suggesting that an internalized awareness of a higher power can help protect against depression and anxiety (Damon, 2003). Moreover, although a significant relationship was found between religious commitment and depression and anxiety, the correlations were extremely small. As Cohen (1988) points out, in large sample sizes, any correlation that is not zero is often found to be significant, even if the correlation is not truly meaningful. The large sample size may account for attributing significance to such a small correlation; religious commitment may not truly be significantly associated with depression and anxiety in this study.

Hypothesis 2 held that religious quest and extrinsic religiosity would be positively correlated with depression and anxiety, due to research suggesting that when one is "questing", this may invoke greater anxiety and depression due to exploring the unknown (Batson et al., 1983), and that extrinsic religiosity represented a more "shallow" religious state that would not benefit one's emotional state (Allport & Ross, 1967). However, religious quest was the only measured variable that showed a negative correlation with symptoms of depression and anxiety, and correlations that were

sufficiently large (Cohen, 1988). From a cognitive standpoint, the unexpected correlation found between religious quest and improved mental health may be attributed to the fact that if one is being proactive in engaging in religious quest, than one has not only acknowledged the presence of a higher power, but also is working toward a greater understanding, knowledge, and even application of that higher power. Religious quest may imply an even greater sense of religious internalization than spiritual awareness. Religious quest may empower an individual to better understand an ascribed religious perspective, thus improving one's cognitive view of the religion and how that religion may apply to one's life (Batson & Ventis, 1982).

The non-significance of extrinsic religiosity to either the symptoms of depression or anxiety suggests that, as expected, an extrinsic, "shallow", religion is not beneficial to mental health, but it is not necessarily associated with negative mental health either.

As hypothesized, religious commitment and spiritual awareness were both positively correlated with meaning in life. From a cognitive perspective, an individual may be more likely to perceive meaning to life if that individual is committed to a religion and has a high sense of spiritual awareness. Hypothesis 4 predicted a negative correlation between extrinsic religiosity, religious quest, and meaning in life. In both cases, a positive correlation was found. Although an extrinsic religiosity may not have an effect on mental health, it is likely that an extrinsically religious individual has still developed a sense of meaning through the extrinsic aspects of socialization and fitting into a peer group. Moreover, as earlier discussed, engaging in religious quest may lead to meaning in life as it is indicative of an active engagement with one's religious views.

Hypothesis 5, which posed that meaning in life would be negatively correlated with depression and anxiety, was supported. These findings can be viewed through the lens of cognitive theory. If an individual perceives a greater sense of meaning to one's life, than negative events can be considered in light of that meaning, as opposed to something that might otherwise be depression or anxiety-inducing (Frankl, 1968).

Hypothesis 6 suggested that meaning in life would mediate the relationship between religious/spiritual aspects and depression and anxiety. This was supported by given literature that suggested that religion would protect against mental health deficits because it contributed to meaning in life, and thus would improve one's cognitive ability to cope with negative life events (Mascaro & Rosen, 2006). However, partial mediation was only supported in the case of religious quest; religious quest was shown to improve mental health because of its influence on meaning in life. Again, this may be attributed to the cognitive benefits implied when one is actively engaging in religious quest.

The results of the tests of mediation conducted with religious commitment were particularly interesting. Although meaning in life was negatively correlated with depression and anxiety, when it was tested as a mediator between religious commitment and depression and anxiety, it seemed to amplify the negative effect that religious commitment had on depression and anxiety. Meaning in life seemed to make religious commitment even more negatively associated with mental health. The same relationship was true between extrinsic religiosity and depression; meaning in life enhanced the negative association between extrinsic religious orientation and mental health. Because meaning in life had a negative correlation with both depression and anxiety, it was considered that perhaps the degree to which one had a sense of

meaning in life needed to be considered; those with a lower sense of meaning in life may be accounting for the amplification. Further tests of moderation were conducted to examine this possibility.

Results of tests for moderation revealed that, when meaning in life was high, there was a smaller correlation between religiosity/spirituality and mental health However, when meaning in life was low, the correlation between religiosity/spirituality and mental health increased significantly. Having a high meaning in life appeared to be a buffer between the negative correlation between either spiritual awareness or extrinsic religiosity and depression or anxiety.

Because research regarding depression and anxiety showed that there is a consistent difference of rates of depression and anxiety among males and females, with females consistently experiencing higher levels of both (Leach, Christensen, Mackinnon, Windsor, & Butterworth, 2008), it was considered that there would also be a difference in how males and females respond to religiosity and spirituality. This study showed that, among females, no significant relationship existed between religious commitment, extrinsic religiosity, and mental health. Moreover, females may be experiencing greater social pressure to adhere to religious ideals, thus commitment and the social aspect of extrinsic religiosity may be invoking anxiety, or even depression. However, the benefit of religious quest to meaning in life and greater mental health is still seen in both genders. While females may be more susceptible to depression and anxiety, this study showed that there is a possible mental health benefit to openly embracing questions and doubts regarding religious beliefs, across both genders. This relationship can be explained by mediation; religious quest is negatively related with

depressive symptoms and symptoms of anxiety because of its influence on meaning in life.

Moderation was also supported across genders. In relationships between religiosity/spirituality variables and mental health in which mediation by meaning in life was not supported, meaning in life moderated the relationship. High meaning in life scores always correlated with lower depressive symptoms and symptoms of anxiety.

Limitations

This study consisted of voluntary participants, and presents with limitations associated with volunteer studies. In volunteer studies, for example, there is a risk of overlooking a common variable associated with people who choose to participate, and that variable may influence results of the study (de Vaus, 2009). In this study, extra credit was offered to students as motivation to complete this study. A personality type that may be motivated to pursue extra credit might also be related to how one is related with variables of religiosity/spirituality, mental health, or having meaning in life (de Vaus, 2009). This study was also self-report, and presents with the challenge of obtaining true and accurate responses when participants are self-reporting.

Results of correlations reported in Chapter 4 showed a high correlation between the measurements of extrinsic religiosity, spiritual awareness, and religious commitment. Although studies of these instruments report high validity and reliability, it may be possible that there is some overlap in the aspects of being religious or spiritual that were measured. For example, someone who is extrinsically religious may also be religiously committed, but the commitment is motivated by extrinsic reasons, such as meeting with peer groups. Therefore, both of these instruments may be indicators of "shallow" reasons for being religious or spiritual. Moreover, someone is religiously

extrinsically religious, or religiously committed for extrinsic reasons, is also likely to be "spiritually aware", as indicated by the awareness subscale of the spiritual assessment inventory. However, having a spiritual awareness may not necessarily equate to life application of that awareness. Therefore, someone may score high on extrinsic religiosity, religious commitment, and spiritual awareness, without actually having a cognitive internalization of religious or spiritual beliefs. While this study aimed to capture several aspects of religiosity and spirituality, these three instruments may have only tapped into a shallow side of religiosity and spirituality, as evidenced by their high correlations with each other.

Further research may seek to explore other instruments measuring religiosity and spirituality, for the sake of further attempting to capture different angles of how one can be religious or spiritual. The instruments utilized in this study were rather short (RCI, Extrinsic Religiosity Scale, and RQI only ten items). As evidenced by their high correlations, they may not have truly captured the concept they were intended to. An exploration of additional, more in depth instrumentation may be worthwhile.

A further limitation in this study is the overrepresentation of females and underrepresentation of various minority ethnicities. Future research on this topic may benefit from a more even distribution of gender and ethnic backgrounds.

This study concluded that a cognitive application and integration of religiosity and spirituality had the greatest impact on mental health. The internalization of religious and spiritual beliefs should be further explored for the sake of understanding the cognitive mediators that intervene in the relationship between religiousness or spirituality and mental health. As shown by this study, it may not be an external aspect of religiosity that

can be measured through such ways as commitment, or even awareness, but rather an internal, cognitive application that truly contributes to meaning in life and thus leads to greater mental health.

Implications

Results from this study have revealed the significant impact that attaining a sense of meaning in life can have on mental health, primarily in the areas of depression and anxiety. This study also showed how all variables of religiosity and spirituality can contribute to meaning in life. As proposed by cognitive theorists, a sense of meaning in life can be integral in helping individuals, including young college students, make sense of negative life events through an ability to perceive those events through the scope of a greater purpose. If a young adult can believe that a negative event is part of a bigger purpose, then that young adult may be less likely to be vulnerable to depression and anxiety.

Because of the challenges and stressors presented in college, and given the transitional nature of young adulthood, undergraduate college students aged 18-25 present a special population vulnerable to depression and anxiety (Haas, 2009). Thus, it is important to understand what factors may contribute to or protect against depression and anxiety in this population. This study has suggested that having a sense of meaning in life may be a protective factor in terms of the direct relationship between religiosity/spirituality and symptoms of depression and anxiety. It was hypothesized by this study that religiosity and spirituality might provide a framework in which meaning in life would be nurtured, given the literature that supports the positive contribution to mental health made through religiosity and spirituality. However, this study brought to light the fact that how one has internalized one's religion matters a great deal more than

simply ascribing to a religion or claiming spirituality. Religious quest was shown to be the greatest contributor to lower rates of depression and anxiety among the religious/spiritual variables that were measured, perhaps because engaging in religious quest is indicative of an effort being put forth by an individual to better understand a religious view; “questing” may indicate a greater internalization of and deeper thought given to a religion, so the religion has surpassed being something that an individual is merely committed to or uses as a source of socialization. Of the variables of religion and spirituality that were measured, religious quest may be the only variable that is truly reflective of a greater cognitive connection with a religious or spiritual view. The ability to explore doubts and embrace questions regarding religious beliefs, and to realize that views may change, may indicate a deeper cognitive development that can also foster a development of meaning and purpose in life (Batson & Raynor-Prince, 1983). This contradicts previous research that has suggested that merely “being religious” is enough to be protective (Dew, 2009). One must move beyond an attitude of necessitating commitment to religious practices for the sake of commitment itself, or adherence to religious practices only to uphold outward appearances and maintain social connections, to a cognitive maturity that will allow for a proactive approach and desire to truly explore what a preferred religious or spiritual view means to that person. It is through this cognitive maturity that meaning in life can become internalized, and lead to the desired lower levels of depression and anxiety (Batson & Raynor-Prince, 1983).

Meaning in life was shown through this study to have a protective effect against depression and anxiety, and it may be nurtured in the context of religiosity or spirituality.

Religiosity and spirituality showed to be the most beneficial to mental health when meaning in life was present, and when considering depression and anxiety among the college population, presence of meaning in life may be considered in religious student organizations. Religious student organizations may help promote meaning in life in students through the development of interests and providing leadership opportunities. Supporting religious organizations may serve to foster meaning in life in students through offering a sense of belongingness with a peer group, and through providing a way to explore and develop personal goals and interests. Beyond religious organizations, meaning in life may also be considered in terms of the college classroom. The importance that meaning in life has been shown to play in decreasing or minimizing symptoms of depression and anxiety may have implications for a class devoted to helping students discover a meaning in life, whether or not that meaning comes from a spiritual or religious source.

Lindsey et al. (2009) pointed out that symptoms of depression, especially in the young adult years, can be brought on by a sense of helplessness and hopelessness, and negative thoughts about the world. If young college students can establish meaning in life, then being confident in a meaning and purpose can help change their perception of difficult events they may be going through. Having a strong sense of meaning and purpose may help minimize the stress that college students may face in regards to making decisions about their future. Keesler (1994) noted that anxiety symptoms often begin during the young adult years, and are precipitated by excessive worrying. An established meaning in life may also prevent worrying to an extent that leads to chronic anxiety symptoms. Bering (2003) argued that a religious or spiritual foundation would

help an individual cope with negative life events and protect against mental health problems by providing a sense of hope and meaning. However, Bering (2003) noted that cognitive skills were necessary to attach and apply meaning based on beliefs. As religious quest was the only religiosity/spirituality variable directly correlated with lower levels of depression/anxiety symptoms, religious quest may be an indicator of these cognitive skills, and may also reflect a cognitive ability to attach religious meaning to negative circumstances.

Previous research on religiosity and spirituality has suggested that simply the presence of a belief can help protect against mental health problems. Berry (2011) concluded from his research on religiosity/spirituality and depression that religion contains an irreducible quality that helps individuals become protected against mental health problems. This study showed that, without meaning in life, some variables of religiosity and spirituality, such as religious commitment, may contribute to depression and anxiety; religiosity and spirituality variables became positively related to depressive and anxiety symptoms under the condition of a low sense of meaning in life. However, when meaning in life is strong, all variables of religiosity and spirituality (with the exception of spiritual awareness) were related with lowever levels of symptoms of depression and anxiety. Religiosity/spirituality may provide a framework from which college students can explore their purpose in the world, but the cognitive maturity to be able to explore doubts about the religion, without becoming anxious, must be present. Moreover, the religion must be able to individually establish a meaning in life in order for college students to experience lower levels of depression and anxiety symptoms. The

ability of religion and spirituality to promote meaning in life is ultimately what will lead to lower levels of depressive symptoms and symptoms of anxiety.

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BIOGRAPHICAL SKETCH

Elizabeth Thomas was born in Gainesville, FL. Elizabeth enlisted in the Air Force in 2006 and worked as a Mental Health Technician. While in the Air Force, Elizabeth graduated with a BS in psychology from Liberty University. Once her enlistment was completed in 2010, Elizabeth went on to pursue an MS in family, youth, and community sciences at the University of Florida. Elizabeth is pursuing a subsequent master's degree in mental health counseling. Elizabeth is currently employed as an Educational Facilitator for children in the child welfare system.