The Saving Grace of Spiritual Activities and Perceptions of God: Assessing Differences in Managing Anxiety for Spiritual Majorities and Minorities

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ABSTRACT

More than 40 million American adults suffer from anxiety, but only a third receive care despite evidence of effective treatment. This is attributed to lack of access to adequate services, cultural-based myths, and prohibitive symptoms associated with anxiety, especially for marginalized populations such as racial minorities. Since spirituality is often used as a coping mechanism especially for racial groups, psychotherapy has slowly begun incorporating it into treatment. While this has the potential to reduce some barriers to care, the increasing number of Americans who are disaffiliating with traditional faiths or belong to minority spiritualities may not use the same coping mechanisms. The current study sought to contribute to the literature by obtaining a better understanding of whether the use of traditional spiritual activities and perceptions of God are different for spiritual majorities and minorities especially in managing anxiety. Using a nationally representative sample of U.S. adults (n=1,525) from the Baylor Religion Study, structural equation models were tested to examine the relationships between anxiety and religious beliefs related to attachment to God as well as between anxiety and spiritual activities that encompass both social, organizational and private, subjective religiosity. Minority stress and attachment theories guided hypotheses that higher levels of anxiety would be associated with status as a spiritual minority but would be positively mediated by participation in spiritual activities such as worship services, prayer and scripture reading as well as mediated by more secure attachment to God. Results indicated that unlike spiritual majorities, spiritual minorities show lower anxiety levels compared with spiritual majorities unless using traditional

forms of spiritual activities. Rather than positive or negative perceptions of the relationship with God, inconsistent perceptions were associated with higher levels of anxiety for all participants. Spiritual minorities had lower levels of both positive and negative perceptions of God's persona as well as lower levels of positive perceptions of the relationship with God, none of which correlated to anxiety. The results may indicate that spiritual minorities use other activities to successfully cope with anxiety and that they have greater anxiety when trying to conform to the dominant culture. This has important implications for practice given that many therapists lack training on how to incorporate spirituality into treatment. Distinctions between perceptions of the relationship with God and of God's persona indicate the need for further study of how more nuanced spiritual beliefs influence anxiety outcomes for a diverse range of spiritual practice and of the process by which individuals intentionally use spiritual tools to cope with anxiety.

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GENERAL AUDIENCE ABSTRACT

More than 40 million American adults suffer from the debilitating impact of anxiety through persistent worrying, obsessive thoughts, fear of social situations, compulsions, and paranoia. Only a third receive care despite effective treatment options because of such disruptive symptoms in addition to a lack of insurance, racial disparities, cultural myths, and concerns that their beliefs will not be valued. This limits access to care especially for those who need it the most, including racial minority groups. Since many Americans use spirituality as a coping mechanism to combat anxiety, psychotherapy has begun incorporating aspects of it. While this could reduce some barriers to care, it is not known whether the increasing number of Americans who are disaffiliating with traditional faiths or belong to minority spiritualities use these same aspects to cope. This study sought to understand whether the use of traditional spiritual activities and perceptions of God are different for spiritual majorities and minorities especially in managing anxiety. Using a nationally representative sample of 1,525 U.S. adults from the Baylor Religion Study, the study examined the relationship between anxiety and spiritual activities such as frequency of attendance at worship services and private prayer and scripture reading. The study also examined how attachment to God through perceptions of the relationship with God and of God's persona might be associated with spiritual minorities and their anxiety levels. Results show that unlike spiritual majorities, spiritual minorities have less anxiety unless using traditional forms of spiritual activities. This could indicate that they use other activities to successfully cope with anxiety and that they have greater anxiety when trying to conform to the

dominant culture. Rather than positive or negative perceptions of the relationship with God, inconsistent perceptions were related to higher levels of anxiety for all participants. Spiritual minorities were more moderate in their attachment to God, with less positive and negative perceptions of God's persona and less positive perceptions of their relationship with God. However, none of spiritual minorities' perceptions did not have a significant relationship with their anxiety levels. The study's results show a need to explore further how a more diverse range of spiritual beliefs influence anxiety and the process by which people intentionally use spiritual tools to cope with their anxiety. Guidance for how therapists can increase their spiritual competence is discussed.

Dedication

This dissertation is dedicated to my mother, the strongest and most brilliant person I have ever known. I will always carry your love and pioneering spirit within me. Thanks for everything, mom.

I dedicate my work to all of my clients and students, whose courage and determination nourish my spirit and keep me striving to shine a light in the darkness.

Om Namah Shivaya

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The Saving Grace of Spiritual Activities and Perceptions of God: Assessing Differences in Managing Anxiety for Spiritual Majorities and Minorities

Chapter 1: Introduction

Full Circle

Stars were falling deep in the darkness
As prayers rose softly, petals at dawn
And as I listened, your voice seemed so clear
So calmly you were calling your God

Somewhere the sun rose, o'er dunes in the desert
Such was the stillness, I ne'er felt before
Was this the question, pulling, pulling, pulling you
In your heart, in your soul, did you find peace there?

Elsewhere a snowfall, the first in the winter
Covered the ground as the bells filled the air
You in your robes sang, calling, calling, calling him
In your heart, in your soul, did you find peace there? (McKennitt, 1994)

Anxiety disorders are the most common of mental health problems, affecting at least 18.10% of adults in the United States each year (Kessler, Chiu, Demler & Walters, 2005). Newer estimates report that they impact 33.70% of the U.S. adult population at some point over their lifetime (Kessler, Petukhova, Sampson, Zaslavsky, & Wittchen, 2012). While some 40 million American adults suffer from anxiety symptoms and there is evidence of effective treatment, only a third receive care (Medco Health Solutions, 2010). A recent study (Weissman et al., 2017) using national health data from the U.S. Centers for Disease Control and Prevention found that Americans who suffer from mental health issues ranging from general hopelessness and nervousness to diagnosable depression and anxiety were significantly more likely to have numerous barriers to obtaining services. While women and those with lower incomes and less education were among the most at risk for serious psychological distress, Weissman and

associates (2017) also found prevalence of such mental illness and suicide among middle-age adults ages 45-64, who were not previously considered at high risk.

Anxiety has numerous biological and psychosocial causes ranging widely from traumatic experiences to acculturation issues for immigrants, and from a lack of belonging to attachment issues (Zwanzger & Deckert, 2007). Environmental and historical factors also play a role in the United States, most notably the lingering impact of the economic recession that started a decade ago (Weissman et al., 2017), the increased presence of a 24/7 news cycle and information overload including from social media (Vannucci, Flannery, & Ohannessian, 2017), and more recent political discord (Stanton, LaBar, Saini, Kuhn, & Beehner, 2010).

The availability of experienced therapists is not keeping up with the number of Americans with poor mental health and suicidality, contributing to delays in receiving care for those who need it the most (Weissman et al., 2017). In addition, access to healthcare services has deteriorated for those with mental health issues from 2006 to 2014 despite laws such as the 2008 Mental Health Parity and Addiction Equity Act and the 2010 Affordable Care Act. Only 4.3 million of Americans with anxiety disorders have full-time jobs, and so lack of employment—and thus healthcare and income—is another major issue (Jacob, 2015).

Other barriers to care include personal avoidance of services, dropout, and lack of compliance to treatment due to the impact of symptoms of anxiety on the individual (Johnson & Coles, 2013). Lack of understanding by anxiety sufferers regarding the nature of the condition and knowledge that there is successful treatment also results in significant delays in obtaining care. One of the most prescribed treatment options for anxiety disorders is medication with cognitive behavioral therapy (CBT; Zwanzger & Deckert, 2007). More than one in five adults use at least one type of psychotropic medication—a 22% rise since 2001 (Medco Health

Solutions, 2010). Utilization of mental health services for anxiety and mood disorders has traditionally been low among the older population (Ault-Brutus, 2012), and declines in medication use by the elderly may be associated primarily with loss in prescription drug coverage and FDA warnings of side effects (Medco Health Solutions, 2010). According to a study (Byers, Arean, & Yaffe, 2012) using data from the National Comorbidity Survey and the National Comorbidity Survey Replication study, about 70% of adults with mood and anxiety disorders age 55 years and older do not use mental health services. The chances of not seeking treatment rose further for those who had partners, a middle-class or greater income, and milder symptoms.

Another barrier to services for anxiety treatment is the negative treatment disparity for marginalized populations because of personal and institutional racism in systems of care (Ault-Brutus, 2012). Racial and ethnic minority groups are less likely to use services due to several additional reasons, including: conflicts with their personal beliefs; discomfort with discussing personal problems outside the family and religious clergy; mistrust of the medical field and authority figures; and language barriers. For example, some groups such as African-Americans and Latinos tend not to use psychotropic medication like anti-depressants because of beliefs that they are ineffective and addictive.

In order to develop treatment aimed at reducing barriers to care for underserved populations suffering from anxiety, the mental health field could benefit by gaining an understanding of what Americans are doing to cope with their suffering outside of seeking help from mental health professionals. Given the pervasiveness of anxiety and wide-ranging demographics of those impacted by it, additional treatment interventions could be identified by examining how Americans use psychology's most natural ally: spirituality (Lake, 2012).

According to Walsh (2010), spirituality "is interwoven in multiple threads of family life and "at the heart of our earliest and most intimate bonds" (p. 334). Spirituality acts as a sibling to psychotherapy as "a dimension of human experience, requiring an expansion of systems theory and practice to encompass bio–psycho–social–spiritual interactions" (p. 331).

Spirituality could be a natural mechanism to address a range of issues and decrease barriers to therapy. For example, older American adults, many of whom may have anxiety under the threshold of a diagnosable disorder, are more likely to be religious and integrate spirituality into their lives rather than seek mental health care (Shreve-Neiger & Edelstein, 2004).

Because of the importance of spirituality to racial minorities and low-income groups, it could allow the mental health field to improve competent treatment for clients who are not part of the dominant culture (Abu-Raiya & Pargament, 2015; Alanezi & Sherkat, 2008; Fenelon & Danielson, 2016; Hamilton, Moore, Johnson, & Koenig, 2013; McCauley, Tarpley, Haaz, & Bartlett, 2008; Taylor et al., 2004). However, many Americans do not seek mental health treatment because of a perceived lack of therapist understanding of their spiritual beliefs, one reason why racial/ethnic groups such as African-Americans, Asians, and Hispanics use faith-based interventions such as prayer to cope with their symptoms instead of seeking professional mental healthcare (Lake, 2012). Only 10% of those who self-treat using prayer, for example, enlist the help of a psychiatrist or family physician for treatment.

A review (Derr, 2016) of the literature on immigrant use of mental health services found that immigrants have a great need for services because they face unique stressors from acculturation that can cause mental health problems or make them worse. However, immigrants from Asia, Latin America, and Africa have access to mental health services at rates far below the general population. As social support is of particular importance to immigrants as a buffer for

acculturative stress, they tend to seek help for mental health issues from family, friends, or religious leaders (Ebaugh & Chafetz, 2000). Religion matters significantly to immigrants to the United States from across the faith spectrum, particularly as a way to retain ties to their original culture and family (Ebaugh, 2004) as well as to adapt to the U.S. culture and its challenging environment (Yang & Ebaugh, 2001). Newer waves of immigrants from Asia have brought Islam, Hinduism, Buddhism, and other religions with them while immigrants from Central and South America have brought more distinctive forms and styles of Catholicism and Protestantism to the country. Some of the acculturation issues that immigrants face include a disruption in participation in spiritual activities, particularly for minority religions adherents (Alanezi & Sherkat, 2008; Connor, 2008). While the reasons for this decrease have not been substantiated, lower participation has been associated with less acculturation and access to religious centers of their faith (Cadge & Ecklund, 2006).

Spirituality is a potentially powerful aspect of mental health treatment in the United States especially for anxiety because of how important it is to most citizens regardless of demographics. National randomized surveys show that most people living in the country are religious across the spiritual spectrum. According to a 2008 Gallup poll (Newport, 2009), 65% of Americans said that religion was an important part of their daily lives—and that included at least half of the residents of 46 states. The survey found higher levels of religiosity in the South and lower levels in New England and the mid-Atlantic, which could be based on the historical traditions of communities being founded by those who fled religious persecution. According to the authors of the Gallup poll (Newport, 2009), these rates also could reflect a region's ethnic and racial composition as well as its attractiveness to the growing influx of immigrant populations with indigenous beliefs and customs different from the traditional Judeo-Christian

culture (Yang & Ebaugh, 2001).

Since the 2008 Gallup poll (Newport, 2009), American spirituality has changed significantly—away from organized religion, but not from belief. According to the 2014 landmark Religious Landscape Study by the Pew Research Center, belief in God[1] dropped from 92% to 89% since the first poll was conducted in 2007. The overall shift comes from the growing number of Americans who do not belong to any organized faith. Called "nones," 23% of adults self-identify with wide-ranging beliefs as agnostic, atheist, or with a religion that is "nothing in particular" ("U.S. public," 2015, para. 5), up from 16% in 2007. While "nones" represent some adults in their 30s and 40s who have dropped weak religious affiliations, the bulk of the change is generational. Religion and labels are not as important to millennials, who are also less religiously observant and will continue to be less so as they age—reversing the current trend of increased religiosity for Americans as they grow older (Reed, 2016; "U.S. public," 2015). In a survey of 18- to 29-year-olds from the nationally representative General Social Survey (Twenge, Sherman, Exline, & Grubbs, 2016), this trend may be reflective of a much longer drift for America from being less religious to more diversely spiritual with each successive generation.

Disaffiliation from a religion and the trend toward spirituality does not mean actual belief is ebbing. In the Pew survey ("U.S. public," 2015), 77% identified with a faith. Of those Americans, two-thirds pray every day. In addition, most of the "nones" still cite religion as important to their daily lives and continue to go to worship services at least once a week, including 40% of those not affiliated with a religion. This represents an increase of 7% from 2007. Other evidence points to an increase in overall spirituality. According to the Pew survey

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[1] While the tenets of some faiths preclude writing out the term God, it is used in this study for clarity

("U.S. public," 2015), 59% overall feel a deep sense of spiritual peace and well-being. There is no distinction among religious groups among the 46% of adult Americans who say they feel a deep sense of wonder about the universe on a weekly basis, up from 39% since 2007.

Regardless of affiliation with a particular faith, most Americans are spiritual or religious (Newport, 2009), and use their beliefs as coping mechanisms to relieve their own suffering and that of family and in community such as from anxiety (Agorastos, Demiralay, & Huber, 2014). The importance of spirituality and how it is changing nationwide challenge the mental health field to seek ways to incorporate it into treatment. Doing so would not only better—and perhaps more ethically—serve those already coming to therapy, but may also attract and retain marginalized groups who are underserved by current methods of treatment. Understanding the different nuances of spirituality for various groups is a key aspect of addressing how to include it in care. Since anxiety disorders have a "ubiquitous presence across all continents and cultures, …cross-cultural and cross-religious norm deviations, differences in psychopathology, and prominence of various symptoms are of particular importance" (p. 97). The combination of culture and religiosity is considered both capable of causing disease and interacting with personality to cause individual responses.

This study seeks to begin understanding what the mental health field can incorporate into therapy from the spiritual or religious domain—and how to do so in a way that alleviates suffering anxiety especially for some of America's most vulnerable populations. Researchers typically use worship attendance, prayer, meaning-making, and religiosity to define spirituality and assess its impact on mental health such as providing coping mechanisms and community support (Haynes et al., 2017; Mencken, 2011; Weisman de Mamani, Tuchman, & Duarte, 2010). However, while the current literature on the intersection of spirituality, religion, and mental

health is vast, it suffers from numerous conceptual and methodological issues that make it hard to confidently generalize results especially to populations who do not conform to the dominant cultural Judeo-Christian paradigm of the United States. There is insufficient information on which specific aspects of spirituality and religion contribute to buffering anxiety and other mental health outcomes particularly for individuals who may observe spiritual or religious traditions outside the activities identified as standard (Moore, 2017). The present study seeks to examine how anxiety for spiritual minorities and majorities may be associated in different ways with more multidimensional constructs of spirituality. These constructs include beliefs related to attachment to God and spiritual activities that encompass both organizational and a more personal, subjective religiosity. Behavior related to communal or private spiritual activities may shed light on how some people have internalized their religions' teachings intrinsically while others use their faith extrinsically for security and solace, self-justification, sociability and distraction, and status (Agorastos, Demiralay, & Huber, 2014).

Spirituality in Mental Health Treatment

The present study seeks to inform mental health treatment regarding what aspects of spirituality may benefit clients—especially marginalized populations–in reducing anxiety so that eventually the mental health field can develop related interventions that are ethical and effective for many types of spiritual practice. However, a major barrier to this is therapists' own reluctance to incorporate spirituality into therapy despite evidence that doing so can mitigate stress and improve outcomes (Bonelli & Koenig, 2013; Carlson, Kirkpatrick, Hecker, & Killmer, 2002; Khalaf, Hebborn, Dal, & Naja, 2015; Walsh, 2010). While religious-based psychotherapists use faith-based interventions as a natural part of working with followers of their own faith, most therapists are lay practitioners who do not use spiritual interventions.

Secular clinicians tend to steer away from even discussing religious topics out of fear of forcing their values onto clients perhaps because the majority of licensed therapists are less spiritual compared with the general public (Delaney, Miller, & Bisonó, 2013). In fact, according to Drobin (2014), 51% of therapists have been found to have an anti-religious and anti-spirituality bias. Given the many different definitions of spirituality in Western culture and the lack of training in graduate programs, some therapists are unsure of what it actually is and do not want to encourage that could possibly be unhealthy (Hodge, 2004b; Lake, 2012). Still another reason for the reluctance is that some therapists believe spirituality is only an important area of focus when treating trauma (Zenkert, Brabender, & Slater, 2014).

In contrast to other types of secular clinicians, Marriage and Family Therapists (MFTs) have been found to be as religious as the general public and believe spirituality is important to address in systemic treatment (Hodge, 2005; Oxhandler, Polson, Moffatt, & Achenbaum, 2017). The majority believe a course on spirituality should be offered in MFT programs because of the lack of adequate training on a potentially difficult or offensive topic (Carlson, Kirkpatrick, Hecker, & Killmer, 2002). Since MFT works in the context of an individual's life and with couples and family systems, the field serves as natural base to develop more spiritually based treatment methods (Walsh, 2009; 2010).

Religious counseling beyond that of a priest is available on a widespread basis for Christians. For more than 40 years, there have been evangelical Christian psychology and counseling programs focused on integrating religious beliefs with therapy (Garzon & Hall, 2012). The American Association of Christian Counselors currently has more than 50,000 members that include licensed pastoral clinicians and lay counselors. Licensed clinicians who identify as Christian counselors tend to be highly religious, filling a vast need for religious

couples counseling in particular (Hook & Worthington, 2009). A deep body of literature, including peer-reviewed journals such as the *Journal of Psychology and Christianity* and *Pastoral Psychology*, exists regarding how to incorporate Christian values into therapy whether in religious or secular clinical environments. However, little exists for how Christian counselors could work with clients who have different spiritualities—or for therapists of other faiths (Lee, 2004). While pastoral counselors used to only work with the same faith, that is no longer the case. According to Lee (2004), pastoral counselors, too, now require more spiritually diverse competency just as counselors working at non-religious clinics and facilities. Another important fact to note is that while the majority of U.S. clinicians are non-religious, those who self-identify as religious mostly affiliate with Christianity (Oxhandler, Polson, Moffatt, & Achenbaum, 2017). Therefore, there remains a lack of understanding as well as little guidance for how therapists can help non-Christian clients in particular tap into the resources of their faith to work through their anxiety more effectively.

From an ethical perspective, spirituality must be addressed in clinical work because it is now considered a prominent aspect of social diversity and necessary for therapeutic cultural humility (Owen, et al., 2014). In a study of clinical psychologists' religious and spiritual orientations by Shafranske and Malony (1990), about half of the 409 respondents said at least one in six of their clients presented with religious or spiritual issues. More than 60% of clinicians say clients expressed themselves through religious language even when religion was not a primary aspect of their presenting problem, prompting a clearer need for religious and spiritual competence akin to racial/ethnic cultural competence.

A developing body of literature shows that faith-based psychotherapy treatment may be effective. A meta-review of 16 clinical trials using faith-adapted treatment found significance for

using variations of religious CBT (Anderson et al., 2015). However, effect sizes were called into question by methodological issues such as the studies being small and at high risk for researcher allegiance since all but one tested a faith-adapted treatment devised by study authors. The review found most had homogenous samples, suggesting the need for further research that examines which interventions are generalizable to different spiritual groups. A meta-analysis of 46 studies (Worthington, Hook, Davis, & McDaniel, 2011) comparing religious and nonreligious spiritual therapies found that religiously adapted psychotherapeutic treatment works better than secular versions when clients desire them and should be a treatment of choice for those populations. However, most clients prefer that their therapist initiate conversations about religion, underscoring the importance of clinician comfort bringing up spiritual topics and training to deliver related interventions (Oxhandler, Polson, Moffatt, & Achenbaum, 2017).

In order to properly integrate spirituality into treatment and better train clinicians, the mental health field needs to understand more about it from both dominant and diverse points of view. This study seeks to address what components of spirituality may help buffer anxiety for the majority as well as for those who do not conform to the dominant culture. Therefore, for the purposes of this study, I identify "spiritual minorities" not by religious differences or history of oppression, but by their relationship with the power structures of the majority Judeo-Christian culture that founded the United States and continue to dominate its institutions and set public policy. This is crucial to developing therapeutic interventions for marginalized populations of multiple social locations. The literature is ambiguous about what aspects of spirituality may help or hinder reduction of mental health issues, especially for those who may not conform to spiritual philosophies traditional to America's history. Some of the most vulnerable clients, such as many immigrants, trauma victims, and the growing number of religious disaffiliates, do not follow

paths accepted and embedded in the institutions of the United States. However, this has not been studied in the literature for its association with anxiety. With rising rates of disaffiliation and low recognition of alternative belief systems, research is necessary to inform effective and competent treatment options while developing ways to mitigate the variety of barriers to providing care.

Despite a plethora of studies that have been conducted on the intersection of spirituality and mental health, guidance from the literature has not been sufficient and has even been contradictory regarding specific disorders such as panic and phobia. Several of the limitations of evidence-based research in this area has caused some groups to remain marginalized and unstudied. Small sample sizes and homogenous populations common to many studies screen out beliefs that are not well represented in the dominant culture either by lumping them together without attending to major differences or ignoring them entirely. Limited attention is paid to groups who are spiritual but whose beliefs are not under the Judeo-Christian umbrella, and studies typically do not compare religious samples with secular control groups (Moore, 2017). Sociological literature (Levin, 2008) has even coined the term “invisible religions” for those spiritualities that “exist outside of formal, organized, and institutionalized religions and that are informed by beliefs drawn from sources outside of even unconventional categories of faith traditions” (p. 109). Some esoteric healing systems go beyond established concepts understood by practitioners of the traditional medical model of care because of their low visibility in society. For example, those who follow shamanistic paths are spread out across numerous cultures and typically characterized by degrees of animism, spiritism, polytheism, holism, and special guides to unseen phenomena. Therefore, adherents have a mostly individual approach in that belief system. Some adherents of alternative spiritualities hide their differences out of fear of persecution (Frame, 2004). Opportunities to help spiritual minorities could be missed if

clinicians do not understand how to involve different types of beliefs and practices in therapy (Anderson et al., 2015; Levin, 2010).

A key goal of the present study is to contribute to the mental health literature on anxiety by examining whether common spiritual practices may be helpful to those from dominant religious cultural institutions that are embedded in American society, but in fact not healing to those of minority faiths. In order to use spiritual activities to effectively address anxiety, they must be appropriate to the clients and their belief systems. In addition, effective treatment must pay particular attention to how personal perceptions of God as an attachment figure might impact interventions. Thus, this study seeks to fill gaps in the literature regarding whether there are important spiritual differences among groups of Americans that are not yet being fully addressed in research and, thus, in treatment for mental health conditions such as anxiety.

Statement of the Problem

Anxiety is a pervasive and destructive force in modern society. Treatment is available through interventions that include medication with psychotherapy, but too many who are suffering cannot or do not access services. Some racial/ethnic minorities do not seek treatment due to discomfort, cultural barriers, and superstitious beliefs about options such as medication (Ault-Brutus, 2012). However, they do seek spiritual coping mechanisms to manage anxiety and other mental health issues. Spirituality has the potential to provide a buffer against anxiety as part of therapy because beliefs provide context for our lives and seek to answer the complex existential questions often addressed in mental health treatment (Temple & Gall, 2016). So, while anxiety continues to be addressed through current treatment options, the mental health field needs to study what Americans are doing to heal outside of accessing mental health services to improve access to care and develop more effective tools to manage anxiety. More specifically,

we need to learn which aspects of spirituality are related to anxiety outcomes and whether there are group differences related to spiritual practice.

Anxiety impacts most of society, but vulnerable populations are more at risk because access to both mental health services and the benefits of treatment are lower for them than the general population (Ault-Brutus, 2012). Literature informs this study regarding typical spiritual activities and whether they may help to reduce anxiety in addition to how perceptions of God can influence anxiety both in positive and negative ways. Worship attendance, prayer, and scripture reading are the most common aspects of spiritual activity studied for enhancing meaning-making and providing support, especially during times of great stress or hardship (Haynes et al., 2017; Idler et al., 2009; Mencken, 2011; Weisman de Mamani, Tuchman, & Duarte, 2010). What is less known is whether such traditional activities have similar or different benefits for—or whether they are even applicable to—those who have minority belief systems in the United States.

Positive attachment to God has been correlated with fewer mental health issues and more positive health outcomes (Agorastos, Demiralay, & Huber, 2014; Belavich & Pargament, 2002; Bradshaw, Ellison, & Flannelly, 2008; Brewster, Velez, Foster, Esposito, & Robinson, 2016; Kirkpatrick 2005) while negative perspectives of God are related to worse mental and physical health conditions (Brewster, Velez, Foster, Esposito, & Robinson, 2016; Kim, Kendall, & Webb, 2015; Pargament, Ano, & Wachholtz, 2005). However, a simple dichotomous corollary may not be the whole story in reality for many people. Religious individuals, especially from minority faiths, may have both positive and negative perceptions of God at the same time (Kim, Kendall, & Webb, 2015).

Purpose of the Study

The present study seeks to shed light on aspects of spirituality, such as frequency of worship, prayer, and scripture reading, and attachment to God that may influence the level of anxiety for groups within the dominant cultural Judeo-Christian umbrella and for those identified in this study as spiritual minorities. Its ultimate goal is to make clearer the relationship between a multidimensional view of spirituality and anxiety outcomes so that the mental health field can explore whether there is a need to develop therapeutic spiritual interventions targeted to specific populations.

The objective of this research is to make a meaningful contribution to the mental health field by providing necessary insight into marginalized populations who could benefit from greater cultural competence and understanding about a crucial aspect of life. While some narratives of marginalized spiritual voices have been published (Bengston, 2004; Kelkar, 2012; Limb & Hodge, 2011; Padela, Gunter, Killawi, & Heisler, 2012), empirical information and sufficient data on spiritual minorities is insufficient to be able to design clinical interventions that tap into their spirituality as a resource. Data from the present study could help determine the need for a larger, mixed method study regarding how spirituality can be incorporated into therapy especially for different underserved populations. This study contributes to the body of knowledge needed to address this problem by seeking answers to the following research question and testing the subsequent hypotheses.

Research Question and Hypotheses

The primary research question of the present study is: What components of spirituality, such as frequency of intrinsic and extrinsic spiritual activity participation and perceptions of God related to attachment, are associated with lower anxiety for spiritual majorities and minorities?

Two alternate models were tested to answer this research question. In Model 1 (Figure 1),

perceptions of participants' relationship with God as positive, inconsistent, or negative are hypothesized to each have direct relationships with anxiety and be mediators of how spiritual status is associated with anxiety outcomes. In Model 2 (Figure 2), perceptions of God's persona as positive or negative are hypothesized to each have direct relationships with anxiety and be mediators of how spiritual status is related to anxiety outcomes.

Controlling for self-identified levels of religiosity, racial identity, socioeconomic level (SES), age, and gender, the study's hypotheses are as follows (alphabetical letters depict the hypothesized paths in Figures 1 and 2).

Related to anxiety in both models:

H1 (a): Spiritual status will be associated with anxiety outcomes such that those identified as spiritual minorities will be associated with greater levels of anxiety (minority stress theory).

H2 (b): Spiritual status will be associated with frequency of spiritual activities such that those identified as spiritual minorities will be associated with lower levels of participation in spiritual activities (minority stress theory).

H3 (c): Higher levels of participation in spiritual activities will be associated with lower levels of anxiety for all participants (minority stress and attachment theories).

H4 (d): Greater levels of participation in spiritual activities will be associated with lower anxiety levels for participants identified as spiritual majorities (minority stress and attachment theories).

In Model 1:

H5 (e): Spiritual status as minority will be associated with lower levels of positive perceptions of the relationship with God (minority stress theory).

H6 (f): Spiritual status as minority will be associated with higher levels of inconsistent perceptions of the relationship with God (minority stress theory).

H7 (g): Spiritual status as minority will be associated with higher levels of negative perceptions of the relationship with God (minority stress theory).

H8 (h): Higher levels of positive perceptions of the relationship with God will be associated with lower levels of anxiety for all participants (attachment theory).

H9 (i): Higher levels of inconsistent perceptions of the relationship with God will be associated with higher levels of anxiety for all participants (attachment theory).

H10 (j): Higher levels of negative perceptions of the relationship with God will be associated with higher levels of anxiety for all participants (attachment theory).

H11 (k): Positive perceptions of the relationship with God will be associated with lower levels of anxiety for those identified as majorities by spiritual status when compared with minorities (minority stress and attachment theories).

H12 (l): Inconsistent perceptions of the relationship with God will be associated with higher levels of anxiety for those identified as minorities by spiritual status when compared with majorities (minority stress and attachment theories).

H13 (m): Negative perceptions of the relationship with God will be associated with higher levels of anxiety for those identified as minorities by with spiritual status when compared with majorities (minority stress and attachment theories).

In Model 2:

H14 (n): Spiritual status as minority will be associated with lower levels of positive perceptions of God’s persona (minority stress theory).

H15 (o): Spiritual status as minority will be associated with higher levels of negative perceptions of God's persona (minority stress theory).

H16 (p): Higher levels of positive perceptions of God's persona will be associated with lower levels of anxiety for all participants (attachment theory).

H17 (q): Higher levels of negative perceptions of God's persona will be associated with higher levels of anxiety for all participants (attachment theory).

H18 (r): Positive perceptions of God's persona will be associated with lower levels of anxiety for those identified as majorities by spiritual status when compared with minorities (minority stress and attachment theories).

H19 (s): Negative perceptions of God's persona will be associated with higher levels of anxiety for those identified as minorities by spiritual status compared with majorities (minority stress and attachment theories).

Terms and Definitions Guiding This Study

Spiritual Status: Majorities and Minorities. Spiritual status was conceptualized for this study as a way to examine the differences in populations of spiritual Americans who are either embedded in Judeo-Christian cultural institutions or are external to the country's systems of power. It is worth noting that some decry the use of the term "Judeo Christian" because of the oppression suffered by those of the Jewish faith during the Holocaust and throughout a history of anti-Semitism across the world. Likewise, followers of numerous sects of Christianity could also assert marginalized status especially in terms of religious-based oppression. The purpose of this study is not to minimize any faith's self-identity, struggles, or history, but to explore how groups outside the socialization process of American systems may manage anxiety. Rather than a description of a common faith, Judeo-Christian refers to those under the larger umbrella of religious doctrine whose core beliefs constitute the framework for Western values (Hartmann, Zhang, & Wischstadt, 2005). Since 9/11, use of the term in literature and media have increased significantly—much like the word "American" has evolved to primarily describe people and things from the United States rather than defining anyone from the American continents (Wilson, 1993). Thus, spiritual status is not categorized by religious characteristics or history of oppression, but by the enduring influence of religious traditions in socialization and on secular institutions of the U.S. government and its policies (Britt, 2012).

Therefore, while there may be differences within this group, spiritual majorities in this study were defined as those faiths under the Judeo-Christian umbrella: all Christian sects and Judaism. Given scant literature on the concept of spiritual minorities (Moore, 2017), this group was defined specifically for the purposes of this study and according to the available demographics of the analytic sample as: *Buddhist*, *Unitarian Universalist*, *Hindu*, *Muslim*, *Sikh*,

Baha'i, *do not know*, *no religion*, and *other*. The dataset for the current study did not obtain demographics to further differentiate between spiritual minorities past basic religious self-identification, but together this group comprises 13.20% of the analytic sample (*n*=212). This allows for an exploration that could indicate whether further study is needed on spiritual minorities as a population. (See Tables C1 and C2 for full descriptions of faiths categorized by the present author as spiritual majorities and minorities. See Table C3 for frequencies of the spiritual status variable.)

Grouping distinctive faiths with small populations together can be problematic, but most surveys either do not obtain large enough samples of each population or do not focus on them in favor of the largest clusters. Minority spiritualities comprise a small part of the U.S. population, but not necessarily of the world's population. For example, Hinduism is the third largest religion in the world with four major denominations that have large variances in practice, but the religion accounts for only .70% of the U.S. population (Pew Research Center, 2014). In America, Buddhists also comprise .70% of the population while Muslims are .90%, a group of spiritualities classified as liberal such as Unitarian are 1% collectively, New Age faiths such as Wicca are .40%, and Native American religions are less than .30%.

According to the Pew Research Center survey (2014), of the 22.8% of Americans who are religiously unaffiliated, 4% are agnostic, 3.10% are atheists, and the rest describe their religion as "nothing in particular." Despite the lack of a label, 44% of those whose religion is nothing in particular said that religion was very or somewhat important in their lives and 32% said they attended worship services monthly. Only atheists were excluded from the analytic sample of the current research because of their lack of any religiosity, and therefore connection to the spiritual activities and perceptions of God under study.

Spirituality versus Religion. Among the most complex distinctions in this field of inquiry is the one between the common words of spirituality and religion. One problem with distinguishing each term from the other is the historically negative stereotype of religiosity. In the past,

> religiousness was found to be associated with higher levels of authoritarianism, religious orthodoxy, intrinsic religiousness, parental religious attendance, self-righteousness, and church attendance. In line with predictions, spirituality was associated with a different set of variables: mystical experiences, New Age beliefs and practices, higher income, and the experience of being hurt by clergy. (Zinnbauer et al. 1997, p. 561)

Given the more modern changes to the American spiritual landscape, these old definitions no longer hold true. Being spiritual is now an accepted part of American culture and include techniques such as meditation (Lauricella, 2016). The subject is intensely personal, and some people, especially from minority spiritualities, may even describe the same faith differently. Religion is such a multifaceted concept with potential cognitive, emotional, motivational, and behavioral aspects that could vary for even those of the same faith (Hackney & Sanders, 2003). Druidry, for example, is a religion to some and a philosophy of life to others (Carr-Gomm, 2006). For the sake of clarity, the word spirituality will be used as an umbrella term denoting any connection to the sacred below while religion will be used a sub-term denoting specific organized religious paths. Specific definitions are as follows:

Spirituality is defined as a person's search for meaning and their very way of being and experiencing connection to aspects of reality seen as sacred, transcendent, or deeply profound (Elkins, Hedstrom, Hughes, Leaf, & Saunders, 1988; Starnino, 2016). This may be expressed individually or in groups of followers.

Religions are manifestations of spirituality defined as institutionalized systems of shared beliefs, doctrines and rituals, practices, and forms of worship (Gall, Malette & Guirguis-Younger, 2011; Starnino, 2016).

Religiosity in this study has been defined through participant self-report of how religious they consider themselves to be on a 4-point Likert-based scale from *Not at all religious*, *Not too religious*, *Somewhat religious*, and *Very religious*. This allows for self-definition and interpretation of the meaning of religiosity by participants themselves. (See Table C4 for details on responses to this question.)

God. For development of the present study and its hypotheses, it is useful to consider a multifaceted definition of God from the literature that can encompass a diversity of belief relevant to both spiritual minorities as well as majorities. God may be defined as: a specific monotheistic Christian, Judaic, or Islamic deity; one of numerous polytheistic gods; or a non-specific power greater than oneself (Cashwell et al., 2016). To study the concept of God, literature on the psychology of religion has developed the dichotomous constructs of *god concept* and *god image* (Cashwell et al., 2016; Davis, Moriarty, & Mauch, 2013). *God concepts* are how an individual feels and experiences God. *God images* are the "internal working models of a specific divine attachment figure (e.g., God, Allah, Jesus, Buddha, Great Spirit, Krishna, Brahman, Vishnu, Shiva, ancestor spirits, and many others) and the self as experienced in relationship with that divine attachment figure" (Davis, Moriarty, & Mauch, 2013, p. 52).

These definitions have been helpful in developing the present study so that it captures a diverse understanding of God, which can vary among people of the same denominations and faith groups (Draper, 2017). In keeping with this definition, participants in the Baylor Religion Survey (2010), whose dataset was used for the current study, were asked about their personal

beliefs regarding God, including as a *Higher power or cosmic force*. (See Appendix B for the question and all possible responses). Those who identified as atheist were asked to skip questions about their personal relationship with God and perceptions of God's persona, which are used as variables in the current study. Therefore, they were excluded from the analytic sample.

A note about the use of the word "God" in this study: The belief systems of some faiths such as Judaism find it offensive to use the word God in writing because it can then be defaced or destroyed. While there is no wish to offend, it is used in this study for clarity as it is an essential component.

Spiritual activities included in the present study as indicators are typical practices as defined by the literature: communal worship attendance, private prayer, private scripture readings, and meditation (Haynes et al., 2017; Idler et al., 2009; Mencken, 2011; Weisman de Mamani, Tuchman, & Duarte, 2010).

Meditation is defined as an ancient spiritual practice using a potential variety of mindfulness techniques to still the mind in order to connect to God (Bærentsen et al., 2010). While many different schools and types of meditation exist either connected to formal religions (including Hindu, Buddhist, Muslim, and Christian faiths) or as a secular practice unrelated to God, they are mainly variations in how to practice meditation.

Agnostics believe it cannot be known whether there is a God but vary in personal practice. For example, agnostic theists believe in God's existence and practice a faith even though they acknowledge they could be wrong. Participants who held some belief in God were included in the analytic sample. (See Appendix B for variable questions and responses.)

Chapter 2: Literature Review

Anxiety Disorders

Anxiety disorders are the most common type of mental illness in the United States, and they are characterized by chronic distress that interferes with the individual's ability to function (Johnson & Coles, 2013). When a stressor triggers anxiety, it causes "constriction, fear, and inner restlessness that appears physiologically in unfamiliar or threatening situations and is always accompanied by a physical stress reaction" influenced by personality traits (Agorastos, Demiralay, & Huber, 2014, p. 95). Anxiety may manifest through different ways such as compulsions, ritualistic behavior, obsessive thoughts, paranoia, and social isolation. In addition to the pain felt by individual sufferers and their loved ones, society as a whole is impacted by anxiety disorders through problems such as the economic burdens of decreased work productivity and increased health care expenditures. Despite evidence that medication and therapies using cognitive-behavioral (CBT) and mindfulness techniques are effective, most anxiety sufferers do not obtain treatment (Agorastos, Demiralay, & Huber, 2014).

In addition to societal and economic barriers (Jacob, 2015; Weissman et al., 2017), anxiety sufferers tend to not seek or drop out of treatment (Johnson & Coles, 2013). Data from the Collaborative Psychiatric Epidemiological Surveys (Johnson & Coles, 2013) found that individuals with anxiety disorders are less likely to seek professional treatment and more likely to experience delays in obtaining any kind of treatment—much less effective interventions—than those with other kinds of mental illness. According to the Johnson and Coles study (2013), the average delay for those who eventually sought treatment for anxiety exceeded 15 years. The delays were mainly due to the sufferers' lack of understanding about the nature of the condition and their being unable to access care. Coles, Turk, Jindra, and Heimberg (2004) found that only

15% of individuals who call to seek treatment for social anxiety disorder actually begin using services. However, limited education and racial minority status are associated with longer delays or no treatment at all (Wang et al., 2005), showing further disparities for marginalized populations. Racial minorities with social phobia and who have lower education and socioeconomic status were less likely to attend an initial session (Coles, Turk, Jindra, & Heimberg, 2004).

However, treatment does not often lead to improved outcomes even when available. For example, CBT and mindfulness is effective for generalized anxiety disorder (GAD), which affects about 3.10% of the U.S. adult population each year with uncontrollable worry, difficulty concentrating, and chronic irritability (Kessler, Chiu, Delmer, & Walters, 2005). However, clients tend to drop out, perform worse with CBT than other disorders, and still have clinically significant symptoms after ending individual psychotherapy.

Spirituality may hold the key to alleviating some of these issues in therapy. A 2016 study by Koenig, Pearce, Nelson, and Erkanli found that depressive symptoms decreased when a religious version of CBT was used in a randomized clinical trial with 132 participants. In addition, a meta-review of 16 clinical trials using faith-adapted treatment for anxiety and depression, Anderson and associates (2015) found significance for using variations of religious CBT. However, methodological concerns such as researcher allegiance to the models being tested reduced confidence in the results. In-depth case studies of three older patients by Barrera, Zeno, Bush, Barber, and Stanley (2012) supported these conclusions by finding that incorporating spirituality and religion into CBT for GAD helped improve acceptance of treatment because the clients were able to choose how their beliefs were used in therapy.

Spirituality and Mental Health

Most of the literature regarding the use of spirituality and religion to cope with mental health conditions has focused on depression rather than anxiety, and the bulk has been conducted with hospitalized patients (Agorastos, Demiralay, & Huber, 2014). The first evidence-based analysis of the literature regarding the associations between religion and psychiatric disorders (Bonelli & Koenig, 2013) found "good evidence" (p. 668) that religious involvement was correlated with better mental health outcomes for depression, substance abuse, and suicide. For example, of the 43 studies reviewed, 72.10% reported a positive relationship between level of religious/spiritual involvement and less mental disorder, including all of the reviewed studies on dementia, suicide, and stress-related disorders and a majority of the research reviewed on depression and substance abuse. There was not enough evidence to show an impact on bipolar disorder and schizophrenia. The review also found a lack of data on potential associations between religiosity and a number of mental health issues such as eating disorders, sexual dysfunction, dissociation, and personality disorders. Several studies (Agorastos, Demiralay, & Huber, 2014; Kendler et al., 2003; Reutter & Bigatti, 2014) have found that those with extremely high or low religiosity were both prone to more depression. As a potential response to why this may be the case, Bonelli and Koenig (2013) state, "This suggests that the religious life to be truly healthy (like love) needs a certain amount of inner freedom and flexibility" (p. 670).

Koenig (2008) found evidence supporting religion as a predictor of less alienation and greater well-being in addition to an association between less anxiety and higher religiosity. However, research is lacking on the specific aspects of religion that are beneficial, so assumptions cannot be made that religion in general is beneficial to mental health outcomes. For example, a growing body of literature finds increased risk for difficulty establishing a positive sense of self and for psychological distress when the religion of a youth's family is intolerant of

homosexuality (Page, Lindahl, & Malik, 2013). Lack of acceptance from their religion make LGBTQ+ individuals at higher risk for identity conflicts, anxiety, depression, and suicidality (Wood & Conley, 2014).

In addition, other relationships between mental health and spirituality may not be beneficial. For example, higher levels of religiosity have been associated with pathological outcomes such as traits of obsessive–compulsive disorder (OCD; Agorastos, Demiralay, & Huber, 2014). Effective coping strategies might offer insight into why different aspects of spirituality and religion are positive or negative. While some activities may benefit externalizing mental disorders (e.g., substance dependencies and antisocial behavior), others might be more helpful for internalizing mental disorders (e.g., major depressive disorder, GAD, phobia, panic disorder, and bulimia nervosa). Future literature is needed to explore these factors and connections more comprehensively. The present study seeks to shed light on how anxiety is related to both positive and negative beliefs as well as different traditional spiritual practices that may be classified as intrinsic and extrinsic. Intrinsic practices may be related to private behavior also called "covert" by literature on religion and anxiety (Shreve-Neiger & Edelstein, 2004, (p. 381), while extrinsic activities may be related to public, social events, also labeled "overt" behavior.

Among the limitation of previous studies on spirituality and mental health is the challenging nature of defining the very concepts of mental health, religion, and spirituality (Bonelli & Koenig, 2013), particularly when "respecting the pluralism of spirituality's diverse forms" (Moore, 2017, p. 21). Any research on religion and spirituality suffers from a lack of accepted definitions for those broad terms (Turner, 2015). This makes it difficult to create statistically sound measures to use in studies (Baumsteiger & Chenneville, 2015).

Baumsteiger and Chenneville (2015) reviewed 18 scales and questionnaires used in such analyses and found that 20% of items assessed mental health rather than the strength of respondents' spirituality. One of the most popular measures of spirituality, the Spiritual Well-Being Scale (Paloutzian & Ellison, 1991), is used in more than 400 studies yet has low construct validity because of numerous questions that double as constructs of psychological health such as "I feel that life is a positive experience" and "I feel very fulfilled and satisfied with life" (Moore, 2017, p. 22). Most of the 70 transpersonal measurements reviewed by MacDonald, LeClair, Holland, Alter, and Friedman (1995) had a "monotheistic Judeo-Christian perspective" (p. 176) and suffer from poor construct validity while trying to capture the ineffable nature of spiritual and religious experience. Research studies and these instruments typically focus on religion as a single factor rather than as a multidimensional concept or without distinguishing it well enough from spirituality (Agorastos, Demiralay, & Huber, 2014; Hackney & Sanders, 2003; Khalaf, Hebborn, Dal, & Naja, 2015). Medical literature shows that a problem with understanding the impact of spirituality and religion on health is that some of these dimensions overlap with mental health outcomes such as well-being and distress (Park, Sherman, Jim, & Salsman, 2015), bringing with it issues of construct validity (Moore, 2017).

When spirituality was measured by everyday spiritual experiences beyond religious affiliations and when religiosity was defined as adherence to a value, beliefs, and practices of a religious system, they were found to be effective resiliency resources for mitigating anxiety and depression symptoms in an online survey of 331 Americans adults and Chinese students (Reutter & Bigatti, 2014). Higher spirituality was associated with lower perceived stress levels and better psychological health as both a mediator and a moderator of that relationship while religiosity was a significant moderator. Reutter and Bigatti (2014) report that these results seem to indicate that

spirituality was the mechanism with which religiosity could ameliorate stress due perhaps to the lack of infrastructure necessary for more personal devotional practices, related to intrinsic religiosity. The authors call for more exploration of how the role of spirituality and religiosity differ across other faiths given that their sample was predominantly Protestant and affiliated with other sects of Christianity. They also raise poignant questions not yet answered in the literature: "If Americans are highly religious and spiritual, and if religiosity and spirituality provide effective resiliency resources, then why are so many Americans clinically depressed? Does the efficacy of religiosity and spirituality vary as a function of other factors that have not received empirical scrutiny?" (p. 70). The authors encourage exploration of specific subpopulations as an approach to addressing these questions, as the present study seeks to do by using a binary independent variable on spiritual status as a majority or minority.

Other work also points toward the need for more nuanced understanding of spirituality within religious constructs even under the dominant Christian umbrella. For example, in a longitudinal study regarding the impact of religiosity on the stress of kidney transplant surgery on patients and significant others, Tix and Frazier (1998) found that religious coping as measured by prayer, confession, and turning towards God in response to stress was effective for Protestants, but not for Catholics. According to the authors, Protestants are more likely to be intrinsically faithful while Catholics find relief through atonement that is a part of their specific religious practices.

The current study sought to avoid methodological issues common to the psychology of spirituality literature by using questions from the Baylor Religion Survey (2010) that are distinct in nature. For example, the following question from the General Religiousness Scale (Rowatt, LaBouff, Johnson, Froese, & Tsang, 2009) was intended to measure frequency of attendance at

worship services: *How often do you attend religious services at a place of worship?*, with response options rated on a 9-point Likert-based scale that ranged from *Never* to *Several times a week*. The dataset also uses broader questions, asking participants to consider their own personal beliefs about God. (See Appendix B for details on survey questions and possible responses.)

The original Baylor Religion Survey (2010) was broader in focus than the present study, providing data on a wide range of religious values and practices as well as how they are related to physical and mental health, political beliefs, and cultural issues such as same sex-marriage. The data set has been used by Ellison, Bradshaw, Flannelly, and Galek (2014) to examine the relationship between the frequency of prayer and anxiety among U.S. adults and whether attachment to God influenced that association. Unlike the present study's multidimensional approach, these authors used the single spiritual activity of prayer as well as one aspect of attachment, perceptions of the relationship with God, to create two variables for secure and anxious attachment. The present study developed a wider range of perceptions of God encompassing secure (positive), insecure (negative), and disorganized (inconsistent) attachment styles to assess differences among spiritual minorities and majorities. In their study of all participants using multivariate analyses, Ellison, Bradshaw, Flannelly, and Galek (2014) found a positive association between anxious attachment and anxiety and that those who have secure attachment pray less.

Spiritual Treatment for Anxiety

In a review of 17 studies specifically on religion and anxiety, Shreve-Neiger and Edelstein (2004) reported that research was sparser than expected considering the widespread nature of both in the American population. However, their study excluded work on death anxiety and specific disorders to focus on distress, worry, insecurity, and fear so they could capture

literature that would pertain to those who did not meet the diagnostic threshold for disorders. Increased security and less distress were related to participants having any kind of religious affiliation or performing contemplative prayer. Anxiety also was lower for Christians and Buddhists who were intrinsically religious, meaning they integrated their religion and therefore were able to adapt anxiety into their lives rather than those who are extrinsically religious. The impact was more pronounced on Buddhists than Christians in the reviewed studies, perhaps because extrinsic Buddhists might worry over not having an escape from the consequences of one's actions because of their beliefs on karma and reincarnation. In Tix and Frazier's (2005) study of 268 university students from the Midwest, religious tradition moderated the relationships of intrinsic religiousness with both anxiety and depression. They found that intrinsic religiousness was significantly associated with greater anxiety and depression for Catholics while less mental health issues for conservative Protestants and none for mainstream Protestants. These studies suggest that mental health differs across faiths, and deeper understanding of diverse spiritualities is necessary as sought by the current study.

However, most of this research suffers from methodological and conceptual problems such as poor construct and content validity, single indices of the multidimensional concepts of religiosity and anxiety, low reliability measures, low sample sizes, and researcher bias, making their conclusions tentative at best. They do, however, illustrate the need to study distinct belief systems in more customized ways to capture the impact of spirituality on anxiety. The current study uses multiple indicators of spirituality to form a multidimensional approach using variables with high reliability and an adequate sample size (See Chapter 3: Methods section for details.)

A more recent review of 10 studies on religiosity and anxiety disorders in adults by Khalaf, Hebborn, Dal, and Naja (2015) found similar problems with the literature. Their

inclusion criteria for work published between 1970 and 2012 was a sample with at least two different religions except for clinical trials. There was evidence for correlations between different domains of religiosity and anxiety disorders, specifically religion being a protective factor for GAD and either unrelated or actually a risk factor for PTSD. Studies regarding panic and phobic disorders were mixed and sometimes provided contradictory results. But perhaps the more important finding by Khalaf, Hebborn, Dal, and Naja (2015) was that studies continue to suffer from such limitations that their results may not be valid or generalizable. Issues included usage of partial self-rating scales not established in the literature, unclear questions, social desirability limiting accuracy, limited sample size and power, and modified instruments without updated reliability measures.

Despite these problems, meta-analyses continue to show overall that spirituality and religion are positively associated with mental health. A systematic review (Moreira-Almeida, Lotufo Neto, & Koenig, 2006) of 850 international research studies regarding religion and mental health found that religious involvement was indicative of psychological well-being and mitigates depression and suicidality mainly through social support. Levin's (2010) overview of the literature supports the protective effect of religious involvement for mental illness and psychological distress. However, he notes that the literature does not relate back to spirituality clearly and, thus, may illegitimately link positive benefits to religious affiliation.

In 2014, Agorastos, Demiralay, and Huber conducted an empirical narrative review of the literature on the relationship between religiosity, spirituality, and personal beliefs with anxiety disorders. They found that spirituality and religion are major coping factors for those undergoing stressful life circumstances such as physiological impairment associated with terminal illness, cardiovascular disease, and cancer as well as pain, and immune, and endocrine diseases. Faith

may enhance coping for some, while others seek support from faith when going through negative events. More interestingly, their review found discrepancies in the studies that may reflect how different aspects of spirituality and religion may be connected to mental health issues. Those who were grateful and did not view God as being vengeful had reduced risk of internalizing disorders such as anxiety, depression, phobia, panic, and bulimia nervosa (Kendler et al., 2003). Reduced risk of externalizing disorders such as substance use and antisocial behavior was related to the belief in God as forgiving, just, as a judge, and involved.

Webb, Charbonneau, McCann, and Gayle (2011) found a lack of evidence that religious support mediated the relationship between faith and recovery from severe mental illnesses such as depression, bipolar disorder, schizoaffective disorder, and schizophrenia. Religious community support and enduring in faith together were associated with recovery, indicating that intrinsic religiosity that stems from personal rather than social goals may be most helpful for healing because of its importance as a cornerstone of their lives. Those with extrinsic religiosity and who struggle with God may be more likely to be affected by personal adversity or a lack of religious support. These findings support the need to understand how personal beliefs related to God and intrinsic and personal as well as extrinsic and communal practices are associated with anxiety specifically.

Spiritual Activities

Spiritual activities are typically measured by worship service attendance, prayer, or scripture reading common in the Judeo-Christian cultural majority (Fincham & May, 2017; Idler et al., 2009). Those of alternative spiritualities may or may not express their faith through different activities, but there is scant literature about their practices (Spiegel, 2013). In order to begin developing a more complex understanding of spiritual activities and beliefs that encompass

the various religions and spiritual philosophies of Americans, the literature must examine whether there are real differences in participation of these traditionally studied activities.

Therefore, the present study seeks to show whether these traditional activities work as buffers for both spiritual majority and minority participants with a view on both intrinsic and extrinsic practices. The latent variable of spiritual activities has four indicators: frequency of attending religious services, reading scripture privately, and personal prayer in addition to whether or not participants meditate. This provides a more well-rounded and complex idea of activities than studies using a single variable to cover a multidimensional concept (Idler et al., 2009). Going to services is considered part of social behavioral practices associated with religiosity while prayer, meditating, and reading scripture are typically private behaviors more associated with spirituality (Shreve-Neiger & Edelstein, 2004). Other communal behaviors assessed by the Baylor Religion Survey (2010) such as going to prayer circles and attending Bible study were tested for the present study, but they represented such small variance that they were not included.

In a study using data from the National Survey of Midlife in the United States (Greenfield, Vaillant, & Marks, 2009), frequency of participation in formal institutional religious activity was beneficially linked with two psychological well-being outcomes: purpose in life and personal growth among older adults. These outcomes could be beneficial for reducing anxiety for some clients. Intrapsychic spiritual activity (such as by the frequency of individuals' spiritual perceptions) was associated with better levels across all eight dimensions of psychological well-being. While more frequent formal religious participation was associated with lower levels of autonomy and sense of self-determination, this may not be negative. Greenfield, Vaillant, and Marks (2009) concluded that some religious people derive a sense of well-being from having

divine influence on their lives and being interdependent with others. This was supported by their finding that spiritual perceptions positively mediated the relationship between more frequent formal religious participation and higher levels of psychological well-being through indicators of positive affect, positive relations with others, and personal growth for younger respondents.

Worship attendance. In the original Baylor Religion Survey (2010), participants who attended worship services several times a week had the lowest reported number of unspecified mental health issues. Similarly, in their critical review of the literature on religion and anxiety, Shreve-Neiger and Edelstein (2004) found that church attendance was an important factor in reducing anxiety likely due to emotional support offered by the church community. Lack of participation in services was related to higher anxiety. In a longitudinal survey of older Christian adults, Hayward and Krause (2013) found that greater frequency of church attendance was associated with fewer symptoms of depression while private religious activity was related to higher levels of depression. In this study, it was social support associated with attendance that was the protective factor.

Social support in religious connotations is far more effective at buffering against stress than secular ties (Merino, 2014). More frequent attendance at worship services is often tied to being in religious communities that may provide a wide range of supportive programs, associations, and expectations. Regular contact with friends and family of the same religion reduces anomia and unhappiness. However, there is little data on how religious dimensions of personal relationships influence support. Merino (2014) speculates that it is perhaps the shared similar characteristics, beliefs, and values—social identities and religious worldviews—that get reinforced through participation. Helping behavior and altruism may be part of shared cultural beliefs and enable reciprocal meaning-making of life experiences. This appears to be tied to

religion specifically since SES and race do not have the same positive relationship; religion provides a shared interpretive framework and facilitates communication as well as group activities. Similarly, it was not social support but the regulatory influence of religious networks that was found to be a protective factor in a study on suicidality (Rasic, Robinson, Bolton, Bienvenu, & Sareen, 2011). Religious worship attendance was associated with decreased odds of suicide attempts over a 10-year period in people 30 years of age or older. Being part of the religion served to influence behavior and the development of core beliefs such as being anti-suicide. In addition, the authors speculated that it could be that early life experiences with secure attachment in religious homes would result in more frequent attendance as adults and higher religiosity with adherence to beliefs.

According to Merino (2014), Evangelical Protestants and African-American Protestants tend to be more religiously observant through participation that creates communities. However, some minority faiths may not have access to services or communities—something that could be even more troublesome for those from traditions tied to social collectivist communities like Hindus (Anand, 2009). Understanding differences in participation such as in the present study is important toward gaining a deeper understanding of the actual experience of spiritual minorities.

Prayer. In 1902, George Allen Coe, one of the founders of the psychology of religion, said, “Prayer is the heart of religion. When you have told what a man’s prayers are like, you have told what his religion is” (as cited in Hayward & Krause, 2013, p. 33). Praying to God is considered to be the primary religious activity of Americans, with only 15% of the U.S. population reporting that they do not pray (Fincham & May, 2017). It is also a widespread practice across faiths and cultures.

In the Baylor Religion Survey (2010), prayer had no effect on the number of unspecified

mental health concerns reported although the authors stated that depression made it less likely participants would pray. Of non-depressed participants, 32% prayed more than once a day compared with 23% of depressed participants. This result supports previous literature (Koenig, 2009) that depressed people were significantly more likely to indicate they were spiritual but not religiously affiliated, less likely to pray or read scripture, and have lower intrinsic religiosity. Interestingly, the Baylor Religion Survey (2010) also found that entrepreneurs were more likely than other participants to pray at least several times a day (34%) and practice meditation (32%).

In their longitudinal study of Christians, Hayward and Krause (2013) focused on changes in behavior related to prayer for those 66 and older because religious engagement intensifies in older adulthood at the same time social relationships and physical needs change. The researchers noted that there are different types of prayer, including petitionary, ritual, and meditative, that involve particular forms of practice. In addition, there are numerous nuances to consider such as individuals' reasons for praying related to content of prayers such as for personal gain or supporting others and related to prayer expectancies such as immediate gratification or acceptance that not all requests will be granted. Results of the Hayward and Krause (2013) study found that more frequent prayer was found among female African-Americans who frequently attended religious services. As participants aged, the more they prayed for others. (See below for information on control variables used in the study such as age.)

One reason people pray is for improved health, including mental health conditions. In a review of 23 controlled trials on spirituality and religion, Lake (2012) found that prayer and other forms of spiritual healing led to beneficial outcomes to treat medical or psychiatric disorders. About one-third of the many severely depressed or anxious individuals who engage in regular prayer believed that it is very helpful in improving their symptoms. The studies showed

that it was the belief in the healing power of prayer that resulted in positive outcomes in mood.

Scripture reading. Frequency of reading sacred books from the participant's faith is another indicator of spiritual activities in the current study as a private behavior. This aspect of religious practice is not as well-explored as other facets such as worship attendance and prayer (Hamilton, Moore, Johnson, & Koenig, 2013). The Baylor Religion Survey (2010) did not report on this variable, although 28.70% of the participants said they never read sacred books outside worship services.

Literature explores the profound impact sacred texts can have on people and their levels of stress, particularly as most faiths exhort attachment to God in their sacred books. In a qualitative study (Hamilton, Moore, Johnson, & Koenig, 2013) of 54 African-American Christians age 50 years or older who have dealt with a family death or life-threatening illness, the authors found that participants used scripture passages from the Bible to cope with suffering and loss. They used passages that were categorized as God as protector, beneficent, and healer as well as praise, thanksgiving, memory of forefathers, prayers to God, and life after death. While there were few gender differences in the study, the authors reported that: women were more likely to use scripture passages of God as protector and life after death; and men were more likely to use God as beneficent and as a healer. This relates scripture reading to variables in the present study regarding perceptions of God's persona.

Hamilton, Moore, Johnson, and Koenig (2013) chose to focus on African-Americans in their study because culturally they are more likely to use religion over medication to treat mental illness, which is associated with fewer lifetime mood disorders. Literature (McCauley, Tarpley, Haaz, & Bartlett, 2008; Taylor et al., 2004) indicates that African-Americans use devotional materials as "religious instruction and the communication of a promise of protection from evil

situations to those individuals who adhere to the religious doctrines of sacrificing, praying, and reading the word of God" (Hamilton, Moore, Johnson, & Koenig, 2013, p. 179). In a similar qualitative study (Anand, 2009) in India, researchers interviewed four Hindu women who had struggled to recover from a tragic event in their lives. When they used the Hindu doctrine of karma from scripture, their suffering took on new meaning that was healing to them partially because it is socially and culturally endorsed. Karma at its simplest definition is paying for one's sins that were enacted in any lifetime that now impacts the present one. The idea that karma could be to blame for suffering allowed the participants to restore their faith in a just God—and the explanation provided them with the ability to make coherence out of their pain and accept it so they could heal.

Religious sacred books such as the Christian Bible, the Hindu Bhagavad Gita, The Jewish Torah, and the Muslim Koran give meaning to human existence, provide insight into suffering and connectedness to the divine particularly through transcendent stories, and often reflect God's ability to protect, strengthen, and heal. As such, the reading of such religious texts is an important indicator of an intrinsic spiritual activity that could mitigate anxiety.

Meditation. Meditation was included in the present study as an indicator of spiritual activities because of its long history as an intrinsic religious tool for many faiths around the world. It has become a popular strategy in the West from a secular point of view regardless of religion because of its numerous health benefits, including reducing stress (Lauricella, 2016). Spiritual or religious meditation has a focus on God and other spiritual concepts, with the practice aimed at communing deeper with God or cosmic forces of the universe. Secular forms might have the meditator focus on mundane concepts such as love and being good or happy, with the focus on reducing stress and anxiety or improving attitude and feelings of peace. However, as

secular versions sprang from the spiritual, they often "continue to have threads of spirituality embedded within it" (Wachholtz & Pargament, 2005, p. 382).

The Baylor Religion Survey's questionnaire (2010) followed the binary question of whether participants practiced meditation with more specific questions on type of meditation. More than half practiced Christian meditation (*n*=263) with mindfulness meditation as the next highest (*n*=213). The authors did not report results on this variable other than the previously discussed increased likelihood of entrepreneurs who both meditate and pray.

Since meditation practice has a vast body of evidence-based studies showing its effectiveness at reducing anxiety and stress (Carmody, Reed, Kristeller, & Merriam, 2008; Chen, et al., 2012; Hofmann, Sawyer, Witt, & Oh, 2010; Lauricella, 2016; Mayo, 2010), it could impact anxiety outcomes in the current study. For example, a meta-analysis (Hofmann, Sawyer, Witt, & Oh, 2010) of 39 studies found that mindfulness-based therapy is moderately effective in improving anxiety and mood symptoms. The study reported robust effect sizes (Hedges's *g* of .95 and above) and sustained improvements at follow-up. Another meta-analysis (Chen et al., 2012) of 36 randomized controlled trials (RCTs) where anxiety was a secondary concern found 25 studies with significantly superior outcomes comparing meditation and control groups. Improvements were noted in anxiety symptoms only, not in changes to diagnoses of anxiety disorders.

Meditation practices—and psychotherapy—have been shown to have long-term effect on physiological brain structure (Mayo, 2010). A University of Massachusetts study (Carmody, Reed, Kristeller, & Merriam, 2008) found participation in a mindfulness-based stress reduction (MBSR) program increased spirituality and trait mindfulness while lowering medical and psychological symptoms. Ferguson, Willemsen, and Castañeto conducted a study in 2010 using

Christian centering prayer akin to Eastern meditation practices to successfully help develop participant's relationship with God and thus reduce stress and increase coping. Some studies (Mayo, 2010; Wachholtz & Pargament, 2005) have found that spiritual forms of meditation are even more effective at reducing anxiety than secular forms of meditation and relaxation.

Perceptions of God

The Baylor Religion Survey (2010), the dataset for which was used in the current study, reported that prayer, religious attendance, and religious affiliation as the standard measures of religiosity did not show significant effects on the number of reported mental health issues. The authors state, "When it comes to religion, beliefs are more important than are behavior or affiliation" (p. 9). Therefore, the present study examines participants' beliefs about God that could influence anxiety to provide a more multidimensional approach to understanding spirituality.

As Froese and Bader (2007) point out, often religious conflict focuses on God's character, not whether God exists. Froese, as the architect of the Baylor Religion Survey (2010), and his team employed several questions in the dataset being used for the present study to assess whether participant beliefs are associated with anxiety outcomes as possible coping mechanisms related to attachment. Since meaning-making is another important facet of spirituality that could impact anxiety outcomes, two areas were chosen to focus upon as potential mediators between spiritual status and anxiety outcomes: perceptions of the relationship with God and perceptions of God's persona.

Relationship with God. Recent research, including in family therapy literature, examines individual relationships with God through an attachment lens (Dansby, Hayes, & Schleiden, 2017; Hall, Fujikawa, Halcrow, Hill, & Delaney, 2009; Hart, Limke, & Budd, 2010;

Jankowski & Sandage, 2014; Kirkpatrick & Shaver, 1992; Njus & Okerstrom, 2016; Reiner, Anderson, Hall, & Hall, 2010). Perceptions of God are important to study in relation to anxiety because "Central to the application of attachment theory to religion is the idea that for many people God may function psychologically as an attachment figure" (Rowatt & Kirkpatrick, 2002, p. 638). This work conceptualizes that God's availability and responsiveness corresponds to relationships with parents and other caretakers or can function as a reparative connection for healing attachment wounds. This relates back to the literature in religion examining the construct of *god concepts*, which are how an individual feels about and experiences God (Cashwell et al., 2016; Davis, Moriarty, & Mauch, 2013).

In times of crisis, God may be a safe haven and secure base as understood through attachment theory (*see section below for more details on the theory itself and how it relates to the present study*). Although some (Dansby, Hayes, & Schleiden, 2017; Kirkpatrick & Shaver, 1992) state this may relate more to Christian-based faiths and other religions that have attachment style underpinning its practices, cross cultural experts (van IJzendoorn & Sagi, 2001) relate it as a universal approach for understanding human connection through their review of the literature. Those with high spiritual instability exhibit more anxious attachment style, interpersonal insecurity, mistrust, fear of abandonment including from God, higher levels of mental health concerns, and lowered capacity for self-regulation (Jankowski & Sandage, 2014). On the other hand, those with a realistic acceptance of God had low spiritual instability, tended to be securely attached to God despite times of frustration and disappointment, and had lower mental health concerns. Secure attachment in current relationships is associated with perceptions of God as more loving, less distant and controlling (Hall, Fujikawa, Halcrow, Hill, & Delaney, 2009).

Jankowski and Sandage (2014) found discrepancies with some participants being able to use God as a secure base from which to explore their spirituality as some became dysregulated. According to Hall, Fujikawa, Halcrow, Hill, and Delaney (2009), confusion in the literature has arisen between the correspondence and compensation models of God as an attachment figure. For example, inconsistencies in research such as individuals with histories of avoidant attachment were more likely to have experienced a sudden religious conversion either in adolescence or adulthood. Their study developed a framework for viewing *correspondence* with God as implicit and presymbolic that processed emotional information automatically while *compensation* was defined as explicit functioning that focuses on symbolized beliefs and behaviors. Examining differences in beliefs about their relationship with God among spiritual majorities and minorities in the present study may yield more clues regarding how spiritual struggle can either help or hinder clients in therapy.

According to the original Baylor Religion Survey (2010), respondents with positive perceptions of their relationship with God reported fewer unspecified mental health problems: 31% fewer for those who believe they had a warm relationship with God; 19% fewer for those who believe that God knows when they need support or that God is responsive; and 17% less for those who believe that God's love never fails. Belief in negative or inconsistent perceptions had the opposite effect; those who strongly believe that God is impersonal, inconsistent, and at times unresponsive, reported more mental health issues.

These results are consistent with other literature. A study (Reiner, Anderson, Hall, & Hall, 2010) of 276 students in a private, Christian university in Southern California found that, like other forms of negative attachment, anxiety or ambivalence in attachments to God are associated with higher levels of stress. Similarly, in a study of 105 undergraduate students at

Southern Nazarene University, Hart, Limke, and Budd (2010) found that attachment anxiety was associated with faith development: "For faith to grow, individuals must see their attachment figures (and presumably God) with no fear of abandonment; that is, they must see themselves (not just others) as worthy of love and acceptance" (p. 126). Literature from the field of anthropology (Holbrook, Fessler, & Pollack, 2016) corroborates that religious faith mitigates anxiety, and views religiosity and God as supportive coping mechanisms for handling stressful situations.

God's Persona. A related measure of spiritual attachment meaning-making is how participants viewed different aspects of God's character, labeled as persona in the present study. This relates back to the literature on religion's construct of *god images* as internal working models of a divine attachment figure (Cashwell et al., 2016; Davis, Moriarty, & Mauch, 2013). The ability to use religious coping strategies effectively and positively differ through individual views of God as either positive or negative (Ano & Vasconcelles, 2005; Fergus & Rowatt, 2014). Under attachment theory, God as a secure base and safe haven will offer a more positive coping style and result in lower anxiety levels (Agorastos, Demiralay, & Huber, 2014; Ano & Vasconcelles, 2005; Dansby, Hayes, & Schleiden, 2017; Hall, Fujikawa, Halcrow, Hill, & Delaney, 2009; Kirkpatrick & Shaver, 1992). Freud's hypothesis that anxiety arises from negative religious conflicts and extrinsic religiosity has been supported as has its corollary that intrinsic religiosity is related to lower levels of anxiety.

The original Baylor Religion Survey (2010) reported that images of a judgmental God as critical, punishing, and angered by sin increase anxiety whereas the view of an engaged God as involved in the world and in people's lives was correlated with fewer mental health issues. Along the lines of attachment literature, 31.40% of Americans believe in a judgmental God and have

45% more social anxiety, 37% more paranoia, and 33% more compulsions. God's persona as judgmental still increased anxiety even when controlling for other factors including attendance at religious services, marital status, and sound physical health: paranoia rose by 4.90%, compulsion by 3.80%, social anxiety by 3.30%, and obsession by 2.20%. Meanwhile, the 23% who believe in a very engaged God had 21% less generalized anxiety, 34% less social anxiety, 25% less paranoia, 18% less obsessive thoughts, and 17% less compulsions.

This supports previous findings that negative religious coping such as feeling abandoned by God or viewing God as punishing, vengeful, or indifferent is associated with negative psychological adjustment, higher levels of psychopathology, and worse mental health and treatment outcomes (Agorastos, Demiralay, & Huber, 2014). The reverse has been found to be true for positive religious coping, seeing God as just and fair was related to less anxiety and better mental health outcomes. Assessing the differences in the model through participant's perceptions of God's persona is thus a key to understanding the relationship between spiritual status and anxiety as well as how it compares with the model on their perceptions of their personal relationship.

Spiritual Minorities

The original Baylor Religion Survey (2010) found that the reported number of mental health issues did not vary by religious affiliation, but they assessed this only for Catholics, Jews, Mainline Protestants, Evangelical Protestants, and those who claim no religion. The current study instead views spiritual status as a lens showing differences among those with majority versus minority status in the dominant culture of the United States to gain greater insight into their relationships with anxiety. As Americans are undergoing a significant shift from affiliation with a major religious organization to a more personal form of spirituality ("U.S. public," 2015),

that changes how religiosity is expressed and experienced. In addition, spiritual minorities are those who do not follow majority religions or sects in the United States either from disaffiliation, birth, or conversion, a vast group that do not share the same philosophies (Peteet, 2014). Therefore, behavior and acts seen and practiced as devotional—and potentially therapeutic—could be just as different. In the Baylor Religion Survey (2010), participants who were not affiliated with a religion were more likely to have stress: they comprised 18% of worriers compared with being 12% of the non-worried population. But their clinical issues may be unique to sub-populations, such as acculturative stress for immigrants.

Spiritual minority groups are often marginalized by American society, which was formed when the Puritans left England to escape persecution for their religious beliefs and established faith-based settlements here. These Judeo-Christian values remain ingrained in the systems of the United States despite proclamations of separation of church and state and its rich continued history of immigration (Baker, 2013; Butz & Carvalho, 2015; Lawrence, 2013; McDaniel, Nooruddin, & Shortle, 2011; Myers, 2010; Sheets, Domke, & Greenwald, 2011; Vieux, 2014; Williamson & Carnes, 2013). Religious doctrine, especially on issues of sexual and gender diversity, evolution, abortion, and contraception, impacts all citizens of the United States through healthcare policy and institutionalized norms regardless of personal belief, thereby often marginalizing and disenfranchising those who do not follow this dominant aspect of American societal norms. Honoring client values is important especially to the religious, not all of whom will be from majority groups or be seen as stereotypically religious. While clients may all have individual differences, a perspective shift is needed to understand how minority believers think and practice—and ultimately, how to help them incorporate their faith into psychological healing (Yardley, 2008). One issue is the likelihood of spiritual minorities to have unique stressors, such

as the deep fear of Pagans about being discriminated against and labeled Satanists.

An important limitation of the literature on mental health and spirituality is that most studies have homogenous populations affiliated with the Christian religious majority even though that leaves out almost 30% of Americans ("U.S. public," 2015). The literature does not consider whether religious affiliation and level of religiosity buffer mental health outcomes for marginalized populations (Jordanova, Crawford, McManus, Bebbington, & Brugha, 2015). Spiritual minorities may be just as devotional as their majority counterparts, but in differing ways that relate to their particular beliefs.

In one of the few studies that include a focus on the mental health of spiritual minorities, Moore (2017) surveyed 4,667 predominately agnostic and atheist participants with samples of Buddhists, Christians, Jews, and those who self-identify as spiritual but nonreligious. He found that "living in accordance with one's spiritual values, even when defined in a variety of ways, is characteristic of greater mental health" (p. 1) such as more positive affect, gratitude, and ability to pursue goals. The exploratory analysis showed that religious and secular forms of spirituality were associated with positive mental health when examining demographic factors, social support, and spiritual coping usage.

The intersectionality for some spiritual minorities may include multiple underserved populations, such as racial/ethnic minorities including through immigration. The rise of immigrants from Asia, Europe, Africa, and the Middle East brings this issue to the forefront for many clinicians as more clients are from religious groups with small numbers in America. For example, the number of Asians in the United States grew more than four times faster than the U.S. population between 2000 and 2010, according to the latest census figures (Hoeffel, Rastogi, Kim, & Shahid, 2012). This population also grew faster than any other racial group; the number

of people in the country identifying as Asian in whole or in part rose 46% from 11.90 million in 2000 to 17.30 million in 2010. According to Hoeffel, Rastogi, Kim, and Shahid (2012), this surge is expected to continue over the next decade not only in locations with already dense populations, but also in areas with smaller concentrations that may not have sufficient resources in place to handle their needs. In addition to different faiths, they may bring traumatic cross-generational stress from acculturation to therapy.

In addition, victims of trauma, particularly childhood abuse, may become spiritual minorities in response to their oppression. Oppressive spiritual convictions or abuse done in the name of God are part of some traumatic childhood experiences, leading people to turn from faith (Gannon, 2014). In seeking out alternatives to the dominant religions of their perpetrators, trauma survivors may have also become spiritual minorities who may not feel understood by those entrenched in the dominant religious atmosphere of the United States. Therefore, attention to this aspect of client identity may be an imperative part of ethical care for vulnerable populations in MFT (Dansby, Hayes, & Schleiden, 2017).

Chronic stress of discrimination in general has been shown to cause numerous adverse health conditions particularly in mental health (Pascoe & Richman, 2009). So while identification with a group, such as a religious or spiritual affiliation, can be a buffer for mental health issues, it may also be the cause of dysfunction. Moore's (2017) exploratory survey found that both religious and secular forms of spirituality were associated with positive mental health when examining demographic factors, social support, and spiritual coping usage. This recent study is unique in that it consisted of a majority of atheists (*n*=1,738) as well as a large number of agnostics (*n*=926) and spiritually nonreligious persons (*n*=489). Moore (2017) also found that many endorse multiple labels when identifying their faith, such as 16% who said they were both

atheist and agnostic. It found that a basic issue with the literature on spirituality is that researchers mostly use scales that do not take into consideration different ideologies because

> scholars have assumed that constructs associated with Christianity are widely generalizable across diverse ideological populations, which is an unfortunate shortcoming because this limits the depth of the field's understanding of such issues as the relationship between spirituality and mental health especially among secular or religious cultural groups that are non-Christian. (p. 22)

Moore (2017) states further that research that has tried to be more open to diversity has failed to adequately capture what spirituality even means. Studying spiritual minorities may capture the essence of spirituality beyond rigid confines of revealed religious doctrine. Therefore, the field should first study what constructs work most appropriately for research results to be meaningful.

Additional Factors Associated with Anxiety and Spirituality

Given previous literature regarding their impact on anxiety and spirituality, several other factors were examined in the present study: religiosity, age, gender, SES, and racial identity.

Religiosity. Level of religiosity is difficult to measure across the spectrum of disparate religious traditions (Spiegel, 2013) and remains a controversial issue in the literature (Moreira-Almeida, Lotufo Neto, & Koenig, 2006). Studies have shown an association between higher levels of religiosity and lower levels of anxiety (Khalaf, Hebborn, Dal, & Naja, 2015). Higher levels of religiosity also have been correlated with higher levels of obsessive-compulsive disorder (OCD) symptoms and cognitions, including the intolerance for uncertainty, worry, obsessive thoughts, and compulsive rituals (Agorastos, Demiralay, & Huber, 2014). While a key distinction in the literature has been made regarding intrinsic and extrinsic religiosity and its impact on anxiety (Levin, 2010), the dataset used for the current study did not fully explore these nuances other than through typifying spiritual practices that capture private and social behavior. Level of religiosity was measured through whether the participant described themselves on a

range from *Very religious* to *Not at all religious*, leaving the interpretation to them. (See Table C4 for religiosity variable frequencies.)

Age. Given the generational trend with disaffiliation and that older Americans tend to integrate spirituality into their lives more than younger populations (Shreve-Neiger & Edelstein, 2004), age becomes an important factor to control for in the present study. Research shows that individuals tend to become more religious as they grow older (Hayward & Krause, 2013). The rapid increase in the salience of religion has been related to increases in health concerns for themselves and others, need for more support, a focus on fewer interpersonal relationships, and focus on the afterlife. Private behavior may be engaged when it is too difficult to attend worship services. Age is also a factor regarding less access to and utilization of treatment whether they fit the diagnostic criteria for anxiety disorder or have symptoms that are under this threshold (Ault-Brutus, 2012; Byers, Arean, & Yaffe, 2012; Weissman et al., 2017). In the original Baylor Religion Survey (Baylor University, 2010), those over age 60 reported fewer unspecified mental health issues. (See Table C8 for age variable frequencies.)

Gender. Despite modern understanding of gender as a non-binary construct, it was only available as a dichotomous variable from the Baylor Religion Survey (2010) dataset. However, surveying differences among traditionally identified men and women remains important to control for in studies related to both spirituality and anxiety. Hayward and Krause's (2013) study on prayer among older Christian adults confirmed other findings that women were more likely to participate in spiritual activities, especially prayer. Maselko and Kubzansky (2006) studied gender differences in religious practices, spiritual experiences, and health using the nationally representative U.S. General Social Survey, finding that public religious behavior was more beneficial to men than women aside from attendance rates and frequency. While women report

being more religious, the relationship and their engagement may not be uniformly positive. Weekly public religious activity was significantly associated with better health and well-being for both genders, but stronger for men and further influenced by denominational affiliation. For women, both social religious activity and private spiritual experiences were related to health and well-being. However, they also found that female Catholic's level of psychological distress increased with frequency of religious activity. This may be due to differences in religious teachings about gender norms but shows that the field must concentrate on the nuances of even umbrella group traditions to develop effective and ethical therapeutic treatment using spirituality. (See Table C5 for gender variable frequencies.)

SES. Socioeconomic Status (SES) is an important variable to control for in the present study because of the higher likelihood of negative impact on anxiety stemming from the nature of poverty and minority stress (*as detailed further below*). Lower SES is correlated with greater levels of anxiety (Drentea & Reynolds, 2012) because those with less resources do not have as much access or ability to tap into mental health services and are more likely to use religious coping (Abu-Raiya & Pargament, 2015), but they may also be less able to attend spiritual activities if they cannot afford transportation or must work. On the other hand, unemployed persons may need to use free resources available at public worship spaces. In addition, those who disaffiliate from the religion of their birth tend to have higher SES (Fenelon & Danielson, 2016). SES was assessed in the present study through a continuous variable on income. In the original Baylor Religion Survey (Baylor University, 2010), study participants who had household incomes less than $35,000 had twice as many unspecified mental health issues than those with incomes over $100,000. In addition, currently unemployed respondents had twice as many unspecified mental health issues. (See Table C6 for SES variable frequencies.)

Racial identity. Minority groups are less likely use mental health services for anxiety because of mistrust, cultural and language barriers, and less access to care (Ault-Brutus, 2012; Byers, Arean, & Yaffe, 2012). However, identification with minority race is correlated with greater levels of anxiety (Wang et al., 2005). Immigrants from Asia, Latin America, and Africa in particular have been found to have unique acculturation stressors such as anxiety while also having less available mental healthcare resources (Derr, 2016; Ebaugh & Chafetz, 2000). In addition, prior research has identified that some groups such as African-Americans and Latinos are more likely to use religious services than mental healthcare—and their affiliation may be related to family and community unity (Fenelon & Danielson, 2016; Hamilton, Moore, Johnson, & Koenig, 2013; Hayward & Krause, 2013; McCauley, Tarpley, Haaz, & Bartlett, 2008; Taylor et al., 2004). Given the important intersection between spiritual minorities and racial/ethnic minorities such as immigrants and the impact of minority stress on anxiety (*detailed further below*), race and ethnicity are controls in the present study. (See Table C7 for racial identity variable frequencies.)

Theoretical Frameworks: Application to Present Study

Both minority stress and attachment theories guided the development of the present study. The relationship between spiritual status and anxiety—and its importance—can be explained through the lens of minority stress theory (Meyer, 2003). It informs why it is hypothesized that spiritual minorities as defined in this study may experience additional stress than their majority counterparts as well as explain why minorities may not use spiritual activities as much as majorities to cope with anxiety or why activities may work differently depending on spiritual status. Attachment theory further supports how perceptions of God may benefit mental health outcomes for those of different faiths yet allow room for conceptualizing both similarities

and differences among minority and majority spiritual groups.

Minority Stress Theory. Minority stress theory emanated from research that shows racial and sexual minorities have greater mental and physical health disparities compared with their peers in majority groups. Meyer (2003) provided this theory as a framework for understanding how the stress of being in a minority group causes mental health problems such as anxiety because stigma, prejudice, and discrimination create a toxic social environment. As a model for conceptualizing minority stress, the theory is based upon the literature on how stress—physical, mental, or emotional pressure, strain, or tension—from external events or conditions induces illness because it causes a person to exceed their capacity to endure. Conditions in the social environment result in mental and physical illness, specifically anxiety and mood disorders (Hayes, Chun-Kennedy, Edens, & Locke, 2011; Newcomb & Mustanski, 2010; Pachankis, 2014). This kind of social stress has a deeper impact on those from stigmatized social categories such as in race, SES, gender, and sexuality. The present study attempts to extend this literature to spiritual minorities while examining these potential intersectional factors as covariates.

The minority stress model provides a distinction between distal and proximal stressors (Meyer, 2003). Distal stressors are the social structures and conditions of power and dominance that impact the proximal personal experiences a person has such as the U.S. government and major religious institutions. Social attitudes about a group from become proximal through the impact of socialization, which makes those values psychologically important to the person's self-identity. The process of minority stress is amplified as marginalization moves from experiencing chronic and acute stressful events and conditions from external sources into an individual's stress response and eventually to a negative internalized self-concept. Health is compromised by incongruence between personal and dominant belief. More than 134 empirical studies showed

poorer outcomes for minorities that were the direct result of stress accrued through repeated negative social situations over time (Pascoe & Richman, 2009). Stressors that impact the psyche are events and conditions that require adaptation such as traumatic events, life markers, losses of people, possessions, or jobs, chronic stress, role strains, and daily problems and hassles (Meyer, 2003). So, the stress of discrimination is just as impactful as the stress of major life event changes that are stressors of most people. When stress comes from systems such as government, schools, and religious institutions, it negatively impacts smaller or more vulnerable systems such as families and communities from marginalized populations (Meyer, 2003). Society itself becomes the stressor for those whose values conflict with its dominant beliefs, such as those from minority spiritualities not as accepted or even recognized by those in the majority culture.

Meyer (2003) developed this framework using inferences from theories in sociology and social psychology regarding the adverse effect of social conditions like prejudice and stigma on individuals and groups. Deprivation of a healthy environment alone is a source of minority stress, but prejudice also creates a toxic environment leading to adverse effects such as harm to one's reputation, character, or self-image. Minority stress is chronic, institutional, and additive to stressors experienced by all people, so those who experience it must have greater adaptation and coping than those in the majority culture. The theory has been used to understand experiences of minority status in terms of race (Clark, Anderson, Clark, & Williams, 1999), gender, and sexual orientation (Meyer, 2003), all social categories of people who have undergone considerable stress in their struggle for freedom and acceptance. For example, one stressor faced by the LGBTQ community that leads to minority stress is the expectation of being rejected because of their sexual minority status by their families, communities, workplace, and religious congregations.

Meyer (2003) states that minority stress theory applies to any group with stigmatizing characteristics, including populations of those who are overweight, disabilities, certain illnesses such as AIDS, and have body piercings, such that it is applicable to spiritual status as defined in the present study. Relevant to spiritual minority status, alienation from social norms and institutions can result in basic needs not being met. Durkheim's (as cited in Meyer, 2003) work regarding suicide and the importance of social environment posits that lacking a sense of normalness is a large risk factor for suicide. Social psychology has influenced this theory through its exploration of identity and self-categorization, with the process of articulating distinction among social groups triggering competition and discrimination with others as much as it provides individuals with self-definition and meaning to the world (Meyer, 2003).

While no study in the scant literature on spiritual minorities has used minority stress theory to conceptualize their experience, I extrapolate guidance for the current study given its usefulness in understanding other minority groups and the resultant literature. Spiritual status as a minority as defined in this study focuses on those who are not part of the dominant Judeo-Christian culture through belief system and small population to study a specific type of marginalized population. Anyone, regardless of spiritual status, may face the impact of minority stress through oppression and discrimination stemming from a minority identity. Minority stress theory makes sense of the literature that shows minority race (Wang et al., 2005) and lower SES (Drentea & Reynolds, 2012) is correlated with greater anxiety, therefore, it is also important to control for race and SES in the current study.

Minority stress theory has been used to develop literature on coping that shows cultural variability in preferences and how they employ coping mechanisms, including the use of religion (Kuo, 2013; Syzmanski & Obiri, 2011). Religiosity is an important facet for understanding the

mental health of minorities. Literature shows those with "stigmatized identities may cope with adversity and oppression by using helpful strategies drawn from their religious or spiritual identities" (Brewster, Velez, Foster, Esposito, & Robinson, 2016, p. 119). Further, in the only review of its kind regarding religious coping among diverse faiths, Abu-Raiya and Pargament (2015) found that people from many traditions use their faiths to cope, but how they do so reflects the nature and tenets of their belief systems as well as their cultures. This fosters the definition of spiritual minorities in the current study as those who face marginalization by the American culture.

The literature on the relationship of religion with sexual minorities and racial minorities using minority stress theory provides useful guidance for gaining insight into the spiritual minority experience. The theory posits that coping styles, such as religious coping mechanisms, will buffer the impact of stressors like racism and homophobia (Syzmanski & Obiri, 2011). For example, harassment and discriminatory laws regarding marriage, child custody, and military service have been shown to result in more mental health problems for sexual minorities than heterosexuals including substance use, suicidality, and affective disorder rates (Hayes, Chun-Kennedy, Edens, & Locke, 2011). When they receive affirmation and acceptance from a religious community, sexual minorities have better mental health outcomes (Brewster, Velez, Foster, Esposito, & Robinson, 2016). Similarly, members of racial and ethnic minority groups experience higher levels of depression, anxiety, and helplessness than Americans with a European heritage (Kim, Kendall, & Webb, 2015). Groups such as Asian Americans are likely to turn to religion when faced with discrimination with positive results. Religion has been shown to moderate the relationship between minority stress—including immigration—and mental health, giving some but limited insight into developing more effective treatment interventions.

Non-Christian religious groups are more likely to be discriminated against in the United States (Jordanova, Crawford, McManus, Bebbington, & Brugha, 2015). While some sub-groups may feel marginalized within the Christian umbrella theology, for the purposes of this study they retain the parental identification. Followers of Judaism comprise 1.9% of the U.S. population (Pew Research Center, 2014), but this religion also falls outside the scope of this study's definition of a spiritual minority particularly because of its foundations in Christianity and importance to those in the United States in particular (Prager, 2004).

External stressors such as prejudice and discrimination faced by spiritual minorities can lead to internalized stressors such as anxiety and self-hate that could further deteriorate their health based upon prior studies regarding the impact of minority stress (Pascoe & Richman, 2009). As Frame (2004) writes in *Ministry in the Spiritual and Cultural Diversity of Health Care: Increasing the Competency of Chaplains*:

> When representatives of Judeo-Christian religious groups practice their faith in public, usually they are not seen as peculiar or heretical. Thus, power and privilege operate to exclude and penalize those who are in the minority in terms of race, ethnicity, culture or spiritual perspective. (p. 53)

This leads to the hypothesis that spiritual minorities will have higher levels of anxiety when compared with the umbrella group of spiritual majorities. While spiritual discrimination is not well covered by research literature in psychology, the dominance of the Judeo-Christian culture is felt throughout the United States as a distal stressor. The incorporation of particularly Christian principles in government and schools (Butz, & Carvalho, 2015; Lawrence, 2013) without regard to other faiths leads to oppression, with outright discrimination directed towards Hindus (Tummala-Narra, Inman, & Ettigi, 2011), atheists (Hunsberger & Altemeyer, 2006), Muslims and others (Abu-Raiya & Pargament, 2015). The pervasiveness of Christianity is seen even in the debate over winter holiday greetings and some assertions that others including those

of non-Christian beliefs are waging a “war on Christmas” (Olsen & Morgan, 2009). While employees in America are automatically given several Christian holidays off, and some Jewish holidays are given in certain locations such as in New York, few are allowed to take off for other faiths, potentially leading to the stress response and ultimately negative proximal self-concept.

One tenet of minority stress theory is that coping through social support moderates the relationship between stressors, such as racism and distress (Szymanski & Obiri, 2011). Social support systems often found in worship attendance also have been shown to be a coping mechanism that mitigate the impact of distal stressors like discrimination and prejudice (Wong, Schrager, Holloway, Meyer, & Kipke, 2014). Research (Kuo, 2013) using minority stress theory shows that certain cultures’ collectivist orientation (including from Asia and Africa) impacts selection and outcome of coping mechanisms, i.e. an even greater reliance on social support than their European American counterparts. Therefore, it is hypothesized that higher levels of participation in spiritual activities will be associated with lower levels of anxiety for all participants. However, under minority stress theory, minorities also have less access to support and coping options (Meyer, 2003). It is as of yet unknown which spiritual minorities may have access to support networks and access to gathering spots to meet others of the same faith so they can develop supportive bonds as culturally embedded and accepted faiths. This lends credence to the hypothesis that spiritual minorities will participate in spiritual activities with less frequency than spiritual majorities, and that will lead to greater group differences on anxiety levels.

Other spiritual activities such as prayer and scripture reading do not require access to places of worship, but they may be impacted by discrimination and prejudice resulting in less frequency by spiritual minorities. For instance, a Muslim individual may not be allowed to or feel comfortable praying to Allah during normal business hours working for a company where

Christmas decorations are on display without discussion right after the Thanksgiving holiday break.

While minority stress theory helps to shed light on the differences among spiritual minorities and majorities regarding anxiety and additional stressors marginalized groups face, attachment theory provides a crucial link the mental health field's understanding of how spirituality may impact anxiety through perceptions of God for all participants and for different groups.

Attachment Theory. Attachment theory has been used to explain the basis of human connection—and anxiety—stemming from primary relationships with our earliest caregivers and continuing throughout the lifespan to include partners and important others. Literature on the importance of spirituality shows how religious faith can be viewed as an attachment relationship with God (Kim, Kendall, & Webb, 2015), an important facet to understanding the experience of spiritual minorities as they are defined in the present study. Since the questions regarding God asked participants to respond considering their own personal understanding of the concept, I seek to identify differences among those of minority and majority faiths. Attachment theory explains why studying perceptions of God is crucial to understanding the diversity of spiritual populations because attachment to God may provide the resiliency and emotional support necessary to mitigate anxiety, particularly for those with additional minority stress (Kim, Kendall, & Webb, 2015).

Evolving from the seminal work of Bowlby (1969/ 1982) and Ainsworth, Blehar, Waters, and Wall (1978), attachment theory describes the innate human compulsion children are born with to seek proximity of caregivers for safety. As human beings mature into adults, the attachment system continues to grow into our capacity to form affectional bonds that are intimate

and endure (Burke, Danquah, & Berry, 2016). Attachment involves children's fear system because such links help protect them from harm. By the end of the first year, children begin to develop ideas of self-worth and how they can depend on others who care for them depending on caregiver responses to their fear (Flannelly & Galek, 2010). If their attachment figure is a secure base, it allows them to explore the world in safety and encourages play and other relationships. Proximity to the attachment figure brings feelings of safety, whereas separation evokes anxiety that can be soothed through return to the attachment figure as a safe haven (Kirkpatrick, 2005). The secure attachment figure provides care and concern, calming the anxiety (Gilbert, 2007). However, absence of reassurance consistently activates the person's feelings of anxiety and lack of safety (Knabb & Emerson, 2012). Insecure attachment, and resulting wounds, develop from experiences with caregivers: anxious attachment involves diffuse boundaries and enmeshment while avoidant attachment involves rigid boundaries and too much space. A fourth style, disorganized, is a combination of anxious and avoidant that typically develops from abusive, inconsistent, and neglectful caregiving. These differences in caregiving result in attachment styles that become the way adults interact with their world throughout the lifespan.

These attachment styles with primary caregivers is transferred to romantic and other important relationships later in life. Insecure attachments become reinforced by relationships in adulthood, causing the person to become more vulnerable to stress and at a higher risk for mental health issues such as anxiety, depression, eating disorders, psychosis, and personality disorders (Burke, Danquah, & Berry, 2016). Conversely, secure attachment is related to positive mental health and is a protective factor against psychological dysfunction. Adult relationships with spirituality, religion, and—even more specifically—deity can be understood through attachment because it is based upon the adult's imprinting of the caregiver during development and often

includes a sense of spirituality or religion (Flannelly and Galek, 2010). Attachment to God or a faith can be developed simultaneously with attachment to the family but can also be borne later in life based upon the person's existing attachment style. A person's attachment style is often projected onto their understanding of deity, including God's persona as negative or positive, their personal relationship with God as warm or impersonal, and their view of God's concerns (Cooper, Bruce, Harman, & Boccaccini, 2009). For example, a person with disorganized attachment might want God's love but may experience ambiguity in the relationship and/or understanding of God.

The literature reveals a "compensation hypothesis" in which individuals with insecure attachment are more likely to use God as a safe haven in stressful situations regardless of religiosity (Granqvist, 2005). For example, in a study about human nature and forgiveness (Flannelly & Galek, 2010), belief in God as one who forgives was associated with lower anxiety and counteracted the negative effect of the belief that human nature is evil. Among the reasoning for these results is that religion provides security in an uncertain world, with God acting as a secure attachment base from which believers can relieve their anxiety. Other research supports a relationship between positive images of God and higher self-esteem (Francis, Gibson, & Robbins, 2001; Kirkpatrick, 1998) and positive mood (Levin, 2002).

Studies have found a positive association between a secure attachment to God and psychological well-being, including adjustment to life stressors (Belavich & Pargament, 2002; Bradshaw, Ellison, & Flannelly, 2008; Kirkpatrick 2005), increased life satisfaction and less loneliness (Kirkpatrick & Shaver, 1992), less anxiety and positive affect (Rowatt & Kirkpatrick, 2002). Secure attachment to God was associated with a source of strength for coping (Cooper, Bruce, Harman, & Boccaccini, 2009) and better emotional adjustment to a loved one having

surgery (Belavich & Pargament, 2002). Cassibba and associates (2014) found that secure attachment to God was uniquely related to fighting spirit while insecure attachment was linked to hopelessness when coping with cancer.

Compared with those who view God as a secure attachment figure, individuals with avoidant or anxious attachments to God report greater feelings of anxiety, loneliness and depression, poorer physical health, and lower levels of life satisfaction (Kirkpatrick & Shaver, 1992). In a study examining adult attachment and perceived stress (Reiner, Anderson, Hall, & Hall, 2010), God attachment anxiety was significantly connected to stress and was a better predictor of stress than attachment avoidance.

Attachment theory relates back to a person's ability to cope just as Meyer's (2003) minority stress theory emphasizes the buffering impact of coping mechanisms on distal and proximal stressors. The concept of positive religious coping includes viewing God in a benign light and as a source of spiritual support, forgiveness, and guidance in letting go of stressful emotions and managing life circumstances (Brewster, Velez, Foster, Esposito, & Robinson, 2016). Negative religious coping involves struggling with faith stemming from an insecure relationship with God, often characterized by anger toward God, questioning God's power, and being discontent with a religious community, and has been connected to maladaptive outcomes (Pargament, Ano, & Wachholtz, 2005).

While positive religious coping reflects turning to God for help and reframing marginalized experiences through the "compensation hypothesis" of a reparative relationship with God, negative coping is related to viewing God as punishing (Hall, Fujikawa, Halcrow, Hill, & Delaney, 2009). Negative religious coping styles such as perceiving God as angry may exacerbate minority stress and cause damaging impact on mental health (Brewster, Velez, Foster,

Esposito, & Robinson, 2016; Kim, Kendall, & Webb, 2015). Negative religious coping styles are linked to a higher mortality rate as well as greater levels of anxiety, depression, and obsessive-compulsive behaviors in addition to more depression, fatigue, and pain among cancer patients (Abu-Raiya & Pargament, 2015). In the same way that positive coping relates back to secure attachment, negative religious coping is related to insecure attachment.

Attachment theory has been used to understand bonds throughout numerous cultures (van IJzendoorn & Sagi, 2001) although some do not believe in its universal applicability (Rothbaum, Weisz, Pott, Miyake, & Morelli, 2000). Since the theory helps frame potential connections for attachment, it may be used through the additional lens of minority stress theory to better understand spiritual minorities and how they may differ from spiritual majorities. This is strengthened by the differences in literature on the influence of religious coping style on outcomes. Minority stress theory has been used to understand how some racial groups such as those from Asian and African nations use different religious coping strategies compared with European Americans based on their belief in the external locus of control rather than the traditional American internal focus (Kim, 2017). Racial minorities from collectivist cultures may experience negative religious ideas such as having religious doubts differently, i.e. more positively as part of their spiritual path (Kim, Kendall, & Webb, 2015). Brewster, Velez, Foster, Esposito, and Robinson (2016) found that positive religious coping contributes to enhancing positive psychological outcomes but does not mitigate negative psychological symptoms. A study (Szymanski & Obiri, 2011) on the influence of religious coping styles in the relationship between external and internalized racism and African-American persons' psychological distress found that neither positive or negative coping had a significant impact. Both negative and positive coping styles may be used simultaneously to handle minority stress (Brewster, Velez,

Foster, Esposito, & Robinson, 2016). Since most of this literature is based on Christian samples, these results show that studies must examine the differences between minorities versus majorities to gain a clearer view of the influence of attachment to God on anxiety outcomes.

Attachment to God may provide the resiliency necessary to use spiritual activities to mitigate anxiety regardless of coping style. Those with higher levels of religious participation are more likely to be able to handle periods of conflict and ambivalence because of their overall secure relationship with God, providing them with tolerance for negative emotions under the tenets of attachment theory. As Jung (2002) once noted, "Psychological or spiritual development always requires a greater capacity for anxiety and ambiguity."

The literature on religion calls for the separate study of the construct of g*od concepts* as how someone feels and experiences God, with *god images* as the internal model of a divine attachment figure in which the self is experienced in relationship with that figure (Cashwell et al., 2016; Davis, Moriarty, & Mauch, 2013). Therefore, the present study examines perceptions of God using two models. The first hypothesizes that perceptions of the relationship with God as negative and inconsistent as well as negative perceptions of God's persona will be related to higher levels of anxiety for spiritual minorities due to minority stress. Positive perceptions of the relationship with God and God's persona will be linked to lower levels of anxiety for spiritual majorities due to attachment theory.

Summary

For spiritual interventions to eventually be appropriately incorporated into therapy, first researchers must uncover how Americans already use spiritual beliefs to cope with mental health issues. The purpose of the current study is to gain greater understanding of the intersection between spirituality and mental health outcomes. More specifically, I analyze

whether being part of a majority spiritual group or being a marginalized faith is associated with similarities and differences in anxiety levels.

I would like to better understand how these groups are similar and different in components of spirituality such as typical activities and perceptions of God and how these are associated with anxiety. Since many spiritual minority groups intersect with other marginalized groups such as racial/ethnic minorities, it is important to try to isolate the relationship specifically with spiritual status (Garland, Spalek, Chakraborti, 2006).

Chapter 3: Methods

The present study used a cross-sectional survey design to answer the research question: What components of spirituality, such as frequency of intrinsic and extrinsic spiritual activity participation and perceptions of God related to attachment to God, are associated with lower anxiety for spiritual majorities and minorities? Data were drawn from a nationally representative sample to test the association of spirituality and anxiety for American adults through structural equation models. This chapter details the research design, including the data source, sample, inclusion criteria, measures, and procedures used to test the research question and hypotheses.

Data Collection: The Baylor Religion Survey

Data for the current study was drawn from the national Baylor Religion Survey (Baylor University, 2010) which was collected by the Gallup Organization for The Baylor Institute for Studies of Religion and funded by the John M. Templeton Foundation. A nationally representative sample of 1,714 American adults ages 18 and older participated in the study of religious values, practices, and behaviors. Although data were collected in 2005, 2007, and 2010, variables were not consistent across waves and neither were participants. Therefore, only data collected in 2010 (Wave 3) were used in the present study.

Data Collection Procedure. For Wave 3 of the Baylor Religion Survey, data were collected by mail using a mixed-mode sampling design in which the original researchers selected potential participants through both a random digit telephone sample drawn from U.S. telephone exchanges and a household mailing sample from those pre-selected through random-digit dialing (Baylor University, 2010). A 16-page self-administered questionnaire, “The Values and Beliefs of the American Public – A National Study,” was distributed via mail with a 49% response rate for a final sample of 1,714.

Sample

This study sought to assess the impact of components of spirituality including perceptions of God and participation in spiritual activities on anxiety among adults who live in the United States. Therefore, minimum age of 18 and potential belief in God were set as minimal inclusion criteria. One participant aged eight and 13 participants who did not provide ages were excluded from the analytic sample. In addition, belief in God was assessed through the question, *Which one statement comes closest to your personal beliefs about God? (Please mark only one box.)*. Respondents were included in the study analysis if they selected one of the following possible responses to that question: *I have no doubts that God exists*; *I believe in God, but with some doubts*; *I sometimes believe in God*; *I believe in a higher power or cosmic force*; *I don't know and there is no way to find out*; *I have no opinion*. The 87 respondents who chose the possible response *I am an atheist* and 29 participants who did not respond to this question were excluded from the study. Twenty-five respondents who did not respond to the belief in God question but provided religious affiliation through the question *With what religious family, if any, do you most closely identify?* were included in the analytic sample.

Of the original 1,714 participants in the Baylor Religion Survey (2010), a total of 103 were excluded from the present study for a total sample of 1,611. This sample size is considered adequate to conduct SEM analysis since 10 participants per estimated parameter is typically considered sufficient by statisticians and researchers to ensure the stability of parameter estimates (Schreiber, Nora, Stage, Barlow, & King, 2006). The hypothesized model for Model 1 (Figure 1) has 103 estimated parameters for an acceptable ratio of 15.64 participants to estimated parameter. Model 2 (Figure 2) has 84 estimated parameters for an acceptable ratio of 19.18 participants per estimated parameter. Participant characteristics are provided in Chapter 4:

Results.

Study Measures

The original dataset provided 282 variables regarding a wide range of religious values, practices, and behaviors, which were pared down to a total of 45 variables used within the present study. (See Appendix B for the survey questions used for each construct detailed below; see Appendix C for frequencies and descriptive information on the variables).

Anxiety. Participants' anxiety was measured by 15 items that asked them to rate how often they felt this way over the past month. Example items are: *Worried too much about different things*, *Been plagued by thoughts or images that you cannot get out of your mind*, and *Endured intense anxiety in social or performance situations*. Response options were rated on a 5-point Likert-based scale that ranged from *Never* (0) to *Very often* (4). Responses to these 15 single-item indicators collectively measured the anxiety symptoms latent score, with higher scores indicating higher levels of anxiety ($\alpha = .93$).

Spiritual activities. Five items from the General Religiousness Scale (Rowatt, LaBouff, Johnson, Froese, & Tsang, 2009) were used to measure different aspects of participation for the spiritual activities latent variable.

The first item asked participants, *How often do you attend religious services at a place of worship?*, with response options rated on a 9-point Likert-based scale that ranged from *Never* (0) to *Several times a week* (8). The second item asked participants, *Outside of attending religious services, about how often do you spend time alone reading the Bible, Koran, Torah, or other sacred book?*, with response options rated on a 9-point Likert-based scale that ranged from *Never* (0) to *Several times a week or more often* (8). The third item asked participants, *About how often do you spend time alone praying outside of religious services?*, with response options

rated on a 6-point Likert-based scale that ranged from *Never* (0) to *Several times a day* (5). The fourth item, a binary variable that asked participants, *Do you practice meditation?*, was re-coded for analysis purposes to No = 0, Yes = 1.

Responses to these four single-item indicators collectively measured the spiritual activities latent score, with higher scores indicating higher levels of participation in spiritual activities ($\alpha = .69$). [Note: While meditation was revealed to be an inferior indicator through reliability analysis, it was left in the measurement model to confirm. Upon its removal, $\alpha = .79$ for the spiritual activities latent construct.]

Perceptions of Relationship with God. The literature on attachment to God as a buffer for anxiety is closely connected to people's perceptions of their relationship with God. Based upon attachment theory, seven items that measured positive perceptions were loaded on *positive God relationship*, three items that measured inconsistent perceptions were loaded on *inconsistent God relationship*, and three items that measured negative perceptions were loaded on *negative God relationship*. Example items for positive perceptions are: *I have a warm relationship with God; I feel that God is generally responsive to me; I feel loved by God;* and *God's love is eternal* ($\alpha = .96$). Example items for inconsistent perceptions are: *God sometimes seems responsive to my needs, but sometimes does not* and *God's reactions to me seems to be inconsistent* ($\alpha = .79$). Example items for negative perceptions are: *God seems impersonal to me* and *God seems to have little or no interest in my personal problems* ($\alpha = .91$). Participants were asked to rate the degree to which they agreed to each of the 13 items on a 4-point Likert-based scale that ranged from *Strongly disagree* (1) to *Strongly agree* (4), with higher score indicating higher levels of agreement.

Perceptions of God's Persona. Under attachment theory, another aspect of

understanding one's attachment to God is through one's perceptions of God's persona. Therefore, for Model 2, I measured perceptions of God's persona through seven items that asked participants *How well do you feel that each of the following words describe God in your opinion?* Response options were all rated on a 4-point Likert-based scale that ranged from *Not at All* (1) to *Very Well* (4), with higher scores indicating higher levels of agreement. Three items measured *positive God persona* and four items measured *negative God persona*. Example items for positive perceptions are: *Just* and *Forgiving* ($\alpha = .91$). Example items for negative perceptions are: *Critical*, *Wrathful*, and *Severe* ($\alpha = .87$).

Spiritual Status. The spiritual status exogenous variable was derived from a single-item question, *With what religious family, if any, do you most closely identify?* Responses were recoded into a binary variable with participants who identified themselves with a Christian sect (*Episcopal/Anglican*, *Lutheran*, and *Methodist)* or as Jewish coded as *Spiritual Majority* (0) and participants who identified as *Buddhist*, *Unitarian Universalist*, *Hindu*, *Muslim*, *Sikh*, *Baha'i*, *do not know*, *no religion*, and *other* coded as *Spiritual Minority* (1). (See Appendix C for descriptive frequencies of the sample, including specific faiths included in the spiritual status categories).

Those who stated *no religion* (*n*=120) or *do not know* (*n*=21) were included in the sample because the present study assesses how spirituality—not just traditional religious labels—is associated with anxiety and excluded those who did not believe in God on any level. In addition, adherents of the same faith may conceptualize them differently (Hackney & Sanders, 2003). For example, while there are Hindus and Druids adherents who view their belief systems as religions, others label them as philosophies of life (Carr-Gomm, 2009). Buddhists can even vary in tradition and interpretation of the faith from non-theistic to polytheistic. This means that participants from such minority faiths could have responded with *do not know* to religious

affiliation. Since 40% of the respondents who stated *do not know* also said that they were very or somewhat religious, the response could be reflective of religious disaffiliation rather than uncertainty about their faith or a preference for a lack of label for their beliefs, who have been categorized as spiritual minorities in this study. Excluding these respondents could then skew the results to those who may think one way about spirituality, which is a multifaceted concept (Hackney & Sanders, 2003). Further, an examination of the study's full dataset justified including these participants because they responded to a broader religious identity question by labeling themselves as spiritual in some way. As a sensitivity check, I found that of the participants who noted that they were *Spiritual*, *Theologically liberal*, or a *Seeker* to the broader religious identity question, 57 (4.04%) of them responded to the religious affiliation question with *no religion* and 16 (1.13%) responded *do not know*. This represents 26.89% of those who responded *no religion* and 76.19% of the *do not know* respondents. Smaller populations of the remaining respondents selected other broad religious identities such as *Bible-believing*, *Born-Again*, *Evangelical*, *Charismatic*, or *New Age*. This shows that including these respondents is important in a study that serves to address a gap in the literature regarding spiritual minorities, who have been categorized as such not based on faith but connection to the dominant culture and its labels.

Control variables. Categorical control variables of gender and race as well as continuous control variables of age, socioeconomic status (SES), and religiosity were generated through the following items.

Gender was asked as a binary question, *What is your gender?,* and recoded for analytical purposes to Male = 0 and Female = 1. Race was derived from responses to the question, *What is your race?* Responses were: *White*, *Black or African-American*, *American Indian or Alaska*

Native, *Asian*, *Native Hawaiian or other Pacific Islander*, and *Some other race*. Those who were of mixed race were able to select more than one of these responses. Responses were recoded to form a binary variable (White = 0; Non-White = 1) because the importance of the variable was to control for race as a confounding factor when interpreting the results of the impact of spirituality on anxiety.

The continuous age variable was calculated in years from birth, with higher levels indicating actual age. The SES control variable was based off the single-item question, *By your best estimate, what was your total household income last year, before taxes?* Responses were rated on a 7-point Likert-based scale from $10,000 or less (0) to $150,001 or more (6). Higher values indicate higher levels of SES.

Degree of religiosity was measured by the single-item question, *How religious do you consider yourself to be?* Participants rated their responses on a 4-point Likert-based scale from *Not at all religious* (1) to *Very religious* (4) with higher values indicating higher levels of perceived religiosity.

Data Analysis Plan

Structural equation modeling (SEM) was chosen as the statistical methodology for the current study because it has several key advantages over regression models (Garson, 2015). SEM provides the ability to better understand constructs that are not directly measurable or are more complicated than one observable parameter (Kline, 2011). These constructs, called latent variables, can be multidimensional concepts—such as spirituality and anxiety—that are best understood through several observable indicators (Schreiber, Nora, Stage, Barlow, & King, 2006). Observed indicators, commonly measured by responses to questions using a Likert-based scale, provide the mechanisms for testing hypothetical relationships between the latent constructs

that are based on theory and prior research. Unlike in multiple regression, SEM models do not fit perfectly, thus providing a way of testing how much the model corresponds to the data and examining what other avenues should be explored in future research (Davey & Savla, 2010). Relevant to the current dataset, SEM also allows for the ability to model mediation and for comparing alternative models (Garson, 2015).

Procedures. The first part of executing an SEM analysis is to check the following assumptions in the data: that there is univariate and multivariate normal distribution and that missing data are at random. In addition, the presence of potential outliers must be assessed and whether such cases significantly change the results of the data.

Next is to conduct a confirmatory factor analysis (CFA) to test whether the observed indicators do indeed measure the latent constructs and whether the actual data fit the hypothesized measurement model. Having multiple indicators of a latent variable reduces measurement error. One observed variable for each latent construct was assigned a factor loading of 1 to act as a reference indicator for model identification. The CFA tests the reliability of the observed variables as well as provides data on the extent of the covariation among the latent constructs. Based upon the data output such as factor loadings, unique variances, and modification indexes, the model may be re-specified to improve the fit of the estimated model to the observed data (Schreiber, Nora, Stage, Barlow, & King, 2006). The second part of executing the SEM analysis is testing the full structural model for the direct, indirect, and total effects among latent constructs hypothesized in the study based upon theoretical assumptions and prior research. SEM uses an iterative process of testing, wherein if the hypothesized model does not fit the data adequately, the model is reparametrized based on modification indices and theoretical justifications to develop the best-fitting model.

Assessing Model Fit. I use several types of fit indices to assess overall model fit. The preferred two-index presentation strategy includes reporting standalone indices such as the standardized root mean squared residual (SRMR) with other incremental indices such as the Tucker-Lewis Index (TLI), and the comparative fit index (CFI; Hu & Bentler, 1999). I report a second common standalone index, the root mean square error of approximation (RMSEA), which provides a standardized measure of the fit of the population data to the model. It assesses the average of residuals not accounted for by the model. I report values for the TLI, a Type 2 index that evaluates fit by comparing the model a baseline model; the closer the TLI value is to its optimum point of 1, the more the chi-square value of the model is at its optimum. I also report the CFI, a Type 3 index that incorporates non-centrality parameters to estimate the degree of lack of fit of the model in the population; the CFI suggests how much covariance is accounted for by the model up to the value of 1. Hu and Bentler (1999) state that relatively good fit between the hypothesized model and the observed data require a cutoff value close to .08 for SRMR, .06 for RMSEA, and .95 for TLI and CFI. The combination of the RMSEA, TLI, and CFI fit indices also is preferred by Schreiber, Nora, Stage, Barlow, and Kin (2006) for one-time analyses. In addition, I provide the chi-square value even though it is considered a poor indicator of model fit in order to compare models when re-specifying the original model, showing the benefit of adding error correlations assessed through modification indices in the data output (Davey & Savla, 2010).

Structural Equation Models. In this study, I tested two measurement and structural models (Model 1 and Model 2), as well as re-specified models for each to assess how spiritual status as a majority or minority is associated with latent variables of anxiety, spiritual activity participation, and perceptions of God.

Model 1 (Figure 1) tested the hypotheses that positive, inconsistent, and negative perceptions of the relationship with God each will be associated with levels of anxiety and mediate the relationship between spiritual status and anxiety outcomes. It was theorized that higher levels of agreement with positive perceptions will be associated with less anxiety while higher levels of agreement with negative and inconsistent perceptions will be associated with increased anxiety. Spiritual status as a minority will be associated with lower levels of positive perceptions and higher levels of negative and inconsistent perceptions. Further, positive perceptions indirectly will be associated with lower levels of anxiety for spiritual majorities while inconsistent and negative perceptions indirectly will result in higher levels of anxiety for spiritual minorities.

Model 2 (Figure 2) tested the hypotheses that positive and negative perceptions of God's persona will each be associated with levels of anxiety and mediate the relationship between spiritual status and anxiety. The hypotheses were that positive perceptions will be associated with less anxiety while negative perceptions will be associated with increased anxiety. Spiritual status as a minority will be associated with lower levels of positive perceptions and higher levels of negative perceptions. Perceptions of God's persona will indirectly impact anxiety outcomes with higher levels of agreement with positive perceptions associated with lower levels of anxiety for spiritual majorities and higher levels of agreement with negative perceptions will result in higher levels of anxiety for spiritual minorities.

All analyses were conducted with Mplus Version 8 (Muthén & Muthén, 2017). Standard reporting conventions were used to present the study's results (Kline, 2011).

Chapter 4: Results

Participant characteristics

The participants of the present study predominantly identified themselves as White (76.90%) and affiliated with Christianity or Judaism (85.50%) while 13.2% were spiritual minorities. The average age of participants was 64 years (*SD* = 16.22, with a range from 20 to 116 years; Median Age = 64 years), and they were roughly divided between two genders with female participants comprising 54.3% of the sample. Of the participants, 29.2% reported income between $50,000 and $100,000 while 76.70% identified as either very or somewhat religious. The participants were spread across the four regions of the United States with a quarter of the sample from the South (36.10%) and the lowest representation from the East (17.60%). Additional characteristics of the sample are presented in Appendix C.

Data Screening

Data first were screened for missing values, outliers, and normality (using IBM SPSS Statistics Version 24).

Missing Values. The highest missing values recorded were for three questions regarding whether participants felt God's persona was negative: wrathful (10%), critical (9.80%), or severe (9.70%). Full information maximum likelihood (FIML) estimation for cases with incomplete observations, assuming that the data were missing at random, was used for all analyses (Hu, Bentler & Kano, 1992).

Outliers. Eighty-six multivariate outliers in the model were found by using the Mahalanobis distance method (DeCarlo, 1997). An examination of the "outlier cases" for patterns showed that the majority had rated themselves to be *Very* or *Somewhat religious* and that the majority prayed from *Once a day* to *Several times a day*. Approximately a third also

identified as *Spiritual* (*n*=23) and as *Non-White* (*n*=26). The inspection of these cases suggested that their faith may not be indicative of a pattern since 21 participants identified as *Catholic/ Roman Catholic*, 12 participants identified as *No religion*, and the rest were spread throughout various other affiliations. The participants that were screened as potential outliers were also more severely anxious, rating themselves to be higher on anxiety indicators including of OCD traits such as ritualistic behavior, of paranoia, and of social anxiety. Given these extreme patterns, the data were checked by running SEM models with and without these cases. Since the inclusion of these cases resulted in significant changes to the results, they were excluded from the analytic sample.

The final sample (*n*=1525) retains similar characteristics although slightly more comprised of the Judeo-Christian majority (86.20%) and White (77.30%).

Normality. Each variable was assessed for normality using standard cutoff values for skewness and kurtosis, |3| and |10| respectively (Kline, 2011). All values were within these parameters, although values for anxiety indicators regarding compulsion were higher than other variables as would be expected from the literature (Agorastos, Demiralay, & Huber, 2014; Ellison, Bradshaw, Flannelly, & Galek, 2014; See Table C10 for means, standard deviations, skewness, and kurtosis values for all variables used in the model).

Results: Model 1

The Measurement Model. Results from testing the first model showed poor model fit: χ^2 (454, *n*=1525) = 4409.41 p<.01; SRMR = .05; RMSEA = .08, 90% confidence interval [CI] = .07−.08; CFI = .89; TLI = .87. The data output was reviewed for ways to improve model fit that were also theoretically justified.

Parameter trimming. Meditation was found to be a poor indicator of the spiritual activities latent construct (*factor loading* = -.04, p <.05) with a squared multiple correlation (SMC) value that explained only 3.70% of the variance; thus, it was removed.

Modification Indices. Modification indices showed 45 expected and theoretically justifiable error correlations among the indicators of the latent variables. For example, frequency of attendance at worship services was correlated with both scripture reading and prayer, which are all indicators of spiritual activities. Literature regarding anxiety disorders (Agorastos, Demiralay, & Huber, 2014; Asnaani, Richey, Dimaite, Hinton, and Hofmann, 2010; Coles, Turk, Jindraa, & Heimberg, 2004) and the DSM-V (2013) were used to justify 26 correlations of anxiety indicators. There were 16 error correlations among the indicators of positive perceptions of the relationship with God, and another two among the negative perceptions of the relationship with God. (See Table E2 for full details on all error correlations in Model 1.) The model was then re-tested for model fit.

Revised Measurement Model. Model re-specification resulted in a better fitting model according to model fit statistics. The revised model is: χ^2 (379, n=1525) = 1087.27, p<.001; SRMR = .04; RMSEA = .04, 90% confidence interval [CI] = .03−.04; CFI =.98; TLI = .98. The χ^2 difference test suggests the re-specified model fit significantly better than the original measurement model ($\chi^2_{\text{difference } (df = 75)}$ = 3322.14, p<.001).

Parameter tests for all factor loadings for the revised measurement model were significant indicators of the latent variables at p<.001. Standardized factor loadings for the three indicators of spiritual activities ranged from .89 to .70 and comprised variances from 79.60% to 49%. Factor loadings for the seven indicators of positive perceptions of the relationship with God ranged from .93 to .83 with variances from 86.60% to 69.30%. Factor loadings for the three

indicators of inconsistent perceptions of the relationship with God ranged from .85 to .65 with variances ranging from 72.50% to 41.60%. Factor loadings for the three indicators of negative perceptions of the relationship with God ranged from .90 to .78 with variances ranging from 81.80% to 61.50%. Factor loadings for the 15 indicators of anxiety ranged from .78 to .49 with variances from 60.20% to 23.90%. (See Table E1 for factor loadings, variances, and significance values.)

Full Structural Model. Next, I tested the hypothesized structural model depicted in Figure 1, adding spiritual status as the independent variable to test the hypothesis that minority status would result in higher anxiety scores when controlling for religiosity, age, gender, SES, and race. Beta paths were included to test the association of spiritual activity participation and perceptions of the relationship with God on the association between spiritual status and anxiety outcomes. This model did not fit the data adequately: χ^2 (544, n=1322) = 2720.20, p<.001; SRMR = .08; RMSEA = .06, 90% confidence interval [CI] = .05−.06; CFI = .93; TLI = .92. The data output was reviewed for ways to improve model fit that were also theoretically justified.

Revised Structural Model. Modification Indices showed justifiable error correlations among all three of the God relationship latent variables regarding positive, inconsistent, and negative perceptions. Each of these latent variables also were error correlated with the spiritual activities latent variable. (See Table E2 for all error correlations.) The model was then re-tested for model fit.

Revised model fit statistics indicated good model fit: χ^2 (535, n=1322) = 1638.14, p<.001; SRMR = .04; RMSEA = .04, 90% confidence interval [CI] = .04−.04; CFI = .97; TLI = .96. The χ^2 difference test suggests the re-specified model fit significantly better than the original

measurement model ($\chi^2_{\text{difference } (df = 9)}$ = 1082.06, p<.001). (See Figure 3 for results of the model on the path diagram and Table E1 for details of all path values.)

Direct Path Values. Spiritual status as a minority was negatively associated with anxiety outcomes (b = -.14, p < .05, β = -.08), positive perceptions of the relationship with God (b = -.49, p < .05, β = -.21), and frequency of spiritual activities (b = .47, p < .05, β = -.07). Perceptions of the relationship with God as inconsistent (b = .31, p < .05, β = .31) were positively associated with anxiety levels for all participants. This implies that spiritual minorities had less anxiety, positive perceptions of God, and frequency of participation in spiritual activities than spiritual majorities.

Indirect Path Values. None of the hypothesized indirect (i.e. mediation) paths were found to be significant in Model 1.

Control Variables. Spiritual status as a minority was negatively associated with religiosity (b = -.15, p < .05, β = -.41) and age (b = -.00, p < .05, β = -.06). Anxiety was negatively associated with SES (b = -.09, p < .05, β = -.25) and age (b = -.01, p < .05, β = -.09). Spiritual activities were positively associated with religiosity (b = 1.90, p < .05, β = .74), race (b = .50, p < .05, β = .08), and gender (b = .25, p < .05, β = .05). Perceptions of the relationship with God as inconsistent (b = .31, p < .05, β = .31) were negatively associated with religiosity (b = -.15, p < .05, β = -.23). Negative perceptions were negatively associated with religiosity (b = -.35, p < .05, β = -.49) and gender (b = -.01, p < .05, β = -.08). Positive perceptions were negatively associated with SES (b = -.03, p < .05, β = -.07), and age (b = -.01, p < .05, β = -.06) while positively associated with religiosity (b = .49, p < .05, β = .60), race (b = .21, p < .05, β = .11), and gender (b = .07, p < .05, β = .05). These results suggest that participants with higher incomes and who were older had less positive perceptions of God and had lower anxiety levels.

Those with lower levels of religiosity participated less in spiritual activities and had more inconsistent and negative perceptions of God. Participants who were more religious, female, and not White had more positive perceptions of God.

Correlation Values. Several latent variables were correlated with each other. Positive perceptions were negatively correlated with negative perceptions (b = -.14, p < .05, β = -.50) and inconsistent perceptions (b = -.05, p < .05, β = -.17) while negative and inconsistent perceptions were positively correlated (b = .22, p < .05, β = .70). Spiritual activities were positively correlated with positive perceptions (b = .36, p < .05, β = .47) and negatively correlated with negative (b = -.31, p < .05, β = -.38) and inconsistent (b = -.24, p < .05, β = -.30) perceptions.

In addition, of interest: Two indicators of spiritual activities, frequency of prayer and attendance at worship services, were negatively correlated (b = -.65, p < .05, β = -.43).

Results: Model 2

The Measurement Model. Results from testing the second model showed poor model fit: χ^2 (293, n=1546) = 2440.96, p<.01; SRMR = .05; RMSEA = .07, 90% confidence interval [CI] = .066−.071; CFI = .89; TLI = .88. The data output was reviewed for ways to improve model fit that were also theoretically justified, resulting in model re-specification.

Parameter trimming. Meditation was not a good indicator of the spiritual activities latent variable (*factor loading* = .04, p < .05, β = .18) with a squared multiple correlation (SMC) value that explained only 3.40% of the variance; thus, it was removed from Model 2 as well.

Modification Indices. Modification indices showed 32 error correlations that were expected and justifiable theoretically, including indicators of spiritual activities and of anxiety. For example, as in Model 1, frequency of attendance at worship services was correlated with both of the other indicators of spiritual activities, scripture reading and prayer. Literature

regarding anxiety disorders (Agorastos, Demiralay, & Huber, 2014; Asnaani, Richey, Dimaite, Hinton, and Hofmann, 2010; Coles, Turk, Jindraa, & Heimberg, 2004) and the DSM-V (2013) were used to justify the 30 correlations between anxiety indicators. (See Table E4 for full details on all error correlations in Model 2.) The model was then re-tested for model fit.

Revised Measurement Model. Model re-specification resulted in a better fitting model according to model fit statistics. The revised model is: χ^2 (237, n=1338) = 840.73, p<.01; CFI =.97; TLI = .96; RMSEA = .041, 90% confidence interval [CI] = .038−.044; SRMR = .04. The χ^2 difference test suggests the re-specified model fit significantly better than the original measurement model ($\chi^2_{\text{difference}\ (df = 56)}$ = 1600.23, p<.001).

Parameter tests for all factor loadings for the revised measurement model were significant with p<.001. Standardized factor loadings for the three indicators of spiritual activities ranged from .89 to .71 and comprised variances from 78.30% to 50.40%. Factor loadings for the three indicators of positive perceptions of God's persona ranged from .91 to .66 with variances from 81.90% to 43.10%. Factor loadings for the four indicators of negative perceptions of God's persona ranged from .89 to .83 with variances ranging from 80% to 69%. Factor loadings for the 15 indicators of anxiety ranged from .77 to .25 with variances from 59% to 6%. (See Table E3 for factor loadings, variances, and significance values.)

Full Structural Model. I tested the hypothesized structural model depicted in Figure 2, adding spiritual status as the independent variable to test the hypothesis that minority status would result in higher anxiety scores when controlling for religiosity, age, gender, SES, and race. Beta paths were included to test the impact of spiritual activities and perceptions of God's persona on the relationship between spiritual status and anxiety outcomes. Model fit statistics

showed a need to further re-specify the model: χ^2 (365, n=1338) = 2078.90, p<.001; CFI = .91; TLI = .89; RMSEA = .06, 90% confidence interval [CI] = .057−.062; SRMR = .08.

Revised Structural Model. Modification Indices showed justifiable error correlations for both positive and negative perceptions God persona latent variables. Each of these latent variables also were error correlated with the spiritual activities latent variable. (See Table E4 for all error correlations in Model 2.) The model was then re-tested for model fit.

Revised model fit statistics indicated good model fit: χ^2 (362, n=1338) = 1351.55, p<.001; SRMR = .04; RMSEA = .05, 90% confidence interval [CI] = .04−.06; CFI = .95; TLI = .94. The χ^2 difference test suggests the re-specified model fit significantly better than the original measurement model ($\chi^2_{\text{difference } (df = 3)}$ = 727.35, p<.001). (See Figure 4 for results of the model on the path diagram and Table E1 for details of all path values.)

Direct Path Values. Spiritual activities were negatively associated with anxiety *(b* = -.01, p < .05, β = -.09), implying that participants with higher levels of participation in spiritual activities had less anxiety. Spiritual status was negatively associated with spiritual activities (b = -2.44, p < .05, β = -.38) as well as both positive (b = -.44, p < .05, β = -.22) and negative (b = -1.25, p < .05, β = -.52) perceptions of God's persona such that spiritual minorities participated less in spiritual activities and had less positive as well as negative perceptions.

Indirect Paths. Unlike Model 1, Model 2 did showed evidence of a significant indirect (mediation) path. Spiritual status had a significant (positive) indirect effect on anxiety through spiritual activities (b = .02, p < .05, β = .03). This means that spiritual minorities' anxiety increased with frequency of participation in spiritual activities.

Control Variables. Spiritual activities were positively associated with age (b = .64, p < .05, β = .15), race (b = .01, p < .05, β = -.08), and religiosity (b = .56, p < .05, β = .10) while

negatively associated with gender ($b = -.25$, $p < .05$, $\beta = -.10$) and SES (b = -.12, $p < .05$, $\beta = -.09$)), suggesting that those who were older, male, non-White, more religious, and had lower-income participated more frequently in spiritual activities. Spiritual status was negatively associated with gender ($b = -.02$, $p < .05$, $\beta = -.06$), and race ($b = -.00$, $p < .05$, $\beta = -.14$) such that spiritual minorities were associated with being male and White. Positive perceptions were positively associated with religiosity ($b = .25$, $p < .05$, $\beta = .15$) and gender ($b = .06$, $p < .05$, $\beta = .08$) while negatively associated with SES ($b = -.06$, $p < .05$, $\beta = -.14$) and age ($b = -.17$, $p < .05$, $\beta = -.13$). This means that female, younger, more religious, and lower-income participants had more positive perceptions. Negative perceptions were positively associated with age ($b = .13$, $p < .05$, $\beta = .08$) and religiosity ($b = .16$, $p < .05$, $\beta = .08$) while negatively associated with SES ($b = -.05$, $p < .05$, $\beta = -.10$). This shows that older, more religious, and lower-income participants had more negative perceptions. Anxiety was positively associated with gender ($b = .15$, $p < .05$, $\beta = .66$) while negatively associated with religiosity ($b = -.03$, $p < .05$, $\beta = -.05$) and SES ($b = -.01$, $p < .05$, $\beta = -.07$). This result means that female, less religious and lower-income participants had more anxiety.

Correlation Values. The two God persona latent variables of positive and negative perceptions were correlated with each other and both were correlated with spiritual activities. Spiritual activities were positively correlated with both negative ($b = .85$, $p < .05$, $\beta = .67$) and positive ($b = .39$, $p < .05$, $\beta = .32$) perceptions. Positive perceptions were positively correlated with negative perceptions ($b = .18$, $p < .05$, $\beta = .42$). Prayer and attendance at worship services were negatively correlated ($b = -.44$, $p < .05$, $\beta = -.28$) in this model as well.

Chapter 5: Discussion

In this study, I sought to assess the relationship of spirituality and anxiety for spiritual minorities and majorities through multiple components since much of the previous literature in this area is contradictory or provides mixed findings because few have defined spirituality multidimensionally (Agorastos, Demiralay, & Huber, 2014; Idler et al., 2009; Khalaf, Hebborn, Dal, & Naja, 2015; Shreve-Neiger & Edelstein, 2004). I developed two SEM models to encompass how different aspects of spirituality are related to anxiety: extrinsic and organizational religiosity as well as intrinsic and subjective religiosity under spiritual activities; and religious belief related to attachment to God under two types of perceptions of God (Shreve-Neiger & Edelstein, 2004).

Spiritual Status, Anxiety, and Spiritual Activities

I hypothesized that those who are not part of the dominant Judeo-Christian culture of the United States, defined as spiritual minorities, would have higher levels of anxiety based on minority stress theory (H1). Spiritual status was significantly associated with anxiety outcomes in Model 1 (Figure 3), but those who identified as spiritual minorities actually had lower anxiety scores. Both models supported the hypothesis (H2) that spiritual minority status would be associated with lower frequency of traditional spiritual activities attending religious worship services, private prayer, and personal scripture reading. Frequency of participation in these spiritual activities was associated with lower levels of anxiety for the full sample as hypothesized (H3) in the second model while it was insignificant in the first model. While Model 2 did not show a direct relationship between spiritual status and anxiety (H1), spiritual activities mediated the relationship, but not in the direction hypothesized (H4). Spiritual minorities with greater frequency of participation also had higher levels of anxiety.

These results regarding spiritual activities are supported by minority stress theory (Meyer, 2003) and previous studies on the experience of minorities that internalized stressors such as anxiety may develop from repeated negative social situations over time (Pascoe & Richman, 2009). It may simply be that spiritual minorities who are anxious participate in spiritual activities to help cope with their stress. The literature on stress and coping has found that hope is essential to combatting serious and prolonged stress but it is not a "perpetually self-renewing resource" (Folkman, 2010, p. 901).

However, the increase in anxiety for minorities participating in traditional activities may also be explained by the tenets of minority stress theory. Spiritual minorities trying to conform to the dominant spiritual culture of the United States may not feel as if they belong and cannot capitalize on the supportive resources used by the majority whether they are social or private forms of practice. It could be that when such activities lead to prejudice or discrimination, it has a greater negative impact as a result of being a distal stressor. This may shed light on the experience of those who are disaffiliating from dominant faiths but still attend traditional prayer services. Lack of conformity to all tenets may lead some to feel uncomfortable or unable to fully participate, causing anxiety and alienation described by minority stress theory when personal views conflict with dominant beliefs (Meyer, 2003). Coping research (Folkman & Moskowitz, 2004) informs these results in that a coping process may be effective in some situations but not in others.

Issues particular to spiritual minorities in the United States because of immigration or turning from faith after abuse may also lead to such feelings of disconnection (Kim, Kim-Godwin, & Koenig, 2016; Silva, Dillon, Verdejo, Sanchez, & De La Rosa, 2017). In a study of Indian female immigrants age 50 years and older by Diwan, Jonnalagadda, and Balaswamy

(2004), positive coping was related to belongingness and social integration with the larger community through religiosity and acculturation. In addition, religious affiliation itself could negatively influence mental health when it is the source for discrimination, such as among immigrants (Agorastos, Demiralay, & Huber, 2014) or members of the LGBTQ population (Wong, Schrager, Holloway, Meyer, & Kipke, 2014). If they continue to seek acceptance and feel rejected through attending worship services and when reading scripture and reciting prayers, negative health implications can often result as repeated stress takes a toll on the psyche and body (Meyer, 2003). Therefore, those spiritual minorities who do not participate in traditional activities may not be in situations that are perpetuating minority stress.

Relatedly, the hypothesis that spiritual minorities would participate less in spiritual activities was supported by the results of both models, perhaps illustrating that their form of devotional worship or ways of expressing their spirituality differs from the traditional measures most often used in literature to describe religiosity (Haynes et al., 2017; Mencken, 2011; Weisman de Mamani, Tuchman, & Duarte, 2010). Since some spiritual minorities may rely more on social support systems found through spiritual activities as a buffer for discrimination and prejudice (Kuo, 2013; Wong, Schrager, Holloway, Meyer, & Kipke, 2014), their lower levels of anxiety may reflect the influence of ways they express their devotion that were not examined in the present study.

Significance of the Attachment to God

The seemingly contradictory results regarding the direct relationship between spiritual minority status and anxiety between the models maybe explained by other main effects in the results. Rather than positive or negative perceptions of the relationship with God or of God's persona (H8, H10, H16, and H17 respectively), perceptions of the relationship with God as

inconsistent in their lives was associated with higher anxiety levels for the entire sample (H9). These findings support the literature on inconsistency being central to anxiety-related mental disorders (Rowatt & Kirkpatrick, 2002; Shihata, McEvoy, Mullan, & Carleton, 2016). They are consistent with the literature on attachment, specifically regarding the negative consequences of the three insecure attachment styles, anxious, avoidant, and disorganized (Fergus & Rowatt, 2014; Kirkpatrick & Shaver, 1992; Knabb & Emerson, 2012; Reiner, Anderson, Hall, & Hall, 2010). Negative perceptions are more predictable and, therefore, easier to live with than inconsistent feelings (Shihata, McEvoy, Mullan, & Carleton, 2016). The results may be indicative of how those with anxiety disorders in particular have a greater intolerance for ambiguity, including disorganized attachment style that is sometimes anxious and other times avoidant. The results also supported findings of the original Baylor Religion Survey (2010), which found that those with strong beliefs in God being impersonal, inconsistent, and unresponsive at times reported more mental health issues.

The results of both models supported the hypotheses that spiritual minorities would have less positive perceptions of their relationship with God (H5) and of God's persona (H14), but neither significantly mediated the relationship with anxiety (H11 and H18 respectively). While counter to minority stress and attachment theories, these results support studies by Kim, Kendall, and Webb (2015) and Brewster, Velez, Foster, Esposito, and Robinson (2016) that have found that positive religious coping does not always buffer negative psychological symptoms for sexual minorities. Positive coping may not be used effectively to counteract the negativity of minority stress (Meyer, 2003).

Assumptions that spiritual status would be associated with more inconsistent or negative perceptions of the relationship with God (H6 and 7 respectively) were not supported, and neither

had any mediating effect on anxiety (H12 and 13 respectively). Model 2 showed that spiritual minority status actually was associated with fewer negative perceptions of God's persona (H15), but this also had no mediating effect on anxiety (H19). While previous literature shows that attachment to God can have positive or negative impact on outcomes, these results support prior research such as the study by Szymanski and Obiri (2011), that found neither positive or negative coping had a significant impact on the relationship between external and internalized racism and the psychological distress of African Americans. Having less positive and less negative perceptions of God be unrelated to less anxiety for spiritual minorities may lend support to prior studies by Kim, Kendall, and Webb (2015), and Kim (2016, 2017) that negative coping styles actually buffered the deleterious effects of minority stress.

Previous literature also shows that spiritual people can have both positive and negative perceptions of God at the same time and that different aspects of spirituality can have both positive and negative influences (Agorastos, Demiralay, & Huber, 2014). The study by Brewster, Velez, Foster, Esposito, and Robinson (2016) indicated that some minorities use both positive and negative coping mechanisms simultaneously in reaction to minority stress. Thus, the differences between the models in the present study may be indicative of different facets of attachment to God. It may be acceptable for spiritual minorities to be less positive about the personal relationship with God and about God's persona, but not more negative about God's persona. This relates back to what the literature on religion calls the construct of *god images* where an individual experiences the self in relationship with deity's persona (Cashwell et al., 2016; Davis, Moriarty, & Mauch, 2013). Similarly for the entire sample, positive and negative perceptions of God's persona were positively correlated with each other and with increased frequency of spiritual activities in Model 2, while positive perceptions of the relationship with

God had an inverse relationship with negative and inconsistent perceptions in Model 1. Higher levels of religiosity followed this same path, correlating higher with more positive perceptions and fewer negative and inconsistent perceptions of the relationship with God in Model 1. Higher levels of religiosity were associated with higher levels of negative and positive perceptions of God's persona and frequency of participation in spiritual activities in Model 2. These results could reflect the fact that the questions used for the relationship with God included inconsistent feelings as possible responses while the questions on persona of God were more dichotomous. However, as Froese and Bader (2007) assert, religious conflict mainly focuses on God's character. While relationships may be able to change for the better, personas may be perceived to be a fixed state.

Personal relationships may be able to withstand negativity, especially as people age. In the present study, results showed that age was associated with less anxiety and less positive perceptions of the relationship with God in Model 1 as well as fewer positive and increased negative perceptions of God's persona. Results of the study may reflect the age of the sample being mostly over 50: the mean age was 64.16 and over half the sample (60.60%) was between the ages of 50 and 79. However, these results support the findings of the longitudinal study of Christians by Hayward and Krause (2013) that showed as people aged, they became more patient in their relationship with God, waiting for prayers to be answered and accepting that "God does not always respond to prayers in the expected way because only he knows what is best" (p. 32). This spiritual maturity manifests rapidly in older age, so younger individuals may have religious disillusionment and anger when requests are not fulfilled especially if they do not have trust-based expectancies of God's persona. Interestingly, positive perceptions of God's persona neared positive significance with anxiety for the entire sample. Model 2 also showed an indirect effect

that approached significance decreasing anxiety for spiritual minorities with higher levels of positive perceptions of God's persona. While these findings must be approached with caution since they were above the cutoff for significance, it shows that further research needs to be conducted exploring the influence of different feelings about God on anxiety by various groups.

The findings could lend support to a previous study of 2,616 male and female twins by Kendler and associates (2003) in which researchers examined how different dimensions of spirituality were related to specific mental health disorders. They found reduced risk for externalizing disorders such as substance dependencies and antisocial behavior for those who viewed God as forgiving, just, as a judge, and involved. Viewing God as not being vengeful and having gratitude were associated with reducing risk for internalizing disorders such as anxiety, major depression, phobia, panic disorder, and bulimia nervosa. Similarly, the study by Shreve-Neiger and Edelstein (2004) found that female Catholic participant's level of psychological distress increased with frequency of religious activity but decreased for Christians and Buddhists who were intrinsically religious. Given the increased rate of anxiety for spiritual minorities who participated with greater frequency in spiritual activities, treatment for internalizing disorders such as anxiety, therefore, may need to tap into their intrinsic religious coping style to be effective.

Attachment to God through a personal relationship may be seen as more part of intrinsic religiosity, while God's persona may be viewed as how the divine interacts in all situations. Both models showed that the most common form of extrinsic religious coping, frequency of attending worship services, was negatively correlated with private prayer, a more intrinsic form of coping. Intrinsic forms of spiritual activity may be even more important to spiritual minorities without access to communities that share the same faith (Cadge & Ecklund, 2006).

The results that spiritual majorities have higher levels of anxiety and views of God's persona as being critical, punishing, wrathful, and severe may also be explained by spiritual or religious beliefs not examined in the present study such in the existence of Hell. Particular values and tenets should be studied in future as context for perceptions of and attachment to God.

Clinical Implications

Clinicians have a history of viewing "religion as either a form of pathology to treat or something that was best left outside the therapeutic process" (Wendel, 2003, p. 165) at best and as a "poison" in Freud's words at worst (Marks, 2006, p. 603). While literature (Beach, Fincham, Hurt, McNair, & Stanley, 2008b; Fincham & May, 2017; Hayward & Krause, 2013; Lambert & Dollahite, 2006; Mahoney, 2010; Marks, 2006; Vaaler, Ellison, & Powers, 2009; Wendel, 2003) shows an impressive relationship between religious systems and couples and families, therapists continue to doubt the "power of prayer." The mental health field and its training centers have a long way to go toward helping therapists use the mystical and sacred even in the domain of couples and family therapy (Carlson, Kirkpatrick, Hecker, & Killmer, 2002; Oxhandler, Polson, Moffatt, & Achenbaum, 2017; Reutter & Bigatti, 2014; Webb, Charbonneau, McCann, & Gayle, 2011). The results of the present study show the importance of understanding an individual's spirituality in the context of anxiety, one of the most pervasive and debilitating of all mental health concerns that often goes untreated or fails to improve after treatment (Kessler, Chiu, Demler & Walters, 2005; Medco Health Solutions, 2010; Weissman et al., 2017).

Spirituality and religion are now seen as an essential dimension of practice with the potential healing benefit of tapping into client strengths and resources (Walsh, 2009). This study sought to expand the knowledge base of researchers as well as clinicians regarding clients who follow both majority and minority faiths in America, and what components of spirituality they

might be beneficial to use in treatment for anxiety. The results show that some spiritual minorities may not be able to tap into spiritual activities to cope with high levels of anxiety. The results in Model 2 that spiritual minorities participate less in spiritual activities but are associated with higher levels of anxiety when they do could mean that some try and fail to use traditional spiritual activities to soothe themselves or that they do not fit their faith. In addition, they may be using other activities that the mental health field could study for their association with reduced anxiety and other mental health outcomes. This is important because it addresses more competent care for those potentially marginalized by the dominant spiritual culture of the United States and for those whose spirituality is a major stressor in their lives. Therapists should assess for clients' actual use of activities they deem spiritual and/ or beneficial to reducing anxiety and stress.

For example, the literature shows that higher levels of religiosity are correlated with severe anxiety such as obsessive-compulsive disorder and paranoia (Agorastos, Demiralay, & Huber, 2014) and increase risk for anxiety disorders (Glas, 2007; Koenig, Ford, George, Blazer, & Meador, 1993). Those with anxiety, such as with OCD symptoms and cognitions, have been reported to have significantly higher levels of religiosity and religious conflicts across different faiths (Agorastos, Demiralay, & Huber, 2014). Religious themes are often in the obsessive thoughts and part of compulsive rituals. Agnostics and atheists are found more among OCD patients than with other disorders, but there is a scarcity of data on whether this is meaningful pattern. Either way, these studies show that anxiety sufferers may benefit a great deal from treatment regarding spiritual beliefs especially if dysfunction arises from feeling disconnected from the vastly mono-religious society embedded in the Judeo-Christian culture in which Americans live (Hunsberger & Altemeyer, 2006).

The results of the present study regarding lower levels of anxiety for spiritual minorities and the increase when participating in spiritual activities show the importance of understanding spiritual experience in therapy. The literature on spiritual healing has grown, including on transformative experiences (Kurtis, 2016), spiritual emergence (Harris, Rock, & Clark, 2015), and anomalous experiences (Roxburgh & Evenden, 2016). Transformative experiences cause a re-formation of worldviews through substantial, persistent shifts in how people make meaning and experience the world (Kurtis, 2016). While transformative experiences create sustainable change in perceptions of self, beliefs, attitudes, and behaviors, peak experiences are temporal. The literature on posttraumatic growth is now developing (Calhoun & Tedeschi, 2014), but there are numerous gaps especially regarding healing from spiritual abuse from a systemic perspective or through alternative spiritualities. Very little research examines these issues from the perspective of the spiritual minority, an important intersection that has implications for clinical treatment of numerous mental disorders, oppression, racism, developmental trauma, and a host of other issues. Spiritual minorities are an important and underserved population that can intersect with other minority labels such as immigrants and ethnic minorities, trauma survivors, religious disaffiliates, and adherents of alternative belief systems.

Intersectionality of Race and SES. Based on the findings of this study, particularly how anxiety increases with spiritual activities for spiritual minorities, it is particularly important to consider the role of intersectionality in treatment because the vast majority of African Americans, Asian Americans, and Hispanics report religious affiliations (Kim, 2016). Religion is a critical and intrinsic part of the lives of many racial minorities and immigrants, and it is a facet of acculturation. More than 81 million immigrants and their U.S.-born children comprise 26% of the overall U.S. population (Zong & Batalova, 2016), with many coming with acculturative

stress (Singh, McBride, & Kak, 2015). While the present study did not specifically obtain demographics on immigrant status, there was a greater association for racial minorities than the White majority for participating in spiritual activities. Clinicians must view these results in context for specific clients, especially those with immigrant status who are also racial minorities. Racial microaggressions have been found to result in negative mental health outcomes and lessen any positive impact of religiosity and congregational support (Chaze, Thomson, George, & Guruge, 2015). Research on extrinsic coping such as social support has not delved into the nuance of the nature of social relationships or cultural context to understand why some connections are healing and other are not (Merino, 2014). To be culturally competent, clinicians must take these factors into consideration when working with these underserved and largely misunderstood populations.

Literature on some immigrants and ethnic minorities from collectivist cultures overlaps with studies on couples and families because their faith is tied to their familial identity (Kim, Kim-Godwin, & Koenig, 2016; Silva, Dillon, Verdejo, Sanchez, & De La Rosa, 2017). The results from the present study showing a negative relationship between private prayer and public worship has important implications that might show that the three aspects of spirituality studied—organizational religiosity, subjective religiosity, and religious belief—are not all relevant to every population and must be studied more in-depth before treatment options can be developed.

While meaningful spiritual experiences can strengthen families, their shared practice can support their faith only if parents practice what they preach (Walsh, 2010). The literature is not entirely clear on the relationship between childhood maltreatment and religiosity as some survivors seek solace in religion at least during childhood (Bierman, 2005), but childhood trauma

has been shown to impair religiosity and spirituality (Song, Min, Huh, & Chae, 2016). Maltreatment perpetrated by fathers also has a significant negative effect on religiosity (Bierman, 2005). In some cases, childhood trauma survivors may turn to a more personal form of spiritual practice instead of a dominant religion (Henderson, 2016). Inconsistent attachment styles developed from traumatic childhoods can lead to an inconsistent perception of God, which the present study found to be linked to higher levels of anxiety. At the same time, this may relate back to the findings that show higher levels of religiosity are related to more positive perceptions of the relationship with God and fewer inconsistent and negative perceptions. The study also found that private time praying was negatively correlated with attendance at worship services, communal behavior. Non-organizational religious involvement, such as private religious pursuits like prayer, meditation, reading scripture, and other religious coping practices, may be linked to better mental wellbeing (Henderson, 2016). Therefore, minorities may be able to use intrinsic, spiritual activities to develop a close, personal relationship with God as reparative of minority stress wounds.

Despite the importance of religion in America and studies that show it influences mental health, there is little research on the role it may play as a buffer for the long-term effects of childhood adversity (Henderson, 2016). Scholars have mainly focused on the socioeconomic and health disadvantages linked to depression. Henderson (2016) studied what role religion plays for Black American survivors, whose poor health in childhood is associated with declines in self-perception. He found that religious coping and service attendance protected against the harmful effects of childhood adversity such as poor childhood health and SES on adult self-esteem and mastery. This relates to the findings of the present study, which found an association between higher level of religiosity and more frequent rates of spiritual activity participation. This may be

relevant for those whose faith is connected to the majority culture, and not at risk for minority stress. Religious communities may support survivors through difficult times while also providing a productive lens to make meaning of their suffering and offering a buffer from the impact of racial discrimination (Henderson, 2016). However, these positive effects then turn negative in adolescence, either because of disillusionment in the face of no interventions to their suffering, erroneous explanations that lead to blaming the victim, religious overcontrol, or a sense of disempowerment through ceding all control to God (Henderson, 2016). It may be that minority stress captures their experience in adolescence, and then reduces with spiritual maturity. While the present study focused on adults aged 18 and older, these may be some of the reasons I found in Model 2 of this study that older age was associated with both reduced levels of anxiety as well as increased frequency of spiritual activity participation.

Significance for Couples and Families. The present study did not examine the relationship of marital status or presence of children with anxiety, but gender did have significant relationships. In the first model, gender identity as female and being a racial minority were associated with more positive and less negative perceptions of their relationship with God as well as higher frequency of spiritual activities. While in the second model, gender was associated with higher levels of anxiety, lower levels of spiritual activity participation, spiritual status as a majority, and an increase in positive perceptions of God's persona. It may be that the nuances of attachment to God may be more pronounced for women. The study found that spiritual minorities who participated in higher frequency levels of spiritual activities increased anxiety, but women were associated with being in the dominant spiritual group. Female gender was associated with higher anxiety levels than men; spiritual activities were associated with reduced anxiety levels in this model, but women participated less frequently than men unlike in the first

model. The reasons behind this shift is unclear, although it could be related to gender differences in coping styles used for anxiety. It warrants further study because according to the literature, women are twice as likely to have GAD, which is related to insecure attachment and marital conflict (Priest, 2013). In addition, most women with GAD worry about family relationships and view them as less controllable than other concerns. Pointing to the need to address spirituality for couples is research that found those who are religious with higher levels of relational commitment to their spouses have greater marital quality than those with lower levels of relational commitment (Mitchell, Edwards, Hunt, & Poelstra, 2015). According to a study from the longitudinal National Survey of Families and Households by Vaaler, Ellison, and Powers (2009), the risk of divorce was lower in couples from major Protestant denominations and with husbands who have conservative theological beliefs.

There is little in the literature on the association of religion and spirituality on couples and families either as evocative or protective of conflict, but a growing body of empirical evidence (Beach, Fincham, Hurt, McNair, & Stanley, 2008; Fincham & May, 2017; Hayward & Krause, 2013; Lambert & Dollahite, 2006; Mahoney, 2010; Marks, 2006; Vaaler, Ellison, & Powers, 2009; Wendel, 2003) seems to support the old adage, "the family that prays together, stays together." More involvement in religious activities is related to higher levels of marital satisfaction and lower divorce rates (Mahoney, 2010). Religious participation can help couples successfully negotiate marital conflict (Lambert & Dollahite, 2006). Attendance at worship services, not faith, prayer, or closeness to God, was associated with a decreased likelihood of infidelity (Atkins & Kessel, 2008). This may relate back to the differing significant results in the present study between the models regarding female gender anxiety levels and participation in spiritual activities. Data regarding couple participation may be beneficial to study in future

research regarding anxiety, particularly since Fincham and May (2017) used dyadic data in a correlational study to find that prayer was indeed connected to forgiveness for partners when controlling for religiosity.

Couples who attend religious services and pray together had more stable marriages even when they had children and lower SES (Lichter & Carmalt, 2009). This is consistent with the results of Model 2 in the present study in that higher SES was associated with less participation in spiritual activities as well as less anxiety. In addition, female gender was associated with greater participation in spiritual activities, causing potential treatment concerns if a couple in crisis does not share the same faith or practice the same way. Therapists may also need to consider the possible negative influence of religion on couple and family clients suggested in the present study by female gender correlating with more positive perceptions of their relationship with God while male gender correlating more negative perceptions. “Toxic faith” involves religious beliefs that damage marital and family relationships through extreme behaviors and views (Marks, 2006, p. 609). For instance, some battered spouse’s religiosity or religious beliefs related to marriage causes them to tolerate abuse and contributes to their ongoing victimization—and the marginalization and oppression of women in particular (Sadeque, 2017). As another example, Elizabeth Smart, who was abducted at age 14 and held captive by a couple for nine months, has become an advocate for victims of sexual trauma who are seen as unclean by her Mormon faith (Lansbaum, 2016; Talbot, 2013). She has spoken against the potentially harmful focus on purity in marriage and the lack of distinction with regards to victims, saying during her recovery that she worried no one would want to marry her. But rather than disaffiliating or converting to another faith, she has somewhat successfully worked to change the Church’s teachings and views.

Training Implications

Given the importance of spirituality and religion to American life, process and outcome research studies have begun to incorporate spirituality into treatment. Research (Oxhandler, Polson, Moffatt, & Achenbaum, 2017; Reutter & Bigatti, 2014) shows that clients want to discuss spirituality in session and they benefit from such interventions, but they want the therapist to bring it up especially because they fear it is inappropriate in secular treatment. While the literature shows potential for improved reduction and management of anxiety, training guidelines could benefit clinicians unsure of how to ethically explore spirituality in session. Being less religious and lacking training can be an issue decreasing some therapists' comfort in working with spirituality in treatment. The results of the present study indicate that therapists may benefit clients with anxiety by assessing whether they are able to tap into traditional spiritual resources, if their anxiety is related to spiritual beliefs or issues, and the influence of their spiritual history (Fukuyama & Sevig, 1997).

Fukuyama and Sevig (1997) have developed a course on how to incorporate spirituality as a client focus into counseling programs because "people who are in emotional crisis often spontaneously consider spiritual and religious matters during this period of intense emotions and psychosocial disorganization" (p. 235). Trainees should consider their own beliefs about spirituality and religion as well as their comfort level in discussing the topic as a whole and with those whose beliefs may differ from their own.

Programs would need to attend to helping students gain experience with religious diversity to increase competence. Understanding a client's spirituality is important because spiritual minorities, such as immigrants, may not define mental health issues in Western fashion, such as relating psychological difficulties to religious sources like evil spirits. Indigenous

traditions are often pathologized by Western mental health practitioners (Walsh, 2010). For example, in Walsh's (2010) study of the trauma recovery and resilience of young Sudanese refugees, a crucial aspect of healing was their Christian faith and their prayers to their ancestors and the animist powers in the natural and spirit worlds. Newer immigrants, especially from Central and South America, are bringing different ways of being Christian such as this to the United States (Yang & Ebaugh, 2001).

It should be stressed that training programs that include spirituality in developmental coursework does not mean therapists must become spiritual themselves. In a study (Kelly & Strupp, 1992) about how therapist values may influence client beliefs, the authors state that clinicians' own religiosity does not matter and does not need to match clients' faith. Like other issues in therapy, it is the professional's ability to understand and sensitively work with clients' values that are important.

One way for clinicians to conceptualize inclusion of spirituality in treatment is to consider it part of existential therapy, which seeks to help clients find meaning and purpose in life to manage stress, suffering, grief and loss, and other hopeless situations (Jang, 2016). In contrast to Freud, depth psychologists Otto Rank, Carl Jung and Rollo May as well as psychiatrist Viktor Frankl saw religion as a core issue for clients, especially those disillusioned with or rejecting of organized religion. Viewing it as an essential psychological need, they sought to help their clients develop a personal spirituality as part of the psychotherapeutic process. In 1932, Jung stated:

> Among all my patients in the second half of life . . . there has not been one whose problem in the last resort was not that of finding a religious outlook on life. It is safe to say that every one of them fell ill because he had lost what the living religions of every age have given to their followers, and none of them has ever healed who did not regain his religious outlook. (as cited in Bulkeley, Weldon, Brickman, Ross, & Schneider, 2015)

This relates back to the present study's findings related to anxiety levels of spiritual minorities, older adults, and women. In addition, those who had higher levels of religiosity had lower levels of anxiety only in Model 2, suggesting that it might be related to variables not in either model. Rather than having spirituality be a source of anxiety—even for the newer spiritual "nones" developing in this generation—it can be used to develop inner meaning and strength to transcend anxiety.

Effective treatment could include exploring how clients use intrinsic or extrinsic spiritual coping strategies as well as working through confusion and conflict regarding spiritual issues. Given the study's findings relating spiritual status as a minority with increased anxiety through greater participation in spiritual activities, a more therapeutic approach to obtaining group support similar to that found in religious communities would be beneficial. For example, group therapy can be an effective way to allow for the acceptance of doubt and anger toward God as well as work through spiritual issues related to mental illnesses (O'Rourke, 1997; Phillips, Lakin, & Pargament, 2002; Webb, Charbonneau, McCann, & Gayle, 2011). The links found in the present study between anxiety and higher levels of participation in spiritual activities women, lower SES, and racial minorities indicates therapeutic group work around spirituality may be beneficial for marginalized populations.

Limitations and Future Directions for Research

The present study has seven limitations that must be considered when reviewing its results. First, the data set is from a national represented sample in the United States and, as such, reflects more of the dominant culture than a more focused sample providing participants considered spiritual minorities. To better capture the experience and relationships of spiritual minorities, future research should be designed to purposively reach more diverse populations of

spiritual Americans. In addition, the sample was also predominantly over the age of 50, potentially skewing the results toward older populations and limiting their applicability to younger Americans. Not only do U.S. adults get more religious as they age, they are better able to withstand more ambiguity and may have developed coping mechanisms over time. Especially since each successive generation may be getting less religious, it may be beneficial for future research to capture the experiences of differing age groups to compare generational or developmental differences in coping, attachment styles, and use of spirituality. Methodology should consider data collection strategies to reduce non-response bias based on age or other characteristics.

Second, the data set was limited in its scope to study many potential forms of spiritual minorities. Information that would have been important to this study were not collected by the survey, such as asking participants to identify their belief systems themselves rather than selecting from a list of mostly Christian sects or terms like *Seeker* so broad and undefined it leaves little room for confident interpretation. The use of the word Judeo-Christian has been found offensive by some given Judaism's history of severe oppression including in the Holocaust. The present study was not intended to identify all populations marginalized by spirituality, but to seek more understanding about how anxiety is associated with those whose faith and practices are not as common in the United States and run counter to the dominant culture. Individuals' own perceptions of spiritual marginalization should be given further study whether they conform to a specific faith or have a broader spirituality.

God was not defined in the survey, but the questions were worded in traditional ways such as "*Which one statement comes closest to your personal beliefs about God?*" (p. 6). Responses such as *I have no doubts that God exists*, *I believe in God, but with some doubts*, and *I*

sometimes believe in God are aligned with the Judeo-Christian majority cultural belief in a monotheistic deity. This likely precluded some belief systems such as polytheism, the belief in multiple Gods, from being represented. Some Hindus, for example, consider themselves to be polytheistic. In addition, atheists were removed from the dataset for the present study because they were identified as not believing in God, however some may have connection to a spirituality not connected to any kind of higher power including faiths considered philosophies of life rather than religions by some of the adherents (Hackney & Sanders, 2003). Alternative religions and philosophies that believe in peak experiences and witchcraft should be explored for their influence on mental health as well as for culturally competent treatment. The link between paranormal beliefs about OCD and other anxiety disorders has not been investigated enough to discern the relationship with treatment outcomes (Agorastos, Demiralay, & Huber, 2014). Thus, future research should ground such questions in the language of differing faiths or provide open-ended responses to capture aspects uncommon to the majority culture to better understand underserved populations.

One population counted among spiritual minorities in this study that has yet to be fully studied is the increasing group of the U.S. population that has become disaffiliated from the religion of their birth. Disaffiliation is an important process to consider because it can also be associated with changes in relationships and behavior (Fenelon & Danielsen, 2016). The majority of this group leave because they do not agree with the theology or find the congregation too political, but they do not turn to another religious label and rarely become atheist or agnostic either. There is insufficient literature regarding the individual implications of leaving religious tradition, but there is evidence supporting poorer health outcomes for those who become disaffiliated. This is especially true for those leaving high-cost faiths that lay out directives

regarding health, such as the Mormon ban on alcohol and cigarettes. What is certain is that disaffiliation is on the rise. During a longitudinal study analyzed by Fenelon and Danielson (2016), disaffiliation rose from 6% between 1973 and 1980 to 14% between 2005 and 2012. Disaffiliates are more likely to have experienced family instability in childhood and experience lower well-being in adulthood, possibly showing an intersectional association with developmental trauma. When compared with those who remain affiliated, they have 21% higher odds of perceiving their health as fair or poor. Those raised without religion who remain unaffiliated or who convert to a faith have better outcomes than the disaffiliated. Clinicians need to be aware that disaffiliation may not mean that they no longer have faith. It could be quite the opposite, in fact, with the change occurring to get closer to God (Smith, 2006). For example, the traditional Christian belief that being LGBTQ+ is deviant and that marriage is only between one man and one woman has led many sexual minorities to leave the religion of their birth and develop their own spiritual or religious identities more congruous with their identities (Fontenot, 2013). What has not been studied much is the impact of losing the social aspect of religious attendance, which is often used as a proxy for how religious someone is.

Third, another limitation of the study was the homogeneity of the sample and the lack of detail regarding intersectionalities for many spiritual minorities such as race/ethnicity, trauma and/or immigration. Trauma and immigration status were not part of this study, and race was a control variable. Future research should include a deeper examination of how such social locations may further influence anxiety outcomes for spiritual minorities and majorities. Implications of how different racial groups and ethnicities use their spiritual beliefs could not be explored but is of great importance regarding how they generate or express anxiety symptoms in particular (Agorastos, Demiralay, & Huber, 2014). In addition, these differences must be

explored because some cultures prefer to use prayer over mental health services—with the encouragement from their community. Cultural groups and barriers to accessing care should be a focus of future studies given that only 10% of individuals who self-treat their mental health issues using prayer approach a psychiatrist or family physician for treatment (Lake, 2010). There is a small but growing amount of literature on indigenous healing techniques from other cultures that should be augmented with an eye toward learning from spiritual minority populations themselves regarding what works to buffer anxiety and other mental health issues before continuing to develop empirical process research (Gallardo, 2014).

A fourth limitation involves the fact that I was unable to provide clear instruments from which the anxiety outcome questions were derived by the Baylor Religion Survey (2010). After analyzing results of the present study, I found a journal article (Ellison, Bradshaw, Flannelly, & Galek, 2014) on the dataset that stated, "All measures are adapted from existing scales in the public domain" (p. 217). Reliability figures of .76 and higher were listed for the indicators of the five anxiety sub-groups specified by Baylor (2010), corresponding to this author's own prior matching. A stated issue with research in this area is the use of partial scales. To avoid these problems in the current study, I did not merge variables under any sub-group of anxiety and left each as a single indicator and allowing for justifiable error correlations in the model. Each item had high levels of reliability when analyzed in SPSS for the present study. Future research should use full measurements that are clearly specified along with information on their validity, reliability, and normative sample to inform their ability to be used with selected populations, especially minority groups.

Relatedly, the original data set was vast and encompassed more than 200 variables not considered in the present study. Future research on the differences between spiritualities and its

association with mental health might best be conducted through a more focused research design addressing specific issues to capture nuanced information. For developing effective systemic treatment, it would be beneficial to conduct dyadic and group research studies. While there is some literature on the importance of spirituality on couples and families, few have focused on the specific roles that religion plays within the family, especially in nontraditional or distressed families (Mahoney, 2010). Another aspect missing from the dataset was the intentionality of the participants in using spirituality to cope with mental health problems. Future research should investigate the meaning for participants regarding spiritual coping within their social and psychological context (Young, Graham, & Klaassen, 2009).

Fifth, the use of a mailed self-report survey may make the results susceptible to response bias, in which respondents choose socially acceptable responses. Future research could utilize mixed method survey designs to provide ways to limit this issue, for example open-ended questions on God's persona. In addition, cultural tendencies regarding responses such as politeness, deference, or socially stigmatized issues such as mental health (Fischer, 2004) may have influenced the differences in responses between the spiritual majority and minority groups.

A sixth limitation is the cross-sectional, and therefore correlational, nature of the present study. Longitudinal research would be beneficial for understanding the causality of spiritual status, participation in spiritual activities, and attachment to God on anxiety outcomes. Coping research (Folkman & Moskowitz, 2004) shows that some mechanisms may be distal or proximal, therefore developing long-lasting treatment necessitates greater understanding of which components of spirituality had long-term impact on reducing anxiety.

Lastly, the current study found that the most traditional spiritual activities the literature specified mitigate anxiety for the religious were not necessarily those that spiritual minorities

would or could participate in. Future research should explore which activities people of all types of spirituality use to heal from mental health issues rather than relying a priori literature given the problematic issues with methodology and conceptualization or on assumptions. Analysis of how those activities, identified by people themselves through grounded theory research, are perceived to impact anxiety and other mental health concerns should be studied for their effectiveness and potential adaptability to therapeutic treatment. A mixed-method study of spirituality that uses clear measurements adaptable to spiritual majorities and minorities with open-ended questions to capture nuances will avoid research bias and provide the field with better direction regarding how to study them more effectively and eventually provide spiritually competent treatment. My hope is that this study lays the foundation for greater emphasis on how communities and society may be more empathic toward and supportive of spiritual minority populations.

Conclusion

Anxiety continues to be a pervasive problem in the United States, especially impacting those marginalized by society who have not been able to use mental health treatment to alleviate their suffering. Systemic therapists consider the context of clients' presenting problems, but the resolution of these issues must also be rooted in clients' lives. Since lack of access to services (Weissman et al., 2017) is a major barrier to treatment, the mental health field must offer services that can be adaptable to where clients already often turn for help—spirituality. Current treatment options are beginning to use spirituality to help clients tap into their resiliency, resources, and community support. However, the current study shows that treatment options for spiritual minorities may be ineffective if viewed only through the dominant cultural lens. Spiritual activities traditionally associated with benefits had the opposite association for spiritual

minorities. While inconsistent perceptions of the relationship with God supports prior literature on its association with anxiety, attachment to God is not the same for spiritual minorities because they may hold both positive and negative views of God that do not evoke concern. Anxiety may have many different root sources, but it may be caused or exacerbated by attachment wounds and feelings of disconnection from the dominant culture related to being a spiritual minority through trauma, immigrant acculturation, disaffiliation, and adherence to alternative spiritualities. Results of the study support providing more training and focus on spirituality in the therapy room as the mental health field continues to generate more understanding of how to effectively integrate this major component of life into treatment for marginalized populations of Americans.

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Appendix A

Office of Research Compliance
Institutional Review Board
North End Center, Suite 4120, Virginia Tech
300 Turner Street NW
Blacksburg, Virginia 24061
540/231-4606 Fax 540/231-0959
email irb@vt.edu
website http://www.irb.vt.edu

MEMORANDUM

DATE:	October 28, 2016
TO:	Fred Piercy, Renuka K Aldrich
FROM:	Virginia Tech Institutional Review Board (FWA00000572, expires January 29, 2021)
PROTOCOL TITLE:	Mental Health of Spiritual Minorities
IRB NUMBER:	**16-986**

Effective October 28, 2016, the Virginia Tech Institution Review Board (IRB) Chair, David M Moore, approved the New Application request for the above-mentioned research protocol.

This approval provides permission to begin the human subject activities outlined in the IRB-approved protocol and supporting documents.

Plans to deviate from the approved protocol and/or supporting documents must be submitted to the IRB as an amendment request and approved by the IRB prior to the implementation of any changes, regardless of how minor, except where necessary to eliminate apparent immediate hazards to the subjects. Report within 5 business days to the IRB any injuries or other unanticipated or adverse events involving risks or harms to human research subjects or others.

All investigators (listed above) are required to comply with the researcher requirements outlined at:

http://www.irb.vt.edu/pages/responsibilities.htm

(Please review responsibilities before the commencement of your research.)

PROTOCOL INFORMATION:

Approved As:	**Exempt, under 45 CFR 46.110 category(ies) 4**
Protocol Approval Date:	**October 28, 2016**
Protocol Expiration Date:	**N/A**
Continuing Review Due Date*:	**N/A**

*Date a Continuing Review application is due to the IRB office if human subject activities covered under this protocol, including data analysis, are to continue beyond the Protocol Expiration Date.

FEDERALLY FUNDED RESEARCH REQUIREMENTS:

Per federal regulations, 45 CFR 46.103(f), the IRB is required to compare all federally funded grant proposals/work statements to the IRB protocol(s) which cover the human research activities included in the proposal / work statement before funds are released. Note that this requirement does not apply to Exempt and Interim IRB protocols, or grants for which VT is not the primary awardee.

The table on the following page indicates whether grant proposals are related to this IRB protocol, and which of the listed proposals, if any, have been compared to this IRB protocol, if required.

Invent the Future

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY
An equal opportunity, affirmative action institution

Date*	OSP Number	Sponsor	Grant Comparison Conducted?

* Date this proposal number was compared, assessed as not requiring comparison, or comparison information was revised.

If this IRB protocol is to cover any other grant proposals, please contact the IRB office (irbadmin@vt.edu) immediately.

Appendix B
Variable Questions

The following question was used to exclude Atheists from the sample for the current model.

Belief in God

Which one statement comes closest to your personal beliefs about God? (Please mark only one box.)

I have no doubts that God exists
I believe in God, but with some doubts
I sometimes believe in God
I believe in a higher power or cosmic force
I don't know and there is no way to find out
I am an atheist *Skip to Question 23*
I have no opinion

Anxiety Dependent Variables

***Variables categorized under labels from the original researchers consistent with the DSM-V (American Psychiatric Association, 2013)**

Over the past month, how often have you:

Scale: Very often (4) – Rarely (1) – Often (3) - Sometimes (2) - Never (0)

***Generalized Anxiety Disorder**

a. Felt nervous, anxious, or on edge
e. Not been able to stop or control worrying
n. Worried too much about different things

***Social anxiety**

g. Became anxious doing things because people were watching
k. Feared that you might do something to embarrass yourself in a social situation
l. Endured intense anxiety in social or performance situations

***Obsession**

b. Thought too much about pointless matters
h. Been plagued by thoughts or images that you cannot get out of your mind
j. Thought too much about things that would not bother other people

***Paranoia**

d. Felt that it is not safe to trust anyone
m. Felt that people were taking advantage of you
o. Felt like you were being watched or talked about by others

***Compulsion**

c. Been afraid something terrible would happen if you did not perform certain rituals
f. Felt compelled to perform certain actions, for no justifiable reason
i. Repeated simple actions that realistically did not need to be repeated

Spiritual Activities

Worship Attendance

How often do you attend religious services at a place of worship?
(Values assigned for this continuous variable for measurement purposes.)

Several times a week (8)
Weekly (7)
About weekly (6)
2-3 times a month (5)
Once a month (4)
Several times a year (3)
Once or twice a year (2)
Less than once a year (1)
Never (0)

Prayer

About how often do you spend time alone praying outside of religious services?
(Values assigned for this continuous variable for measurement purposes.)

Several times a day (5)
Once a day (4)
A few times a week (3)
Once a week or less (2)
Only on certain occasions (1)
Never (0)

Scripture reading

Outside of attending religious services, about how often do you spend time alone reading the Bible, Koran, Torah, or other sacred book?
(Values assigned for this continuous variable for measurement purposes.)

Several times a week or more often (8)
Weekly (7)
About weekly (6)
2-3 times a month (5)
Once a month (4)
Several times a year (3)
Once or twice a year (2)
Less than once a year (1)
Never (0)

Meditation

Do you practice meditation?
(Values assigned to this categorical variable for the purposes of coding.)

No (0)
Yes (1)

Perceptions of the relationship with God

Please indicate your level of agreement with the following statements.

Scale: Strongly agree (4) – Agree (3) – Disagree (2) – Strongly disagree (1)

Positive perceptions	Inconsistent perceptions	Negative perceptions
a. I have a warm relationship with God	g. God sometimes seems responsive to my needs, but sometimes not	d. God seems impersonal to me
b. God knows when I need support	h. God's reactions to me seem to be inconsistent	e. God seems to have little or no interest in my personal problems
c. I feel that God is generally responsive to me	m. God sometimes seems very warm and other times very cold to me	f. God seems to have little or no interest in my personal affairs
i. I feel loved by God		
j. God loves all living beings		
k. God's love is eternal		
l. God's love never fails		

Perceptions of God's persona

How well do you feel that each of the following words describe God in your opinion?

Scale: Very well (4) - Somewhat Well (3) - Not very well (2) - Not at all (1)

Positive perceptions	Negative perceptions
c. Fatherly	b. Critical
e. Just	d. Punishing
g. Forgiving	f. Wrathful
	h. Severe

SES

By your best estimate, what was your total household income last year, before taxes? (Values assigned for this continuous control variable is for measurement purposes.)

$150,001 or more (6)
$100,001 - $150,000 (5)
$50,001 - $100,000 (4)
$35,001 - $50,000 (3)
$20,001 - $35,000 (2)
$10,001 - $20,000 (1)
$10,000 or less (0)

The following question was used to create the categorical Race control variable recoded as 0 White and 1 Non-White for the present study

Race

What is your race? (Yes/ No, You can mark "yes" to more than one.)
(Values assigned for this continuous control variable is for categorical purposes only.)

a. White
b. Black or African-American
c. American Indian or Alaska Native
d. Asian
e. Native Hawaiian or other Pacific Islander
f. Some other race

Degree of Religiosity

How religious do you consider yourself to be?
(Values assigned for this continuous control variable is for categorical purposes only.)

Very religious (4)
Somewhat religious (3)
Not too religious (2)
Not at all religious (1)

Appendix C

Frequencies and descriptive information for all variables used in the study

Table C1

Participants coded in the Spiritual Majority group

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Adventist	2	.1	.1	.1
	African Methodist	6	.4	.4	.6
	Assemblies of God	15	.9	1.1	1.7
	Baptist	256	15.9	18.6	20.2
	Bible Church	9	.6	.7	20.9
	Brethren	3	.2	.2	21.1
	Catholic/Roman Catholic	384	23.8	27.9	49.0
	Christian & Missionary Alliance	14	.9	1.0	50.0
	Christian Reformed	3	.2	.2	50.2
	Christian Science	1	.1	.1	50.3
	Church of Christ	31	1.9	2.2	52.5
	Church of God	14	.9	1.0	53.6
	Church of the Nazarene	5	.3	.4	53.9
	Congregational	9	.6	.7	54.6
	Disciples of Christ	4	.2	.3	54.9
	Episcopal/Anglican	39	2.4	2.8	57.7
	Holiness	6	.4	.4	58.1
	Jehovah's Witnesses	8	.5	.6	58.7
	Jewish	31	1.9	2.2	61.0
	Latter-day Saints	28	1.7	2.0	63.0
	Lutheran	107	6.6	7.8	70.8
	Mennonite	2	.1	.1	70.9
	Methodist	125	7.8	9.1	80.0
	Orthodox (Eastern, Russian, Greek)	9	.6	.7	80.6
	Pentecostal	30	1.9	2.2	82.8
	Presbyterian	61	3.8	4.4	87.2
	Quaker/Friends	2	.1	.1	87.4
	Reformed Church of America/Dutch Reformed	4	.2	.3	87.7
	Seventh-day Adventist	5	.3	.4	88.0
	United Church of Christ	15	.9	1.1	89.1

	Non-denominational Christian	150	9.3	10.9	100.0
	Total	1378	85.5	100.0	
Missing	System	233	14.5		
Total		1611	100.0		

Table C2

Participants coded in the Spiritual Minority group

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Other	41	2.5	19.3	19.3
	Baha'i	1	.1	.5	19.8
	Buddhist	12	.7	5.7	25.5
	Hindu	3	.2	1.4	26.9
	Muslim	2	.1	.9	27.8
	Sikh	1	.1	.5	28.3
	Unitarian Universalist	11	.7	5.2	33.5
	No religion	120	7.4	56.6	90.1
	Don't know	21	1.3	9.9	100.0
	Total	212	13.2	100.0	
Missing	System	1399	86.8		
Total		1611	100.0		

Table C3

Spiritual Status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Spiritual Majority	1378	85.5	86.7	86.7
	Spiritual Minority	212	13.2	13.3	100.0
	Total	1590	98.7	100.0	
Missing	System	21	1.3		
Total		1611	100.0		

Table C4

How religious do you consider yourself to be?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at all religious	122	7.6	7.8	7.8
	Not too religious	217	13.5	13.8	21.5
	Somewhat religious	618	38.4	39.3	60.8
	Very religious	617	38.3	39.2	100.0
	Total	1574	97.7	100.0	
Missing	System	37	2.3		
Total		1611	100.0		

Table C5

What is your gender?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	725	45.0	45.3	45.3
	Female	875	54.3	54.7	100.0
	Total	1600	99.3	100.0	
Missing	System	11	.7		
Total		1611	100.0		

Table C6

By your best estimate, what was your total household income last year, before taxes?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	$10,000 or less	111	6.9	7.4	7.4
	$10,001 - $20,000	135	8.4	9.1	16.5
	$20,001 - $35,000	213	13.2	14.3	30.8
	$35,001 - $50,000	259	16.1	17.4	48.2
	$50,001 - $100,000	471	29.2	31.6	79.7
	$100,001 - $150,000	187	11.6	12.5	92.3
	$150,001 or more	115	7.1	7.7	100.0
	Total	1491	92.6	100.0	
Missing	System	120	7.4		
Total		1611	100.0		

Table C7

Participant Binary Racial Group

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	White	1239	76.9	80.1	80.1
	Minority	308	19.1	19.9	100.0
	Total	1547	96.0	100.0	
Missing	System	64	4.0		
Total		1611	100.0		

Table C8

Participant Ages

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20	1	.1	.1	.1
	26	4	.2	.3	.3
	27	17	1.1	1.1	1.4
	28	8	.5	.5	1.9
	29	6	.4	.4	2.3
	30	3	.2	.2	2.5
	31	4	.2	.3	2.7
	32	2	.1	.1	2.9
	33	2	.1	.1	3.0
	34	4	.2	.3	3.2
	35	3	.2	.2	3.4
	36	9	.6	.6	4.0
	37	19	1.2	1.2	5.2
	38	15	.9	1.0	6.2
	39	20	1.2	1.3	7.4
	40	16	1.0	1.0	8.4
	41	18	1.1	1.1	9.6
	42	17	1.1	1.1	10.7
	43	15	.9	1.0	11.6
	44	15	.9	1.0	12.6
	45	11	.7	.7	13.3
	46	24	1.5	1.5	14.8
	47	24	1.5	1.5	16.3
	48	27	1.7	1.7	18.0
	49	26	1.6	1.6	19.7
	50	20	1.2	1.3	20.9
	51	23	1.4	1.5	22.4
	52	32	2.0	2.0	24.4
	53	25	1.6	1.6	26.0
	54	27	1.7	1.7	27.7
	55	26	1.6	1.6	29.4
	56	21	1.3	1.3	30.7
	57	40	2.5	2.5	33.2
	58	38	2.4	2.4	35.6
	59	32	2.0	2.0	37.7

	60	41	2.5	2.6	40.3
	61	42	2.6	2.7	42.9
	62	52	3.2	3.3	46.2
	63	44	2.7	2.8	49.0
	64	43	2.7	2.7	51.7
	65	31	1.9	2.0	53.7
	66	39	2.4	2.5	56.2
	67	32	2.0	2.0	58.2
	68	30	1.9	1.9	60.1
	69	21	1.3	1.3	61.4
	70	28	1.7	1.8	63.2
	71	39	2.4	2.5	65.7
	72	37	2.3	2.3	68.0
	73	48	3.0	3.0	71.1
	74	30	1.9	1.9	73.0
	75	21	1.3	1.3	74.3
	76	28	1.7	1.8	76.1
	77	28	1.7	1.8	77.9
	78	28	1.7	1.8	79.6
	79	30	1.9	1.9	81.5
	80	23	1.4	1.5	83.0
	81	26	1.6	1.6	84.7
	82	18	1.1	1.1	85.8
	83	27	1.7	1.7	87.5
	84	19	1.2	1.2	88.7
	85	11	.7	.7	89.4
	86	17	1.1	1.1	90.5
	87	23	1.4	1.5	91.9
	88	15	.9	1.0	92.9
	89	22	1.4	1.4	94.3
	90	18	1.1	1.1	95.4
	91	6	.4	.4	95.8
	92	12	.7	.8	96.6
	93	10	.6	.6	97.2
	94	8	.5	.5	97.7
	95	8	.5	.5	98.2
	96	8	.5	.5	98.7
	97	3	.2	.2	98.9
	98	3	.2	.2	99.1
	99	3	.2	.2	99.3
	100	4	.2	.3	99.6
	101	2	.1	.1	99.7
	102	1	.1	.1	99.7
	103	1	.1	.1	99.8
	107	1	.1	.1	99.9
	108	1	.1	.1	99.9
	116	1	.1	.1	100.0
	Total	1577	97.9	100.0	
Missing	System	34	2.1		
Total		1611	100.0		

Table C9

Participant Region

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	East	284	17.6	17.6	17.6
	Midwest	404	25.1	25.1	42.7
	South	581	36.1	36.1	78.8
	West	342	21.2	21.2	100.0
	Total	1611	100.0	100.0	

Table C10

Descriptive Statistics for variable used in the study

	N Statistic	Minimum Statistic	Maximum Statistic	Mean Statistic	Std. Deviation Statistic	Skewness Statistic	Kurtosis Statistic
Spiritual Status	1590	0	1	.13	.34	2.16	2.67
How often do you attend religious services at a place of worship?	1602	0	8	4.11	2.92	-.16	-1.53
Outside of attending religious services, about how often do you spend time alone reading the Bible, Koran, Torah, or other sacred book?	1594	0	8	3.52	3.08	.29	-1.48
About how often do you spend time alone praying outside of religious services?	1600	0	5	3.18	1.73	-.53	-1.12
Do you practice meditation?	1536	1	2	1.73	.44	-1.05	-.90
How well do you feel that each of the following words describe God in your opinion? Critical.	1453	1	4	2.16	1.02	.46	-.90
How well do you feel that each of the following words describe God in your opinion? Fatherly.	1502	1	4	3.38	.95	-1.43	.87
How well do you feel that each of the following words describe God in your opinion? Punishing.	1463	1	4	2.30	1.04	.29	-1.07
How well do you feel that each of the following words describe God in your opinion? Just.	1499	1	4	3.42	.92	-1.53	1.25
How well do you feel that each of the following words describe God in your opinion? Wrathful.	1450	1	4	2.21	1.06	.42	-1.06
How well do you feel that each of the following words describe God in your opinion? Forgiving.	1541	1	4	3.60	.83	-2.14	3.58
How well do you feel that each of the following words describe God in your opinion? Severe.	1454	1	4	2.04	1.01	.64	-.72
Please indicate your level of agreement with the following statements: I have a warm relationship with God.	1519	1	4	3.20	.86	-.93	.20
Please indicate your level of agreement with the following statements: God knows when I need support.	1524	1	4	3.32	.87	-1.23	.79
Please indicate your level of agreement with the following statements: I feel that God is generally responsive to me.	1509	1	4	3.13	.90	-.84	-.10

Please indicate your level of agreement with the following statements: God seems impersonal to me.	1496	1	4	1.84	.85	.76	-.12
Please indicate your level of agreement with the following statements: God seems to have little or no interest in my personal problems.	1501	1	4	1.78	.81	.82	.07
Please indicate your level of agreement with the following statements: God seems to have little or no interest in my personal affairs.	1488	1	4	1.80	.82	.81	.03
Please indicate your level of agreement with the following statements: God sometimes seems responsive to my needs, but sometimes not.	1488	1	4	2.22	.89	.00	-1.04
Please indicate your level of agreement with the following statements: God's reactions to me seem to be inconsistent.	1476	1	4	1.91	.81	.60	-.17
Please indicate your level of agreement with the following statements: I feel loved by God.	1510	1	4	3.38	.85	-1.30	.91
Please indicate your level of agreement with the following statements: God loves all living beings.	1519	1	4	3.47	.81	-1.61	2.02
Please indicate your level of agreement with the following statements: God's love is eternal.	1523	1	4	3.52	.78	-1.72	2.42
Please indicate your level of agreement with the following statements: God's love never fails.	1517	1	4	3.44	.86	-1.43	1.10
Please indicate your level of agreement with the following statements: God sometimes seems very warm and other times very cold to me.	1500	1	4	1.87	.82	.68	-.15
Over the past month, how often have you felt nervous, anxious, or on edge?	1586	0	4	1.52	1.05	.46	-.11
Over the past month, how often have you thought too much about pointless matters?	1579	0	4	1.40	.97	.40	-.14
Over the past month, how often have you been afraid something terrible would happen if you did not perform certain rituals?	1578	0	4	.30	.68	2.76	8.56
Over the past month, how often have you felt that it is not safe to trust anyone?	1568	0	4	.67	.94	1.35	1.30
Over the past month, how often have you not been able to stop or control worrying?	1574	0	4	.91	1.02	1.03	.50
Over the past month, how often have you felt compelled to perform certain actions, for no justifiable reason?	1570	0	4	.36	.72	2.24	5.21
Over the past month, how often have you become anxious doing things because people were watching?	1574	0	4	.61	.87	1.40	1.57
Over the past month, how often have you been plagued by thoughts or images that you cannot get out of your mind?	1577	0	4	.71	.93	1.34	1.46
Over the past month, how often have you repeated simple actions that realistically did not need to be repeated?	1570	0	4	.45	.76	1.89	3.21
Over the past month, how often have you thought too much about things that would not bother other people?	1569	0	4	.80	.93	1.09	.83
Over the past month, how often have you feared that you might do something to embarrass yourself in a social situation?	1577	0	4	.81	.90	1.02	.73

Over the past month, how often have you endured intense anxiety in social or performance situations?	1568	0	4	.63	.90	1.48	1.85
Over the past month, how often have you felt that people were taking advantage of you?	1577	0	4	1	1.02	.84	.17
Over the past month, how often have you worried too much about different things?	1583	0	4	1.12	1.02	.71	.06
Over the past month, how often have you felt like you were being watched or talked about by others?	1578	0	4	.67	.91	1.47	2.02
What is your gender?	1600	1	2	1.55	.50	-.19	-1.97
By your best estimate, what was your total household income last year, before taxes?	1491	1	7	4.25	1.62	-.35	-.58
Age	1577	20	116	64.17	16.22	-.07	-.43
Race	1547	0	1	.20	.40	1.51	.28
How religious do you consider yourself to be?	1574	1	4	3.10	.91	-.81	-.15

Appendix D

Figures and Diagrams

Figure 1

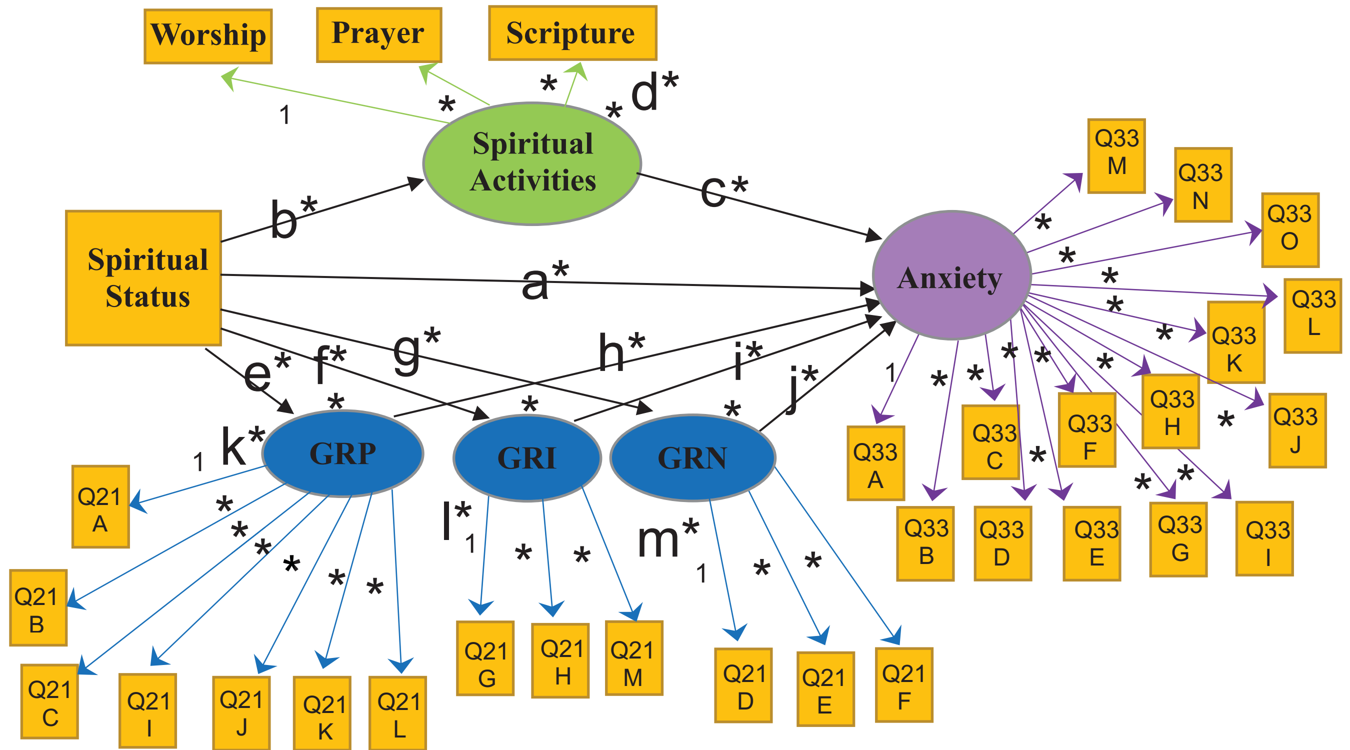


Figure 1. Hypothesized Structural Diagram for Model 1 with Perceptions of the relationship with God as positive (GRP), inconsistent (GRI), and negative (GRN).
Notes: This model has the same four relationships described in the research hypotheses (paths labeled a-d) as Model 2 and 9 different hypotheses (paths labeled e-m). Note: Asterisks indicate all parameters to be estimated. Model adjusted for religiosity, race, socioeconomic level, gender, and age as control variables.

Figure 2

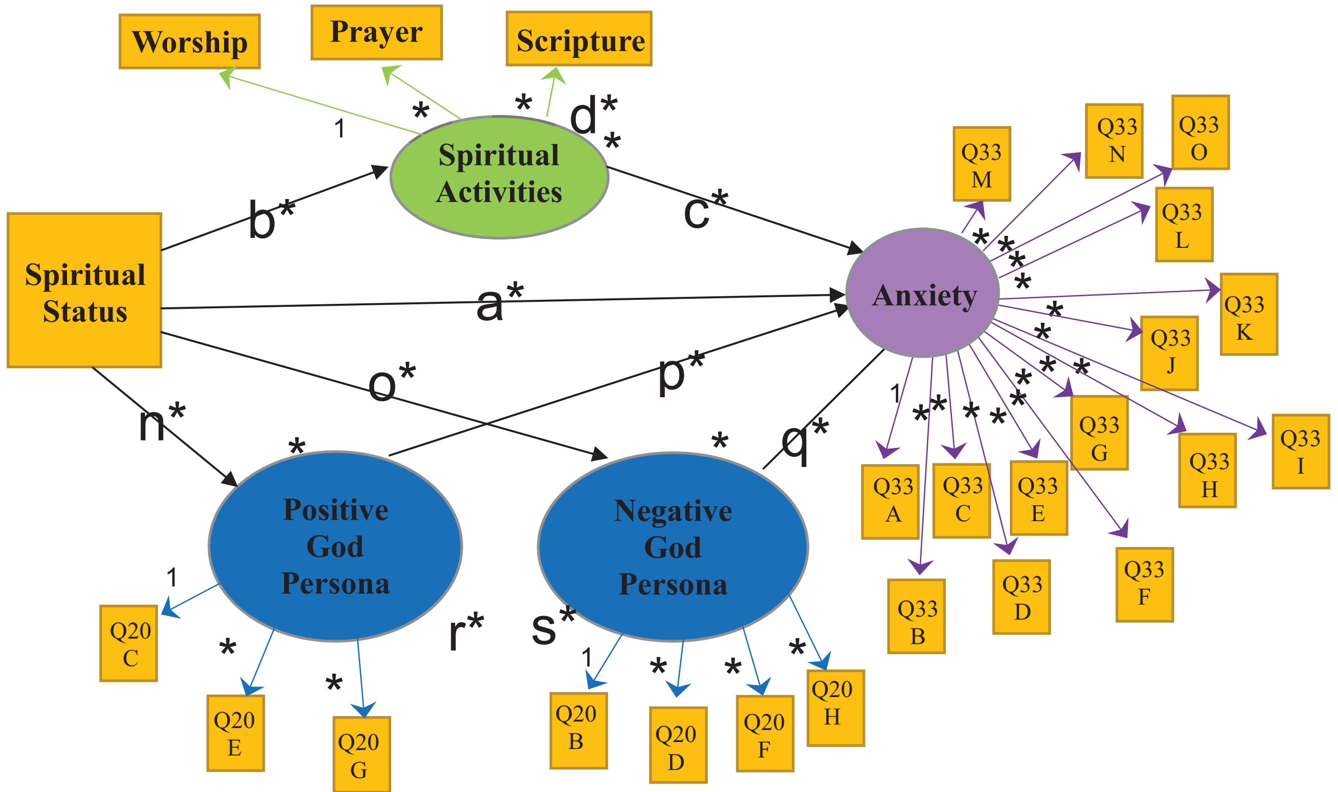
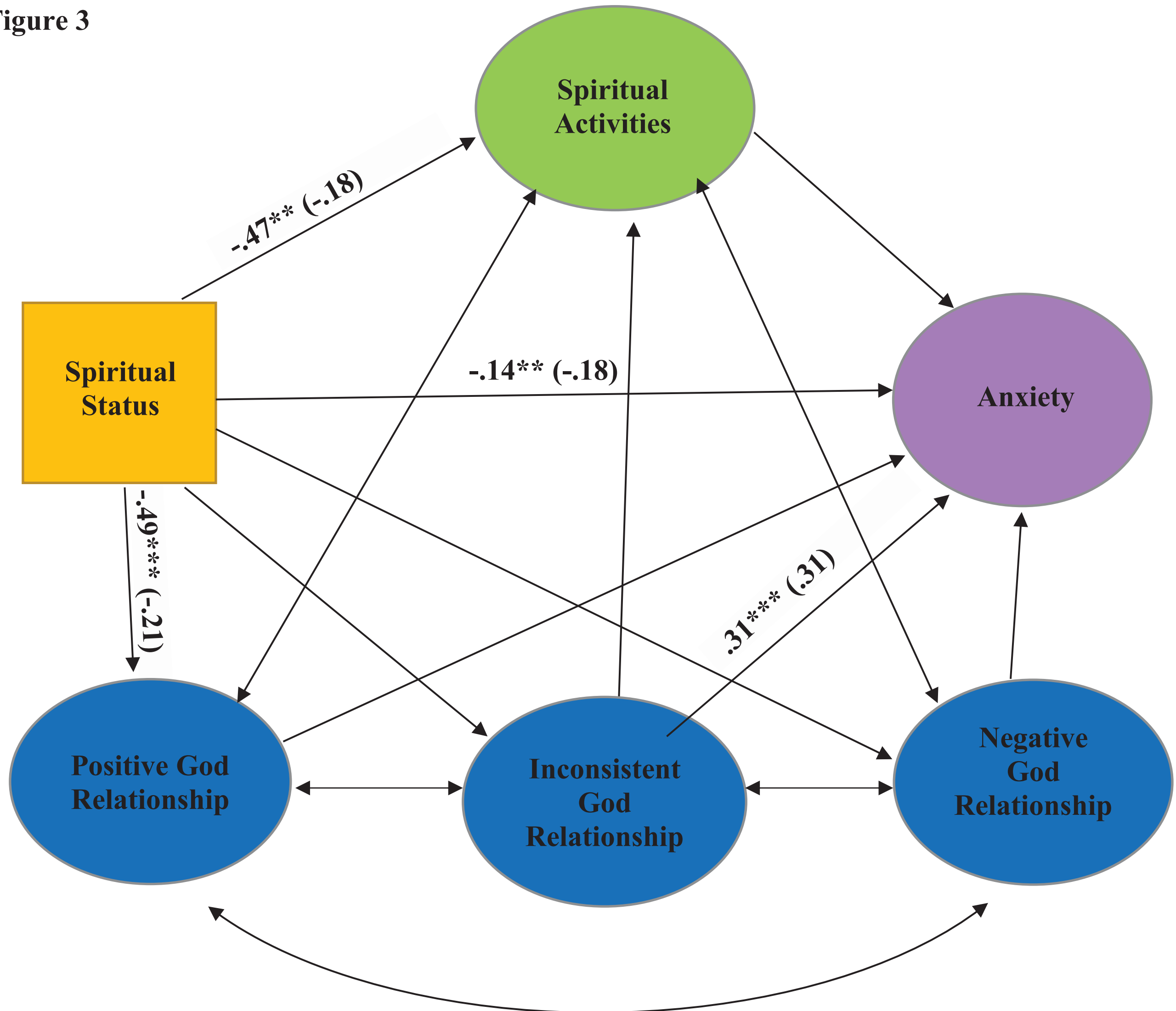


Figure 2. Hypothesized Structural Diagram for Model 2.
Notes: This model has the same four relationships described in the research hypotheses (paths labeled a-d) as Model 1 and 6 different hypotheses (paths labeled n-q).
Asterisks indicate all parameters to be estimated. Model adjusted for religiosity, race, socioeconomic level, gender, and age as control variables.

Figure 3



χ^2 (535) = 1638.14 (p<.01). RMSEA .04, SRMR .04, CFI .97, TLI .96

***Figure 3*.** Structural Path Diagram for Re-specified Model 1.
Notes: * p<.05; ** p<.01; ***p<.001
Unstandardized values (standardized values).
Model adjusted for religiosity, race, socioeconomic level, gender, and age as control variables.
Solid lines represent direct paths.

Figure 4

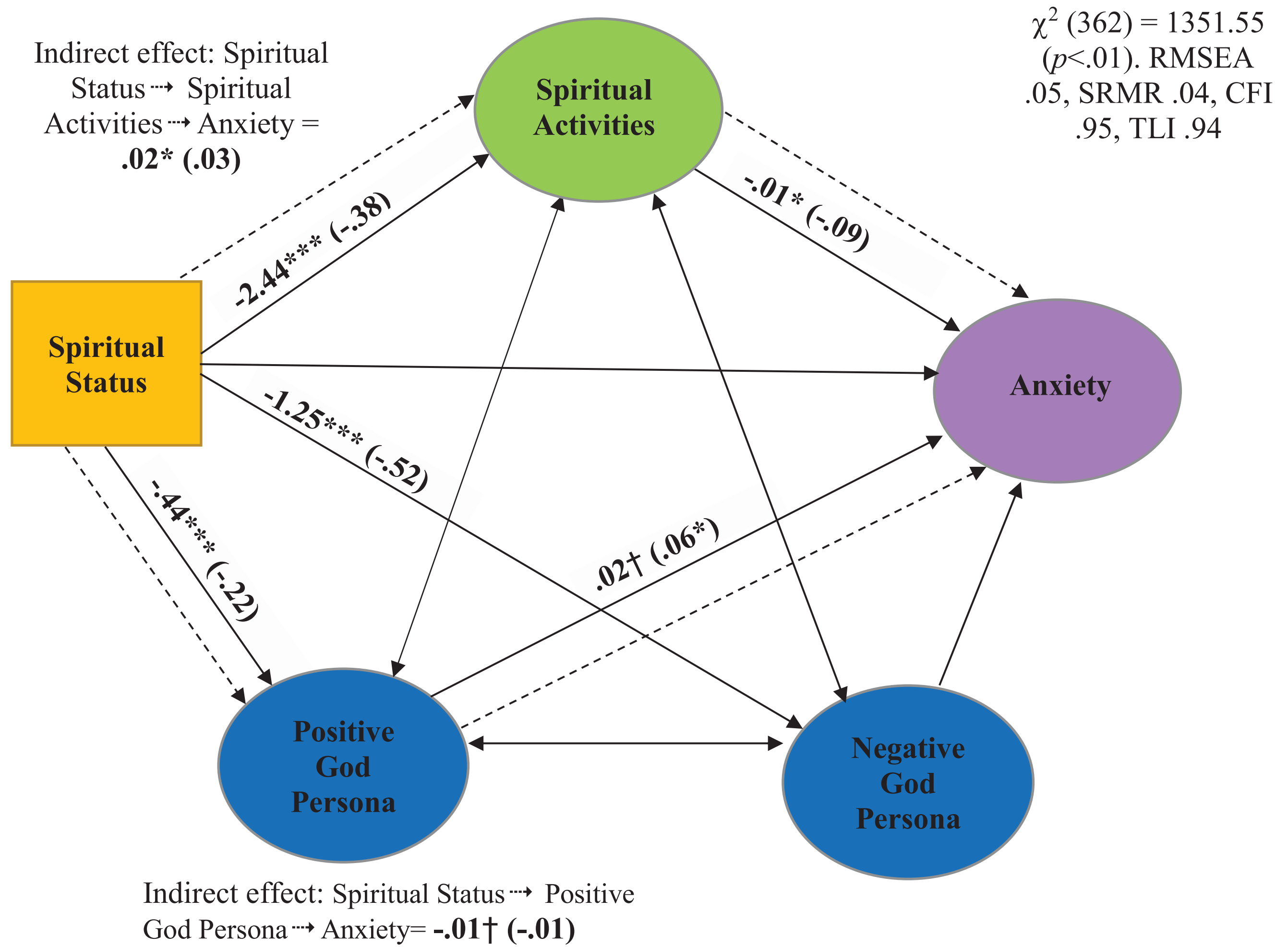


Figure 4. Structural Path Diagram for Re-specified Model 2.
Notes: † *p*=.06; * *p*<.05; ** *p*<.01; ****p*<.001
Unstandardized values (standardized values).
Model adjusted for religiosity, race, socioeconomic level, gender, and age as control variables.
Solid lines represent direct paths and dashed lines represent indirect paths.

Appendix E
Model Results Tables

Table E1

Factor Loadings and Path Values for Re-specified Model 1 (N = 1322)

Parameter Estimate	*Unstandardized (Standard Errors)*	*Standardized*	*SMC*	*p*
Measurement Model Estimates				
Spiritual Activities				
→ Worship Attendance	1 (--)	.7	.49	N/A
→ Scripture Reading	1.07 (.04)	.71	.50	.00
→ Prayer	.76 (.03)	.89	.80	.00
Positive God Relationship				
→ Q21A	1 (--)	.89	.79	N/A
→ Q21B	1.02 (.02)	.90	.82	.00
→ Q21C	1.03 (.02)	.88	.77	.00
→ Q21I	1.03 (.02)	.93	.86	.00
→ Q21J	.86 (.02)	.83	.69	.00
→ Q21K	.94 (.02)	.92	.85	.00
→ Q21L	1.04 (.02)	.93	.87	.00
Inconsistent God Relationship				
→ Q21G	1 (--)	.65	.42	N/A
→ Q21H	1.18 (.05)	.85	.73	.00
→ Q21M	1.04 (.05)	.74	.55	.00
Negative God Relationship				
→ Q21D	1 (--)	.78	.62	N/A
→ Q21E	1.11 (.03)	.90	.82	.00
→ Q21F	1.10 (.03)	.89	.80	.00
Anxiety				
→ Q33A	1 (--)	.55	.30	.00
→ Q33B	.96 (.05)	.57	.32	.00
→ Q33C	.56 (.04)	.49	.24	.00
→ Q33D	.92 (.05)	.59	.34	.00
→ Q33E	1.22 (.05)	.70	.49	.00
→ Q33F	.78 (.04)	.65	.42	.00
→ Q33G	1.11 (.06)	.74	.55	.00
→ Q33H	1.14 (.06)	.72	.52	.00
→ Q33I	.83 (.05)	.65	.42	.00
→ Q33J	1.22 (.06)	.77	.59	.00
→ Q33K	1 (.05)	.64	.41	.00
→ Q33L	1.03 (.05)	.68	.46	.00
→ Q33M	1.09 (.06)	.62	.38	.00
→ Q33N	1.23 (.05)	.71	.50	.00
→ Q33O	1.05 (.06)	.68	.46	.00
Structural Model				
Spiritual Status			.19	
→ Anxiety	-.14 (.06)	-.08		.01

→ Spiritual Activities	-.47 (.16)	-.07		.00
→ GRP	-.49 (.05)	-.21		.00
→ GRI	-.08 (.06)	-.05		.19
→ GRN	.08 (.06)	.04		.22
→ SES	.00 (.01)	.01		.64
→ Gender	.03 (.02)	.04		.13
→ Age	-.00 (.00)	-.06		.02
→ Race	.03 (.05)	.04		.15
→ Religiosity	-.14 (.02)	-.41		.00
Spiritual Activities			.61	
→ Anxiety	-.01 (.02)	-.04		.58
→ SES	-.03 (.03)	-.02		.26
→ Gender	.25 (.10)	.05		.01
→ Age	.00 (.00)	.00		1
→ Race	.48 (.04)	.08		.00
→ Religiosity	1.90 (.02)	.74		.00
Positive God Relationship			.53	
→ Anxiety	-.03 (.05)	-.04		.48
→ SES	-.03 (.01)	-.07		.00
→ Gender	.07 (.03)	.05		.01
→ Age	-.00 (.00)	-.06		.00
→ Race	.21 (.04)	.11		.00
→ Religiosity	.49 (.02)	.60		.00
Inconsistent God Relationship			.06	
→ Anxiety	.31 (.06)	.31		.00
→ SES	-.01 (.01)	-.03		.38
→ Gender	-.05 (.04)	-.04		.16
→ Age	-.00 (.00)	-.02		.49
→ Race	-.08 (.05)	-.05		.10
→ Religiosity	-.15 (.02)	-.23		.00
Negative God Relationship			.27	
→ Anxiety	-.11 (.07)	-.13		.1
→ SES	.01 (.01)	.03		.27
→ Gender	-.01 (.04)	-.08		.01
→ Age	.00 (.00)	.01		.80
→ Race	-.03 (.05)	-.02		.52
→ Religiosity	-.35 (.02)	-.49		.00
Anxiety			.14	
→ SES	-.09 (.01)	-.25		.00
→ Gender	.06 (.03)	.05		.06
→ Age	-.00 (.00)	-.09		.00
→ Race	.00 (.12)	.00		.93
→ Religiosity	-.02 (.07)	-.03		.52
Correlations				
Positive God Relationship ↔ Negative God Relationship	-.14 (.01)	-.50		.00
Positive God Relationship ↔ Inconsistent God Relationship	-.05 (.10)	-.17		.00
Negative God Relationship ↔ Inconsistent	.22 (.02)	.70		.00

God Relationship			
Positive God Relationship ↔ Spiritual Activities	.36 (.03)	.47	.00
Negative God Relationship ↔ Spiritual Activities	-.31 (.03)	-.38	.00
Inconsistent God Relationship ↔ Spiritual Activities	-.24 (.03)	-.30	.00
Prayer ↔ Worship	-.65 (.10)	-.43	.00

Model Fit: χ^2 (535) = 1638.14 (p<.01). RMSEA .04, SRMR .04, CFI .97, TLI .96

Table E2

Error Correlations for Spirituality's Association with Anxiety, Model 1

Latent Variables	Parameter Error Correlations
Spiritual Activities:	• *How often do you attend religious services at a place of worship?* ↔ *Outside of attending religious services, about how often do you spend time alone reading the Bible, Koran, Torah, or other sacred book?;* ↔ *About how often do you spend time alone praying outside of religious services?*
Anxiety:	• *Not been able to stop or control worrying* ↔ *Felt nervous, anxious, or on edge*; ↔ *Thought too much about pointless matters;* ↔ *Felt that it is not safe to trust anyone;* ↔ *Feared that you might do something to embarrass yourself in a social situation;* ↔ *Worried too much about different things*. • *Worried too much about different things* ↔ *Felt nervous, anxious, or on edge;* ↔ *Thought too much about pointless matters;* ↔ *Felt that it is not safe to trust anyone;* ↔ *Felt that people were taking advantage of you*. • *Felt compelled to perform certain actions, for no justifiable reason* ↔ *Repeated simple actions that realistically did not need to be repeated;* ↔ *Been afraid something terrible would happen if you did not perform certain rituals*. • *Feared that you might do something to embarrass yourself in a social situation;* ↔ *Endured intense anxiety in social or performance situations;* ↔ *Became anxious doing things because people*

	were watching. • *Thought too much about things that would not bother other people* ↔ *Felt that it is not safe to trust anyone;* ↔ *Repeated simple actions that realistically did not need to be repeated;* ↔ *Felt like you were being watched or talked about by others*. • *Felt that it is not safe to trust anyone* ↔ *Felt that people were taking advantage of you;* ↔ *Thought too much about things that would not bother other people*. • *Felt nervous, anxious, or on edge* ↔ *Thought too much about pointless matters*. • *Felt that people were taking advantage of you* ↔ *Felt like you were being watched or talked about by others.*
Positive God Relationship:	• Each with the other: *I have a warm relationship with God* ↔ *God knows when I need support* ↔ *I feel that God is generally responsive to me* ↔ *I feel loved by God* ↔ *God loves all living beings* ↔ *God's love is eternal* ↔ *God's love never fails*.
Negative God Relationship:	• *God seems to have little or no interest in my personal problems* ↔ *God seems to have little or no interest in my personal affairs*.
Positive God Relationship ↔ Inconsistent God Relationship	
Positive God Relationship ↔ Negative God Relationship	
Inconsistent God Relationship ↔ Negative God Relationship	
Spiritual Activities ↔ Positive God Relationship	
Spiritual Activities ↔ Inconsistent God Relationship	
Spiritual Activities ↔ Negative God Relationship	

Table E3

Factor Loadings and Path Values for Re-specified Model 2 (N = 1338)

Parameter Estimate	*Unstandardized (Standard Errors)*	*Standardized*	*SMC*	*p*
Measurement Model Estimates				
Spiritual Activities				
→ Worship Attendance	1 (--)	.75	.56	N/A
→ Scripture Reading	1.01 (.04)	.71	.50	.00
→ Prayer	.71 (.03)	.89	.78	.00
Positive God Persona				
→ Q20C	1 (--)	.66	.43	N/A
→ Q20E	1.40 (.06)	.90	.82	.00
→ Q20G	1.30 (.05)	.82	.67	.00
Negative God Persona				
→ Q20B	1 (--)	.83	.69	N/A
→ Q20D	1.02 (.02)	.89	.79	.00
→ Q20F	.99 (.02)	.89	.79	.00
→ Q20H	.91 (.02)	.89	.8	.00
Anxiety				
→ Q33A	1 (--)	.25	.06	N/A
→ Q33B	3.01 (.35)	.58	.34	.00
→ Q33C	3 (.35)	.62	.38	.00
→ Q33D	1.62 (.20)	.49	.24	.00
→ Q33E	2.60 (.31)	.57	.33	.00
→ Q33F	3.73 (.43)	.74	.55	.00
→ Q33G	2.17 (.25)	.63	.40	.00
→ Q33H	3.15 (.36)	.74	.55	.00
→ Q33I	3.28 (.37)	.73	.53	.00
→ Q33J	2.40 (.28)	.66	.43	.00
→ Q33K	3.49 (.40)	.77	.59	.00
→ Q33L	2.81 (.33)	.63	.40	.00
→ Q33M	2.90 (.34)	.67	.45	.00
→ Q33N	3.08 (.36)	.61	.37	.00
→ Q33O	3.77 (.43)	.76	.57	.00
Structural Model				
Spiritual Status			.03	
→ Anxiety	-.01 (.02)	-.02		.51
→ Spiritual Activities	-2.44 (.20)	-.38		.00
→ GPP	-.44 (.06)	-.22		.00
→ GNP	-1.25 (.06)	-.52		.00
→ Gender	-.02 (.01)	-.06		.03
→ Race	-.00 (.00)	-.14		.00
→ Age	-.01 (.02)	-.01		.63
→ SES	.00 (.01)	.01		.67
→ Religiosity	.04 (.02)	.04		.14
Spiritual Activities			.20	

→ Anxiety	-.01 (.00)	-.09		.03
→ Gender	-.25 (.07)	-.10		.00
→ Race	.01 (.00)	.08		.01
→ Age	.64 (.12)	.15		.00
→ SES	-.12 (.04)	-.09		.00
→ Religiosity	.56 (.15)	.10		.00
Positive God Persona			.12	
→ Anxiety	.02 (.01)	.06		.06
→ Gender	.06 (.02)	.08		.01
→ Race	-.00 (.00)	-.04		.24
→ Age	-.17 (.04)	-.13		.00
→ SES	-.06 (.01)	-.14		.00
→ Religiosity	.25 (.05)	.15		.00
Negative God Persona			.30	
→ Anxiety	.00 (.01)	.01		.79
→ Gender	-.01 (.02)	-.01		.59
→ Race	.00 (.00)	.02		.45
→ Age	.13 (.04)	.08		.00
→ SES	-.05 (.01)	-.10		.00
→ Religiosity	.16 (.05)	.08		.00
Anxiety			.49	
→ Gender	.15	.66		.00
→ Race	.00	-.03		.28
→ Age	.02	.04		.07
→ SES	-.01	-.07		.01
→ Religiosity	-.03	-.05		.03
Indirect Effects				
Spiritual Status ⇢ Spiritual Activities ⇢ Anxiety	.02 (.01)	.03		.03
Spiritual Status ⇢ Positive God Persona ⇢ Anxiety	-.01 (.00)	-.01		.06
Spiritual Status ⇢ Negative God Persona ⇢ Anxiety	-.01 (.01)	-.01		.79
Correlations				
Positive God Persona ↔ Negative God Persona	.18 (.02)	.42		.00
Positive God Persona ↔ Spiritual Activities	.39 (.05)	.32		.00
Negative God Persona ↔ Spiritual Activities	.85 (.06)	.67		.00
Prayer ↔ Worship	-.44 (.13)	-.28		.00

Model Fit: χ^2 (362) = 1351.55 (p<.01). RMSEA .05, SRMR .04, CFI .95, TLI .94

Table E4

Error Correlations for Spirituality's Association with Anxiety, Model 2

Latent Variables	Parameter Error Correlations
Spiritual Activities:	• *How often do you attend religious services at a place of worship?* ↔ *Outside of attending religious services, about how often do you spend time alone reading the Bible, Koran, Torah, or other sacred book?;* ↔ *About how often do you spend time alone praying outside of religious services?*
Anxiety:	• *Felt like you were being watched or talked about by others* ↔ *Thought too much about pointless matters*; ↔ *Been afraid something terrible would happen if you did not perform certain rituals;* ↔ *Felt that it is not safe to trust anyone;* ↔ *Felt compelled to perform certain actions, for no justifiable reason;* ↔ *Became anxious doing things because people were watching;* ↔ *Been plagued by thoughts or images that you cannot get out of your mind;* ↔ *Thought too much about things that would not bother other people;* ↔ *Worried too much about different things*. • *Felt that people were taking advantage of you* ↔ *Been afraid something terrible would happen if you did not perform certain rituals;* ↔ *Felt compelled to perform certain actions, for no justifiable reason;* ↔ *Been plagued by thoughts or images that you cannot get out of your mind;* ↔ *Endured intense anxiety in social or performance situations*. • *Thought too much about things that would not bother other people* ↔ *Thought too much about pointless matters;* ↔ *Felt that it is not safe to trust anyone;* ↔ *Felt compelled to perform certain actions, for no justifiable reason;* ↔ *Became anxious doing things because people were watching*. • *Been plagued by thoughts or images that you cannot get out of your mind*

	↔ *Thought too much about pointless matters;* ↔ *Been afraid something terrible would happen if you did not perform certain rituals;* ↔ *Felt compelled to perform certain actions, for no justifiable reason*; ↔ *Became anxious doing things because people were watching;* ↔ *Endured intense anxiety in social or performance situations*. • *Thought too much about pointless matters* ↔ *Been afraid something terrible would happen if you did not perform certain rituals;* ↔ *Felt compelled to perform certain actions, for no justifiable reason;* ↔ *Became anxious doing things because people were watching*. • *Been afraid something terrible would happen if you did not perform certain rituals* ↔ *Felt compelled to perform certain actions, for no justifiable reason;* ↔ *Became anxious doing things because people were watching*. • *Not been able to stop or control worrying* ↔ *Worried too much about different things* • *Felt that it is not safe to trust anyone* ↔ *Became anxious doing things because people were watching*. • *Thought too much about things that would not bother other people* ↔ *Feared that you might do something to embarrass yourself in a social situation*. • *Endured intense anxiety in social or performance situations* ↔ *Felt compelled to perform certain actions, for no justifiable reason*.
Positive God Persona ↔ Negative God Persona	
Positive God Persona ↔ Spiritual Activities	
Negative God Persona ↔ Spiritual Activities	

Appendix F

Table F1

Correlations Table

	WORSH	SCRIPT	PRAY	Q21A	Q21B	Q21C	Q21D	Q21E	Q21F	Q21G	Q21H	Q21I	Q21J	Q21K
WORSH	1.00													
SCRIPT	0.63	1.00												
PRAY	0.56	0.63	1.00											
Q21A	0.50	0.51	0.66	1.00										
Q21B	0.51	0.50	0.65	0.84	1.00									
Q21C	0.48	0.50	0.66	0.83	0.86	1.00								
Q21D	-0.34	-0.39	-0.42	-0.45	-0.46	-0.47	1.00							
Q21E	-0.40	-0.42	-0.50	-0.57	-0.59	-0.61	0.71	1.00						
Q21F	-0.40	-0.41	-0.48	-0.55	-0.56	-0.58	0.69	0.92	1.00					
Q21G	-0.09	-0.19	-0.10	-0.04	0.01	-0.05	0.25	0.26	0.29	1.00				
Q21H	-0.26	-0.32	-0.30	-0.29	-0.28	-0.31	0.50	0.53	0.55	0.57	1.00			
Q21I	0.49	0.49	0.64	0.81	0.83	0.80	-0.47	-0.57	-0.54	0.00	-0.26	1.00		
Q21J	0.41	0.39	0.54	0.70	0.73	0.69	-0.37	-0.47	-0.44	0.04	-0.18	0.83	1.00	
Q21K	0.47	0.45	0.60	0.74	0.79	0.74	-0.40	-0.51	-0.47	0.06	-0.18	0.87	0.91	1.00
Q21L	0.48	0.47	0.61	0.76	0.78	0.75	-0.43	-0.53	-0.50	0.00	-0.25	0.88	0.87	0.92
Q21M	-0.20	-0.21	-0.19	-0.19	-0.17	-0.21	0.45	0.44	0.48	0.50	0.61	-0.18	-0.11	-0.11
Q33A	-0.13	-0.10	-0.02	-0.04	-0.04	-0.04	0.09	0.09	0.10	0.10	0.13	-0.01	0.03	0.03
Q33B	-0.09	-0.09	-0.04	-0.05	-0.07	-0.06	0.11	0.10	0.11	0.10	0.18	-0.04	0.00	-0.01
Q33C	-0.08	-0.07	-0.01	-0.02	-0.01	-0.01	0.10	0.08	0.09	0.12	0.14	-0.01	-0.02	-0.04
Q33D	-0.16	-0.06	-0.04	-0.06	-0.04	-0.04	0.13	0.09	0.10	0.09	0.14	-0.04	-0.02	-0.03
Q33E	-0.10	-0.07	0.01	-0.02	-0.01	-0.01	0.11	0.07	0.09	0.14	0.16	0.00	0.04	0.03
Q33F	-0.07	-0.06	-0.02	-0.04	-0.04	-0.02	0.12	0.07	0.08	0.13	0.14	-0.03	-0.01	-0.03
Q33G	-0.07	-0.06	-0.01	0.00	-0.01	-0.01	0.13	0.07	0.07	0.12	0.14	0.00	0.01	0.00
Q33H	-0.08	-0.05	-0.02	-0.04	0.00	-0.02	0.13	0.07	0.09	0.10	0.16	0.00	-0.01	-0.02
Q33I	-0.06	-0.05	0.02	0.00	0.02	0.03	0.07	0.04	0.05	0.08	0.10	0.03	0.02	0.01
Q33J	-0.06	-0.07	0.01	-0.02	0.01	0.01	0.07	0.07	0.07	0.12	0.13	0.02	0.03	0.02
Q33K	-0.06	-0.09	-0.04	-0.05	-0.03	-0.05	0.09	0.06	0.10	0.12	0.13	-0.04	-0.01	-0.02
Q33L	-0.06	-0.05	-0.02	-0.02	-0.01	-0.01	0.07	0.06	0.07	0.09	0.11	0.00	0.01	0.00
Q33M	-0.10	-0.05	-0.01	-0.01	0.03	0.03	0.05	0.01	0.03	0.08	0.10	0.02	0.04	0.03
Q33N	-0.11	-0.09	-0.03	-0.04	-0.03	-0.03	0.10	0.05	0.05	0.12	0.14	-0.01	0.01	0.02
Q33O	-0.09	-0.05	-0.01	0.01	0.04	0.02	0.10	0.03	0.04	0.11	0.12	0.02	0.04	0.03

Q21L	Q21M	Q33A	Q33B	Q33C	Q33D	Q33E	Q33F	Q33G	Q33H	Q33I	Q33J	Q33K	Q33L	Q33M	Q33N	Q33O
1.00																
-0.17	1.00															
0.00	0.17	1.00														
-0.02	0.17	0.56	1.00													
-0.05	0.18	0.28	0.28	1.00												
-0.05	0.18	0.29	0.31	0.37	1.00											
0.00	0.21	0.62	0.55	0.37	0.47	1.00										
-0.05	0.18	0.32	0.34	0.55	0.44	0.46	1.00									
-0.02	0.16	0.39	0.40	0.38	0.43	0.48	0.53	1.00								
-0.04	0.18	0.43	0.45	0.35	0.42	0.54	0.48	0.53	1.00							
-0.01	0.12	0.30	0.34	0.41	0.38	0.40	0.54	0.52	0.51	1.00						
0.00	0.15	0.44	0.51	0.35	0.39	0.57	0.48	0.57	0.56	0.58	1.00					
-0.04	0.17	0.36	0.40	0.33	0.33	0.41	0.39	0.58	0.42	0.41	0.50	1.00				
-0.03	0.13	0.39	0.38	0.32	0.40	0.46	0.42	0.60	0.46	0.45	0.51	0.64	1.00			
0.01	0.15	0.38	0.38	0.25	0.49	0.44	0.36	0.46	0.43	0.37	0.46	0.44	0.49	1.00		
0.00	0.16	0.60	0.57	0.33	0.40	0.66	0.40	0.50	0.54	0.42	0.61	0.48	0.51	0.58	1.00	
0.01	0.15	0.37	0.34	0.32	0.50	0.43	0.43	0.53	0.47	0.43	0.43	0.48	0.52	0.58	0.52	1.00