THE MEDIATING ROLE OF GOD ATTACHMENT BETWEEN RELIGIOSITY AND SPIRITUALITY AND PSYCHOLOGICAL ADJUSTMENT IN YOUNG ADULTS

DISSERTATION

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By

Shaalon Joules, M.A.

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Dissertation Committee:

Professor Steven Beck, Adviser
Professor Daniel Strunk
Professor Thomas Nygren

Approved by

Adviser
Psychology Graduate Program
ABSTRACT

The current study examined the role of God attachment as a mediator of the relationship between religiosity and psychological adjustment and of the relationship between spirituality and psychological adjustment in a sample of young adults. Undergraduate psychology students completed questionnaires that assessed each of these variables. The study included participants of all faiths as well as atheists and agnostics. Structural equation modeling was used to analyze the fit of the proposed model to the data collected. Two separate analyses were conducted: one set of analyses with atheists and agnostics included and another set with them excluded. Results based on all of the participants indicated a poor fit of the model to the data. Once atheists and agnostics were removed from the sample, there was a mediocre fit of the model to the data. An exploratory factor analysis was conducted to determine whether the different types of religiosity: intrinsic, extrinsic, and quest subscales loaded onto the same factor as the spirituality subscales. The religiosity and spirituality subscales were subjected to a principal component analysis, followed by a varimax rotation. Results indicated that the intrinsic and extrinsic religiosity subscales and the spirituality subscales loaded onto one factor (Connection with the Divine), while quest subscales loaded onto a second factor (Quest). Finally, a one-way ANOVA found significant ethnic differences on the intrinsic and quest doubt religiosity scales, all of the spirituality scales, and all of the God
attachment measures. The results of this study show that even though the model was not a close fit, young adults in this sample appear to be exploring their religious and spiritual beliefs as their means on the intrinsic, extrinsic, quest doubt, and quest tentativeness subscales were higher than comparable groups. This is congruent with the developmental task of identity formation during this period of life. Because young adults are also concerned with vocational choices, college life, friendships, and dating, they appear to have separated their religious and spiritual lives from their psychological well-being. Also, African-Americans in this sample were more religious, spiritual, and have a more secure attachment to God than Caucasians. If a client expresses the importance of these variables to his/her presenting problem, they may be important, useful mechanisms for mental health professionals to consider in treatment. Finally, quest does not seem to be a type of religiosity, rather it is different from religiosity and spirituality.
Dedicated to my parents and sister for their utmost support and understanding
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VITA

March 27, 1977…………………………..Born – Calicut, India

2001……………………………………..M.A. Clinical Psychology, University of Colorado.

1998……………………………………..B.A. Psychology, Minor in Political Science, University of Colorado.

2006 – 2007………………………….Doctoral Intern, Aurora Mental Health Center


March 2006 – July 2006………………..Psychology Extern, Stress and Health Study, The Ohio State University

2005 – 2006…………………………..Psychology Extern, Anxiety and Stress Disorders Clinic, The Ohio State University

2003 – 2005…………………………..Graduate Teaching Assistant, The Ohio State University

January 2005 – June 2005………………Psychology Extern, Counseling and Consultation Services, The Ohio State University

2003 – 2004…………………………..Psychology Trainee, Psychological Services Clinic, The Ohio State University

June 2004 – December 2004…………….Psychology Extern, Physical Medicine and Rehabilitation, The Ohio State University

2000 – 2001…………………………..OBRA Evaluator, Jefferson Center for Mental Health

1999 – 2000…………………………..Intern, Jefferson Center for Mental Health
1999 & January 2001 – May 2001……..Teaching Assistant, University of Colorado at Denver

1999 – 2000………………………………Online Teaching Assistant, University of Colorado at Denver

FIELDS OF STUDY

Major Field: Psychology
Minor Field: Statistics
Specializations: Clinical Psychology
             Adult Psychology
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The purpose of this study is to examine the mediating role of Attachment-to-God in the relationship between religiosity and mental health, and between spirituality and mental health. The putative relationships of these four variables will be examined using a sample of young adults. For the remainder of this chapter, I will discuss the following topics: the definition of religiosity; history between psychology and religion; the utilization of attachment theory (Attachment-To-God) in explaining religiosity; the connection between religion/spirituality and mental health; relationship between God attachment and mental health. I will conclude this chapter by showing the importance of religiosity on mental health during young adulthood.

It is not surprising to hear God or the idea of an ultimate power mentioned by at least one person during the course of a typical day. Many people will make comments like, ‘Please God get me through this day.’ ‘I’m doing what God planned for me.’ ‘God will get me through this difficult time.’ Of course, the factor determining if an individual turns to God for help depends on whether he/she believes in God or not. Recently, greater attention is being given to the role of religious beliefs in people’s lives by the media. A Newsweek/Beliefnet Poll (Adler, 2005) of Americans showed that over 80% of
respondents identified with some denomination of Christianity, while only 6% claimed to be atheist, agnostic, or have no religious affiliation at all. In addition, 84% of Americans rated spirituality as being somewhat or very important in their daily lives. Furthermore, 64% of respondents reported that they engage in prayer, and 29% engage in meditation everyday.

Both religious and nonreligious people suffer. People who feel inadequate in their ability to handle the stressors they experience may look to other sources for help. These other sources could be other people (e.g., family, friends, coworkers, authority figures) or religion/spirituality (e.g., God or His earthly representatives, i.e., members of the clergy). For many people, religion also offers a sense of security. Attachment is the term used to describe a secure and enduring relationship to significant figures, such as a caregiver (Simpson, 2002). Religious beliefs appear to play a role in making a stable, ideal caregiver (e.g., God) available (Kirkpatrick & Shaver, 1992). According to the “emotional compensation” hypothesis (Kirkpatrick & Shaver, 1990), people could turn to God, for example, when a loved one dies, because God may help individuals find comfort (Brown, Nesse, House, & Utz, 2004). However, one should keep in mind that there are some individuals who would not derive security invoking a divine being in stressful times.

Because religion tends to provide the opportunity for social support as well as a sense of meaning and purpose, religion may help people cope better with stress (Donelson, 1999; Pargament, 1997). A study by Eliassen, Taylor, and Lloyd (2005) found that young adults who were moderately religious had higher levels depressive symptoms than those who were highly religious or nonreligious. However, the authors
did find that in particular, women who were less religious increased their frequency of prayer when depressed. Attachment to God has also been linked to factors related to psychological well-being and mental health. A study by Rowatt and Kirkpatrick (2002) demonstrated how an anxious attachment to God (individual believes God is inconsistent in His reactions to him/her) was a significant predictor of negative affect. Other studies have linked attachment to God with levels of anxiety, loneliness, and psychological well-being (Kirkpatrick & Shaver, 1992; Kirkpatrick, Shillito, & Kellas, 1999; Pollner, 1989).

Thus, it appears important to study the relationship among religion/spirituality, God attachment, and mental health for two primary reasons: 1.) many young adults in America value their religious beliefs, and 2.) their attachment to God may mediate the relationship between religiosity and/or spirituality and mental health. The results of this study can help mental health professionals recognize, understand, and address the dynamics of these variables on a client’s psychological adjustment. Hence, psychologists should be knowledgeable about how these factors affect each other when providing treatment.

1.1 Defining religion

Before continuing further, it is necessary to discuss the definition of religion. The literature in the psychology of religion covers not only religiosity, but spirituality as well. The existence of many religions in the world contributes to psychology’s struggle to define the term “religious”— just as different religions have different rituals and creeds, people have different conceptualizations of religion and what it means to be religious. Defining spirituality also poses some problems. Not all researchers include a transcendent reference point in their conceptualization of spirituality (e.g., natural spirituality or
humanistic spirituality; Emmons & Paloutzian, 2003). Likewise, some in the American
public consider elements such as crystals or psychic readings as references to spirituality
(Pargament, Sullivan, Balzer, Van Haitsma, & Raymark, as cited in Zinnbauer et al.,
1997). The one point psychologists can agree on is that religion, or the concept of a
Supreme Being can be found across cultures (Spilka, Hood, Hunsberger & Gorsuch,
2003). Differentiating spirituality and religiosity is difficult due to some overlap in the
terms used to describe them, which often results in them being used interchangeably in
the literature (Josephson, Larson, & Juthani, 2000; Zinnbauer et al., 1997).

Generally, the overlap between the two terms lies in the common core recognition
of a transcendent, meta-empirical dimension of reality (Emmons, 1999). Also, both
religion and spirituality involve a search for the sacred from which subjective emotions,
behaviors, and thoughts emerge (Emmons & Paloutzian, 2003). The American public
seems to acknowledge this overlap as well, which is reflected in the 55% of respondents
to a Newsweek/Beliefnet Poll (Adler, 2005) who described themselves as being both
religious and spiritual (only eight percent describe themselves as neither spiritual nor
religious). It appears that for some people, the definition of religion includes spirituality
(Turner, Lukoff, Barnhouse, & Lu, 1995). According to Emmons & Paloutzian, empirical
studies of people’s self-descriptions as religious or spiritual finds most people describe
themselves as both; this appears to parallel the Newsweek/Beliefnet poll.

Historically, the term religion encompassed both individual and institutional
elements, meaning religion was equated with spirituality (Hill & Pargament, 2003; Miller
& Thoresen, 2003; Zinnbauer et al., 1997). In recent years, there appears to be a growing
distinction between the terms religion and spirituality (Zinnbauer et al., 1997). In fact,
Miller & Thoresen (2003) differentiate spirituality, religion, and religiousness. Spirituality is typically regarded as a personal relationship with something divine. Religion is concerned with spirituality, but religion is also a social institution that is characterized by nonspiritual concerns (e.g., cultural, political) as well. Religiousness (religiosity) can be conceptualized at the level of the individual and in connection to adherence to practices of religion. Hence, the authors describe religiousness and spirituality as overlapping constructs (e.g., shared focus at the individual level).

Zinnbauer et al. (1997), focused on how individuals from different religious backgrounds defined religiousness and spirituality. Participants completed several questionnaires requiring them to provide their own definitions of religiousness and spirituality, the degree they consider themselves religious and spiritual, and their perceptions of how religiousness and spirituality relate to one another. The results indicated that there is some difference between how people perceive religiousness and spirituality. Religiousness included definitions of personal beliefs, as well as institutional practices, whereas spirituality was defined in personal or experiential terms. Furthermore, religiousness and spirituality were associated with different correlates. For instance, religiousness was related to higher levels of authoritarianism, church attendance, and intrinsic religiousness. On the other hand, spirituality was associated with more mystical experiences and New Age beliefs.

Although there was evidence for different concepts, these two terms were not independent. Most participants (74%) in the study considered themselves as both religious and spiritual. Interestingly for this group, religiousness and spirituality were associated with frequency of prayer, church attendance, intrinsic religiosity, and perhaps,
most importantly, definitions of the two terms did not differ in the nature of the sacred (e.g., references to God or the Church). For people who thought of themselves as spiritual, but not religious, they were more likely to see a difference in the meaning of spirituality and religiosity. They viewed religiousness as a means to extrinsic ends such as feeling superior to others and avoiding personal responsibility. Also, they were more likely to be agnostic and reject traditional forms of worship (e.g., going to church).

An article by Zinnbauer, Pargament, & Scott (1999), examined traditional and modern psychological characterizations of spirituality and religiousness. Traditionally, religion was considered a broad-band construct, with spirituality not differentiated from religion; emphasis on personal religiousness, and religion was viewed as both positive and negative. Also, religion included both substantive and functional elements. The substantive approach focuses on the beliefs, feelings, and practices that are explicitly related to a divine power. The functional approach focuses on how these beliefs, feelings, and practices are used to deal with problems of existence, such as death and injustice. In recent years, it appears a polarization is occurring between religiousness and spirituality. Hence, the modern perspective views religion as a narrowly defined construct; religion is institutional, whereas spirituality is personal; religion is substantive and spirituality is functional; religion is negative, but spirituality is positive. As the authors stated, such polarization will limit understanding of the two constructs. For instance, the purpose of religious organizations is to bring people closer to God, and there are spiritual people who belong to spiritual organizations, such as yoga or meditation groups. Also, substantive-only definitions of religion do not consider how it works, whereas a pure functional spirituality leads to problems in differentiating it from other areas. Finally,
regarding religiousness as negative overlooks the beneficial support one can get from a religious congregations; viewing spirituality as positive ignores its destructive aspects, as evidenced by the Heaven’s Gate cult or suicidal bombings.

In summary, the problem in defining the terms ‘religious’ and ‘spiritual’ is that both involve a sense of purpose in life and a relationship to a higher power. But, there are definitions that separate the two terms. According to Worthington, Kurusu, McCullough, & Sandage (1996), the term ‘religious’ applies to any organized religion, but ‘spiritual’ refers to valuing a higher power beyond what exists in the corporeal world. In other words, religiousness is related more to the beliefs and rituals associated with a specific established religious tradition, whereas spirituality is more a personal experience (Koenig & Larson, 1998). A Newsweek/Beliefnet poll (Adler, 2005) indicated that 24% of respondents described themselves as spiritual, but not religious, which corresponds to the Zinnbauer et al. (1997) study that found 19% of participants to be solely spiritual. These numbers seem to indicate there is somewhat of a shift in the popular meaning attached to being religious (some negative connotations), but that people still desire to have a relationship with the Divine (Roof, 1999).

Presently, there is little consensus among researchers on the existence and/or nature of the boundary between religiousness and spirituality (Turner et al., 1995). Interestingly, many instruments that were originally developed to assess religiosity, are being used as measures of spirituality (the change is that spirituality is substituted for religiosity; Spilka et al., 2003). Hill and Pargament (2003) argue that the polarization of religiousness and spirituality could lead to unnecessary duplication in measures, as there are current measures of religiousness that cover both individual and institutional domains.
As both religiousness and spirituality can include personal and organizational components, provide a sense of meaning or purpose, help or hinder psychological well-being, and, perhaps most importantly, involve a search for the sacred (Pargament & Mahoney, 2002), I will use these factors in my definition of the two terms.

1.2 Psychology and religion

Psychology has a long-standing interest in religion. In his great work, The Varieties of Religious Experience, William James explored, justified, and explained religious experience (Spilka et al., 2003; Wulff, 2001). James actually distinguished two kinds of religious experience: the “healthy-minded” person who was happy and whose religious experience originated from a sense of gratitude to God; the “sick souls,” who were morbidly inclined and for whom suffering had immortal religious significance (Hills, Francis, Argyle, & Jackson, 2004). On the other hand, Freud considered religion to be “…born from man’s need to make his helplessness tolerable and built up from the material of memories of the helplessness of his own childhood and the childhood of the human race” (Freud, 1927/1961, p.23). In other words, there is no such thing as God and the purpose of religion is to protect man from his fears. It is not in the realm of psychologists to determine whether or not God exists. Yet, Freud does raise an interesting point—that people use religion to cope. After the writings of James and Freud, there was a decline in the amount of attention given to studying religious experiences during the second quarter of the 20th century. However, interest in the psychology of religion has grown over the last couple of decades (Belzen, 2005; Spilka et al., 2003).

Interestingly, Allport developed the notion of intrinsic and extrinsic religiosity in the 1950s and 60s, but most studies of religion were not accepted by mainstream
researchers, until the 1980s (Koenig, McCullough, & Larson, 2001). For decades, the dominant paradigm for measuring religion has involved the concept of intrinsic and extrinsic religious orientation (Slater, Hall, & Edwards, 2001; Spilka et al., 2003). Persons with an intrinsic religious orientation “find their master motive in religion,” whereas those with an extrinsic religious orientation “use religion for their own ends” (Allport & Ross, 1967). That is, the intrinsically oriented person lives his/her religion by bringing other needs into harmony with his/her religious beliefs. The extrinsically oriented person selectively shapes his/her beliefs to fit needs such as security, status, or sociability. The work on intrinsic/extrinsic (I/E) religious orientation was done in the context of examining prejudice. Allport and Ross concluded from their research that more intrinsic persons were less prejudiced than those who were extrinsic, who in turn were less prejudiced than persons with an indiscriminately proreligious orientation (IP; high scores on both I and E).

Over the years, there has been growing criticism of the Allport and Ross intrinsic/extrinsic framework (Tsang & McCullough, 2003). Critics argue that the I/E construct is poorly defined, as analyses of E have shown the emergence of two factors (extrinsic personal, extrinsic social), and I does not form a unitary factor in the context of a broad variety of religion items (Kirkpatrick & Hood, 1990). Furthermore, Batson proposed that the negative relationship between an intrinsic orientation and prejudice was actually an illusion created by intrinsic persons seeming to be more prosocial; a quest orientation actually is associated with greater tolerance (Batson & Ventis, 1982). Subsequent research based on this assertion revealed a third type of religious orientation, quest, which is measured by the Quest Scale. The quest orientation is supposed to be
independent of the I/E dimensions. This orientation is associated with an openness to facing existential questions, while resisting clear-cut answers; changing one’s religious convictions; religious doubting is viewed as positive (Batson, Schoenrade, & Ventis, 1993). In other words, the quest orientation is believed to subsume three religious factors: complexity, tentativeness, and doubt (Maltby & Day, 1998). The original scale had poor reliability, which led Altemeyer and Hunsberger (1992) to improve it. They found that quest was negatively correlated with prejudice. Moreover, this quest orientation was present oftentimes in people belonging to no religion. At this point, research conducted on the I/E scales has produced both favorable and unfavorable results. Though the work of Allport and Ross generated much research in the area of the psychology of religion, the lack of conceptual clarity of the original work and the inconsistency of subsequent studies is cause for concern (Spilka et al., 2003). However, the I/E scales have been modified based upon the research by Kirkpatrick (1989) and Gorsuch and McPherson (1989). Both studies showed that the I/E scales produce three factors: intrinsic, extrinsic-personal (religion as a source of comfort), and extrinsic-social (religion as social gain).

1.3 Attachment theory

It appears that for much of its history, the area of the psychology of religion has been ignored by mainstream psychology (Baumeister, 2002; Hill, Sarazin, Atkinson, Cousineau, & Hsu, 2003; Kirkpatrick, 1992). There are a few reasons for this: 1). Some researchers may view the study of religion as unscientific (Simpson, 2002). Secondly, the variables involved in religion (e.g., social support) can be studied outside the realm of religion (Funder, 2002). Thirdly, religiosity is simply too complex, multifaceted, and therefore, too difficult to study (Hill et al., 2003; Simpson, 2002). Fourth, psychologists
as researchers and clinicians tend to be less religious than the general public and surround themselves with like-minded people, hence psychologists tend to believe religion is relatively unimportant in research or practice (Baumeister, 2002; Joules, 2001). Finally, there have been few major, mainstream psychological theories directly applied to psychology of religion research (Kirkpatrick, 1992; Simpson, 2002).

Fortunately, this last trend has changed and research in psychology of religion is now being grounded in major psychological theory, such as attachment (Simpson, 2002). Kirkpatrick (1992) argued that attachment theory provides a theoretical framework for studying religiosity scientifically. Before extending attachment theory to religion it is important to discuss its early formulation. Bowlby’s (1969) attachment theory draws on an evolutionary/biological perspective and he proposed that the attachment system is a biosocial behavioral system which evolved because it helped maintain physical proximity of the infant to its primary caregiver. In other words, natural selection favored attachment behaviors because such behaviors kept infants close to mothers, which protected them from predators, thereby increasing their chances for survival (Cassidy, 1999). Attachment theory postulates that the “child’s tie to his mother is a product of the activity of a number of behavioral systems that have proximity to the mother as a predictable outcome” (Bowlby, 1969, p. 179). He also observed that the child emits various social signals such as following the mother, calling, clinging, or crying in order to achieve proximity to the caregiver. Furthermore, the theory describes two types of variables that can activate attachment behavior, both of which are states that signal stress or danger. The first is the condition of the child (e.g., pain, illness, hunger) and the second is the condition of the environment (e.g., threatening stimuli). The type of care (e.g.,
responsive, withdrawing, rejecting, absent) a mother gives an infant, influences subsequent infant behavior. For instance, if the infant perceives the mother as a reliable source of protection (safe haven) to return to in times of trouble, a secure attachment is formed (Kirkpatrick, 1992). However, infants also become attached to abusive and insensitive parents (Cassidy, 1999; Main, 1996). Thus, an attachment is a psychological bond formed between infant and caregiver, regardless of the caregiver’s actions, but individual differences exist in terms of type of attachment (e.g., secure versus insecure).

Another aspect to Bowlby’s theory is the important connection of the attachment behavioral system with the exploratory system and the fear behavioral system (Cassidy, 1999). The exploratory system lets the infant gather information about its environment. This system interacts with the attachment system by allowing the child to explore and learn about its environment, while maintaining proximity to the caregiver for protection. Like the attachment system, the fear system is designed for protection. When infants encounter frightening stimuli, such as loud noises or darkness, they are more likely to engage in proximity-seeking behavior. “The stimuli that most effectively terminate the systems are the sound, sight, or touch of mother” (Bowlby, 1969, p.179). Moreover, the presence or absence of the caregiver can influence the degree of fear the infant feels (Bowlby, 1973). By presence, Bowlby meant “ready accessibility” and by absence, he meant “inaccessibility.” If the caregiver responds in an appropriate and adequate manner, then a child will be less prone to fear and most likely be securely attached. If the caregiver is not physically and/or emotionally available, then the child will most likely be in a state of anxiety or distress. Hence, according to attachment theory, the caregiver serves two primary purposes: a haven of safety in times of distress, and a secure base.

Bowlby (1973) also considered the importance of cognition, specifically, internal working models that are representations of the attachment figure, the self, and the environment. The child develops beliefs and expectations of the caregiver’s reliability as a safe haven and a secure base by internalizing his/her attachment experiences with the caregiver (Eckert & Kimball, 2003). Bowlby believed these models permitted the child to anticipate the future and make decisions about which attachment behaviors to use in particular situations with specific people (Cassidy, 1999). As the child grows older, the need to maintain close physical proximity decreases in the absence of danger, but there is an urge to maintain “felt security” (Sroufe & Waters, 1977). Felt security refers to an individual’s belief that his/her attachment figure is a source of security or comfort in times of distress (Simpson, 2002). In essence, the internal working model is the means through which a person develops beliefs about interpersonal relationships in general (Eckert & Kimball, 2003). In addition, the internal working model a child has of the attachment relationship requires conscious processing to keep the model accurate and current (Cassidy, 1999). For instance, “an infant who is treated in a consistently sensitive manner grows to see the world as good and responsive, and the self as deserving such consideration (Weinfield, Sroufe, Egeland, & Carlson, 1999, p. 75). Likewise, a child who is treated in a harsh, inconsistent manner, or who is ignored, tends to see the world as insensitive, and the self as deserving such treatment. Hence, these schemata of the
early attachment relationship can exert effects into later life (Bowlby, 1980). Although a pattern of attachment tends to persist, this does not imply that early attachment styles are fixed throughout life (Bowlby, 1988). Bowlby (1973, 1980) believed that later differences in functioning in relationships with caregivers and noncaregivers are the product of both early history and current circumstances. Thus, “... change continues throughout the life cycle so that changes for better or for worse are always possible” (Bowlby, 1988, p. 136).

Ainsworth conducted research that tested and extended Bowlby’s theory on attachment. She developed the strange situation procedure to assess the infant-caregiver attachment bond. The design involves the mother, her infant (12-20 months), and a stranger (observer) and a sequence of episodes that balance attachment and exploratory behavior under a range of mild to moderate stress (Ainsworth et al., 1978). The experiment begins with the observer bringing the mother and infant into an unfamiliar laboratory room with different types of toys. The infant and mother are left alone, giving the infant an opportunity to settle in and explore. The stranger then enters the room and plays with the infant for one minute at the end of a three minute session. The mother leaves the room and returns, whereupon the stranger leaves the room. Again, the mother exits the room and the stranger returns. Finally, the mother returns and the stranger leaves. Based on the infants’ responses, they were classified as either secure or insecure, with the insecure category being subdivided into avoidant and ambivalent types. A securely attached infant misses the mother during separation, welcomes the mother’s return, seeks contact when upset, and once comforted, returns to exploration. An avoidant attachment style is characterized by minimal distress during separation, exploring readily
(with little display of secure-base behavior), actively avoiding or ignoring mother during reunion. An ambivalent infant fails to engage in exploration, is preoccupied with mother (clinging and crying profusely during separation), and alternates between seeking contact with mother and signs of angry rejection. Later research found that many infants could not be classified according to the original criteria, and thus, based on their observed behaviors, labeled such infants as disorganized/disoriented (Main, 1996). The disorganized/disoriented infant behaves in contradictory ways, alternating between approach and avoidance, (e.g., clinging while leaning way), and his/her behavior seems to lack an observable goal.

Since the initial work on attachment theory, research has focused on the importance of attachment on adult relationships as well. Waters, Merrick, Treboux, Crowell, & Albersheim (2000) conducted a follow-up study to the Ainsworth et al. (1978) study. Fifty of the 60 participants from the original study agreed to participate and were interviewed by using the Adult Attachment Interview (AAI). The interviewers were blind to the participants’ infant attachment classifications. Results showed that 72% of the infants received the same classification in early adulthood (20-22). However, if the infant had experienced one or more negative life events (e.g., loss of parent, cancer), there was a greater likelihood of change in attachment pattern, typically going from a secure infant to an insecure adult. This is in accordance with Bowlby’s (1973, 1980) belief that early attachment patterns can be seen in adulthood, yet change depending on events experienced.

In summary, Bowlby (1969, 1973, 1980) postulated a evolutionary basis for the development of the attachment system. According to attachment theory, two key
functions of the caregiver involve serving as a haven of safety in times of threat and a secure base for exploration during normal circumstances. The infant develops internal working models of the caregiver’s reliability and accessibility. Ainsworth et al. (1978) provided an experimental design that tested and extended the theory. The results of her study found infants displayed three types of attachment: secure, avoidant, and ambivalent. A fourth type, disorganized/disoriented was discovered in more recent research. The infant develops internal working models, which are beliefs and expectations about the caregiver as a haven of safety and secure base. Those who have secure attachments have a sense of safety and would be more likely to hold positive expectations about what to expect from relationships. Those with insecure attachments are likely to feel that caregivers or noncaregivers are unresponsive or unavailable. The attachment patterns tend to persist throughout life, but have the capacity to change for better or worse, depending on the interaction of past and current circumstances.

1.4 Religion as an attachment process

1.4.1 God as an attachment figure

Kirkpatrick (1992, 1999) proposed that religion could be conceptualized as an attachment process. He postulates that the hallmarks of attachment theory—seeking and maintaining proximity with the attachment figure; the figure serving as a haven of safety and as a secure base; anxiety or grief over separation or loss—is central to theistic religions. In particular, Kirkpatrick has focused on Christianity, as it is the predominant religion in the United States and emphasizes a personal, interactive relationship with God. However, Kirkpatrick (1999) also asserted that religions, such as Hinduism and
Buddhism have theistic components on which believers focus. My use of God in the rest of this paper is not limited to the Christian perspective; it refers to any divine power, supreme being, or supernatural figure.

Bowlby (1969, 1973, 1980) believed that the early attachment relationship played an important role throughout a person’s lifespan. An emotional connection with the attachment figure is a key feature to this relationship. “Whether a child or adult is in a state of security, anxiety, or distress is determined in large part by the accessibility and responsiveness of his principal attachment figure” (Bowlby, 1973, p. 23). Kirkpatrick (1999) pointed out that the concept of love is key to many religious belief systems and in a person’s perceived relationship with God. Specifically, the type of love experienced in religion excludes a sexual component, instead resembling the way a child is attached to its mother.

So, God is seen to function psychologically as an attachment figure, to which people turn for comfort and security (Kirkpatrick 1992, 1999; Rowatt & Kirkpatrick, 2002). The idea of God as a parental figure has produced mixed results on research investigating whether images of God resemble maternal versus paternal images (Kirkpatrick, 1999). Considering the fact that God is viewed by many as an attachment figure, rather than distinguishing God as paternal-maternal, it would seem that a more important, pertinent question is a person’s concept of God (e.g., benevolent, wrathful, worthless; Wong-McDonald & Gorsuch, 2004). I will discuss this issue in further detail later in this chapter.

How can one draw parallels between the hallmarks of attachment theory and religions? First, just as children seek proximity with their caregivers, many people use
religious beliefs to enhance perceptions of proximity to God (Kirkpatrick, 1999). Almost all religions describe God as watching over humankind, perhaps even walking amongst us, and have houses of worship where believers can feel closer to God. Prayer is also a way of seeking proximity to God. For example, meditative prayer is an attempt to become aware of or near to God (Spilka et al., 2003). Second, for many people, God is seen as a haven of safety in times of distress. For example, when a person falls sick or injured, religiousness appears to be intensified (Pargament, 1997, 2002). A study by Gall, Miguez de Renart, & Boonstra (2000) investigated the role of religious resources in long-term adjustment to breast cancer. They found that a relationship with God and God image, was related to survivors’ well-being. Those women who felt the presence of God in their lives and perceived God as controlling in the relationship reported greater levels of optimism. Some people turn to God not only for major crises, but also when experiencing the hassles of daily life (Spilka et al., 2003). As a powerful being, God may help alleviate distress and give strength to move past the negative cumulative effect of daily nuisances. Third, God functions as a secure base. There is very little direct research on this aspect as researchers have focused on the effects of religious beliefs during stressful events (Kirkpatrick, 1999). It appears that those who believe they have a relationship with a deity who they view as a king or master, experience greater global happiness (Pollner, 1989). People experience positive emotions (e.g., joy, contentment, interest, gratitude) when they feel safe, which leads them to play, develop new views of the self and world, explore, be creative, and repay kindness (Fredrickson, 2002).

In general, it seems an attachment to God gives some people a feeling of confidence to face current and future challenges (Sim & Loh, 2003). Finally, perceived
separation from God is a source of distress to many believers (Kirkpatrick, 1999). Feeling that God is not near or having doubts about God’s existence could bring on feelings of anxiety. A study by Hunsberger, McKenzie, Pratt, & Pancer (1993), focused on seven types of religious doubt, all of which viewed religion in a negative manner. They define religious doubt as “. . . a feeling of uncertainty toward, and a questioning of, religious teachings and beliefs (p.28). One type of religious doubt involves a person feeling that God does not exist in reality. This could be especially distressing when a person comes from a very religious background. Another study on young adults adjusting to university life revealed doubting to be positively related to measures of stress, depression, and daily hassles and negatively related to measures of adjustment (Hunsberger, Pancer, Pratt, & Alisat, 1996).

1.4.2 Hypotheses about religious belief

Clearly, religion can be conceptualized as an attachment process (Kirkpatrick, 1992, 1999). Just as there are individual differences in attachment patterns of infants to their caregivers (Ainsworth et al., 1978) research shows similar individual differences in attachment styles to God, which leads to two different hypotheses regarding religious belief (Kirkpatrick, 1992, 1999). Bowlby (1973, 1980) posited that the internal working models of the early attachment relationship exert their effects throughout a person’s life. The beliefs and expectations regarding the caregiver act as a guide to subsequent social relationships (Eckert & Kimball, 2003). The concept of internal working models leads to the correspondence hypothesis, which is that an individual’s religious beliefs and concepts of God should parallel the attachment style to his/her caregiver (Kirkpatrick, 1992, 1999). However, there is a second application of attachment theory to religion,
which stems from the attachment system’s need to maintain proximity to a caregiver. If, the caregiver is unresponsive or unavailable, attachment behaviors become activated as to restore sufficient levels of proximity (Kirkpatrick, 1992, 1999). According to the compensation hypothesis people turn to God as a substitute attachment figure, as in cases involving loss of an attachment figure or insecure attachment history (Kirkpatrick, 1999). Research has shown support for both hypotheses.

1.4.2.1 Correspondence hypothesis

A study by Kirkpatrick & Shaver (1992) explored relationships between adult attachment style and religious belief and behavior with results supporting the correspondence hypothesis. Participants read three different paragraphs describing secure, avoidant, and ambivalent attachment patterns and picked the one that best described their relationship with their parents. Similarly, participants read three paragraphs about love relationships and chose the one that best resembled their own experience. Respondents also filled out measures for religious orientation, beliefs about God, attachment to God, and mental health. Participants who classified themselves as secure viewed God as significantly less controlling, less distant, and more loving than the insecure groups. Also, secure participants displayed the highest level of commitment to religion, while avoidant participants tended to describe themselves as agnostic. The ambivalent group had the highest number of atheists, although this difference was not statistically significant. In addition, secure lovers tended to have a secure attachment to God compared to insecure lovers. However, there was an unexpected moderation of the relationship between adult attachment style and God attachment by childhood maternal attachment. That is, security of God attachment was positively related to security of adult
attachment for those participants who reported an insecure attachment to their parents during childhood. For those who reported a secure attachment with their parents, God attachment and love type were not related. Kirkpatrick and Shaver argue that these findings may stem from the possibility that people with insecure attachments to parents may undergo major reorganization of their internal working models. If the reorganization occurs from insecure to secure, all attachment relationships are positively affected. For those who had secure parental attachments, differences in relationships with God and a love partner may be due to experiences with religious and nonreligious people and particular partners.

Almost all studies on attachment and religion have been correlational. The only true experiment found in the literature regarding the application of attachment theory to religion is by Birgegard & Granqvist (2004). In this study, three experiments were conducted in which participants were subliminally exposed to separation stimuli. The purpose of the experiments was to test effects on religiosity of unconscious attachment system activation. Experiment 1 focused on whether priming separation resulted in attachment behaviors in relation to God. Participants were randomly assigned to either one of two conditions. In the control group, participants received multiple subliminal exposures to the phrase, “People are walking.” In the experimental group, the participants were exposed several times to the phrase, “God has abandoned me.” Results found that for people in the experimental group, individuals with a more secure attachment history reacted with greater emotionally based religiosity (turning to God in a way that relates to the four defining features of an attachment relationship) than people with insecure attachments. This is congruent with the idea that people with secure attachments have
developed an internal working model of God as reliable in times of need.

In the second experiment, the separation stimulus involved mother. The control phrase was again “people are walking.” The experimental phrase was “mother is gone.” According to the correspondence hypothesis, parental internal working models guide responses in relation to God. Experiment 2 was based on the premise that using a subliminal stimulus to activate the attachment system in relation to parents should produce similar results as one activating the attachment system in relation to God. The findings related to those in experiment 1. That is, even though mother was the abandoning figure in experiment 2, effects followed in relation to God. So, those who have a secure attachment history tend to use God as an attachment figure, but an insecure history is linked to inhibition of God attachment.

In the third experiment, the experimental phrase was “God has abandoned me.” In addition to the previous control phrase, two more control phrases were added: “God has many names” and “Nothing has forsaken me.” These phrases were included to see if the references to both the attachment figure and to separation from that figure are necessary to explain the previous findings. Overall, results indicated that attachment system activation occurs subsequent to an abandonment stimulus, and that responses are moderated by a person’s attachment style to parents. Also, as in experiment 1, the findings supported the notion that God can be viewed as an attachment figure.

In general, all three experiments found an interaction between reactions to abandonment stimuli and attachment history. Unconscious activation of the attachment system in relation to God or mother leads people with a secure history to turn to God, whereas those with an insecure history turn away from God. Moreover, under such
circumstances, it appears that God functions as an attachment figure, whether the separation stimulus involved God or mother. Hence, the internal working model of parents impacts images of God as an available and functional attachment figure. The significance of this study is that it is a true experiment, which allows for causal inferences regarding attachment and religiosity. In addition, the models of parents and God overlap, providing support for the correspondence hypothesis.

A study by McDonald, Beck, Allison, and Norsworthy (2005) examined the relationship between parent-child attachment and attachment to God in a college population. Results clearly showed that perceived lack of parental warmth, tenderness, or support was associated with increased avoidance of God. Participants from rigid, authoritarian homes tended to report great avoidance in their attachment to God and anxiety over whether they are lovable. In addition, participants from these overprotective, authoritarian homes were concerned over their personal worth and God’s love which were related to fears of abandonment. In addition, parental spirituality was associated with greater intimacy with God. For example, students who came from homes that engaged in religious activities tended to rely on God. However, participants who viewed their parents as hypocritical and as having less of a personal relationship with God were more likely to have difficulty relying on God themselves. Overall, the results of the study supported the correspondence hypothesis rather than the compensation hypothesis.
1.4.2.2 Compensatory hypothesis

The compensatory hypothesis has also been studied empirically. Kirkpatrick and Shaver (1990) conducted an exploratory study on the relationship between parent-child attachment and adult religious beliefs and involvement. Participants filled out measures regarding their religious beliefs and family backgrounds. Results indicated that insecure (avoidant) parental attachments were related to greater levels of adult religiousness, while secure attachments were related with lower levels. However, there was a moderation effect: The attachment-religion relationship was seen only for participants who had relatively nonreligious mothers. For those who came from a strong religious background, individual differences in attachment were unrelated to adult religiousness. Hence, the results tended to support the compensation hypothesis for those with nonreligious mothers. That is, the avoidant group who had nonreligious mothers showed significantly higher levels of religious commitment, belief in a personal rather than a pantheistic God and belief in having a personal relationship with God. Interestingly, attachment history, independent of maternal religiousness, was a strong predictor of sudden religious conversion. Specifically, those with an avoidant attachment style experienced a sudden religious conversion at some point in their lives.

If God is a source of comfort, then according to attachment theory, people will increase their religious beliefs and behavior when dealing with a negative event, such as the death of a loved one (Kirkpatrick, 1992). The results of a study by Brown et al. (2004) showed that widowed individuals, compared to controls, experienced an increase in both religious behaviors (e.g., more church attendance) and religious belief. This is correlated with lower levels of overall grief. However, this rise in religious beliefs and
behaviors after loss of a spouse is temporary. After 18 months and 48 months, religious beliefs and behaviors returned to baseline, respectively. Hence, it appears that for those who are grieving, God serves as an attachment figure that compensates for the loss of marital attachment.

In summary, Kirkpatrick (1992, 1999) has used attachment theory as the foundation for individual differences in religious experience. The basic premise of Kirkpatrick’s framework is that God functions as an attachment figure by serving as a safe haven during times of distress and a secure base for exploration during normal circumstances. The use of attachment theory leads to two different explanations of differences in religiosity: the correspondence and compensation hypotheses. Research has provided support for both, but only the study by Birgegard & Granqvist (2004) used a true experimental design to test these hypotheses. It is plausible that both explanations may be correct, depending on the nature of the question being studied. The compensation hypothesis could be an appropriate explanation for an increase in spirituality during times of stress or loss of an attachment figure. The correspondence hypothesis could be the suitable explanation for how people view their relationship with God and maintenance of their spiritual belief system. In other words, these two propositions can be integrated and help explain various aspects of spirituality as well as stability and changes of spiritual beliefs.

1.5 Religion and psychological adjustment

At one point, psychology and psychiatry had a neutral, if not antagonistic attitude toward religious beliefs (Josephson et al., 2000). Freud seems to have been influential in this regard. As stated earlier, Freud viewed religion as a delusional system, and it seems
that this idea was present in previous editions of the Diagnostic and Statistical Manual of Mental Disorders (DSM; American Psychiatric Association). The DSM-III was said to contain an implicit and explicit tendency to devalue experiences common to many religions and view them as forms of psychopathology (Kilbourne & Richardson, 1984, as cited in Spilka et al., 2003). However, the DSM-IV demonstrated the shift in the field’s attitude toward religious beliefs. For example, behaviors or experiences, such as glossolalia or trance states are not classified as evidence of psychopathology, if it occurs within the context of accepted religious or cultural practices, occurs voluntarily, and does not cause distress (American Psychiatric Association, 1994).

1.5.1 Religion as harmful

There is research interest in how religiosity and spirituality are associated with psychological adjustment (e.g., Hackney & Sanders, 2003; Koenig et al., 2001; Salsman & Carlson, 2005). Religion may be an expression of mental disorder (e.g., as seen in delusions of grandeur), and one must not overlook the fact that religious beliefs can be a source of distress. In some cases, members of a religious group may feel threatened by a loss of righteousness before a divine power, or exile from a religious community for not strictly adhering to certain values or rituals (Carone & Barone, 2001). In such instances, an individual can experience anxiety about punishment from God or loss of social support. A study by Cohen and Rozin (2001) looked at the difference between Jews and Protestants regarding the role of mental states in judging a person’s moral status. The authors hypothesized that Protestants, as compared to Jews, would make harsher moral judgments of person whose mental state is morally questionable. The basis for this hypothesis lies in that Christian doctrine holds mental states as more important in judging
a person’s moral status than Jewish doctrine. Results indicated that although Protestants and Jews rated the moral status of actions equally, Protestants rated the target person with inappropriate mental states more negatively than did Jews. It appears this research has clinical implications. If an individual feels that their religious beliefs prohibit certain thoughts (e.g., sexual or aggressive), then he/she may be at risk for developing obsessions, given the paradoxical effects of thought suppression (attempting to suppress a thought produces a preoccupation with that very thought; Wegner, Schneider, Carter, & White, 1987).

In fact, there is a form of mental pathology, called scrupulosity, which Askin, Paultre, White, and Van Ornum (as cited in Spilka et al., 2003) call the religious manifestation of OCD. This condition involves continuous worry about religious issues or compulsions to perform religious rituals. People with this disorder fear sin and experience compulsive doubt. They perform the rituals to gain a sense of purification, though they can never feel accepted by God, due to attributions of themselves as being sinful and of God as unforgiving.

Perhaps the most well-known interaction of religious beliefs/experience and mental illness occurs in the form of schizophrenia. For instance, an individual suffering from schizophrenia may hear voices from God or the devil to hurt him/herself and others. Also, in cases of schizophrenia and mania an individual may believe that he/she is God or some divine being. A quest religious orientation was found to be associated with schizotypal traits (Joseph, Smith, & Diduca, 2002). However, some data suggest that there is less psychosis among the more religiously involved (Koenig et al., 2001). Maltby, Garner, Lewis, and Day (2000) found that an intrinsic religious orientation was
negatively associated with schizotypal traits, whereas extrinsic-social was positively associated with schizotypal traits. In sum, the research linking religiousness, schizotypal traits, and psychosis is inconsistent and provide no information on causality (Koenig et al., 2001).

A study by Maltby and Day (2000) examined the relationship between religious orientation (intrinsic, extrinsic-social, extrinsic-personal) and depressive symptoms in the context of various cognitive, social, and personality variables. The results showed that depressive symptoms are significantly associated with higher scores on extrinsic-social and extrinsic-personal religious orientations, neuroticism, anxiety, attribution style, and self-esteem. Depressive symptoms were correlated with significantly lower scores on intrinsic orientation, self-esteem, optimism, and problem-focused coping style. More specifically, for men, the highest correlation was between depressive symptoms and self-esteem ($r = -0.57$), while for women the highest correlation was between depressive symptoms and neuroticism ($r = 0.50$). Multiple regression analyses revealed that among men, all three religious orientations, and among women, intrinsic and extrinsic-social orientations, accounted for unique variance in depressive symptoms scores. The authors concluded that while cognitive, social, and personality explanations of depression are important, the relationship between religious orientation and depression could be considered outside these other explanations. That is, it may be possible that religious orientation adds another dimension to protecting against or contributing to depressive symptoms, as well as other mental illnesses.
1.5.2 Religion as helpful

Although religious beliefs can produce negative effects, it can also help a person cope, and thereby alleviate mental distress (Spilka et al., 2003). Studies show a correlation between happiness and religion, but the causal relationship is not clear as to whether happier people go to church more, or if going to church makes people happier (Argyle, 2000). A study by Van der Lans (as cited in Argyle, 2000) had participants meditate for several sessions. All reported feeling pleasant and energetic afterward. It seems that the more intense a religious experience is, the greater level of happiness reported (at least temporarily). A study on university students in England, found that religiosity is associated with happiness (French & Joseph, 1999). However, closer analysis revealed that this association was a function of purpose in life. Lewis, Maltby, and Day (2005) examined the relationship between religiosity and happiness within the context of psychological well-being (global contentment with one’s life) and subjective well-being (balance of positive and negative affect) in a sample of English participants. The authors found that in general, religiosity was not significantly related to happiness. However, an intrinsic orientation was associated psychological well-being, but not subjective well-being. Dezutter, Soenens, and Hutsebaut (2006) investigated the contribution of religious involvement, religious orientation, and religious attitudes in the prediction of mental health. Results showed that an intrinsic religious orientation significantly predicted higher levels of psychological well-being, whereas an extrinsic-personal predicted lower levels of psychological well-being. Religious orientation did not
predict psychological distress. Also, a literal style of processing religious content was negatively related to well-being and positively related to distress. Religious involvement (i.e., church attendance) was not related to mental health outcomes.

1.5.3 Mixed results

Koenig et al. (2001) reviewed numerous studies, (the majority of which were cross-sectional and prospective, but included a few clinical trials), regarding the connection between religion and mental health. The analysis revealed that people who are more religiously involved experienced less depression and anxiety. Specifically, Koenig et al. found that people who have an intrinsic religious orientation and are involved in frequent religious community activity, may be at reduced risk for depression. Also, those who have an extrinsic orientation appear to be at higher risk for depression. For people with an intrinsic orientation, it seems that religion provides a greater sense of meaning and coherence in life, which boosts feelings of optimism and hope. Additionally, studies of religious beliefs and practices show a positive relationship with life satisfaction, happiness, positive affect, and morale (Koenig et al., 2001). In sum, there are inconsistent findings involving religious variables and psychological adjustment. These results appear to depend, in part, on how religiosity is defined and how psychological adjustment is assessed.

Hackney and Sanders (2003) conducted a meta-analysis in order to clarify whether differences in researchers’ definitions of religiosity and mental health accounted for contradictory findings regarding the relationship between these two variables. Indeed, varying definitions of these variables resulted in different types and strengths of the correlations between religiosity and mental health. That is, evidence could be found to
support a positive, negative, and neutral relationship between religiosity and mental health. A study by Salsman and Carlson (2005) investigated the types of mental health outcomes associated with religiousness domains (e.g., religious orientation, frequency of meditation, church attendance) in a group of college students. Results indicated that people with a mature faith (i.e., faith and a personal relationship with God as central in their daily lives) was associated with lower levels of depression, hostility, paranoid ideation, and overall levels of psychological distress. Also, those with a mature faith that was manifested through pro-social acts (i.e., service to humanity, engaging in acts of mercy or justice) tended to report more bodily complaints and psychological distress. The direction of causality in this association and the reason for this finding remains unclear.

1.5.4 Mediators of religion and psychological adjustment

One way in which researchers have attempted to understand the relationship between religiosity, spirituality and psychological adjustment is by examining the influence of factors which mediate these relationships. In a sample of people with clinical depression, hopelessness functioned as a mediator of the relationship between religious belief and depression (Murphy, Ciarrocchi, Piedmont, Cheston, Peyrot, & Fitchett, 2000). Results showed hopelessness was a mediator. That is, through the relation of religious belief to lower levels of hopelessness, religious belief was indirectly related to less depression. Another study examined how intrinsic and extrinsic religious orientations may indirectly affect well-being, as assessed by life satisfaction, in a group of Protestants and Catholics (Cohen, Pierce, Chambers, Meade, Gorvine, & Koenig, 2005). The authors found that for Protestants, intrinsic and extrinsic religiosity were indirectly related to life satisfaction through belief in the afterlife and death anxiety; this finding was not as strong
for Catholics. Steger and Frazier (2005) identified meaning in life (self-perceived significance of one’s life) as another mediator of the link between religiousness and psychological health. The authors found that meaning in life mediated the relationship between religiousness and well-being (as assessed by life satisfaction and self-esteem) in university students. Meaning in life partially mediated the relationship between religiousness and optimism. Finally, Tix and Frazier (2005) examined specific aspects of individuals’ personal strivings as mediators between intrinsic religiousness and mental health. In particular, the authors hypothesized that the religious and/or spiritual content of personal strivings (things people usually try to do) and the degree of sanctification within strivings (regard relationships as holy, or work as a calling) would account for the relationship between intrinsic religiousness and mental health. Results indicated that the degree to which an individual’s personal strivings are sanctified by religious and/or spiritual motives is a mediator of the relationship between intrinsic religiousness and hostility; religious and/or spiritual content of strivings is not a mediator (Tix & Frazier, 2005). That is, it appears having religious and/or spiritual motives for personal goals account for intrinsic religiousness being related to less hostility.

In a recent effort to contribute to an understanding of the relationships between both religiousness and spirituality and adjustment, Salsman, Brown, Brechting, and Carlson (2005) employed Baron and Kenny’s (1986) strategy to evaluate the possible influence of optimism and perceived social support on these relationships. Salsman et al. conducted two studies investigating whether optimism and social support mediated the relationship between religiousness and psychological adjustment (as indicated by level of distress and life satisfaction) and between spirituality and adjustment in a group of
college students. In addition, the authors aimed to examine whether aspects of religiosity and spirituality differentially predict psychological adjustment. Results from Study 1, indicated that optimism and social support mediated the relationship between intrinsic religiousness and adjustment (i.e., life satisfaction and distress). Interestingly, extrinsic religiousness was unrelated to both psychological distress and life satisfaction.

Spirituality was measured using the Spiritual Transcendence Scale (STS; Piedmont, 1999). Only the prayer fulfillment (feeling of joy and contentment resulting from prayer, and prayer provides a sense of personal strength, Piedmont, 1999) subscale of the STS was associated with the proposed mediators of social support and optimism. Prayer fulfillment was related to life satisfaction, but not psychological distress.

In Study 2 (a close methodological replication of Study 1), the researchers found both optimism and social support were mediators of the relationship between intrinsic religiousness and life satisfaction, and also prayer fulfillment and life satisfaction. Unlike the findings of Study 1, neither optimism nor social support mediated the association between intrinsic religiousness and distress. The authors suggested the reason for the failure to find a significant relationship between intrinsic religiousness and distress was lack of variability in the scores of psychological distress. That is, because the college students were not a clinical sample, they generally scored low on the measure of distress. Consequently, the range of variability in scores was restricted, which may have lowered the correlations. In sum, the results of the Salsman et al. study demonstrate that not all aspects of religiousness and spirituality are associated with psychological adjustment.

Yet, for those aspects of religiousness and spirituality (intrinsic religiousness and prayer fulfillment) that are linked with mental health, the relationship seems to be
mediated by optimism and social support.

It appears that the effect of religiosity and spirituality on mental health is mediated by different variables (e.g., death anxiety, sanctification of personal strivings, optimism, social support). A relatively new line of research examines the construct of God attachment and its association with mental health. The proposed study investigates the role of attachment to God as a mediator of the relationship between religiosity and spirituality, and mental health.

1.6 Conception of one’s relationship with God

1.6.1 God image and psychological well-being

Benson & Spilka (1973) conducted a study examining the relationship between one’s view of God and one’s self-esteem. Results showed evidence for a positive correlation between belief in a loving, accepting God and self-esteem, whereas a negative correlation exists between self-esteem and a belief in a rejecting, distant, controlling God. A study by Schaap-Jonker, Eurelings-Bontekoe, Verhagen, and Zock (2002) investigated the relationship between God image and personality disorder traits. The researchers found an association between type of God image and pathological personality traits. For example, people with schizoid, schizotypal, and paranoid traits tended to have an image of God as passive, aloof, distant, and unsupportive. This finding shows a parallel between one’s image of God and how individuals view other people. In similar fashion, those with obsessive-compulsive traits experienced God as dominant and punishing. The authors suggested that if God is thought about or experienced as abandoning, then a schema of the self as incompetent is activated, which leads to an individual feeling distressed. Hence, Schaap-Jonker et al. recommend that in order to reduce distress, the individual’s
view of God must be restructured into a more benign one.

1.6.2 Relationship with God

According to Wong-McDonald and Gorsuch (2004) a person’s view of God can affect his/her perceived relationship with God. That is, if one thinks of God as benevolent, he/she would draw closer to God. If one views God as rejecting of him/her, then he/she would likely distance him/herself from God. Similarly, attachment theory posits that if a child perceives a caregiver as rejecting, he/she would develop an insecure attachment; if the caregiver is perceived as loving, the child develops a secure attachment. As previously stated, the correspondence hypothesis (Kirkpatrick, 1992; 1999) asserts one’s relationship with God will be reflective of one’s relationship with his/her caregiver. A study by Hall, Brokaw, Edwards, & Pike (1998) demonstrated that people with less mature object relations development had a more pathological relationship with God. Hence, there appears to be a correlation between the developmental maturity of one's faith/relationship with God, and one's relationships with others. The authors contend that God can be viewed as a relational other, in the same vein as parents or friends. Furthermore, how God is viewed by a particular person can influence to a large extent his/her relationship with God (Schaap-Jonker et al., 2002). For instance, if God is seen as loving and giving, then an individual is also likely to see his/her relationship with God as secure and reliable. In addition, the relationship with God can impact how an individual feels about oneself. For example, if the relationship with God is perceived as caring and nurturing, then an individual is likely to be more accepting of him/herself (Hill & Hall, 2002). In sum, the correspondence between an individual’s view of self and his/her relationship with God is parallel to the caregiver-
child relationship. That is, one’s relationship with a caregiver can also impact how he/she views the self (Weinfeld, Sroufe, Egeland, & Carlson, 1999). For instance, if a child’s caregiver was perceived as neglectful, then the child may develop a low sense of self-worth, as he/she will feel unlovable.

Pollner (1989) examined the impact of beliefs about divine relationships on psychological well-being. Pollner found that belief in an omniscient, omnipresent deity that can help with life problems was associated with greater levels of psychological well-being, even when controlling for background variables such as church attendance, race, and gender. While this study provided interesting results, there are some limitations. The study inquired about how close respondents felt to a divine being or how they imagine God to be (e.g., judge, master, creator, friend). However, the study did not directly focus on the nature of an individual’s perceived relationship with God (Levin, 2002). Also, the study used only single-item outcome measures that assessed overall well-being (e.g., marital happiness, life satisfaction). Levin (2002) conducted a study that examined the association between a self-reported loving relationship with God and the presence of depressed mood. Results indicated that there was a significant negative association between these two variables. This association existed even when controlling for effects of other variables such as religious involvement, social support, and physical health.

1.6.3 God attachment

Research has also focused on attachment to God and psychological well-being. For instance, people who had a secure attachment to God reported increased life satisfaction, less anxiety, depression, and loneliness compared to those with insecure God attachment (Kirkpatrick & Shaver, 1992). A secure attachment to God means that an
individual views God as a safe haven and as a secure base for exploration, seeks/maintains proximity to God, and fears separation from God (Sim & Loh, 2003). Similar to caregiver attachment, there are two styles of insecure attachment to God: anxious and avoidant. According to Beck and McDonald (2004), anxious attachment to God involves fear of potential abandonment by God, resentment at God’s lack of perceived affection, and worry concerning one’s relationship with God, whereas avoidant attachment to God involves the need for self-reliance and unwillingness to be emotionally intimate with God.

Kirkpatrick, Shillito, and Kellas (1999) focused on the association between a perceived relationship with God and loneliness. Specifically, the researchers wanted to know whether a relationship with God predicted decreased levels of loneliness, above and beyond the predictive effects of perceived social support. Results indicated that religious beliefs and one’s perceived personal relationship with God are associated with lower levels of loneliness independent of other sources of social support. In particular, when social support was statistically controlled, results indicated that a relationship with God, a secure attachment to God, and a belief in God were inversely related to loneliness among women. The authors suggested that the reason a relationship with God and a secure attachment to God affect feelings of loneliness is that God is experienced as a constant psychological source of companionship. In other words, one’s perceived relationship with God functions as a form of social support, just as other interpersonal, attachment relationships do. Moreover, God functions as an attachment figure, a haven of safety in times of stress and a secure base from which one can face the challenges of life (Kirkpatrick et al., 1999).
Sim and Loh (2003) created a scale that measured the attachment to God construct and found high internal consistency of the items; distinction of the God attachment construct from father and mother attachment; incremental validity of God attachment (over and above attachment to mother and father) in explaining the variance in optimism. The God attachment measure did not account for any additional variance beyond that explained by father and mother attachment (i.e., God attachment did not show incremental validity) for satisfaction, self-esteem, or negative affect. However, Rowatt and Kirkpatrick (2002) constructed a dimensional (anxious and avoidant) attachment to God scale, which was found to be predictive of measures of personality and affect. Even after statistically controlling for variables such as, social desirability and loving God image, anxious God attachment emerged as a significant predictor of negative affect, (inversely) positive affect, and neuroticism. Avoidant God attachment was a significant inverse predictor of agreeableness. All of these studies indicate a relationship between the construct of God attachment and mental health or psychological well-being. Attachment to God (awareness of, relationship with God), may represent a mediating mechanism underlying the manner in which religiosity/spirituality can impact one’s psychological well-being (Hall, 2004).

1.7 Religion and young adults

Religion and spirituality are interesting topics to study in young adults. From a cognitive developmental perspective, young children view religion concretely, while teenagers are capable of more abstract and symbolic religious thinking due to the onset of formal operational thought (Donelson, 1999). Hence, adolescents will begin to reflect on concepts (e.g., Is there a God? What is my purpose in life?) that are embedded in the
transcendental realm (Markstrom, 1999). McCullough, Tsang, and Brion (2003) conducted a longitudinal study on personality traits in adolescence as predictors of religiousness in early adulthood. The researchers examined the associations between the Big Five personality factors and religiousness, finding that conscientiousness in adolescence was related to higher religiousness in early adulthood. In addition, they discovered that the link between strength of religious upbringing and religiousness in adulthood was weaker for adolescents high in emotional stability than for adolescents low in emotional stability.

According to Erikson (1968), identity formation is the major task of psychosocial development. Young adulthood (late teens through 20s) is a time of much exploration of one’s values and worldviews (Arnett, 2000). A study by Fulton (1997) examined the relationship between identity status and religious orientation in a group of college students. Identity was constructed along two dimensions: exploration and commitment (Marcia, as cited in Fulton, 1997). The combination of these two dimensions produces four identity statuses: Diffusion (not exploring, no commitment); Foreclosed (have not explored, but have made a commitment); Moratorium (currently exploring, but no commitment); Achieved (have explored and made a commitment). Results showed that identity status differed in relation to religious orientation. Identity achievement was associated with being highly intrinsic, while foreclosure was associated with being highly extrinsic. Moratorium was related with high scores on quest. Diffusion was related to moderate scores on quest.

A study by Hunsberger et al. (1996), focused on the transition to university life and how religious variables related to adjustment. They found religious doubting was
weakly, but significantly positively related to measured of stress, hassles, and depression. Furthermore, level of religiousness did not predict adjustment. Rather, social support was the best predictor of better adjustment to university life. Interestingly, religious doubters tended to report less social support (an important coping mechanism). The authors concluded that considering social support as a mediating variable did not completely explain the relationships that were found.

Barry and Nelson (2005) examined the role of spirituality in the emerging adulthood of college students at two private institutions and one public institution. The authors found that a university can either reinforce spiritual beliefs or provide an environment conducive to exploring one’s religious beliefs (among other beliefs). Students at both the Catholic and secular universities were not settled on their religious beliefs. The Mormon students scored higher than the Catholic and secular students on all variables assessing spirituality. Students at the Mormon university appeared to be adopting religious practices and beliefs (perhaps due to stricter standards) rather than exploring them. The study underscores the importance of young adulthood as developmental period in which religious beliefs and values are explored and adopted.

Arnett (2002) conducted a study to examine the content of young adults’ religious beliefs. Results showed that no matter what their religious upbringing was, exposure to various influences, such as school, friends, culture, impacted their beliefs in young adulthood. Young adults are questioning their parents’ beliefs, but this does not mean they completely reject their parents’ beliefs as was seen in the study by Barry and Nelson (2005). Arnett’s (2002) study did show that young adults are trying to be individualistic, which is why they tend to fall away from participating in institutionalized religious
activities. However, it appears by the late 20s, when many people marry and become parents, these young adults return to institutional religion.

Overall, religious experience appears to be important to young adults. Parents and religious leaders tend to be concerned that young adults turn away from religion, but it appears that young adults are turning away from institutionalized religion and turning to more of a personal religion. Indeed, young adults feel they need to reexamine beliefs they learned from their parents and form beliefs that are a product of their own reflection (Arnett, 2000). Regardless of whether young adulthood is a time of becoming more spiritual rather than religious, it appears that religiosity and spirituality are still of considerable importance to them.

1.8 Conclusions

Kirkpatrick (1992, 1999) has demonstrated how religion and spirituality can be conceptualized as an attachment process. The four hallmarks of the attachment process—proximity-seeking to caregiver, caregiver as a haven of safety and secure base, and distress over separation from caregiver—are paralleled in one’s relationship with a divine entity. In other words, God serves the psychological function of obtaining/maintaining felt security in the believer (Granqvist & Hagekull, 2003), just as children look to parents for felt security (Sroufe & Waters, 1977). Also, religiosity and spirituality has been linked to mental health. For example, people with higher levels of religiosity tend to abstain from alcohol or drug use and experience greater psychological well-being (Seybold & Hill, 2001). However, there is also the potential for religiosity to have negative effects on mental health. It seems that institutional religiosity is associated with increased psychological distress, but the level of personal devotion to God is correlated
with less psychological distress (Hackney & Sanders, 2003; Salsman & Carlson, 2005). Hence, it is important to investigate whether various aspects of religiosity and spirituality differentially affect mental health. Empirical research has also shown that the type of attachment a person has to God is related to mental health variables such as anxiety, depression, loneliness, and grief (Brown et al., 2004; Kirkpatrick, 1999; Kirkpatrick & Shaver, 1992; Levin, 2002; Pollner, 1989). In conclusion, the research described here indicates that the relationship between religiosity and spirituality and mental health is complex and warrants further examination. The empirical study of God attachment is a new and exciting concept, but one in which there is a paucity of research. Therefore, in order to extend previous work and further knowledge in this area, I propose to study whether God attachment is a mediator of the relationship between religiosity and spirituality, and mental health, as evidenced by indicators of life satisfaction, and negative and positive affect.
CHAPTER 2

THE PRESENT STUDY

There are numerous studies that investigate how mental health is related to religiosity and spirituality and God attachment (e.g., Hackney & Sanders, 2003; Salsman et al., 2005; Kirkpatrick & Shaver, 1992; Rowatt & Kirkpatrick, 2002). The results of this study could help mental health professionals recognize, understand, and address the dynamics of these variables on a client’s psychological adjustment. The purpose of the current study was to examine the role of God attachment as a mediator of the relationship between religiosity and psychological adjustment and of the relationship between spirituality and psychological adjustment in a sample of young adults.

According to the correspondence hypothesis (Kirkpatrick, 1992) a person’s early attachment relationship will influence how he/she relates to God. However, this does not necessarily mean an individual will believe in God or be aware of God’s presence in his or her life. For instance, a person may grow up with secure attachments to caregivers, and theoretically have a secure relationship with God. Yet, this person may not believe in God at all, or may believe God to play a small role in his/her daily life (Hall & Edwards, 1996). Some research has shown that individuals with secure parental attachment tended to score higher than those with insecure parental attachments on various religiosity
variables, but only when the level of parental religiosity was high (Kirkpatrick & Shaver, 1990; Granqvist & Hagekull, 2003). Hence, the present study did not exclude atheists or agnostics. In fact, it could be of empirical interest to find out how atheists and agnostics respond to items of God attachment. In addition, mental health was not assessed simply as the absence of psychopathology (e.g., depression, anxiety). One of the limitations of the Salsman et al. (2005) study was that the authors used an index of psychological distress on a nonclinical sample. Participants in this study were assessed not only on a measure of psychopathology, but psychological well-being as well. It was asserted that absence of mental illness is not the equivalent of mental health (Keyes, 2005). According to Keyes, mental health is a state in which individuals are not only free of psychopathology, but are flourishing in regard to high levels of emotional and psychological well-being. Those who are languishing experience low levels of satisfaction and positive affect. Finally, examining the proposed variables in a population of young adults was important because this age group involves a period of transition of attachment functions from parents to peers, as well as God (Granqvist & Hagekull, 2003). Also, major religious changes and/or sudden conversions tend to occur during this period (Granqvist, 2002).

The Salsman et al. (2005) study showed how the measurement (i.e., operationalization) of religiousness and spirituality can affect the relationship between religiosity, spirituality, and psychological adjustment. Using a methodology similar to that of Salsman et al., the present study aimed to investigate attachment to God as a mediator between religiosity and spirituality, and psychological adjustment. The method of this study was similar to those of the Salsman et al. study. First, the current study
attempted to show that attachment to God was an important mediator in the relationship between religiosity and spirituality and psychological adjustment. Second, this study attempted to demonstrate that despite religiosity and spirituality being overlapping constructs, dimensions of religiosity and spirituality would differentially predict adjustment. Third, the present study attempted to assess the difference, if any, that the inclusion of atheists and agnostics had on the results.

2.1 Hypotheses

Congruent with the Salsman et al. (2005) study, the hypotheses of the present study were:

1. Religiosity is associated with God attachment.
2. Religiosity is associated with psychological adjustment.
3. Spirituality is associated with God attachment.
4. Spirituality is associated with psychological adjustment.
5. God attachment is associated with psychological adjustment.

2.2 Method

2.2.1 Participants

Participants were 204 introductory psychology undergraduate students at The Ohio State University. Because the research did not involve knowledge limited to a certain type of religion, people of all faiths, as well as atheists and agnostics took part in the study. A total of 94 men and 110 females participated in this study. The mean age of respondents was 20.1 years ($SD = 2.9$), with a range of 18 to 45. Also, 97% of participants were single. In addition, 73.5% of respondents were Caucasian, 13.2% were Asian/Pacific Islander, 8.3% were African American, 2% were Hispanic, 1.5% reported
other ethnic backgrounds, and 1.5% did not respond to this item. Finally, 32.7% of participants identified their religious affiliation as Christian Protestant, 11.4% Christian Orthodox, 24.3% Catholic, 7.4% atheist, and 7.4% agnostic. Characteristics of the participants are summarized below in Table 2.1.

<table>
<thead>
<tr>
<th>Characteristic</th>
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<th>%</th>
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<tr>
<td><strong>Gender</strong></td>
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<tr>
<td>Male</td>
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<td>Female</td>
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<tr>
<td><strong>Age</strong></td>
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<td>28-37</td>
<td>5</td>
<td>2.4</td>
</tr>
<tr>
<td>38-45</td>
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<td>0.5</td>
</tr>
<tr>
<td>No response</td>
<td>5</td>
<td>2.4</td>
</tr>
<tr>
<td>Mean (20.1)</td>
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<td></td>
</tr>
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<tr>
<td>Range (18-45)</td>
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<tr>
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<td></td>
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<td>1.5</td>
</tr>
<tr>
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<tr>
<td>Divorced</td>
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<tr>
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<tr>
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<tr>
<td>Other</td>
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<td>1.5</td>
</tr>
<tr>
<td>No response</td>
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Table 2.1: Demographic Profile of Participants
Table 2.1 Continued

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<tr>
<td>Christian (Protestant)</td>
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<td>Catholic</td>
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<tr>
<td>Muslim</td>
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<td>1.0</td>
</tr>
<tr>
<td>Hindu</td>
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<td>2.4</td>
</tr>
<tr>
<td>Buddhist</td>
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<td>1.0</td>
</tr>
<tr>
<td>Spiritualist</td>
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<tr>
<td>Spiritual</td>
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<tr>
<td>Atheist</td>
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<td>7.4</td>
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<tr>
<td>Other</td>
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<td>4.4</td>
</tr>
<tr>
<td>No response</td>
<td>1</td>
<td>.5</td>
</tr>
</tbody>
</table>

2.2.2 Materials

Demographics. Participants were asked to indicate their gender, age, marital status, ethnic background, and religious affiliation.

Spirituality. Spiritual Involvement and Beliefs Scale (SIBS; Hatch, Burg, Naberhaus, & Hellmich, 1998). This 25-item measure assesses spiritual actions and beliefs. Ratings are made on a modified Likert-type format. The scale reliability and validity are very good, with high internal consistency (Cronbach’s alpha = .92); strong test-retest reliability ($r = .92$); and a high correlation ($r = .80$) with an established measure of spirituality, the Spiritual Well-Being Scale (Paloutzian & Ellison, 1982).

Spiritual Transcendence Scale (STS; Piedmont, 1999). This is a 24-item measure that regards spirituality as a potential sixth factor of personality. Spiritual transcendence refers to the ability of individuals to view life from a larger, more objective perspective and find a deeper sense of meaning. Furthermore, transcendence is a fundamental,
intrinsic motivation that involves suppressing an individual’s own need for those of the larger group. The STS consists of three subscales: connectedness (sense of personal responsibility to others), prayer fulfillment (joy and contentment from prayer/meditation), and universality (sense of unity and purpose in life). Cronbach’s alpha for the subscales are .83, .87, and .64, respectively. For the purpose of this study, the connectedness subscale was not used because the focus was not on one’s relationship to other people.

The prayer fulfillment subscale shows good validity with another measure of spirituality, the Faith Maturity Scale (FMS; Benson, Donahue, & Erickson, 1993). In addition, prayer fulfillment and universality are moderately correlated ($r = .64$, .49, respectively) with the subscale of the FMS that measures closeness to God (Piedmont, 2001).

Religiosity. Amended Quest Scale (AQS; Batson & Schoenrade, 1991a, 1991b; Maltby & Day, 1998). This is a 12-item measure based on Batson & Schoenrade’s Quest Scale. The Quest Scale is believed to assess three aspects of religiosity: addressing existential questions without reducing their complexity; ascribing a positive role to religious doubt; maintaining a tentative, changeable stance toward religious beliefs (Batson et al., 1993). The Quest Scale is positively correlated (ranging from .35 to .45) with religious conflict, which shows that although those with a quest orientation experience doubt and conflict, it is not the same as the tension and troubling doubt experienced in religious conflict (Batson & Schoenrade, 1991a). According to Batson & Schoenrade, Quest is also weakly correlated, if at all, with both intrinsic ($r$ ranges from .00 to .25) and extrinsic religious ($r$ ranges from -.10 to .10) orientations. Maltby & Day amended the scale for use among both religious and nonreligious individuals by changing the wording of two items, the instructions, and response format. Cronbach’s alpha for the
amended version is .79 (compared to .75 for the original version; Batson & Schoenrade, 1991b). Maltby & Day demonstrated that whereas the original Quest Scale was only fully completed by 58.6% of the sample, the amended Quest scale was completed by 100% of the participants.

The Age Universal I-E Scale-12 (AUIES-12; Gorsuch & Venable, 1983; Maltby, 1999). This is a derived, revised, and amended 12-item measure based on Allport and Ross’s (1967) Religious Orientation Scale. The AUIES-12 assesses intrinsic and extrinsic motivations for a person’s religious beliefs and behaviors. Subsequent work on the Allport and Ross scale, has led to improvement its psychometric properties. Revisions have included item changes, and changes in response format and scoring method (Gorsuch & McPherson, 1989; Gorsuch & Venable, 1983; Maltby, 1999; Maltby & Lewis, 1996). The changes have made the AUIES-12 usable among religious and nonreligious individuals. Research on revisions to the Allport and Ross scale has consistently found an intrinsic factor and two separate factors of the extrinsic scale. The extrinsic scale is subdivided into two categories: personally oriented and socially oriented. Ratings on the AUIES-12 are made on a 3-point scale (1 = No; 3 = Yes). Scores range from 6 to 18 on the intrinsic orientation scale, and from 3 to 9 on both the extrinsic orientation scales. On each scale, higher scores indicate a higher level of that religious orientation. In the original samples for the AUIES-12, Cronbach’s alphas for the intrinsic and extrinsic scales ranged from .82 to .91 (Maltby & Lewis, 1996). A subsequent sample yielded Cronbach’s alphas of .87, .83, .87, for the intrinsic, extrinsic personal, and extrinsic social, respectively (Lewis, Maltby, & Day, 2005). A confirmatory factor analysis was done to assess goodness of fit of the three factor structure of the AUIES-12.
(Maltby, 2002). Results indicated that the three factor structure explained the data well, thereby providing evidence of construct validity of the scale. Maltby (2001) examined concurrent validity of the Francis Attitude Toward Christianity Scale (FATCS; Francis & Stubbs, 1987) with the AUIES-12. Results showed that in a sample of American college students, the AUIES-12 intrinsic subscale has a modest correlation ($r = .53$) with the FATCS. The AUIES-12 extrinsic-personal subscale showed a very low correlation ($r = .27$) with FATCS; the extrinsic-social subscale was not correlated with the FATCS ($r = .09$). This is to be expected as the AUIES-12 is geared toward use with both religious and nonreligious samples, whereas the FATCS can only be used with a Christian sample.

**God Attachment.** Attachment to God Scale (AGS; Sim & Loh, 2003). This is a 16-item measure developed to assess attachment to God in terms of four aspects—God as haven of safety, God as secure base, seeking proximity to God, and separation from God. Ratings were made on a 6-point scale (1 = Strongly disagree; 6 = Strongly agree). For the four conceptual aspects of attachment, Cronbach’s alphas are as follows: .96 for safe haven, .97 for secure base, .96 for proximity, and .97 for loss/separation. For the measure as a whole, Cronbach’s alpha was .99. Hence, attachment to God can be regarded as a unitary construct that can be expressed in four different ways. Confirmatory factor analysis showed that a three factor model (God attachment, religious belief, and religious practice) provided good fit to the data. Validity for the AGS measure is good as it is highly correlated with religious beliefs ($r = .83$) and religious practices ($r = .85$). Furthermore, confirmatory factor analysis also revealed that God attachment is empirically distinguishable from attachment to father and attachment to mother.

**Attachment to God Inventory** (Beck & McDonald, 2004). This is a 28-item
measure designed to assess two dimensions: avoidance of intimacy with God and anxiety about abandonment by God. Ratings are made on a 7-point Likert scale (1 = Disagree strongly; 7 = Agree strongly). Cronbach’s alphas for the avoidance and anxiety subscales are .84 and .80, respectively. Validity for the anxiety and avoidance subscales is good, with high correlations ($r = -.61, -.62$, respectively) with the religious well-being subscale of the Spiritual Well-Being Scale (Paloutzian & Ellison, 1982). Hence, as one would expect, increased ratings on the anxiety and avoidance subscales are related to decreased religious well-being.

*Psychological Adjustment.* Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985). This five item measure assesses a cognitive, global evaluation of life satisfaction that is believed to be related to subjective well-being. Cronbach’s alpha for the scale is .87. Validity for the measure is also good, with correlations with other measures of subjective well-being ranging from .58 to .75.

The Short Depression-Happiness Scale (SDHS; Joseph, Linley, Harwood, Lewis, & McCollam, 2004). This is a short six-item form of the 25-item Depression-Happiness Scale (Joseph & Lewis, 1998) designed to measure positive affect. Respondents are asked to think about how they have felt in the past seven days and make ratings on a 4-point scale. Negative thoughts, feelings, and bodily experiences are reverse scored. Therefore, higher scores indicate higher frequency of positive thoughts, feelings, and behaviors (Joseph & Lewis, 1998). The nature of the scale implies that happiness is more than the absence of depressive symptoms. Cronbach’s alpha is .80. Convergent validity of the scale with the Oxford Happiness Scale (Argyle, Martin, & Crossland, 1989) is .69. Discriminant validity with the Beck Depression Inventory (BDI; Beck, Rush, Shaw,
Emery, 1979) is -.63.

Positive Affect and Negative Affect Schedule (PANAS; Watson, Clark, Tellegen, 1988). This 20-item measure assesses positive and negative affect and consists of 10 positive and 10 negative adjectives. Cronbach’s alpha for the PA and NA scales is .88 and .87, respectively. The PANAS also shows very good convergent validity with other measures of affect, with correlations ranging from .76 to .92.

Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977). This is a 20-item measure designed to assess depressive symptoms. Ratings are made on a 4-point scale (0 = Rarely or none of the time; 3 = Most or all of the time).

2.2.3 Procedure

Participants were recruited through the Psychology 100 Research Experience Program (REP) website to participate in a study examining religiosity, spirituality and psychological adjustment. A description of the current study was posted on the website (as are all psychology experiments using Psychology 100 students). Hence, participants were self-selected into the study. Students who chose not to participate in the REP, were given the alternative to write brief papers, therefore participation was completely voluntary. The number of participants in each session ranged from one to 15. As no order effect was expected, the questionnaires were presented in only one order and in the following sequence: religiosity, spirituality, God attachment, and psychological adjustment. At the beginning of each session, the experimenter passed out questionnaire packets, which remained closed until the experimenter read through general instructions. The general instructions included information about confidentiality and voluntary participation. At the end of the session, participants filled out a sign-in sheet in order to
receive credit for the experiment. Also, they were thanked for their participation and
given a debriefing form. As participants were instructed not to write their names on the
packets, all responses remained confidential and credit for participation was posted on the
REP website immediately following the session. Data were entered into an SPSS datafile
(version 14.0) and a SYSTAT (version 11.0) datafile for analysis.

2.2.4 Statistical analysis

According to Baron and Kenny (1986), a variable functions as a mediator when it
meets four conditions. First, there must be a significant relationship between the
independent and dependent variable. Second, there must be a significant relationship
between the independent variable and the mediator. Third, there must be a significant
relationship between the mediator and the dependent variable. Finally, when the mediator
is controlled, the previously significant relationship between the independent and
dependent variables is significantly reduced (the strongest demonstration of mediation is
when the correlation between the independent and dependent variable is zero). Figures
2.1 and 2.2 depict the relationship between the variables in this study. Pearson
correlations were calculated for each of the variables included in the study.

Structural Equation Modeling (SEM) was used to analyze the fit of the proposed
model to the data collected. This is a powerful statistical tool which is especially useful
when one has multiple indicators for the latent variables under study (Holmbeck, 1997).
The path diagram shows the model that was tested and the indicators associated with each
latent variable for the analysis (see Figure 2.3). The use of SEM reduces measurement
Figure 2.1: The mediating role of God attachment in the relationship between spirituality and psychological adjustment

Figure 2.2: The mediating role of God attachment in the relationship between religiosity and psychological adjustment
Figure 2.3: Structural equation model depicting God attachment as the mediator between spirituality and religiosity and psychological adjustment.
error and allows one to assess for the goodness-of-fit of the model to the data (Hox & Bechger, 1998). The RAMONA program (Browne & Mels, 2005) in SYSTAT was used to analyze the model. To test the fit of the model, the root mean square error of approximation (RMSEA) was used. The guidelines for interpreting the RMSEA are as follows: \( \varepsilon \leq .05 \) indicates close fit; \( .05 < \varepsilon < .08 \) indicates fair fit; \( .08 < \varepsilon < .10 \) indicates mediocre fit; \( \varepsilon > .10 \) indicates poor fit. Because atheists and agnostics were included in the sample and were likely have different responses to items concerning religiosity, spirituality, and God attachment (i.e., they may have felt some items were not applicable to them), I conducted two separate analyses: one set of analyses with atheists and agnostics included and another set with them excluded. Kirkpatrick (1989) conducted analyses in a similar fashion for his study on the I/E scales. He found that the results which included nonreligious respondents were similar to results which excluded them; when the findings differed, it was in the direction of providing stronger differences.

### 2.2.5 Power analysis

In the given model, the hypothesis was tested as follows:

\[ \varepsilon_0 \leq .05, \varepsilon_1 = .08, \alpha = .05, \text{desired power} = .80. \]

In SEM, the null hypothesis states that the model is a close fit. The alternative hypothesis is that the model is not a close fit. When power is set to .80, a sample size of 132 is needed. With 132 participants, there was enough power (a probability of .80) to detect whether the proposed model was incorrect. This sample size was obtained from a table created by MacCallum, Browne, & Sugawara (1996) and was based on 111 degrees of freedom.
2.3 Results

Participants had the option to omit items, and not all of the participants chose to answer every item of the demographic profile or the questionnaires. For those who left two items or less unanswered on any of the questionnaires, I took the average of their available score and replaced the missing items with the average score. A total of 204 people participated, but I excluded three participants from the analysis because they left the majority of items blank. Hence, a total of 201 questionnaires were included for data analysis in this study.

2.3.1 Descriptive statistics

Table 2.2 contains descriptive statistics for each instrument used in the study. The means for both males and females on the intrinsic and extrinsic scales were much higher than previously reported means in a sample of Americans that ranged in age from 12-68 (Maltby, 2002). Compared to a sample of churchgoers in the United Kingdom (ranging in age from 18 to 90), the mean for the current sample was comparable on quest complexity, but higher on quest doubt and tentativeness. The means for both men and women on the two subscales of the Spiritual Transcendence Scale were similar to previous reported means for this age group (Piedmont, 2001). Compared to an undergraduate sample from a Christian university, the mean for the current sample was lower for an anxious attachment to God, whereas the mean for an avoidant attachment to God was higher (Beck & McDonald, 2004). The mean for the depression-happiness scale was comparable to a sample of undergraduate psychology students in the United Kingdom. The means for positive and negative affect were comparable to previously reported means for undergraduate students (Watson, Clark, & Tellegen, 1988).
Table 2.2: Descriptive Statistics for Study Variables

Note: (1) One participant did not respond to the religious affiliation item. Thus, this questionnaire was not included when calculating means for the religious, spiritual, atheist, or agnostic groups. (2) CES-D = Center for Epidemiological Studies Depression Scale.

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Normative means were unavailable for the SIBS, AGS, SWLS, and CES-D.

2.3.2 Pearson correlations

2.3.2.1 \( N = 201 \)

Table 2.3 shows the Pearson correlation matrix for all of the manifest variables in the study. The intrinsic and extrinsic religiosity subscales were positively correlated (\( r = .23 \) to \(.48 \), all \( ps < .01 \)) with each other. There was a significant negative correlation between intrinsic religiosity and quest doubt (\( r = -.15, p < .05 \)) and quest tentativeness (\( r = -.22, p < .05 \)). Quest complexity had a significant positive correlation with the extrinsic personal subscale (\( r = .20, p < .01 \)). Each of the quest subscales were positively correlated with each other (\( r = .30 \) to \(.45 \), all \( ps < .01 \)). The spirituality measures were all positively correlated with each other (\( r = .69 \) to \(.78 \), all \( ps < .01 \)). Also, all of the spirituality measures were positively correlated with both intrinsic and extrinsic religiosity (\( r = .18 \) to \(.86 \), all \( ps < .05 \)). All of the spirituality measures were positively correlated with quest complexity (\( r = .16 \) to \(.28 \), all \( ps < .05 \)). All of the God attachment measures were significantly correlated with each other (\( r = -.82 \) to \(.41 \), all \( ps < .01 \)). Both intrinsic and extrinsic personal religiosity were positively correlated with both secure attachment to God and anxious attachment to God (\( r = .32 \) to \(.88 \), all \( ps < .01 \)). Extrinsic social was positively correlated with secure attachment to God (\( r = .23, p < .01 \)). Both intrinsic and extrinsic personal religiosity were negatively correlated with avoidant attachment to God (\( r = -.78 \) to \(-.39 \), all \( ps < .01 \)). Quest complexity was positively associated with both secure attachment to God and anxious attachment to God (\( r = .15 \) to \(.20 \), all \( ps < .05 \)). Quest doubt was positively correlated with avoidant attachment to God (\( r = .21, p < .01 \)).
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Table 2.3: Religiosity-Spirituality-God Attachment-Psychological Adjustment Model (N = 201)

* p < .05 (two-tailed)  ** p < .01 (two-tailed)

Note: Int = Intrinsic; ExPer = Extrinsic Personal; ExSoc = Extrinsic Social; QComp = Quest Complexity; QDou = Quest Doubt; QTent = Quest Tentativeness; SIBS = Spiritual Inventory and Beliefs Scale; STSUniv = Spiritual Transcendence Scale Universality; STSPray = Spiritual Transcendence Scale Pray Fulfillment; AGS = Attachment to God Scale; AGIAnx = Attachment to God Inventory Anxiety; AGIAvd = Attachment to God Inventory Avoidant; LS = Satisfaction with Life Scale; SDHS = Short Depression-Happiness Scale; PA = Positive Affect; NA = Negative Affect; CES-D = Center for Epidemiological Studies Depression Scale
Quest tentativeness was negatively associated with attachment to God ($r = -.15, p < .05$), but positively associated with anxious and avoidant attachment to God ($r = .16$ to $.29$, all $p$s $< .05$). There were significant negative correlations between all of the spirituality measures and avoidant attachment to God ($r = -.80$ to $-.50$, all $p$s $< .01$). There were significant positive correlations between all of the spirituality measures and secure attachment to God ($r = .66$ to $.90$, all $p$s $< .01$) and anxious attachment to God ($r = .23$ to $.34$, all $p$s $< .01$). All of the psychological adjustment measures were correlated with each other ($r = -.38$ to $.59$, all $p$s $< .01$). There was a negative correlation between anxious attachment to God and satisfaction with life and happiness ($r = -.20$ to $-.28$, all $p$s $< .01$). There was a positive association between anxious attachment to God and negative affect and depression ($r = .25$ to $.30$, all $p$s $< .01$). There was a positive association between positive affect and intrinsic and extrinsic personal religiosity ($r = .17$ to $.23$, all $p$s $< .05$). There was a positive association between positive affect and all spirituality measures ($r = .23$ to $.30$, all $p$s $< .01$). There was a positive correlation between positive affect and secure attachment to God ($r = .21, p < .01$). There was a very weak negative correlation between positive affect and avoidant attachment to God ($r = -.17, p < .05$).

2.3.2.2 $N = 171$

Table 2.4 shows the correlation matrix for all of the manifest variables in the study when atheists and agnostics were eliminated from the sample. There were some differences in this correlation matrix. There was no longer a significant correlation between intrinsic and extrinsic social religiosity. The correlations between extrinsic personal religiosity and each of the spirituality variables dropped from a moderate association to weak, but significant associations ($r = .33$ to $.23$, all $p$s $< .01$). There were
weak, but significant negative correlations between quest tentativeness and the SIBS and the prayer fulfillment subscale \( r = -.26 \) to -.29, all \( ps < .01 \). The correlation between attachment to God and quest tentativeness increased \( r = -.38, p < .01 \). Quest tentativeness was positively correlated with avoidant attachment to God \( r = .42, p < .01 \).

2.3.2.3 N = 30

Table 2.5 shows the correlation matrix for just the atheist and agnostic participants. There was a moderate positive association between intrinsic and extrinsic personal religiosity \( r = .56, p < .01 \). There was a positive correlation between intrinsic religiosity and quest doubt \( r = .30, p < .01 \). There was also a positive correlation between intrinsic religiosity and quest tentativeness \( r = .48, p < .01 \). There was also a positive association between extrinsic personal religiosity and attachment to God and anxious God attachment \( r = .44 \) to .75, all \( ps < .05 \). Each of the quest subscales were positively correlated with the SIBS \( r = .49 \) to .67, all \( ps < .01 \). There was a moderate, positive correlation between intrinsic religiosity and attachment to God and anxious God attachment \( r = .62 \) to .65, all \( ps < .01 \). Quest tentativeness was positively associated with attachment to God \( r = .47, p < .01 \). Quest complexity and quest tentativeness were positively associated with anxious God attachment \( r = .48 \) to .51, all \( ps < .01 \). Attachment to God was positively associated with each of the spirituality variables \( r = .54 \) to .64, all \( ps < .01 \).

2.3.3 Religiosity-spirituality-God attachment-psychological adjustment model

The results of the SEM produced a \( \chi^2 \) test statistic of 409.78 (114, \( N = 201 \)). The lower bound of the 90% confidence interval was .10, indicating that the hypothesis of
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|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1. | Int | 1  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 2. | ExPer | .26** | 1  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3. | ExSoc | .15  | .25** | 1  |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4. | QComp | .06  | .15* | .003 | 1  |    |    |    |    |    |    |    |    |    |    |    |    |
| 5. | QDou | -.29** | -.005 | -.08 | .29** | 1  |    |    |    |    |    |    |    |    |    |    |    |
| 6. | QTent | -.44** | .08  | .02  | .21** | .37** | 1  |    |    |    |    |    |    |    |    |    |    |
| 7. | SIBS | .79** | .24** | .11  | .14  | -.19* | -.29** | 1  |    |    |    |    |    |    |    |    |    |
| 8. | STSUniv | .40** | .33** | .11  | .22** | .04  | -.08 | .52** | 1  |    |    |    |    |    |    |    |    |
| 9. | STSPray | .60** | .23** | .12  | .09  | -.22** | -.26** | .70** | .57** | 1  |    |    |    |    |    |    |    |
| 10. | AGS | .81** | .37** | .15  | .06  | -.27** | -.38** | .84** | .46** | .60** | 1  |    |    |    |    |    |    |
| 11. | AGIAnx | .09  | .20** | .03  | .10  | -.004 | .08  | .05  | .10  | -.02 | .21** | 1  |    |    |    |    |    |
| 12. | AGIAvd | -.73** | -.23** | -.06 | .01  | .30** | .42** | -.78** | -.37** | -.62** | -.80** | -.03 | 1  |    |    |    |
| 13. | LS | .07  | -.01 | -.15 | .005 | .09  | -.04 | .14  | .16  | .12  | .07  | -.31** | -.06 | 1  |    |    |
| 14. | SDHS | .04  | -.04 | -.02 | -.03 | .08  | -.07 | .06  | .09  | .10  | .03  | -.26** | .02  | .58** | 1  |    |
| 15. | PA | .21** | .15* | .03  | .07  | .02  | -.04 | .25** | .24** | .34** | .19* | -.11 | -.13 | .55** | .59** | 1  |
| 16. | NA | .003 | .01  | -.12 | -.01 | .03  | -.09 | -.04 | -.06 | -.08 | .02  | .32** | .05  | -.38** | -.51** | -.33** | 1  |
| 17. | CESD | .06  | .02  | -.03 | .01  | -.001 | .05  | -.02 | -.04 | -.08 | .02  | .29** | -.02 | -.48** | -.72** | -.49** | .64** | 1  |

Table 2.4: Religiosity-Spirituality-God Attachment-Psychological Adjustment Model (N = 171)

*p < .05 (two-tailed)  **p < .01 (two-tailed)

Note: Int = Intrinsic; ExPer = Extrinsic Personal; ExSoc = Extrinsic Social; QComp = Quest Complexity; QDou = Quest Doubt; QTent = Quest Tentativeness; SIBS = Spiritual Inventory and Beliefs Scale; STSUniv = Spiritual Transcendence Scale Universality; STSPray = Spiritual Transcendence Scale Prayer Fulfillment; AGS = Attachment to God Scale; AGIAnx = Attachment to God Inventory Anxiety; AGIAvd = Attachment to God Inventory Avoidant; LS = Satisfaction with Life Scale; SDHS = Short Depression-Happiness Scale; PA = Positive Affect; NA = Negative Affect; CES-D = Center for Epidemiological Studies Depression Scale
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Table 2.5 Religiosity-Spirituality-God Attachment-Psychological Adjustment Model (N = 30)

* $p < .05$ (two-tailed)  ** $p < .01$ (two-tailed)

Note:  Int = Intrinsic; ExPer = Extrinsic Personal; ExSoc = Extrinsic Social; QCmp = Quest Complexity; QDou = Quest Doubt; QTent = Quest Tentativeness; SIBS = Spiritual Inventory and Beliefs Scale; STSU = Spiritual Transcendence Scale Universality; STSP = Spiritual Transcendence Scale Prayer Fulfillment; AGS = Attachment to God Scale; AGIA = Attachment to God Inventory Anxiety; AGIAv = Attachment to God Inventory Avoidant; LS = Satisfaction with Life Scale; SDHS = Short Depression-Happiness Scale; PA = Positive Affect; NA = Negative Affect; CES-D = Center for Epidemiological Studies Depression Scale
close fit would be rejected. The RMSEA of .114, indicated a poor fit of the model to the data. Thus, God attachment was not a mediator between religiosity and psychological adjustment, nor spirituality and psychological adjustment.

In a parallel analysis, the results of the SEM produced a \( \chi^2 \) test statistic of 293.24 (113, \( N = 171 \)). The lower bound of the 90\% confidence interval was .08, indicating that the hypothesis of close fit would be rejected. The RMSEA of .097, indicated a mediocre fit of the model to the data. Thus, it appeared that removing atheists and agnostics from the sample, only very slightly improved the fit of the model to the data. However, there still was not a close fit of the model to the data.

2.3.4 Religiosity-spirituality-quest-God attachment-positive affect model

The results of the correlation matrix (\( N = 201 \)) from the original model showed that positive affect was the only psychological adjustment variable that was generally consistent in having a significant correlation with the other religious, spiritual, and God attachment manifest variables. Hence, I decided to create a model that used only positive affect as a measure of psychological adjustment. In this case, I was left with a single multi-item scale to represent positive affect. One recommended method to proceed with an analysis in this circumstance is to use parcels, which are composites of several items (Browne, 2004). Hence, I divided items of the positive affect scale into three parcels, which were used as the indicators of the positive affect latent construct (see Figure 2.4). Also, due to the lower factor loadings of the quest subscales (.18, -.11, and -.15 for complexity, doubt, and tentativeness, respectively; \( N = 201 \)) onto the religiosity latent variable, I decided to make quest a latent construct and use the quest subscales as
Figure 2.4: Structural equation model depicting God attachment as the mediator between the latent variables of spirituality, quest, religiosity, and positive affect.

Note: STS = Spiritual Transcendence Scale; P1 = Positive Affect Group 1; P2 = Positive Affect Group 2; P3 = Positive Affect Group 3
manifest indicators of quest. The correlation matrix for the manifest variables and the parceled positive affect items is shown in Table 2.6 ($N = 201$) and Table 2.7 ($N = 171$).

The results of the SEM produced a $\chi^2$ test statistic of 236.14 (83, $N = 201$). The lower bound of the 90% confidence interval was .08, indicating that the hypothesis of close fit would be rejected. The RMSEA of .096, indicated a mediocre fit of the model to the data. Thus, it appeared that using only positive affect slightly improved the fit of the model to the data. However, there still was not a close fit of the model to the data.

In a parallel analysis, the results of the SEM produced a $\chi^2$ test statistic of 194.09 (83, $N = 171$). The lower bound of the 90% confidence interval was .07, indicating that the hypothesis of close fit would be rejected. The RMSEA of .089, indicated a mediocre fit of the model to the data. Thus, it appeared that removing atheists and agnostics from the sample, did improve the fit of the model to the data. However, there still was not a close fit of the model to the data.

2.3.5 Exploratory factor analysis

Because there was some question as to whether quest was a type of religious orientation, I decided to conduct an exploratory factor analysis to determine whether the quest subscales load onto the same factor as intrinsic and extrinsic religiosity subscales or the spirituality subscales. The nine religiosity and spirituality subscales were subjected to a principal component analysis, followed by a varimax rotation. Results showed two components with eigenvalues greater than 1.00.

The scree plot (see Figure 2.5) also revealed two factors above the elbow. Thus, the eigenvalues and scree plot analysis give congruent results and support a two component solution. The two components collectively accounted for 61.45% of the
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Table 2.6: Religiosity-Spirituality-Quest-God Attachment-Positive Affect Model (N = 201)

* p < .05 (two-tailed)  ** p < .01 (two-tailed)

Note: Int = Intrinsic; ExPer = Extrinsic Personal; ExSoc = Extrinsic Social; QComp = Quest Complexity; QDou = Quest Doubt; QTent = Quest Tentativeness; SIBS = Spiritual Inventory and Beliefs Scale; STSUniv = Spiritual Transcendence Scale Universality; STSPray = Spiritual Transcendence Scale Prayer Fulfillment; AGS = Attachment to God Scale; AGIAnx = Attachment to God Inventory Anxiety; AGIAvd = Attachment to God Inventory Avoidant; P1 = Positive Affect Group 1; P2 = Positive Affect Group 2; P3 = Positive Affect Group 3
Table 2.7: Religiosity-Spirituality-Quest-God Attachment-Positive Affect Model (N = 171)

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* p < .05 (two-tailed)  ** p < .01 (two-tailed)

Note: Int = Intrinsic; ExPer = Extrinsic Personal; ExSoc = Extrinsic Social; QComp = Quest Complexity; QDou = Quest Doubt; QTent = Quest Tentativeness; SIBS = Spiritual Inventory and Beliefs Scale; STSUniv = Spiritual Transcendence Scale Universality; STSPray = Spiritual Transcendence Scale Prayer Fulfillment; AGS = Attachment to God Scale; AGIAnx = Attachment to God Inventory Anxiety; AGIAvd = Attachment to God Inventory Avoidant; P1 = Positive Affect Group 1; P2 = Positive Affect Group 2; P3 = Positive Affect Group 3
Figure 2.5: Scree plot for religiosity, spirituality, and quest variables

Table 2.7: Rotated Component Matrix

<table>
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<tr>
<th>Component</th>
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<td>AUexterper</td>
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<td>STSPrayr</td>
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Note: Rotation method: Varimax with Kaiser Normalization. Rotation converged in 3 iterations.
variance. Component 1 (Connection with the Divine), with an eigenvalue of 3.69, accounted for 41.03% of the variance. The strongest loading variables were the intrinsic and extrinsic religiosity subscales and the spirituality subscales. Component 2 (Quest), with an eigenvalue of 1.84, accounted for 20.42% of the variance. The strongest loading items were the quest subscales. Table 2.7 shows the values of factor loadings onto each component.

2.3.6 Internal reliability

Internal consistency reliability of the scales used in the study was calculated and found to be within acceptable limits. Cronbach’s alpha was very high for all scales, except for quest doubt (\(\alpha = .69, M = 7.8, SD = 2.5\)) and quest tentativeness (\(\alpha = .66, M = 8.6, SD = 2.3\)) subscales, which had moderate reliability coefficients. Table 2.8 contains the alpha coefficients for each of the subscales in this sample.

2.3.7 Differences in religious affiliation

I separated respondents into four groups: religious (\(N = 153\)), spiritual (\(N = 17\)), atheist (\(N = 15\)), and agnostic (\(N = 15\)). A one-way ANOVA was conducted using religious grouping as the independent variable and the scales of the study as dependent variables. Results showed that there were significant differences on the intrinsic and extrinsic personal religiosity scales, quest tentativeness, all of the spirituality scales, and all of the God attachment measures.

2.3.7.1 Religiosity measures

Subsequent Bonferroni tests (all reported Bonferroni results are significant at \(p < .05\)) revealed that there were significant differences between the religious group and the three other groups on intrinsic religiosity. The religious group reported higher intrinsic
<table>
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<tr>
<th>Measure</th>
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<th>M</th>
<th>SD</th>
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<td>2.7</td>
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<td>17.9</td>
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<tr>
<td>CES-D</td>
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<td>14.0</td>
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Table 2.8: Cronbach’s Alpha for Study Measures

STS = Spiritual Transcendence Scale; AGI = Attachment to God Inventory Anxiety; SWLS = Satisfaction With Life Scale; SDHS = Short Depression Happiness Scale; CES-D = Center for Epidemiological Studies Depression Scale
religiosity ($M = 14.6, SD = 3.1$) than the spiritual ($M = 10.3, SD = 3.0$), atheist ($M = 6.8, SD = 1.4$), and agnostic ($M = 7.9, SD = 2.0$) groups. The mean of the spiritual group was also significantly different from the means reported by both atheists and agnostics.

The religious group also reported significantly higher extrinsic personal religiosity ($M = 7.0, SD = 1.8$) than the spiritual ($M = 5.5, SD = 1.9$), atheist ($M = 3.6, SD = 1.1$), and agnostic ($M = 4.5, SD = 1.4$) groups. The differences between the spiritual group and atheist group were also significant.

The spiritual group reported higher quest tentativeness ($M = 9.0, SD = 2.8$) than the atheist group ($M = 6.3, SD = 2.6$).

### 2.3.7.2 Spirituality measures

The religious group reported higher spiritual status ($M = 93.1, SD = 14.0$) than the spiritual ($M = 75.7, SD = 8.5$), atheist ($M = 55.8, SD = 9.1$), and agnostic ($M = 64.9, SD = 10.3$) groups. The differences between the spiritual group and atheist group were also significant.

The religious group reported a higher mean on the universality subscale ($M = 34.8, SD = 5.6$) than the atheist ($M = 19.5, SD = 7.0$), and agnostic ($M = 26.9, SD = 5.5$) groups. The difference between the spiritual group ($M = 34.1, SD = 6.9$) and atheists and agnostics was also significant.

The religious group reported a higher mean on the prayer fulfillment subscale ($M = 28.5, SD = 5.5$) than the atheist ($M = 17.8, SD = 4.4$), and agnostic ($M = 21.3, SD = 5.6$) groups. The difference between the spiritual group ($M = 25.6, SD = 5.7$) and the atheist group was also significant.
2.3.7.3 God attachment measures

The religious group reported a higher attachment to God \((M = 75.9, SD = 19.7)\) than the spiritual \((M = 49.8, SD = 15.6)\), atheist \((M = 17.3, SD = 4.4)\), and agnostic \((M = 27.7, SD = 14.3)\) groups. The difference between the spiritual group and atheists and agnostics was also significant.

The religious group reported a higher level of anxious attachment to God \((M = 42.7, SD = 13.3)\) than the atheist \((M = 23.3, SD = 8.7)\) and agnostic \((M = 31.9, SD = 12.4)\) groups. The difference between the spiritual group \((M = 41.2, SD = 16.9)\) and the atheist group was also significant.

The religious group reported a lower level of avoidant attachment to God \((M = 44.3, SD = 13.9)\) than the spiritual \((M = 60.3, SD = 10.3)\), atheist \((M = 65.3, SD = 5.4)\), and agnostic \((M = 63.2, SD = 7.6)\) groups.

2.3.8 Ethnic differences

I separated respondents into three groups: Caucasian \((N = 150)\), African-American \((N = 17)\), Asian/Pacific Islander \((N = 26)\). Although Hispanic \((N = 3)\), and Other \((N = 2)\) were given as response options, I excluded these respondents from the analysis because of the extremely small sample size. A one-way ANOVA was conducted using ethnic background as the independent variable and the scales of the study as dependent variables. Results showed that there were significant differences on the intrinsic and quest doubt religiosity scales, all of the spirituality scales, and all of the God attachment measures.
2.3.8.1 Religiosity measures

There was a significant difference between Caucasians and African-Americans on intrinsic religiosity. African-Americans reported higher intrinsic religiosity ($M = 16.4$, $SD = 1.8$) than Caucasians ($M = 12.9$, $SD = 4.1$). The mean of African-Americans was also significantly different from the means reported by Asians ($M = 12.8$, $SD = 3.6$) on this variable.

There was a significant difference between Caucasians and African-Americans on quest doubt. Caucasians reported higher doubt ($M = 8.8$, $SD = 2.3$) than African-Americans ($M = 7.0$, $SD = 2.0$).

2.3.8.2 Spirituality measures

African-Americans reported higher spiritual status ($M = 101.9$, $SD = 9.6$) than Caucasians ($M = 85.1$, $SD = 18.1$) and Asians ($M = 86.0$, $SD = 13.7$).

African-Americans reported a higher mean on the universality subscale ($M = 37.4$, $SD = 5.2$) than Caucasians ($M = 32.3$, $SD = 7.4$).

African-Americans reported a higher mean on the prayer fulfillment subscale ($M = 33.5$, $SD = 4.5$) than Caucasians ($M = 26.3$, $SD = 6.2$) and Asians ($M = 26.7$, $SD = 4.9$).

2.3.8.3 God attachment measures

African-Americans reported a higher attachment to God ($M = 91.6$, $SD = 7.2$) than Caucasians ($M = 63.3$, $SD = 27.3$) and Asians ($M = 63.0$, $SD = 22.1$).

African-Americans reported greater anxious attachment to God ($M = 49.9$, $SD = 11.9$) than Asians ($M = 36.3$, $SD = 13.0$).

African-Americans reported lower avoidant attachment to God ($M = 33.4$, $SD = 10.0$) than Asians ($M = 54.0$, $SD = 13.4$) and Caucasians ($M = 49.6$, $SD = 14.6$).
2.4 Discussion

The purpose of this study was to determine whether God attachment mediated the relationship between religiosity and spirituality and psychological adjustment. Although there is an overlap between the terms religiosity and spirituality, which lies in the common core recognition of a transcendent, meta-empirical dimension of reality (Emmons, 1999), religiousness is related more to the beliefs and rituals associated with a specific established religious tradition, whereas spirituality is more a personal experience (Koenig & Larson, 1998). In this study, I focused on three different types of religiosity. The intrinsically oriented person lives his/her religion by bringing other needs into harmony with his/her religious beliefs, whereas the extrinsically oriented person selectively shapes his/her beliefs to fit needs such as security, status, or sociability (Allport & Ross, 1967). For example, the intrinsically oriented individual would go to church for the purpose of being close to God and learning more about his/her religion; meeting and socializing with people would be a secondary purpose. However, the extrinsically oriented individual’s primary motivation to attend church would be for the social interaction. The quest orientation is associated with an openness to facing existential questions, while resisting clear-cut answers; changing one’s religious convictions; in quest orientation, religious doubting is viewed as positive (Batson, Schoenrade, & Ventis, 1993).

God attachment refers to the type of perceived bond an individual has with God. A secure attachment to God means that an individual views God as a safe haven and as a secure base for exploration, seeks/maintains proximity to God, and fears separation from God (Sim & Loh, 2003). Similar to caregiver attachment, there are two styles of insecure
attachment to God: anxious and avoidant. According to Beck and McDonald (2004), anxious attachment to God involves fear of potential abandonment by God, resentment at God’s lack of perceived affection, and worry concerning one’s relationship with God, whereas avoidant attachment to God involves the need for self-reliance and unwillingness to be emotionally intimate with God.

Before continuing with an interpretation of the results, I will give a brief review of developmental tasks associated with the period of young adulthood, which constitutes the subject to the present study. The concerns during this stage of the lifespan can shed light on the results of this study. According to Erikson (1950, 1968) the central task during young adulthood is identity formation. During this period, individuals consider alternative identities involving love, work, and worldviews (Arnett, 2000). Although conventional wisdom touts young adulthood as a time of rebellion against parental values, research indicates that generally, when parent-child relationships have been good before young adulthood, they continue to be relatively smooth during adolescence and into young adulthood (Buchanan, Eccles, & Becker, 1992). In fact, it seems parents and young adults share the same values (Coleman, 1992; Paikoff & Brooks-Gunn, 1991). Rather than rebelling, researchers have found that young adults form peer relationships that reinforce the traits and goals parents fostered during childhood (Steinberg, Darling, Fletcher, Brown, & Dornbusch, 1995). While young adulthood is a time for exploration in various areas of life, it appears that college students find needs for autonomy, relatedness to others, competence, and self-esteem more important than the need for self-
actualization (Sheldon, Eliot, Kim, & Kasser, 2001). Hence, it is likely that young adults achieve a stable sense of identity in their work roles and interpersonal relationships sooner than they do in regards to religious or political beliefs.

Results of the SEM with a full sample of 201 participants suggested that the model of God attachment as a mediator between religiosity and spirituality and psychological adjustment was a poor fit to the current data. Even with atheists and agnostics removed from the sample, the model had only a mediocre fit to the current data. The model of God attachment as a mediator between religiosity and spirituality and quest and positive affect provided a better RMSEA value than the original model, but the fit was still mediocre. In order to understand the observed fit of the model, one can examine the Pearson correlations for all of the variables. Positive affect was the only variable significantly correlated with all of the spirituality measures, intrinsic and extrinsic personal religiosity, and attachment to God, and (inversely) avoidant God attachment. However, even these correlations were low. Only anxious God attachment was (inversely) correlated with both life satisfaction and happiness and positively associated with negative affect and depression. Again, these correlations were low. Overall, religiosity, spirituality, and God attachment had either a low or no correlation with psychological adjustment. Hence, because the basic correlations of the variables were poor, it was unlikely that the models would exhibit close fit.

Although the model was not a close fit, these data illuminate the trends and attitudes of young adults on the issue of religiosity, spirituality, God attachment, and psychological adjustment in their live. In the remainder of this discussion, I will first review differences in the correlation matrix between the full sample, the religious and
spiritual sample, and the atheist and agnostic sample. Then I will examine the specific discrepancies between the religious, spiritual, atheist, and agnostic groups. In addition, I will address ethnic differences. Next, I will discuss the implications of the results for mental health professionals and young adults and end with limitations of the study and directions for future research.

As was expected the intrinsic and extrinsic scales were significantly correlated. The quest subscales were also significantly correlated with each other. Although the quest subscales were conceived as indicators of the religiosity latent construct, they showed a more complex picture. Quest doubt and tentativeness were weakly, inversely correlated with intrinsic religiosity, which would be expected. That is, it is likely that a young adult who is tentative and filled with doubt about their beliefs is less likely to be committed to a set of religious beliefs. However, the fact the correlation was weak leaves open the possibility that one can be highly religious (religious beliefs become central to one’s life), but still question one’s beliefs. In addition, at this stage in life (the mean age of this sample was 19), it was likely that while religion may be important for many young adults, they were still exploring their religious beliefs and were tentative in holding firmly to the beliefs with which they were raised or accepting new beliefs.

Extrinsic personal religiosity was weakly and positively correlated with quest complexity and quest tentativeness, but not at all correlated with quest doubt. A young adult whose motive for being religious is to gain personal comfort or security is slightly related to the tendency to think about religious matters in a complex manner and view religious beliefs tentatively. It may be that young adults with an extrinsic personal motivation are attracted to religion because though it is a complex area, it has the
potential to provide a sense of stability. Also, in the current sample, young adults may be tentative in accepting various religious beliefs, especially those that may clash with their feelings of personal comfort. It appears that young adults in this study are able to separate religious doubts from extrinsic personal religiosity. In the quest orientation, doubting is viewed as positive. But in theory, it is possible that if one’s motivation for being religious is for personal comfort, it would be hard to view religious doubts in a positive light. As young adults’ beliefs are still in the formative stage, it seems experiencing doubts about their religious values is normal, positive, and not related to how much comfort they gain from religion.

None of the quest subscales were related to extrinsic social religiosity. It seems that the tendency to be open in exploring existential questions in a complex manner, while resisting clear-cut answers, and accepting one’s doubts as positive, has no relationship to being interested in religion for social ends (e.g., to make friends or to gain social standing). While it would be logical to assume these variables would not be highly correlated, if they are to be considered indicators of the same construct (religiosity), then there should be some degree of association.

As expected, the spirituality measures were correlated with each other and with intrinsic and extrinsic religiosity. The more a young adult is spiritual, the more likely he/she is to engage in prayer/meditation, and the more likely he/she feels a sense of meaning and purpose in life. Furthermore, the more a young adult endorses any these three spiritual characteristics, the greater his/her level of religiosity—either intrinsic or extrinsic. However, the association between the spirituality variables and intrinsic religiosity was strongest, followed by extrinsic personal religiosity, and then extrinsic
social religiosity. A strict definition of spirituality focuses on the individual’s personal faith and personal connection with the Divine. It then follows that spirituality would be strongly associated with the form of religiosity (intrinsic) that is concerned with religion as a central part of one’s life and a personal experience. The extrinsic orientation considers religion as a means to an end rather than as an end itself. This would explain why spirituality was weakly associated with extrinsic social religiosity. Each of the spirituality measures were weakly correlated with quest complexity, but not at all correlated with doubt or tentativeness. It would appear that the more spiritual a person is there is also a related tendency to think about transcendental or existential matters in a more complex manner.

As mentioned previously, the results paint a complicated picture of the quest variables in relation to intrinsic and extrinsic religiosity and spirituality. Indeed, a principal components analysis of the religiosity and spirituality subscales revealed two factors, with spirituality and religiosity indicators loading onto one factor (Connection with the Divine), and quest indicators loading onto a second factor (Quest). Hence, it would appear that quest is a separate dimension from religiosity and spirituality. Previous research has defined quest as separate from intrinsic and extrinsic religiosity, but still as an aspect of religious orientation (Batson & Ventis, 1982; Batson, Schoenrade, & Ventis, 1993; Maltby & Day, 1998; Shaw & Joseph, 2004). Perhaps quest is concerned with existential matters, but not necessarily a search for the sacred as is the case with religiosity and spirituality. In fact, Altemeyer and Hunsberger (1992) found the quest orientation was oftentimes present in people not belonging to any religion. Quest may represent an orthogonal dimension that focuses on the “whys” of life. Where a person
scores on this dimension (e.g., high or low) could relate to how much interest he/she has in trying to find answers to or meaning in life’s various contradictions or trials. Religiosity and spirituality represent another dimension. It seems that a search for the sacred is the common denominator between religiosity and spirituality. Central to both religiosity and spirituality is the idea that there is a higher plane to which human beings belong and that there is a striving on our part to connect with a Supreme Being (Emmons, 1999). Thus, with this type of differentiation between religiosity and spirituality, and quest, it is possible to account for secular and religious pathways for finding greater meaning and/or purpose in one’s life.

As expected, the God attachment measures were correlated with each other. The AGS measures a secure attachment to God, and results indicated that in this sample, the more a young adult endorses a secure attachment to God, the less he/she expressed an avoidant attachment to God. There was a significant, but low inverse correlation between anxious and avoidant God attachment styles. However, when atheists and agnostics were removed from the sample, this correlation became nonsignificant. Anxious attachment to God involves concern over one’s lovability in God’s eyes and fear of abandonment by God, whereas avoidant attachment to God reflects one’s need for self-reliance and a difficulty depending on God (Beck & McDonald, 2004). It seems that religious or spiritual young adults are able to separate these two dimensions completely. However, for young adults who consider themselves atheist or agnostic, anxious and avoidant God attachment styles are somewhat inversely related. According to a Newsweek/Beliefnet Poll (2005) only six percent of respondents (adult Americans) identified themselves as atheist or agnostic. In the same survey, only four percent of American adults who were
exposed to religion as children reported that they became atheists or agnostics as adults. Only three percent of American adults reported that they were not raised in any religion. So, one can see that many young adults are exposed to religious or spiritual beliefs from the home. Considering such a background, as young adults address their own religious beliefs and provide explanations for contradictions and injustices in this world, they may possibly reject the faith with which they were raised. Going through this process can arouse themes involved in an anxious God attachment style, such as frustration over God’s lack of perceived affection or His inconsistent responses. However, as the young adult becomes unwilling to be emotionally intimate with God, the amount of worrying about his/her relationship with God would start to decrease.

In general, the attachment-to-God measures were correlated with both the religiosity and spirituality measures, which was expected. There was a strong correlation between intrinsic religiosity and secure attachment to God. This is not surprising because one would expect an individual deeply committed to his/her faith would feel secure in his/her relationship with God. Also, expected was the strong inverse relationship between intrinsic religiosity and avoidant attachment to God. The more committed a person is to his/her faith, the less likely he/she is to have a detached relationship with God. These findings were similar to results obtained by Rowatt and Kirkpatrick (2002). The current study found another result that was in line with the research of Rowatt and Kirkpatrick—a low, but significant correlation between anxious attachment to God and extrinsic personal religiosity. Again, this result is probably due to the fact that this sample consisted of young adults who are undergoing much life change (e.g., forming values, dealing with more responsibilities). Hence, for those whom religious beliefs are primarily
viewed as a source of personal comfort (rather than a central experience), there may be experiences of anxiety in their relationship with God. For example, they may have some jealousy over others’ perceived intimacy with God (Beck & McDonald, 2004). In the sample of atheists and agnostics, there was a strong, positive correlation between intrinsic religiosity and both anxious and secure attachment to God. It appears that the idea of being atheist or agnostic has not yet been firmly sealed in this age group, which is why they demonstrate such an odd relationship.

In the sample of only religious and spiritual young adults, both quest doubt and quest tentativeness were negatively correlated with a secure attachment to God, and both these quest subscales were positively correlated with avoidant attachment to God. In this case, it seems that the more secure one feels in their relationship with God, the less likely he/she is to be doubtful of or tentative in their beliefs. In the atheist and agnostic sample, tentativeness was correlated with anxious attachment to God. With this group, viewing God as an inconsistent figure makes it more likely that a person continues to question religious beliefs rather than holding firmly to beliefs. Also in the atheist and agnostic group, there was a positive correlation between secure attachment to God and tentativeness. As Granqvist & Hagekull (2003) noted, young adulthood is a period of transition of attachment functions from parents to peers, as well as God. According the correspondence hypothesis (Kirkpatrick, 1992) a secure attachment to the caregiver will be paralleled in one’s relationship with God. If they come from a secure attachment background, they will still retain this style of attachment while they search for answers to existential questions. At this stage of development, it is also possible that even though young adults have labeled themselves as atheist or agnostic, this belief has not yet been
crystallized. But because young adults are trying to create their own identities, they may temporarily reject labels associated with their parents’ values. Arnett and Jensen (1999) found that in regard to religious beliefs, young adults find it important to reexamine beliefs learned in their families and form beliefs that are a product of their own thoughts.

For the full sample, each of the spirituality measures were positively associated with both secure and anxious attachment to God, but negatively associated with avoidant attachment to God. The correlations between the spirituality measures and God attachment measures paralleled the correlation between intrinsic religiosity and the God attachment measures. Spirituality, similar to intrinsic religiosity, is a personal experience that involves a search for the sacred (Pargament, 1997; Pargament & Mahoney, 2002). In the atheist and agnostic sample, the STS universality subscale was not correlated with avoidant attachment to God, which was not the case in the religious and spiritual sample. This may be related to the nature of the universality subscale, which focuses on a person’s sense of meaning and purpose in life (Piedmont, 1999). Hence, for atheists and agnostics, their sense of meaning in life would not be tied to whether or not they see God as distant, whereas the same is probably not true for religious and spiritual young adults.

Finally, as expected, all of the psychological adjustment measures correlated in the expected directions with each other. That is, life satisfaction, happiness, and positive affect were correlated with each, as were negative affect and depression. Also, life satisfaction, happiness, and positive affect were all inversely correlated with negative affect and depression. However, contrary to predictions, religiosity, spirituality, and God attachment were not correlated with psychological adjustment, except in the case of positive affect. Positive affect was the only psychological adjustment variable that was
generally consistent in being correlated with the other variables. The only other significant correlations involving psychological adjustment was the association between anxious attachment to God and both negative affect and depression. It appears that for this sample, the more young adults experience negative affect or feel depressed, the greater degree of anxious attachment to God. However, the association between negative affect, depression, and anxious attachment to God did not hold for atheists and agnostics.

For religious or spiritual young adults, it is possible that the experience of an anxious attachment to God creates negative feelings. However, it is also possible that negative emotions could create feelings of frustration that God is not responsive to one’s needs.

For atheists and agnostics, a perceived relationship with God is not of primary importance therefore, negative moods do not appear tied up with that relationship.

Thus far, I have looked primarily at differences in correlations between groups. Now I will examine mean differences between religious, spiritual, atheist, and agnostic groups. In addition, I will look at ethnic differences. It is important to keep in mind that these analyses involved groups with unequal sample sizes. Hence, results should be interpreted with caution. The data show that the religious group scored higher on both intrinsic and extrinsic personal religiosity than the spiritual, atheist, and agnostic groups. Also, as expected, the spiritual group scored significantly higher on both these variables compared to the atheist and agnostic groups. A study by Fulton (1997) found that in the area of religious beliefs, those who had reached identity achievement tended to be highly intrinsic, while those whose status was foreclosed (not explored values, but made a commitment) tended to be highly extrinsic. In the current sample, it is possible that some young adults have reached identity achievement, and were those who scored high on
intrinsic religiosity. But for young adults in the foreclosed status, religion is viewed more as a source of personal comfort. This makes sense, for if a person has not actually explored why certain values are important to him/her, then it would be difficult to make those values an orienting force in one’s daily life.

The spiritual group reported higher score on quest tentativeness than the atheist group. The spiritual group in this sample appears to be in a moratorium state, currently exploring their beliefs, which fits perfectly with notion of tentativeness (e.g., “I am constantly questioning my religious beliefs”). The religious group reported higher spiritual status than any other group. At first glance, it may seem odd that the means of the religious and spiritual groups differed significantly. However, spirituality can be an integral part of a person’s religiousness (Tsang & McCullough, 2003). If religious young adults have stopped exploring their beliefs and made a commitment to those beliefs, then it is likely for them to feel more spiritual compared to the spiritual group who are still exploring their beliefs. Interestingly, religious and spiritual groups did not differ on universality, which focuses on meaning and purpose in one’s life. Nor did these two groups differ on prayer fulfillment, which refers to feelings of contentment that occur from a personal encounter with a transcendent reality (Piedmont, 1999). Thus, in regard to the two factors which are at the core of both spirituality and religiosity, the spiritual and religious groups exhibited similar responses, as would be expected.

The religious group in this study reported a higher secure attachment to God than the other groups. Although, spirituality involves a personal experience in the search for the sacred, religion provides a clear structure (organization) and community with the main purpose of trying to bring individuals closer to God. Both the religious and spiritual
groups reported a higher level of anxious attachment to God than the atheists and agnostic groups. Research has shown that people with an insecure attachment to parents have a greater tendency to experience sudden spiritual change (Granqvist & Hagekull, 2001). According to the correspondence hypothesis (Kirkpatrick, 1992), such individuals would have an insecure attachment with God as well. During the period of young adulthood, where individuals are forming their identities, an insecure attachment may lead certain young adult to quickly adopt particular beliefs. Finally, the religious group reported a lower level of avoidant attachment to God than the other three groups. It may be surprising that the spiritual group reported similar means to atheists and agnostics on avoidant God attachment. However, the spiritual group in this study seems to be more tentative in adopting particular beliefs, and at present may be more inclined to rely on oneself than God in everyday life.

There were also some ethnic differences on the study measures. Caucasians reported more doubt than did African-Americans. In general, African-Americans reported higher scores on all spirituality measures, intrinsic religiosity, and both secure and anxious attachment to God, and positive affect. It appears that for African-American young adults in this sample, religious and spiritual beliefs play a more central role in their daily lives. While they may experience doubt during this period of life, the importance of the church in their lives might lessen the degree of doubt experienced. Also, because the church is important in the daily lives of African-Americans (Joon-Jang & Johnson, 2004), this could foster the increased sense of intrinsic religiosity, spirituality, and secure attachment to God. In this sample, African-Americans’ higher scores on anxious attachment to God may be due to experiences of racial discrimination, and therefore,
perceived inconsistencies in God’s actions. Yet, African-Americans scored higher on positive affect. Again, the role of the church may act as a factor for this result. According to Brega and Coleman (1999), the Black church provides a place where African-Americans can attain positions of status and respect, and it fosters pride and solidarity.

What do these data mean for mental health professionals and young adults? First, even though the proposed model did not provide a good fit to the data, the correlations obtained in this study are basically similar to previous research. A study by Salsman et al. (2003) found the correlations between intrinsic religiosity and psychological distress and satisfaction with life were -.18 and .32, respectively. However, in Study 2, the researchers were unable to replicate the weak, yet significant correlation between intrinsic religiosity and psychological distress from Study 1. The correlation with life satisfaction was much higher than in the present study. The participants in the Salsman et al. study were undergraduate students at a large midwestern university. But, in the Salsman et al. study, intrinsic and extrinsic religiosity was measured by a different scale, which also used a disagree-agree response format. Therefore, some items could have been uninterpretable to nonreligious respondents, caused confusion to even religious respondents (Maltby & Lewis, 1996). This may explain why the correlation with life satisfaction was much higher in that study. Another study by Dezutter et al. (2006) using the AEUIS-12 (Maltby, 1999)—as the current study did—found the correlation between life satisfaction and intrinsic religiosity to be significant at .14. However, the study involved participants with an average age of 43. Another version of intrinsic religiosity was used in a study by Cohen et al. (2005) and it was found that in a group of Catholics and Protestants, correlation with life satisfaction was .05 and .12, respectively.
Obviously, the literature contains many examples of significant correlations and no correlations between religiosity and psychological adjustment. Rowatt and Kirkpatrick (2002) found small positive partial correlations between anxious God attachment and negative affect, and small negative partial correlations between avoidant God attachment and positive affect. The current study seems to fit in with past findings. The correlations between intrinsic religiosity, spirituality, and secure God attachment (inversely with avoidant God attachment) were high in the current study and indicate that in this sample, a young adult’s relationship with God is deeply connected with his/her religiosity and spirituality. However, at this stage of development young adults are not only exploring their ideological identities (e.g., religious, political values), but also interpersonal identities, involving friendships and romantic partners (Bartle-Haring, 1997). So, it may be that at this stage with the numerous roles young adults are exploring, they have not yet established their religious, spiritual beliefs firmly enough that it would necessarily impact their psychological adjustment. Also, their relationship with God could still be evolving as their relationships with parents, friends, and romantic interests change and grow.

Therefore, a relationship with God most likely does not impact their psychological adjustment at this stage. In addition, many young adults are preoccupied with education and beginning occupational responsibilities. According to Maslow’s (1970) hierarchy of needs, young adults seem to be concerned with basic needs, which include safety and love/belonging needs. While wanting to be part of social groups, including religious groups, fit in with the latter needs, concern with growth or spiritual needs (i.e. “peak” experiences) occurs at the top of the pyramid. An individual is able to focus on such needs when the basic needs are met. Again, with many other issues related
to the developmental task of identity formation taking up their time and attention, perhaps young adults have separated their religious and spiritual lives from psychological well-being. Professionals should also be aware that African-American clients could greatly value their religious and spiritual beliefs and relationship with God. If the client expresses the importance of these variables to his/her presenting problem, they may be important, useful mechanisms to consider in treatment. In summary, the major outcomes of the present sample of young adults are that the proposed model was not a close fit to the data; quest does not seem to be a type of religiosity, rather it is different from religiosity and spirituality; African-Americans are more religious, spiritual, and have a more secure attachment to God than Caucasians.

Although this study produced some interesting result, there are limitations. First, the study was correlational in nature. Hence, one cannot make any cause-effect conclusions. Second, the factor analysis should be treated with caution, as it was exploratory. A future study could conduct a confirmatory factor analysis. Another limitation is religious affiliation. Even though the percentage of atheists and agnostics was higher than expected, it would be valuable to get a bigger sample of such participants in order to do a structural equation model with them. Ethnic background was also a limitation. The vast majority of participants were Caucasian. It would be interesting to know if the proposed model would be a close fit in a sample of people of other ethnicities. If so, mental health professionals may need to consider these variables in treatment.

Another limitation of this study was the way in which psychological adjustment variables were handled. That is, rather than looking at happiness, life satisfaction, and
positive affect or negative affect and depression separately, it may have been more beneficial to combine these variables into composite psychological well-being and psychological distress factors. Perhaps then there would be a stronger correlation between these variables and religiosity, spirituality, and God attachment. Additionally, in the present study, participants were not asked about the frequency of attendance at religious meetings in the last month. With such information, I could have examined the correlations between the frequency of religious involvement, religious orientation, spirituality, and psychological adjustment.

Finally, this study is limited in generalizability as the participants were only midwestern college students, with an average age of 20. Future studies need to consider this model in the context of more educationally diverse groups, different regions of the country, and older samples. It would be interesting to know how this model differs for people in middle and late adulthood. During those life stages, concerns move to generativity and ego integrity (Erikson, 1950). That is, during middle adulthood, the primary task of individuals becomes producing something of value and contributing to society or the next generation. In late adulthood, the central task is introspection, reviewing one’s life. For many people during this stage, religious and spiritual beliefs and one’s relationship with God is very likely crystallized. It would also be beneficial to consider the variables examined in the current study in a group of people who have just suffered a major loss and discover if certain types of God attachment are strongly linked to psychological well-being or distress.
LIST OF REFERENCES


APPENDIX A

THE ‘AGE-UNIVERSAL’ I-E SCALE-12
The ‘Age Universal’ I-E Scale-12

Think about each item carefully. Does the attitude or behavior described in the statement apply to me? Please respond to each statement as honestly as you can. There are no right or wrong answers. Do not spend time thinking too much about each statement. Simply mark the response which reflects your first impression.

Using the following scale, circle your response to each statement listed below.

1 = No
2 = Not certain
3 = Yes

1. I try hard to live all my life according to my religious beliefs. 1 2 3
2. I have often had a strong sense of God’s presence. 1 2 3
3. My whole approach to life is based on my religion good. 1 2 3
4. My religion is important because it answers many questions about the meaning of life. 1 2 3
5. I enjoy reading about my religion. 1 2 3
6. It is important me to spend time in private thought and prayer. 1 2 3
7. What religion offers me most is comfort in times of trouble and sorrow. 1 2 3
8. Prayer is for peace and happiness. 1 2 3
9. I pray mainly to gain relief and protection. 1 2 3
10. I go to church because it helps me make friends. 1 2 3
11. I go to church mainly because I enjoy seeing people I know there. 1 2 3
12. I go to church mostly to spend time with my friends. 1 2 3
APPENDIX B

AMENDED QUEST SCALE
Amended Quest Scale

Think about each item carefully. Does the attitude or behavior described in the statement apply to me? Please respond to each statement as honestly as you can. There are no right or wrong answers. Do not spend time thinking too much about each statement. Simply mark the response which reflects your first impression.

Using the following scale, circle your response to each statement listed below.

1 = No
2 = Not certain
3 = Yes

1. I was not very interested in religion until I began to ask questions about the meaning and purpose of my life. 1 2 3
2. I have been driven to ask religious questions out of a growing awareness of the tensions in my world and in my relations to my world. 1 2 3
3. My life experiences have led me to rethink my religious convictions. 1 2 3
4. God wasn’t very important to me until I began to ask questions about the meaning of my own life. 1 2 3
5. It might be said that I value my religious doubts and uncertainties. 1 2 3
6. For me, doubting is an important part of what it means to be religious. 1 2 3
7. I do not find religious doubts upsetting. 1 2 3
8. Questions are more central to my religious experience than are answers. 1 2 3
9. As I grow and change, I expect my religion also to grow and change. 1 2 3
10. I am constantly questioning my religious beliefs. 1 2 3
11. I expect my religious convictions to change in the next few years. 1 2 3
12. There are many religious issues on which my views are still changing. 1 2 3

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APPENDIX C

SPIRITUAL INVOLVEMENT AND BELIEFS SCALE
The Spiritual Involvement and Beliefs Scale

This questionnaire is about spiritual beliefs and actions. Please respond to each statement as honestly as you can. There are no right or wrong answers. Do not spend time thinking too much about each statement. Simply mark the response which reflects your first impression.

Using the following scale, circle your response to each statement listed below.

1 = Strongly Disagree  2 = Disagree  3 = Neutral  4 = Agree  5 = Strongly Agree

1. In the future, science will be able to explain everything.
   1 2 3 4 5

2. I can find meaning in times of hardship.
   1 2 3 4 5

3. A person can be fulfilled without pursuing an active spiritual life.
   1 2 3 4 5

4. I am thankful for all that has happened to me.
   1 2 3 4 5

5. Spiritual activities have not helped me become closer to other people.
   1 2 3 4 5

6. Some experiences can be understood only through one's spiritual beliefs.
   1 2 3 4 5

7. A spiritual force influences the events of my life.
   1 2 3 4 5

8. My life has a purpose.
   1 2 3 4 5

   1 2 3 4 5

10. Participating in spiritual activities helps me forgive other people.
    1 2 3 4 5

11. My spiritual beliefs continue to evolve.
    1 2 3 4 5

12. I believe there is a power greater than myself.
    1 2 3 4 5

13. I probably will not reexamine my spiritual beliefs.
    1 2 3 4 5

14. My spiritual life fulfills me in ways that material possessions do not.
    1 2 3 4 5

15. Spiritual activities have not helped me develop my identity.
    1 2 3 4 5

16. Meditation does not help me feel more in touch with my inner spirit.
    1 2 3 4 5

17. I have a personal relationship with a power greater than myself.
    1 2 3 4 5

18. I have felt pressure to accept spiritual beliefs that I do not agree with.
    1 2 3 4 5

19. Spiritual activities help me draw closer to a power greater than myself.
    1 2 3 4 5
Please indicate how often you do the following:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Always</th>
<th>Usually</th>
<th>Sometimes</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>20.</td>
<td>When I wrong someone, I make an effort to apologize.</td>
<td>______</td>
<td>______</td>
<td>______</td>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>21.</td>
<td>When I am ashamed of something I have done, I tell someone about it.</td>
<td>______</td>
<td>______</td>
<td>______</td>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>22.</td>
<td>I solve my problems without using spiritual resources.</td>
<td>______</td>
<td>______</td>
<td>______</td>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>23.</td>
<td>I examine my actions to see if they reflect my values.</td>
<td>______</td>
<td>______</td>
<td>______</td>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>24.</td>
<td>During the last WEEK, I prayed…(check one)</td>
<td>10 or more times</td>
<td>7-9 times</td>
<td>4-6 times</td>
<td>1-3 times</td>
<td>0 times</td>
</tr>
<tr>
<td></td>
<td></td>
<td>______</td>
<td>______</td>
<td>______</td>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>25.</td>
<td>During the last WEEK, I meditated…(check one)</td>
<td>10 or more times</td>
<td>7-9 times</td>
<td>4-6 times</td>
<td>1-3 times</td>
<td>0 times</td>
</tr>
</tbody>
</table>
APPENDIX D

SPIRITUAL TRANSCENDENCE SCALE
### Spiritual Transcendence Scale

This questionnaire is about spirituality. Please respond to each statement as honestly as you can. There are no right or wrong answers. Do not spend time thinking too much about each statement. Simply mark the response which reflects your first impression.

Using the following scale, circle your response to each statement listed below.

<table>
<thead>
<tr>
<th></th>
<th>1 = Strongly Disagree</th>
<th>2 = Disagree</th>
<th>3 = Neutral</th>
<th>4 = Agree</th>
<th>5 = Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I meditate and/or pray so that I can reach a higher spiritual plane of consciousness.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. I have had at least one “peak” experience.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. I feel that on a higher level all of us share a common bond.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. All life is interconnected.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. There is higher plane of consciousness or spirituality that binds all people.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. I have been able to step outside of my ambitions and failures, pain and joy, to experience a larger sense of fulfillment.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. Although individual people may be difficult, I feel an emotional bond with all of humanity.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. I believe that there is a larger meaning to life.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. I find inner strength and/or peace from my prayers or meditations.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10. I believe that death is a doorway to another plane of existence.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>11. I believe there is a larger plan to life.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>12. Sometimes I find the details of my life to be a distraction from my prayers and/or meditations.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>13. When in prayer or meditation, I have become oblivious to the events of this world.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>14. I have experienced deep fulfillment and bliss through my prayers or meditations.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>15. I have had a spiritual experience where I lost track of where I was or the passage of time.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>16. The desires of my body do not keep me from my prayers of meditations.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>17. There is an order to the universe that transcends human thinking.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>18. I believe that on some level my life is intimately tied to all of humankind.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
APPENDIX E

ATTACHMENT TO GOD SCALE
Attachment to God Scale

Please circle the number that best describes your current relationship with your religion’s GOD.

1 = Strongly disagree
2 = Disagree
3 = Slightly disagree
4 = Slightly agree
5 = Agree
6 = Strongly Agree

1. I seek to be close to God. 1 2 3 4 5 6
2. My relationship with God gives me the courage to face new challenges. 1 2 3 4 5 6
3. When I am afraid or anxious, I know that God is there for me. 1 2 3 4 5 6
4. I feel the need to stay close to God. 1 2 3 4 5 6
5. It would distress me greatly if I lose my relationship with God. 1 2 3 4 5 6
6. When I face difficulties, I turn to God. 1 2 3 4 5 6
7. My relationship with God provides me the confidence to explore things around me. 1 2 3 4 5 6
8. I do things that help me feel close to God. 1 2 3 4 5 6
9. I would feel upset if I sense that God is far from me. 1 2 3 4 5 6
10. Knowing that God is there for me helps me live my daily life. 1 2 3 4 5 6
11. I feel safe whenever I feel close to God. 1 2 3 4 5 6
12. I cannot bear to think of life without God. 1 2 3 4 5 6
13. I feel most at ease when I have a close relationship with God. 1 2 3 4 5 6
14. God is someone I cannot afford to lose. 1 2 3 4 5 6
15. I am willing to try or learn new things because I know God will support or help me. 1 2 3 4 5 6
16. God is always available whenever I am in need. 1 2 3 4 5 6
APPENDIX F

THE ATTACHMENT TO GOD INVENTORY
The Attachment to God Inventory

The following statements concern how you feel about your relationship with God. We are interested in how you generally experience your relationship with God, not just in what is happening in that relationship currently. Respond to each statement by indicating how much you agree or disagree with it. Write the number in the space provided, using the following rating scale:

1  2  3  4  5  6  7
Disagree Neutral/Mixed Agree
Strongly

1. I worry a lot about my relationship with God.
2. I just don’t feel a deep need to be close to God.
3. If I can’t see God working in my life, I get upset or angry.
4. I am totally dependent upon God for everything in my life.
5. I am jealous at how God seems to care more for others than for me.
6. It is uncommon for me to cry when sharing with God.
7. Sometimes I feel that God loves others more than me.
8. My experiences with God are very intimate and emotional.
9. I am jealous at how close some people are to God.
10. I prefer not to depend too much on God.
11. I often worry about whether God is pleased with me.
12. I am uncomfortable being emotional in my communication with God.
13. Even if I fail, I never question that God is pleased with me.
14. Almost daily I feel that my relationship with God goes back and forth from “hot” to “cold.”
15. I fear God does not accept me when I do wrong.
16. Without God I couldn’t function at all.
17. I often feel angry with God for not responding to me when I want.
18. I believe people should not depend on God for things they should do for themselves.
19. I crave reassurance from God that God loves me.
20. Daily I discuss all of my problems and concerns with God.
21. I am jealous when others feel God’s presence when I cannot.
22. I am uncomfortable allowing God to control every aspect of my life.
23. I worry a lot about damaging my relationship with God.
24. My prayers to God are very emotional.
25. I get upset when I feel God helps others, but forgets about me.
26. I let God make most of the decisions in my life.
APPENDIX G

SATISFACTION WITH LIFE SCALE
**Satisfaction with Life Scale**

Below are five statements that you may agree or disagree with. Using the 1-7 scale below indicate your agreement with each item by placing the appropriate number on the line preceding that item. Please be open and honest in your responding.

7  Strongly agree  
6  Agree  
5  Slightly agree  
4  Neither agree nor disagree  
3  Slightly disagree  
2  Disagree  
1  Strongly disagree

____ 1. In most ways my life is close to my ideal.  
____ 2. The conditions of my life are excellent.  
____ 3. I am satisfied with my life.  
____ 4. So far I have gotten the important things I want in life.  
____ 5. If I could live my life over, I would change almost nothing.
APPENDIX H

THE SHORT DEPRESSION-HAPPINESS SCALE
The Short Depression-Happiness Scale  

A number of statements that people have made to describe how they feel are given below. Please read each one and tick the box which best describes how frequently you felt that way in the past seven days, including today. Some statements describe positive feelings and some describe negative feelings. You may have experienced both positive and negative feelings at different times during the past seven days.

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I felt dissatisfied with my life.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. I felt happy.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. I felt cheerless.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. I felt pleased with the way I am.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. I felt that life was enjoyable.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. I felt that life was meaningless.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX I

POSITIVE AFFECT NEGATIVE AFFECT SCHEDULE
Positive Affect Negative Affect Schedule

This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to the word. Indicate to what extent you generally feel this way, that is, how you feel on the average. Use the following scale to record your answers.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very slightly or not at all</td>
<td>a little</td>
<td>moderately</td>
<td>quite a bit</td>
<td>extremely</td>
</tr>
</tbody>
</table>

___ Interested  ____ Irritable
___ Distressed  ____ Alert
___ Excited  ____ Ashamed
___ Upset  ____ Inspired
___ Strong  ____ Nervous
___ Guilty  ____ Determined
___ Scared  ____ Attentive
___ Hostile  ____ Jittery
___ Enthusiastic  ____ Active
___ Proud  ____ Afraid
APPENDIX J

CENTER FOR EPIDEMIOLOGIC STUDIES DEPRESSION SCALE
Center for Epidemiologic Studies Depression Scale

Below is a list of ways you might have felt or behaved. Using the following scale, please indicate how often you have felt this way during the PAST WEEK.

0 = Rarely or none of the time (less than 1 day)
1 = Some or a little of the time (1-2 days)
2 = Occasionally or a moderate amount of time (3-4 days)
3 = Most or all of the time (5-7 days)

___ 1. I was bothered by things that usually don’t bother me.
___ 2. I did not feel like eating; my appetite was poor.
 ___ 3. I felt that I could not shake off the blues even with help from my family or friends.
 ___ 4. I felt I was just as good as other people.
 ___ 5. I had trouble keeping my mind on what I was doing.
 ___ 6. I felt depressed.
 ___ 7. I felt that everything I did was an effort.
 ___ 8. I felt hopeful about the future.
 ___ 9. I thought my life had been a failure.
 ___ 10. I felt fearful.
 ___ 11. My sleep was restless.
 ___ 12. I was happy.
 ___ 13. I talked less than usual.
 ___ 15. People were unfriendly.
 ___ 16. I enjoyed life.
 ___ 17. I had crying spells.
 ___ 18. I felt sad.
 ___ 19. I felt that people dislike me.
 ___ 20. I could not get “going.”
APPENDIX K

INSTRUCTIONS TO PARTICIPANTS
Instructions to Participants

WHEN A PARTICIPANT ARRIVES, INSTRUCT HIM/HER TO HAVE A SEAT AT LEAST ONE SEAT APART FROM ANY OTHER PARTICIPANT. HAND OUT BOOKLETS AND SAY: “Please do not open the booklets just yet.”

(WAIT UNTIL ALL PARTICIPANTS ARE SEATED AND HAVE BOOKLETS)

“I’m ____________. I’m a research assistant with the Psychology Department. This is experiment_____. The principal investigator of this experiment is Dr. Beck.

People differ from one another in their beliefs about God or a divine entity. People also differ in their relationship with God or a divine entity. The research study that you are participating in today is concerned with these matters and particularly with how differences in our religious and spiritual beliefs may be related to other aspects of our lives. Keep in mind that the term GOD does not refer specifically to a Christian God. It refers to any divine entity—a being, power, or force greater than yourself. Likewise, the term church refers to any place of worship. It’s important that when you complete the questionnaires today, you do so according to your own thoughts, beliefs, and feelings. In a few moments, I’ll ask you to complete a series of questionnaires in the order in which they appear in your booklet.

Before we begin, it is important that you understand all of your responses will be confidential. So please do NOT write your name anywhere on any of these materials.

Also, your participation should be completely voluntary. If for some reason you feel that you need to discontinue working on the materials, you may stop, and you can leave without penalty and you will still receive credit.

Do you have any questions? (PAUSE)

Please take your time and read all instructions carefully to ensure that you understand what each questionnaire is asking of you.

Also, it is important that you work on the pages in order and that you do not skip ahead. Please answer the items as frankly as you can.

If you have any questions let me know.

(AS PARTICIPANTS TURN IN THEIR BOOKLETS, GIVE THEM A DEBRIEFING SHEET ABOUT THE STUDY AND THANK THEM FOR PARTICIPATING IN THE STUDY).
APPENDIX L

DEBRIEFING STATEMENT
Thank you for participating in this study.

As was mentioned at the beginning of the experiment session, we are interested in exploring how people differ with respect to religious/spiritual beliefs, their relationship with a divine entity, and psychological adjustment. More specifically, we are attempting to find out how these three factors are related to one another. That is, whether or not a person’s attachment to a divine entity impacts the relationship between his/her level of religiosity and spirituality and psychological adjustment.

Should you be interested in our findings or if you have any questions about this study, please feel free to contact Shaalon Joules or Dr. Steve Beck by phone at 292-6849, or via email (joules.1@osu.edu or beck.5@osu.edu.) Again, thank you for participating in our study.