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Associations between Multidimensional Spirituality and Mental Health: Positive Psychological Traits as Mediators

Trever Dangel
East Tennessee State University

Associations between Multidimensional Spirituality and Mental Health: Positive Psychological Traits as Mediators

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by

Trever Dangel

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Andrea D. Clements, Chair

Stacey L. Williams

Jason L. Steadman

Julia C. Dodd

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ABSTRACT

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Research in the areas of religion and spirituality and positive psychology have experienced considerable growth within the past two decades. Such growth has led to a plethora of research identifying important constructs in both areas and key relationships among them. The current literature is, however, limited by unclear distinctions between the constructs of religion and spirituality, and a general lack of research into their associations with positive psychological traits and mental health status. As such, the present study aimed to investigate a new model of spirituality, the RiTE model, which is a three-part model designed to capture the multifaceted nature of the spiritual experience. The RiTE model was investigated in its relationship with mental health status in the context of a parallel mediation model, with self-forgiveness, gratitude, and mindfulness serving as parallel mediators. Results suggested that ritualistic and existential spirituality displayed direct associations with mental health status (positive and negative, respectively), while theistic spirituality displayed indirect associations. Indirect associations between theistic spirituality and mental health status were primarily a function of higher levels of gratitude, while existential spirituality was associated with higher levels of all three mediator variables. Clinicians may benefit from utilizing this knowledge when conceptualizing an individual's spiritual worldview and utilizing spirituality when attempting to enhance client resilience via positive psychological approaches. Future studies should provide further insight

into these treatment applications in addition to further clarifying the nuanced mechanisms of the spirituality-mental health association.

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CHAPTER 1

INTRODUCTION

Religion and spirituality play an integral role in American society and culture, with survey-based estimates suggesting that approximately 76% of all Americans believe in some sort of higher power (Pew Research Center, 2014). More broadly, 82% of Americans described religion as being at least "somewhat important" to their daily life, and 83% of Americans experience feelings of "spiritual peace and well-being" multiple times per year. These feelings of well-being are also not necessarily driven by the particular aspects of one's spiritual or religious beliefs, as people from theistic and nontheistic backgrounds alike endorse these feelings, albeit to varying degrees (Pew Research Center, 2014). In light of the ubiquitous and multifaceted nature of religion and spirituality, its influence on human behavior and functioning has become a highly popular field of inquiry within the field of psychology (see http://www.apadivisions.org/division-36/).

One aspect of this field of inquiry is the relationship between religion/spirituality and health outcomes, both physical and mental (see Lovelock, Griffin, & Worthington, 2013; Pargament, 2013). For those who experience mental health problems, religious/spiritual beliefs and practices have been linked to improvements in a variety of outcomes including, but not limited to, depression (Dein, 2013; Smith, McCullough, & Poll, 2003), anxiety (Koenig, McCullough, & Larson, 2001), suicidal behavior (Lawrence, Oquendo, & Stanley, 2016), substance use (Webb, Hirsch, & Toussaint, 2015), psychosis (Mohr, 2013), anger (Hirsch, Webb, & Jeglic, 2012), and of interest in the present study, mental health status, or one's current level of functioning in light of mental health-related symptoms (Bormann, Thorp, Wetherell, Golshan, & Lang, 2013; Webb, Phillips, Bumgarner, & Conway-Williams, 2013).

Recent efforts have dedicated more research to the detailed nuances of why religion/spirituality displays such beneficial associations with mental health, and the nuances of the concepts of religion and spirituality more generally (see Pargament, 2013). Consistent with the latter objective, the RiTE measure of spirituality has been developed in an effort to encapsulate both the overlapping and distinctive elements of some of the features and functions of spirituality: organized rituals and practices (ritualistic spirituality), connection with a higher power (theistic spirituality), and a search for meaning and purpose (existential spirituality) (see Webb, Toussaint, & Dula, 2014). The RiTE model of spirituality (discussed in greater detail below) has gained preliminary support both in terms of its psychometric rigor and its relevance to outcomes including mindfulness and depression (Chang et al., 2015a; Chang et al., 2015b; Chang et al., 2016; Webb et al., 2013; Webb et al., 2014).

Despite this preliminary evidence of its promise, extant literature for the RiTE measure is still in its infancy, and much work remains to be done in terms of exploring its associations with various outcomes and the mechanisms of those associations. Previous literature on religion/spirituality and health more generally, in addition to a limited number of studies of the RiTE measure itself, provides some guidance regarding the health-related outcomes the RiTE model may predict, and likely mediating mechanisms of those associations. For example, much is known about the positive associations between religion/spirituality and the positive health outcomes mentioned above, including mental health status, a global measure of general mental health-related functioning. Due to the limited literature base concerning the RiTE model, the present study will focus on mental health status in order to assess the relationship between aspects of the RiTE model and a general/global measure of mental health status, rather than on any particular mental health outcome such as depression.

Theories regarding possible mediating mechanisms of the spirituality-health association are abundant, and include factors such as meaning-making (Park, 2013), attachment (Granqvist & Kirkpatrick, 2013), social support (McCullough, Hoyt, Larson, Koenig, & Thoresen, 2000), and of interest in the present study, positive psychological characteristics including self-forgiveness (Davis, Worthington, Hook, & Hill, 2013), gratitude (Carlisle & Tsang, 2013), and mindfulness (Bergemann, Siegel, Belzer, Siegel, & Feuille, 2013). No known literature exists that has examined the RiTE model and its associations with positive psychological characteristics or mental health outcomes, with the exception of hope and depression (Chang et al., 2016). In order to gain further insight into the ways in which multidimensional spirituality may be associated with mental health, the association between multidimensional spirituality and mental health status, as mediated by self-forgiveness, gratitude, and mindfulness will be tested in the present study. Insight into the nature of these associations may ultimately further our knowledge of religion/spirituality and its nuanced relationship to mental health, and improve clinical applications of religion/spirituality to positive psychological interventions. Before discussing the RiTE model and its use in the present study, a brief review of current conceptualizations of religion/spirituality, the spirituality-health literature, and the limitations of this literature is warranted.

Spirituality and Health: Definitions, Literature, and Limitations

Until the late 1990s, research on religion/spirituality often failed to (or researchers chose not to) distinguish the two terms conceptually or psychometrically. This may have been a reflection of the American population's views on the inseparability of religion and spirituality at the time (Zinnbauer, Pargament, Cowell, Rye, & Scott, 1997); however, it is now widely thought that the two are indeed separate but related constructs. This is evidenced by the large number of

Americans who identify as “spiritual, but not religious” or vice versa (Pew Research Center, 2014). Moreover, prevailing conceptualizations of religion and spirituality largely contend that while the two constructs share significant overlap, are multidimensional in their own rights, and are often interdependent manifestations of one another, they nevertheless share important conceptual and practical distinctions (see Pargment, 2013a; Pargament, 2013b; Pargament, Mahoney, Exline, Jones, & Shafranske, 2013). Specifically, Pargament (2013b) defines spirituality as a “search for the sacred,” with the term sacred being anything that possesses qualities indicative of transcendence (i.e., being greater than or independent of the self and the universe), boundlessness, or ultimacy (p. 250).

In this definition, the term sacred encapsulates both traditional conceptions of higher powers (e.g., Jesus, Yahweh) and religiously sanctioned practices (e.g., prayer) in addition to both theistic and nontheistic sanctification of everyday objects or relationships. For example, an individual may feel that God is directly involved in his/her romantic relationship (i.e., theistic sanctification), or may attribute “divinelike” qualities such as transcendence or ultimacy to a particular object such as a tree (i.e., nontheistic sanctification) (Pargament, 2013). As such, this conceptualization of spirituality simultaneously denotes the similarities between religion and spirituality via their mutual connection to the sacred, while also distinguishing them based on their other ancillary features. For example, religion may serve other functions beyond connection to the sacred including social bonding via specific rituals or behaviors, and cultural identification (e.g., culturally identifying as a Southern Baptist). Conversely, general spirituality is typically an individual-level variable that may or may not utilize religious or theistic elements, and typically does not serve the same social and cultural functions as religion (Pargament, 2013).

With this overarching definition in mind concerning the similarities and distinctions between religion and spirituality, it is perhaps unsurprising that both have been linked to numerous health outcomes in multiple ways. While a review of all potential mechanisms of the religion/spirituality-health relationship is beyond the scope of this paper (see George, Larson, Koenig, & McCullough, 2000), there appear to be four main mechanisms through which they exert their influence: 1) coping behaviors, 2) meaning making, 3) social belongingness, and in the context of the present study 4) development and maintenance of positive psychological characteristics and prosocial values (Park, 2007; McCullough, Hoyt, Larson, Koenig, & Thoresen, 2000; Rye, Wade, Fleri, & Kidwell, 2013).

Spiritual coping and health. Spiritual coping behaviors, both theistic and non-theistic, have long been studied in their relationship to mental health (see Harrison, Koenig, Hays, Eme-Akwari, & Pargament, 2001). While individuals may utilize both adaptive (e.g., seeking spiritual support) and maladaptive (e.g., negative spiritual reappraisals) spiritual coping strategies, the negative coping strategies appear to be less frequently used for most individuals (Pargament, 1997). Positive spiritual practices include a wide variety of behaviors ranging from prayer, consulting with clergy, religious conversion, meditation, seeking connectedness with a transcendent force, to altruistic practices such as volunteering (Harrison et al., 2001). While some of these behaviors are inherently theistic, others may involve differing levels of belief in or connection to a supernatural deity, and all of them have shown associations with improved health outcomes. For example, various spiritual coping strategies have been associated with lower levels of depression (Amadi et al., 2016), hopelessness (Mihaljevic, Aukst-Margetic, Vuksan-Cusa, Koic, & Milsevic, 2012), substance use (Harrell & Powell, 2014), and psychotic symptoms (Mohr et al., 2010). These relationships also extend to physical health outcomes, with a

multitude of studies and meta-analyses demonstrating the positive associations between spiritual coping and multiple health outcomes including cancer (Thune-Boyle, Stygall, Keshtgar, & Newman, 2006) and HIV (Trevino et al., 2010), such that quality of life among those experiencing these diseases is improved when positive spiritual coping strategies are utilized. Lower rates of specific health outcomes such as cardiovascular health (Trevino & McConnell, 2014), and general mortality (McDougle, Konrath, Walk, & Handy, 2016) have also been shown in those who regularly use spiritual coping strategies compared to those who do not.

Multiple theories and models have been put forth to explain the relationship between these coping behaviors and health outcomes. Some theories incorporate cognitive factors related to how one's religious or spiritual schema influences the perceptions of negative life events (Dull & Skokan, 1995, Pargament, 1997), while other theories contend that the above-mentioned relationships are a function of a primarily developmental process by which individuals discover, conserve, and adapt to their relationship with the sacred and its influence on their life (Pargament, 2007). Regardless of the primary mechanism, it can be said that research generally supports the notion that spiritual coping can be a useful tool for many individuals that offers unique benefits beyond other forms of coping (see Gall & Guirguis-Younger, 2013).

Meaning-making and health. Another noteworthy feature of spirituality is its relationship to meaning-making, defined as the process by which individuals incorporate new information into their previously formed belief systems and goals in order to construct a worldview that sees life as inherently meaningful (Park, 2013). In this process, individuals may choose to either neglect or assimilate information in an effort to maintain a stable and meaningful worldview (Park, 2013), with both religious and nonreligious people endorsing equal importance of meaning-making in their lives (Josephson & Peteet, 2007). While research

suggests that meaning-making strategies markedly differ between the religious and nonreligious (Park, 2013; Streib & Klein, 2013), it appears that it predicts positive health outcomes for both. This is evidenced by the fact that despite having different methods of resolving existential and spiritual questions, health-related outcomes tend to be generally equivalent between the religious and non-religious, while outcomes tend to be worse for those in a state of belief uncertainty or who may be torn between multiple worldviews with competing philosophical underpinnings and have not established a fully formed meaning-making system (Streib & Klein, 2013; Galen & Kloet, 2011).

For example, Galen and Kloet (2011) found higher levels of life satisfaction and emotional stability for both firm believers and nonbelievers as compared to those with less firm beliefs, and these results were maintained after controlling for various demographic (e.g., age, gender) and social (e.g., social support) factors. Similarly, a study by Riley, Best, and Charlton (2005) found a curvilinear relationship between depressive symptoms and belief, such that both the most and least religious participants endorsed the lowest levels of depression as indicated by Beck Depression Inventory scores. Finally, a study by Moore and Leech (2015) found that levels of positive and negative affect, hope, and life satisfaction were generally equivalent among atheist, Christian, Buddhist, and Jewish participants, while levels of gratitude were higher among only those who were religious. Although multiple factors may explain this equivocal relationship between belief strength and adaptive psychological traits, a primary explanation appears to involve the certainty of one's existential views and meaning-making systems. Specifically, it has been suggested that individuals who are more certain in their beliefs regarding 1) the presence or absence of a higher power, 2) the meaning of life, 3) their ultimate purpose, and 4) other existential questions are more successful in navigating their daily lives with a cohesive and stable

worldview, resolve existential struggles, and find a sense of inner peace and meaning in their lives (Leung & Bond, 2004, Galen & Kloet, 2011, Park, 2013, Weber, Pargament, Kunik, Lomax, & Stanley, 2012).

In sum, and in the context of health-related outcomes, it appears that ultimately finding meaning and resolving existential and spiritual dilemmas are most important, while the ways in which one does so are secondary. This is not to say that religious and nonreligious individuals do not experience spiritual and existential struggles unique to their respective groups (see Weber et al., 2012). Other factors, such as social support, may also be experienced (and influence health) differently between religious and nonreligious individuals.

Social belongingness and health. Many elements of spirituality, especially in the context of religious rituals and practices, are social in nature (Harrison et al., 2001). Indeed, and in conjunction with the other mechanisms described above, social support and/or the fulfillment of one's social roles are often cited as one mechanism by which spirituality is thought to influence both mental and physical health (Park, 2007; Powell, Shahabi, & Thoresen, 2003; see also Pargament, 2013a). For example, in their meta-analysis of the relationship between spirituality and physical health, Powell et al. (2003) found that regular attendance at church services was associated with a 30% decrease in mortality risk, with the majority of the studies used in those analyses coming from samples that were representative of the U.S. population. Scholars suggest that it is not one's physical presence in a place of worship that is responsible for these improved health outcomes, per se. Rather, it has been suggested that regular presence in one's religious congregation allows for the deepening of social connection to others in the congregation, reinforces one's sense of belonging, and reinforces one's beliefs and values, all of

which facilitate the development of psychological well-being and meaning in life (Krause & Wulff, 2005; Park, 2007).

While the above-mentioned correlates of social support are specific to religious people, this does not mean that nonreligious people cannot or do not feel a sense of spiritual belongingness and meaning. For example, nonreligious individuals often cite feelings of connectedness to nature or the universe as a whole, which facilitates a sense of awe, meaning, and belongingness in the greater scheme of the universe (e.g., Ahmadi & Ahmadi, 2015). It is true that religious people may also look to nature or the universe for meaning and purpose, but such factors may be more primary sources of meaning for nonreligious individuals who are unable to turn to a deity or faith to derive meaning in life. Individuals may also use other secular outlets to facilitate a sense of belongingness and maintenance of values such as volunteering, although secular and religious individuals appear to report equal rates of charitable giving and volunteerism (see Galen, 2012). Of note, however, research into how nonreligious or atheistic individuals may utilize spiritual factors in facilitating belongingness is sorely lacking, despite the existence of local and national organizations designed to support secular values (see https://americanhumanist.org/). Regardless, and consistent with themes expressed in the other above-mentioned mechanisms of the spirituality-health association, it appears that it is again not the content of one's beliefs, but rather the way one utilizes them that ultimately facilitates health and well-being.

Finally, given the centrality of positive psychology to the present study, a discussion of this area of research and its relationship to spirituality will follow the upcoming section on the RiTE model. This will provide the reader with further context before delving into a more detailed

discussion about the RiTE model and its potential relationship to the focal mediator variables in this study.

Limitations to the above literature. Although the above mentioned literature has been critical in highlighting the unique associations of spirituality and health in general, in addition to the specific mechanisms of those associations, this research is limited. One primary limitation of this literature concerns both the measurement and definition of the terms "religion" and "spirituality." This is problematic for several reasons. For one, many of the definitions or measures used for religion and spirituality fail to capture the nuances of each term (e.g., using religious participation as a proxy for general religious belief). Many models of the religion/spirituality-health linkage also tend to either neglect spiritual but nonreligious contributions to health, or use "religion" and "spirituality" as inter-changeable terms (e.g., Leung & Bond, 2004; Park, 2013). Relatedly, many models and studies of the spirituality-health relationship have neglected nonreligious participants or factors, although this area of research has grown considerably within the past five years (e.g., Weber et al., 2012). While this does not necessarily detract from the validity or accuracy of those models, it may limit their applicability to those who place a high value on spirituality, but do not view the concept of a deity or organized religion as necessary to their personal spiritual journey.

As such, a satisfactory model of spirituality should be one that incorporates both organized and socially reinforced religious practices and beliefs, individual-level religious practices and beliefs (e.g., belief in a higher power), and non-theistic but spiritual beliefs and practices. The RiTE model of spirituality (and its corresponding measure) may be one such way to capture all of these facets of spirituality (Webb et al., 2014). The remainder of this chapter will focus on the specific elements of the RiTE model, the extant literature on the RiTE measure, and

the specific ways in which the RiTE model may relate to the variables of interest in this study (i.e., mental health status and positive psychological characteristics).

The RiTE Model of Spirituality

Theoretical underpinnings. The RiTE model of spirituality (see Figure 1) was developed in an effort to encapsulate all elements of spirituality described above, while also making sure to distinguish their unique features (Webb, 2007; Webb et al., 2014). This was done via a tripartite conceptualization of spirituality comprised of 1) ritualistic spirituality, 2) theistic spirituality, and 3) existential spirituality. Ritualistic spirituality is most similar to the term religiousness, and is defined as a "...structured, ritualistic connection with a deity" that is characterized by adherence to specific religiously sanctioned behaviors and principles (Webb et al., 2014, p. 973). Theistic spirituality is similar to ritualistic spirituality in that it involves a connection to a deity at its core; however, the connection in this context is unstructured, individualized, and not contingent upon religious or culturally sanctioned behaviors and principles. Rather, it is concerned primarily with one's belief in a deity or deities and one's beliefs about the degree to which the deity influences the progression of events in the universe. Finally, existential spirituality is defined as a "...non-theistic search for meaning and purpose", and is concerned primarily with this journey towards meaning and self-fulfillment while also respecting and valuing the sanctity of life (Webb et al., 2014, p. 973).

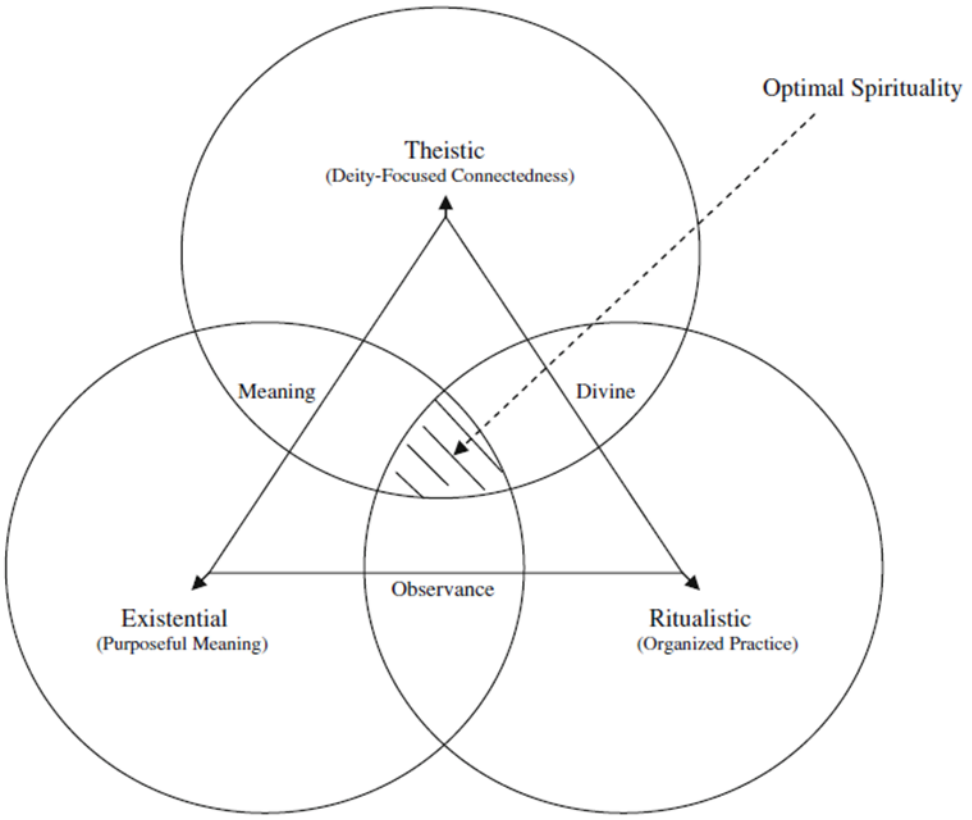

Figure 1. Graphical Conceptualization of the RiTE Model

Figure reproduced from Webb et al. (2014) with permission from the lead author

While these dimensions may be distinguished based on the above-mentioned factors, they are not without similarities. For instance, and as alluded to above, both theistic and ritualistic spirituality maintain a connection with a deity as their primary feature, the only difference being the structure and organization by which this connection is achieved and maintained. Additionally, both theistic and existential spirituality share a significant emphasis on a search for meaning and purpose, whereas this search for meaning may not be a primary focus of organized rituals or practices. Finally, existential spirituality maintains a high value and goal-oriented stance towards the search for meaning and purpose, while ritualistic spirituality places a high

value on the observance of specific doctrines and teachings, respectively. As such, it can be said that they both share significant overlap in their value on observing and preserving established sacred principles, with these principles being the search for meaning in existential spirituality, and adherence to religious principles for ritualistic spirituality (Webb, 2007; Webb et al., 2014). This culminates in an overarching similarity among all three dimensions in that "all three dimensions of Spirituality assume or are grounded in a belief in some external entity or entities (e.g., deity, nature, knowledge) that is/are transcendent and/or sacred" (Webb et al., 2014, p. 974).

A final important feature of this model is the notion that the three dimensions are not orthogonal. Rather, individuals often possess varying degrees of all three dimensions, with an optimal and balanced level of spirituality occurring via an equal observance of all three dimensions, or at the very least, a respect for elements of spirituality which may not be personally valued by that individual (Webb et al., 2014). In other words, although individuals may lie closer to one particular point on the "triangle", lying at any particular extreme may result in the devaluation of other spirituality dimensions, thus resulting in negative outcomes such as prejudice or hostility. This simultaneous hyper-valuation of some elements of spirituality and disregard for others could be considered analogous to the construct of negative religious coping described above to the extent that individuals ascribing to dogmatic or hostile spiritual coping strategies (e.g., lashing out at someone of a different faith background) are not considering the full spectrum of the spiritual experience when dealing with events that contradict their worldview (Webb et al., 2014). As discussed below, this model has begun to gain strong preliminary support via its corresponding RiTE measure of spirituality (Webb et al., 2014).

The RiTE literature. Aside from the paper describing its initial conceptualization (Webb, 2007), six known studies have empirically examined the RiTE measure and its associations with various outcomes either via bivariate correlations or regression-based analyses (Chang et al., 2015a; Chang et al., 2015b; Chang et al., 2016; Dangel & Webb, 2017; Webb et al., 2013; Webb et al., 2014). To date, the RiTE dimensions have shown positive associations with several mental health-related variables including mindfulness (Webb et al., 2013), agreeableness (Chang et al., 2015a), hope (Chang et al., 2016), and spiritual well-being (Webb et al., 2014). Conversely, the RiTE dimensions have also shown inverse associations with several variables including perfectionism (Chang et al., 2015b), depressive symptoms (Chang et al., 2016), and psychological pain (Dangel & Webb, in press). This pattern of associations supports the notion that the RiTE measure is indeed capturing adaptive elements of spirituality. This notion of the RiTE as a measure of the positive elements of spirituality is made more apparent when considering the fact that the above-mentioned RiTE-based studies are consistent with associations between other measures of positive spiritual coping and mental health (see above section titled "Spiritual coping and health"). In other words, it appears that the associations between the RiTE measure and mental health are similar to that of other measure of positive spiritual coping and mental health.

While the overall pattern of associations between the RiTE measure and mental health appears to be generally positive, it should be noted that the valence, size, and significance of these associations are specific to the particular RiTE dimension and health outcome being considered. For example, while Chang and colleagues (2016) found that higher scores on all RiTE dimensions were associated with lower levels of depressive symptoms via hope agency in a college student sample, the statistical effect of existential spirituality was approximately two

times that of ritualistic and theistic spirituality. Similarly, a study of the RiTE measure and its associations with different elements of the Big Five personality traits in college students suggested that each RiTe dimension was differentially related to various sub-elements of the Big Five factors (e.g., goal striving as a sub-element of Conscientiousness), with all significant associations displaying similar valences, and existential spirituality displaying the most frequent associations (Chang et al., 2015a; Chapman, 2007). Some studies have also found differential valences and significance levels between the RiTE dimensions and particular outcomes (e.g., Chang et al., 2015b; Dangel & Webb, in press).

While evidence has begun to accumulate regarding the nuanced relationships between the RiTE dimensions and various health outcomes, several limitations exist within the RiTE literature. First, no known longitudinal research has been conducted using the RiTE measure, thereby limiting any ability to make causal inferences (e.g., "Dimension X causes increases in outcome Y"). Second, studies that have examined the RiTE-mental health association have failed to examine the mechanisms of these associations, with the exception of one study by Chang and colleagues (2016), wherein hope agency mediated the RiTE-depression association. Finally, there are likely a number of outcomes (and mediating mechanisms) associated with the RiTE dimensions that have yet to be examined. In order to expand the literature regarding the connection between spirituality and positive psychological variables (e.g., Rye et al., 2013), and in light of past RiTE literature (Webb et al., 2013), three such variables that may be likely mediating mechanisms between the RiTE dimensions and mental health may be self-forgiveness, gratitude, and mindfulness, all of which fall under the purview of positive psychology.

Positive Psychology and Mental Health

Around the turn of the century, a major shift occurred in the field of psychology wherein many scholars shifted their focus from the negative aspects of the human condition to the positive elements about people that help them not only to live healthy lives, but to thrive and flourish. This movement was solidified with the formulation of the field of positive psychology (Seligman & Csikszentmihaly, 2000), which emphasizes not only the ailments of the human condition, but rather the aspects of humanity that allow us to flourish in the face of adversity. These include individual-level traits such as forgiveness, optimism, gratitude, and grit, as well as group-level traits such as civic responsibility and tolerance. In other words, the field contends that true human health is not merely the absence of suffering, but also entails aspiring to the above-mentioned qualities among others. This shift away from focus on problems and illness is even reflected in how mental health status is measured. As an example,, the Short Form Survey-12, which will be used in the present study, measures mental health status in such a way as to reflect the degree to which any mental health-related problems are interfering with an individual's daily functioning and their feelings of vitality and peacefulness, rather than the mere presence or absence of symptoms. This manner of measuring mental health is more consistent with the philosophy of positive psychology compared to measuring severity of specific symptom areas such as depression or anxiety.

Three variables under the umbrella of positive psychology that warrant inclusion in the present study for several reasons are self-forgiveness, gratitude, and mindfulness (see below for definitions). For one, a large body of research has consistently identified associations among all three of these variables in the context of the spirituality-mental health relationship (see below), suggesting that likely associations will exist among the specific spirituality and mental health-

related variables being investigated in the present study given their overlap with past studies. Second, extant literature has tended to focus on the applications of *either* spirituality or positive psychology to mental health-related literature, with minimal research on how both spirituality and positive psychological constructs can be applied together. As such, more research in this area is necessary to continue identifying the ways in which spirituality may be associated with other psychological constructs, thereby further expanding the extant literature on spirituality. This research can then hopefully lead to new treatment applications that incorporate both spiritual and positive psychological constructs, which may make treatment more relevant and helpful for some individuals. Finally, and in the spirit of the second reason just mentioned, the present study is the first known study to examine self-forgiveness, gratitude, and mindfulness in the context of the RiTE model. This design helps to further examine the utility of the RiTE measure and its relationship to previously unexplored variables. More specifically, using a parallel mediation design helps to explore the ways in which different elements of spirituality may be differentially associated with various mechanisms of the spirituality-mental health relationship. In the sections below, these three potential mediating variables are defined, followed by a discussion of their relationship to mental health outcomes in general, which is then followed by a discussion of ways in which each variable may mediate the relationship between the RiTE dimensions and mental health status.

Self-forgiveness, Mental Health, and the RiTE Model

Defining self-forgiveness. The definition of forgiveness as a broad construct has been debated since empirical studies of the topic began, with the definition of self-forgiveness often receiving its own specialized debate apart from other forms of forgiveness (see Webb, Bumgarner, Conway-Williams, Dangel, & Hall, in press). After reviewing prevalent themes

within the forgiveness literature, Webb and colleagues (2017) define forgiveness such that it involves "a fundamental shift in affect, cognition, and/or behavior in response to negative feelings regarding an acknowledged offensive experience" without pardoning or condoning the offender's wrongdoing. In the same review, they defined self-forgiveness such that it:

> "*...occurs over time and is a deliberate, volitional process initiated in response to one's own negative feelings in the context of a personally acknowledged self-instigated wrong, that results in ready accountability for said wrong and a fundamental, constructive shift in one's relationship to, reconciliation with, and acceptance of the self through human-connectedness and commitment to change*." (Webb et al., in press, italics in original).

In regard to self-forgiveness specifically, debate has primarily concerned what elements of self-forgiveness are relevant and unique to warrant inclusion in its definition, and some scholars debate whether the term "self-forgiveness" is truly capturing a psychologically adaptive process, or capturing a process by which individuals simply absolve themselves of their transgressions without truly taking responsibility (e.g., Tangney, Boone, & Dearing, 2005; Wohl & Thompson, 2011). However, a large body of research has supported the notion that self-forgiveness is a multi-faceted construct that is indeed a positive psychological trait (see Toussaint, Worthington, & Williams, 2015).

An examination of the above self-forgiveness definition reveals that many elements of self-forgiveness are inherently spiritual, or at least present in many pre-existing spiritual paradigms, such as the notion that one should not retaliate against an offender, similar to the "turn the other cheek" philosophy present in Christianity. Similarly, the elements of acceptance and "letting go" of negative thoughts and feelings are highly consistent with Buddhist teachings based in mindfulness and non-attachment to one's inner negativity (Harvey, 2013). Furthermore,

the unique elements of self-forgiveness may also make it the most difficult form of forgiveness to initiate and maintain, with longitudinal studies generally showing that individuals typically display lower levels of self-forgiveness at baseline, and also exhibit smaller increases in self-forgiveness over time compared to other forms of forgiveness (e.g., Exline, Root, Yadavalli, Martin, & Fisher, 2011; Webb, Robinson, Brower, & Zucker, 2006). Preceded by a brief overview of the literature base concerning the general self-forgiveness-mental health association, these spiritual elements of self-forgiveness are discussed, with a particular emphasis on how the RiTE model may be relevant to self-forgiveness and mental health-related outcomes.

Self-forgiveness and mental health. While some literature has suggested that individuals high in self-forgiveness may be less likely to change certain health behaviors or be more likely to be selfish (Tangney et al., 2005; Wohl & Thompson, 2011), a majority of the extant literature has found salutary associations between self-forgiveness and mental health outcomes (Toussaint et al., 2015). For example, a variety of studies have shown salubrious associations between self-forgiveness and substance use (see Webb & Jeter, 2014), depression (Hirsch, Webb, & Jeglic, 2011), hopelessness (Toussaint, Williams, Musick, & Everson-Rose, 2008), suicidal behavior (Nsamenang, Webb, Cukrowicz, & Hirsch, 2013), guilt (McGaffin, Lyons, & Deane, 2013), eating disorders (Watson et al., 2012), aggression (Webb, Dula, & Brewer, 2012), and of interest to the present study, global mental health status (Webb, Hirsch, Visser, & Brewer, 2013b; Webb et al., 2013a). For example, Webb and colleagues (2013b) found that higher levels of self-forgiveness were associated with higher scores on a measure of mental health status in college students. This self-forgiveness-mental health status association was mediated by health behaviors, social support, and interpersonal functioning. Finally, the

associations between self-forgiveness and mental health status via those mediators were stronger and more frequent compared to other forgiveness dimensions.

Relatedly, the self-forgiveness literature has consistently supported two observations about self-forgiveness relative to other forgiveness dimensions. First, self-forgiveness consistently demonstrates stronger associations with various health outcomes compared to other forgiveness dimensions. Second, self-forgiveness also displays unique associations with particular health outcomes that are not seen when examining other forgiveness dimensions (Woodyatt, Worthington, Wenzel, & Griffin, 2017). As such, it appears that achieving self-forgiveness may be the most critical type of forgiveness to achieve in order to improve one's mental health. As discussed in the preceding subsection, however, it appears that while self-forgiveness is the most critical form of forgiveness to achieve, it may also be the most difficult to achieve.

In sum, self-forgiveness is a unique and powerful dimension of forgiveness that warrants further study in order to further understand and make use of its potential clinical applications. Several questions remain about self-forgiveness and its role in fostering improved health outcomes including how self-forgiveness contributes to the association between spirituality and health, and how the self-forgiveness may relate (or not relate) to the various components of the RiTE model.

Self-forgiveness and the RiTE model. Forgiveness has long been discussed from both theoretical and empirical standpoints regarding its relationship to religion, spirituality, and health (see Webb, 2007; Worthington, Berry, & Parrott, 2001). While forgiveness is not an exclusively religious or spiritually-derived construct, it is discussed in all mainstream world religious faiths (Webb, Toussaint, & Conway-Williams, 2012). Moreover, empirical studies such as a meta-

analysis by Davis et al. (2013) show modest but consistent correlations between religiousness, spirituality, and multiple dimensions of forgiveness with this meta-analysis also conducting additional analyses on what elements of religion and spirituality may be associated with self-forgiveness. Of note, while all dimensions of forgiveness may share some overlap in the ways in which they are related to spirituality, certain characteristics of each dimension of forgiveness may also result in unique and dimension-specific associations between forgiveness and spirituality.

While research specific to the mechanisms of the self-forgiveness-spirituality linkage is limited, the above-mentioned meta-analysis by Davis and colleagues (2013) suggests that it is not necessarily one's general spiritual or religious beliefs that predict one's tendency to be self-forgiving, but rather, it is one's attachment to and conceptualization of the sacred that predicts one's likelihood of forgiving him/herself. This conclusion was reached based on data suggesting that self-forgiveness was more strongly associated with religiousness and spirituality in studies where spirituality was measured via questions assessing one's relationship to and beliefs about their personal higher power, rather than their generic religious beliefs or practices. Specifically, individuals who viewed God as a benevolent and compassionate figure (as opposed to a malevolent and judgmental figure) were more likely to endorse higher levels of self-forgiveness. The authors contend that individuals who view God as benevolent and compassionate were more likely to adopt those views towards themselves, whereas individuals with a more negative view of God tend to adopt more self-punishing beliefs (Davis et al., 2013).

Although the RiTE model or studies including it were not utilized in the Davis et al. (2013) meta-analysis, an examination of the RiTE measure items and their relationship to the above-mentioned notion of compassion and benevolence (from a higher power or otherwise)

may provide some direction regarding likely associations between the RiTE measure and self-forgiveness. Indeed, the one known study by Childress, Jeter, and Webb (personal communication, May 2013) which examined the RiTE measure in relation to multiple forgiveness dimensions found that existential spirituality was the only RiTE dimension that significantly predicted self-forgiveness scores in a hierarchical regression model, such that higher levels of existential spirituality were associated with higher levels of self-forgiveness. Data from the present study come from a similar sample as the Childress et al. study in that the samples are comprised of college students from the same geographic region. Childress et al. suggested that cultural and religious practices in this region may impact the degree to which participants value forgiveness. As such, existential spirituality will likely share stronger associations with self-forgiveness compared to the other RiTE dimensions due to its emphasis on respondents' views about the treatment of others and the sanctity of life based on the content of the existential subscale items, while the other two dimensions assess for more general beliefs about specific rituals and the existence (or nonexistence) of a deity.

Gratitude, Mental Health, and the RiTE Model

A second positive psychological characteristic that has previously shown salubrious associations with both spirituality (Carlisle & Tsang, 2013) and mental health outcomes (see Elosua, 2015) is gratitude. Similarly to the above section on self-forgiveness, this section will define gratitude, and review its relationship to mental health and the RiTE model.

Defining gratitude. With the advent of the positive psychological movement at the turn of the millennium (Seligman & Csikszentmihaly, 2000), research on gratitude has burgeoned (Elosua, 2015). Within this burgeoning of studies, several definitions of gratitude with differing implications have been posited. For example, McCullough, Kilpatrick, Emmons, and Larson

(2001) define gratitude as an emotion similar to guilt and empathy in that it is morally and interpersonally driven, occurring in response to receiving some sort of benefit from another person or entity. Wood, Froh, and Geraghty (2010), however, suggest that gratitude is, at least at the dispositional or trait level, a "...wider life orientation towards noticing and appreciating the positive in the world," with gratitude being comprised of numerous elements including appreciation of others, feelings of awe in the presence of beauty, and present-moment awareness of the positive aspects of one's life (p. 891). An examination of these definitions reveals that while both definitions include deeply interpersonal and social elements as a critical element of gratitude, Wood and colleagues' (2010) definition expands beyond the socially and morally salient elements of gratitude by also incorporating several other elements which allow for expressions of gratitude in the absence of a direct action by another person, or without the presence of a divine entity. In order to allow for greater incorporation of both religious and nonreligious experiences of gratitude, and to incorporate a greater number of existentially relevant factors that may be a part of the experience of gratitude, the Wood et al. definition will be utilized in the present study.

Gratitude and mental health. Regardless of the particular definition used, gratitude has been linked to a variety of positive mental health outcomes. For example, McCullough, Emmons, and Tsang (2002) published a multi-study article examining the relationship between self-reported and informant-reported levels of gratitude and a variety of other variables in samples of both college students and community adults. Across these studies, gratitude scores were significantly and positively correlated with multiple variables including life satisfaction, vitality, optimism, hope, positive affect, and empathy, while being inversely correlated with depressive symptoms, negative affect, anxiety, and neuroticism.

In addition to survey-based research, intervention-based studies have also demonstrated the positive effects of gratitude on well-being. For example, a recent meta-analysis by Davis and colleagues (2016) found that individuals who were randomly assigned to gratitude-based interventions as opposed to "alternative activities" or no intervention displayed modestly but consistently higher effect sizes on measures of mental health symptoms and life satisfaction. Commonly used interventions were primarily based in tasking individuals with listing or writing about the things they were grateful for on a regular basis throughout the treatment program. Of note, however, the effects of gratitude interventions were often of equal effect size in comparison to other evidence-based strategies such as thought records and progressive muscle relaxation, suggesting that gratitude interventions may not necessarily add enhanced utility beyond the effects of those other interventions.

Finally, some scholars have explored the notion of gratitude specifically targeted toward a higher power or the universe, as opposed to general gratitude, and the unique contributions of this form of gratitude (see Tsang & Martin, 2016). For example, a study by Rosemarin, Pirutinsky, Cohen, Galler, and Krumrei (2011) found that while higher levels of both general and religious gratitude predicted higher scores on a measure of mental health status, religious gratitude explained additional variance above and beyond the effects of general gratitude, but only for participants with stronger religious commitment, whereas these effects were not additive for individuals of moderate or low religious commitment. This finding is intuitive considering that for moderately or nonreligious individuals, use of religious coping may not provide salient emotional effects or may even be non-applicable. Moreover, religious texts and teachings are replete with excerpts denoting the importance of gratitude, both generally and toward one's creator (see Carlisle & Tsang, 2013).

Gratitude and the RiTE model. While extant literature suggests that gratitude can be, in some instances, facilitated by or based in religious and spiritual experience, the question remains as to how gratitude may be related to the RiTE model. Insight into this question can be gained from considering the nature of each individual dimension and previous studies examining the associations between gratitude and various elements of spiritual experience. For example, past studies have documented positive correlations between gratitude and belief in divine control (Watkins, Woodward, Stone, & Kolts, 2003), and feelings of a personal relationship and connectedness with a deity (McCullough et al., 2002), both of which are elements of theistic spirituality (Webb et al., 2014).

Additionally, one element of gratitude has been conceptualized as "feelings of awe in the presence of beauty" (Wood et al., 2010, p. 891), with gratitude also being positively associated with meaning in life and prosocial helping behaviors (Lambert, Graham, & Fincham, 2009; McCullough et al., 2002), elements which are characteristic of existential spirituality and incorporated in the RiTE measure. Ritualistic elements of spirituality including prayer, reading scripture, and service attendance have also been found to be associated with higher levels of gratitude (e.g., McCullough et al., 2002), although these associations tend to be relatively weaker. Finally, greater feelings of transcendence, a common element of all three RiTE dimensions, have been found to be positively correlated with feelings of gratitude (McCullough et al., 2002).

Based on this literature, it appears that gratitude can be, and often is, related to spiritual and religious experiences, thereby supporting its relevance as a therapeutic tool worthy of exploration for a variety of individuals in the context of mental health treatment. In sum, and based on the small number of known studies examining connections between gratitude and

specific elements of the spiritual experience, it appears possible that gratitude may be related to all three dimensions of the RiTE model for differing reasons, although theistic and existential spirituality may display stronger associations.

Mindfulness, Mental Health, and the RiTE Model

The third and final positive psychological characteristic relevant to the present study is mindfulness, a construct with a strong connection to both spirituality (see Bergemann et al., 2013) and mental health outcomes (see Gu, Strauss, Bond, & Cavanagh, 2015). In a similar fashion to the above sections on forgiveness and gratitude, literature regarding the definition of mindfulness, its relationship to mental health, and its possible relationship to the RiTE model will be reviewed.

Defining mindfulness. The definition of mindfulness, particularly with the popularization of secularized applications of the construct, has been heavily debated within many fields, with psychology being no exception. In fact, as many as 33 different definitions of the term have been put forward (Nilsson & Kazemi, 2016). As such, Nilsson and Kazemi attempted to synthesize these definitions in order to ascertain the common elements and themes across all of them. Based on a thematic analysis of 308 mindfulness-related articles, the authors determined four core components of mindfulness that were universal to all definitions: 1) awareness and attention, 2) present-centeredness, 3) external phenomena that influence one's experience, and 4) cultivation of wisdom and insight. The authors also identified a fifth component that is unique to more traditional Buddhist conceptualizations of mindfulness that has not yet been integrated into secularized versions of the practice, labeling it as "ethical-mindedness" (Nilsson & Kazemi, 2016, p. 190). This element of mindfulness captures the social utility of the practice by which individuals can ultimately improve their compassion for others and reduce suffering in the world

via the development of spiritual insight through meditative and self-transcendent practices. In other words, mindfulness in this context is not merely a means to an end of helping oneself to achieve happiness as it is often viewed in secular contexts, but rather, a social tool that can aid individuals in their pursuit of helping others and contributing to the ultimate harmony of the universe. In light of these various components, the authors defined mindfulness as a "...social practice that leads the practitioner to an ethically minded awareness, intentionally situated in the here and now" (Nilsson & Kazemi, 2016, p. 190).

Regarding definitions of the remaining individual components of mindfulness, Nilsson and Kazemi (2016) address a two-part definition to the first component, attention and awareness. Specifically, they posit that attention, or a receptive but non-ruminative focus on one's external and internal experience, is a prerequisite for awareness, or the monitoring of the products of one's attention. In other words, one cannot be aware if one is not attentive. The second component of present-centeredness "...refers to being in the moment or engaging in the being-mode" and requires a nonjudgmental and active engagement with one's current experience, while also not focusing on past- or future-directed experiences (Nilsson & Kazemi, p. 188). The third element of external events is a broad term meant to capture any "occurrences, objects, and stimuli in the environment (i.e., happenings outside of the body)" and their relationship to the individual's current functioning (p. 188). This element highlights the relational nature of mindfulness in that one must have external events or objects to be mindful of, with these phenomena being out of the individual's control. The final concept of cultivation is defined as "fostering or developing one's character through mindfulness," which includes developing greater compassion for the self and concern for others, and ultimately influencing the greater

good of humanity (p. 188). The authors contend that this element may be a particularly useful element of mindfulness in coping with negative events.

Mindfulness and mental health. The extant literature (and reviews of the literature) largely supports the notion that mindfulness can be a powerful tool for improving mental health outcomes. Indeed, studies on the subject are so numerous that at least 57 meta-analyses have been published examining the effects of mindfulness in various contexts, based on a May 2017 search for the terms “mindfulness” AND “meta-*” in PYSCINFO. These analyses suggest that mindfulness and mindfulness-based interventions predict positive outcomes for a variety of mental health-related variables including psychotic symptoms (Louise, Fitzpatrick, Strauss, Rossell, & Thomas, 2017), substance use (Li, Howard, Garland, McGovern, & Lazar, 2017), stress (Spijkerman, Pots, & Bohlmeijer, 2016), depression (Kuyken et al., 2016), anxiety (Vollestad, Nielsen, & Nielsen, 2012), and general positive and negative affect (Eberth & Sedlmeier, 2012). While the sheer number of studies done on the subject is not necessarily evidence of the utility of mindfulness, and these articles were explicit to note that many unanswered questions remain about the effects of mindfulness on mental health (e.g., study quality, treatment paradigms used, ancillary treatment features), the consistency with which significant and meaningful effect sizes have been obtained across these studies appears to warrant the assertion that mindfulness and health are significantly and meaningfully associated with one another. Additionally, and of particular relevance to the present study, mindfulness has also been found to display positive associations with general mental health status as measured by the Short Form Survey-12 in both cross-sectional (Webb et al., 2013a) and intervention-based designs (Bormann et al., 2013; Greeson et al., 2011).

A relevant question to pose in light of the above-mentioned literature is *how* mindfulness may be associated with mental health outcomes. In other words, what mechanisms may mediate the mindfulness-mental health association? A variety of models have been put forth which aim to describe how mindfulness may exert effects (e.g., Holzel et al., 2011; Shaprio, Carlson, Astin, & Freedman, 2006). Due to the sheer number of models (and studies testing them) that have been published, Gu et al. (2015) conducted a meta-analysis on 20 studies that utilized either randomized controlled or quasi-experimental designs to assess pre- and post-intervention health outcomes for mindfulness-based interventions, while also including mediation analysis within those studies. Overall, the authors' analyses suggested that mindfulness-based interventions appear to exert their impact on mental health via a variety of mechanisms including higher levels of mindfulness over time, decreases in ruminative coping strategies, and lower levels of emotional reactivity. They also noted higher levels of self-compassion and psychological flexibility as potential mediator valuables, but noted that the current evidence (i.e., number and quality of studies) for these constructs is only preliminary.

Mindfulness and the RiTE model. Keeping the above-mentioned knowledge in mind regarding the direct effects of mindfulness on health, a final aspect of mindfulness to address in the present study concerns how it may be related to spirituality, particularly as conceptualized within the RiTE model. One may recall that mindfulness as a construct has deep roots within Buddhist practices and beliefs, with even highly secular forms of mindfulness being based off of the Buddhist conceptualization of mindfulness (see Bergemann et al., 2013). Moreover, even contemporary acceptance- and mindfulness-based interventions such as Acceptance and Commitment Therapy [ACT] (Hayes, 2004) and Dialectical Behavior Therapy (Linehan, 1993) utilize mindfulness in such a way that is often more consistent with traditional Buddhist

approaches to mindfulness, rather than some secular approaches that view mindfulness as a mere clinical tool to achieve happiness as an aim in and of itself. For example, the entire foundation of ACT is built on the notion that alleviation of suffering and removal of symptoms misses the point of attaining true well-being and wholeness, but rather, acceptance and mindful awareness of one's entire continuum of experience (both positive and negative) can facilitate a balanced, value-driven, and meaningful life (Hayes, 2004).

As such, one could argue that even contemporary approaches to mindfulness are designed to help individuals not to alleviate symptoms, but to continually engage in a journey of personal growth via continued inner-directed examination of oneself in order achieve greater connectedness with one's core beliefs and the world around them (i.e., transcendence). For some who are more existentially-driven or practice mindfulness purely within its Buddhist tradition, mindfulness may also be a means of experiencing boundlessness (i.e., the concept of non-Self) and attaining greater insight into the nature of the universe (see Harvey, 2013). Other faith traditions including Christianity, Islam, and other Eastern traditions also contain teachings and passages that highlight the importance of a nonjudgmental awareness of and engagement with one's lived experiences (Fitzpatrick-Hopler, 2006; Goleman, 1988). Therefore, it appears warranted to say that mindfulness is, even when not practiced within the confines of any given spiritual tradition, a deeply spiritual construct, while also being adaptable to one's personally relevant religious or spiritual beliefs.

In terms of how mindfulness as a spiritual construct may relate to the RiTE model specifically, existential spirituality appears to be a prime candidate for sharing likely connections to mindfulness. Based on the nature of the items contained in the RiTE subscale for existential spirituality (e.g., "Helping others is very important", "I feel that understanding oneself is very

important"), individuals high in this dimension likely consider compassion for others (and the self), attainment of purpose and meaning, and self-awareness as highly salient values, with all of these variables being either core components of or correlates of mindfulness (Bloch et al., 2016; Gu et al,. 2015; Harvey, 2013; Webb et al., 2014). Such ideas, particularly a non-judgmental focus on the present, are represented in the Mindful Attention and Awareness Scale (e.g., "I find myself preoccupied with the future or the past"). Indeed, in the one known study examining associations between the RiTE dimensions and mindfulness, only existential spirituality displayed significant and positive associations with mindfulness at the bivariate level, while ritualistic and theistic spirituality displayed non-significant associations. This is intuitive considering the nature of the questions for ritualistic and theistic spirituality in the RiTE measure, such as "I regularly attend organized worship services" or "I believe in a deity or deities", which do not necessarily aim to capture the present-focused and nonjudgmental philosophy of mindfulness.

More specifically, ritualistic spirituality is concerned with regular practice of sanctioned religious behaviors and the observance of traditions, and theistic spirituality is concerned about one's general beliefs in and connection to a higher power. While the ritualistic spirituality subscale does contain the item "I regularly meditate as I have been taught in my faith," no other remaining items on either subscale appear to directly capture the above mentioned characteristics associated with mindfulness. It is possible, however, that certain elements of an individual's spiritual beliefs and practices (i.e., ritualistic and theistic) may facilitate greater levels of the above-mentioned existential principles (e.g., a person who views life as sacred based on God's teachings). In other words, it may not necessarily be the case that ritualistic and theistic

spirituality have no relationship with mindfulness, but rather, that they may exert their influence on mindfulness to the extent they are related to existential spirituality.

The Present Study

Although the studies above are numerous and support several key insights about the nature of spirituality, positive psychological characteristics, and health, many unanswered questions remain. For example, how does the RiTE model relate to mental health status, with mental health status being a more general measure of the impact of one's mental health symptoms on daily functioning? What are the relative contributions of self-forgiveness, gratitude, and mindfulness to the spirituality-health association? What elements of spirituality may be the most salient in their associations with mental health-related outcomes? The present study aims to begin answering these questions by testing a parallel mediation model assessing the relationship between the RiTE dimensions (independent variables), mental health status (dependent variable), and self-forgiveness, gratitude, and mindfulness (mediators).

A study of this nature is important for several reasons. For one, this study will contribute to furthering knowledge about the RiTE model, its utility as a construct, and the nuanced ways in which spirituality may exert its influence on mental health via positive psychological characteristics. Such knowledge is critical to ensuring that the science of psychology and spirituality continues to develop more accurate conceptualizations of the interplay among psychological variables and the numerous unique elements of the spiritual experience. Furthermore, because spirituality and health are multifaceted and abstract concepts, this makes it all the more important (and difficult) to ensure that any models that attempt to describe the mechanisms and processes of such constructs are subjected to empirical validation. Finally, this study is one of the first known studies to directly compare associations among self-forgiveness,

gratitude, mindfulness, and mental health status in the context of a mediation model. Knowledge of such associations could help to guide future treatment efforts and aid clinicians in their selection and application of relevant clinical tools for specific client problems, pending efficacious application of those constructs in clinical studies.

Hypotheses

Based on the above-mentioned findings in the extant literature, the hypotheses regarding the likely associations between the RiTE dimensions, positive psychological mediators, and mental health status are as follows:

Hypothesis 1: At the bivariate level, all three RiTE dimensions (ritualistic, theistic, existential) will display positive associations with self-forgiveness, gratitude, mindfulness, and mental health status.

Hypothesis 2: Ritualistic spirituality will be directly and positively associated with mental health status, and this relationship will not be mediated by any positive psychological variables.

Hypothesis 3: Theistic spirituality will display positive direct and indirect associations with mental health status, with gratitude being a significant mediator for this particular relationship.

Hypothesis 4: Existential spirituality will display positive direct and indirect associations with mental health status via self-forgiveness, gratitude, and mindfulness.

CHAPTER 2

METHOD

Participants

This cross-sectional study utilized undergraduate participants (N = 1,977) from a mid-sized university in Southern Appalachia. The study used secondary data from a larger dataset that examined associations among spirituality, positive psychological characteristics, and various health outcomes including suicide risk and substance use. All participants were recruited from the university's research participant pool, and received course credit for the voluntary completion of all relevant survey materials. Responses were recorded online using the university's survey website, and stored on secure servers. Data collection for this study was approved by the Institutional Review Board of the university.

Measures

Spirituality. Multidimensional spirituality was measured via the RiTE measure of spirituality (Webb et al., 2014). This is a 30-item measure comprised of the three above-mentioned subscales of ritualistic, theistic, and existential spirituality. Each subscale contains 10 items, which assess the degree to which a person agrees or disagrees with statements reflective of each dimension of spirituality. For example, ritualistic spirituality is captured by items such as "I regularly attend organized worship services" and "I feel faith-related rituals and/or practices are very important". Items for theistic spirituality include "I believe in a deity or deities", and "I feel connected to a deity or deities". Finally, existential spirituality items include "Helping other people is very important" and "I see life as a journey toward fulfillment." The scale follows a Likert scale format ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*). Each subscale's scores range from 10-50, with higher scores indicating higher levels of that particular dimension

of spirituality. While a total score reflecting participants' general levels of spirituality is calculable by summing the individual subscale scores, analyses for this study utilized individual subscale scores to assess the contributions of each spirituality dimension.

Preliminary studies suggest that the RiTE measure is a reliable and valid measure of spirituality in undergraduate samples (Chang et al., 2015a; Chang et al., 2015b; Chang et al., 2016; Webb et al., 2014). Reliability estimates have been consistently satisfactory for all subscales, with Cronbach's alphas ranging from .91-.98 across studies. Regarding validity, Webb and colleagues (2014) found that ritualistic and theistic spirituality were more highly correlated with measures of religious well-being and intrinsic religious orientation as compared to existential spirituality. Conversely, existential spirituality was more strongly correlated with measures of existential well-being, and was inversely associated with extrinsic religious orientation. The reader may also refer to the above section titled "The RiTE Literature" for a discussion of the RiTE measure's association with other various outcomes. Alphas?

Mental Health Status. Mental health status was measured via the Mental Composite Score (MCS) subscale of the Medical Outcomes Study Short Form-12 (SF-12) (Ware, Kosinski, & Keller, 1996). The five items that comprise this subscale utilize various response formats (i.e., "yes/no", a 1(*all of the time*) to 6 *(none of the time*) Likert style scale) to assess participants' global mental health functioning over the past four weeks. Item content generally assesses the impact of participants' mental health on their daily functioning (e.g., accomplishing less than one would like) and general symptoms of depression and anxiety (e.g., feeling calm and peaceful, feeling down-hearted and blue). This measure uses a *z*-score scoring metric which is used as an indicator of the respondent's functioning relative to other individuals in their age group, rather than using a general total score. Individual item responses are first transformed to this z-score

metric to ensure equal weighting, and then all items are combined to yield a total score. Thus, individuals with a score of zero are considered to be of average health for their age group, while higher or lower scores reflect greater or poorer mental health status, respectively.

The SF-12 has shown adequate internal consistency in previous studies of mental health outcomes in college students (α range = .75-.78) (e.g., Anders, Frazier, & Shallcross, 2014; Webb et al., 2013a; Webb et al., 2013b). Literature also suggests that SF-12 scores are highly correlated with scores on the SF-36, a longer version of the SF-12, in patients with a variety of conditions including coronary heart disease (e.g., Falide, Medina, & Ramirez, 2009), stroke (Pickard, Johnson, Penn, Lau, & Noseworthy, 1999) and those with hip and knee disorders (Van der Waal et al., 2005), suggesting that the SF-12 is a satisfactory proxy for the longer measure. Moreover, the SF-12 MCS, the five items used in the current study, is associated with level of depressive symptoms as determined by structured clinical interviews in both cross-sectional (Vilagut et al., 2013) and longitudinal studies (Lenert, Sherbourne, Sugar, & Wells, 2000). The MCS has also been correlated with higher levels of subjective distress (Windsor, Rodgers, Butterworth, Antsey, & Jorm, 2006). No known data regarding the reliability of the MCS specifically in college students exists, but was measured in the present study via Cronbach's alpha, as was the internal consistency of all other survey measures. As such, and despite limited data specific to college student populations, it appears that the SF-12 MCS serves as a viable proxy for one's mental health status based on individuals' perceptions of their mental health.

Self-forgiveness. The self-forgiveness subscale of the Heartland Forgiveness Scale (HFS; Thompson et al., 2005) was used to assess self-forgiveness scores. For this scale, respondents read six statements reflective of self-forgiveness, rating them on a 1 (*Almost Always False of Me*) to 7 (*Almost Always True of Me*) Likert scale. Items include "Although I feel bad at first when I

mess up, over time I can give myself some slack," and "I hold grudges against myself for negative things I've done." Possible scores on this subscale range from 6 to 42, with higher scores suggesting greater levels of self-forgiveness.

The HFS self-forgiveness subscale has consistently shown satisfactory reliability (α range = .72-.87) in college students despite having only six items (Feibelman & Turner, 2015; Thompson et al., 2005). It has also displayed significant positive correlations with other measures of self-forgiveness, with such associations being more consistent with measures of dispositional self-forgiveness, rather than situational forgiveness. The self-forgiveness subscale has also shown positive correlations with other forgiveness-related constructs including cognitive flexibility and positive affect, while being inversely correlated with variables such as rumination and negative affect (Thompson et al., 2005). In sum, it appears that the self-forgiveness dimension of the HFS is a reliable and valid measure in the context of college student samples.

Gratitude. Gratitude was measured via the Gratitude Questionnaire-6 (GQ-6) developed by McCullough and colleagues (2002). This questionnaire is a 6-item measure on which respondents indicate the degree to which they agree or disagree with gratitude-related statements including "I have so much in life to be thankful for," and "Long amounts of time can go by before I feel grateful to something or someone," with statements reflective of ungratefulness being reverse scored. Items are scored on a Likert scale ranging from 1 (*Strongly Disagree*) to 7 (*Strongly Agree*). All items are then summed to yield a total score with a possible range of 6-42, with higher scores indicating greater levels of gratitude.

The GQ-6 has shown satisfactory internal consistency reliability in previous samples of undergraduate students (α range = .71 - 84) despite having only six items (Feng, Ding, & Zhao, 2015; McCullough et al., 2002; Stockton, Tucker, Kleiman, & Wingate, 2016). One known

published study on the scale's test-retest reliability shows that scores are generally consistent across a six-week period (intraclass correlation = .85; Jans-Beken, Lataster, Leontjevas, & Jacobs, 2015). The measure has also been found to be reflective of one general dispositional gratitude factor, rather than reflecting different components of gratitude (McCullough et al., 2002). Additionally, and per the above section on gratitude and mental health, the GQ-6 has shown evidence of convergent validity based on its relationships with other outcomes such as hope and negative affect, respectively (McCullough et al., 2002).

Mindfulness. The final survey measure used in this study was the Mindful Attention and Awareness Scale (MAAS; Brown & Ryan, 2003). This measure contains 15 items that assess the degree to which participants are mindful of their experience during their day-to-day lives. Example items include "I find it difficult to stay focused on what's happening in the present," "It seems I am 'running on automatic' without much awareness of what I'm doing," and "I snack without being aware that I'm eating." Items are scored on a Likert scale, ranging from 1 (*Almost Always*) to 6 (*Almost Never*). Individual responses are then summed to yield an average score, resulting in a possible range of 15-90, with higher scores reflecting greater levels of mindfulness.

In their initial development study of the measure, Brown and Ryan (2003) found that the scale showed satisfactory convergent validity in multiple samples including college students. Specifically, the scale displayed positive correlations with openness to experience, cognitive flexibility, self-reflectiveness, awareness of internal states, and feelings of mental clarity. It was inversely associated with rumination, anxiety, depressive symptoms, and hostility. The scale displayed satisfactory internal consistency across a variety of samples including undergraduates, community adults, and a national mail-in sample, with alpha values ranging from .80-.87. The scale also demonstrated satisfactory test-retest reliability over four weeks (r = .81) in an

undergraduate sample. In sum, the MAAS appears to be a reliable and valid measure of mindfulness in the context of undergraduate samples.

Covariates. While research on the RiTE measure and its relationship to specific demographic characteristics is limited, other research highlights important ways in which characteristics such as age, gender, and ethnicity may influence the spirituality-health relationship. For example, Webb et al. (2013a) found that age and gender were significantly correlated with mental health status in a college student sample, such that younger individuals and males tended to display poorer mental health status. Additionally, factors such as age, gender, and ethnicity may influence the degree to which a person endorses theistic versus atheistic beliefs, or identifies with a particular religion. For example, younger white males display the highest likelihood of identifying as atheist compared to other demographic groups, while women tend to more frequently identify with particular faith groups in general, with some exceptions (Pew Research Center, 2014). Additionally, Black and Latino individuals are more likely to endorse a belief in God, while White and Asian individuals are more likely to endorse uncertainty or disbelief in God (Pew Research Center, 2014). Such characteristics (i.e., age, sex, race) may also influence the degree to which individuals endorse the focal positive psychological characteristics in this study (e.g., Davis et al., 2013; Kashdan, Mishra, Breen, & Froh, 2009; Webb et al., 2013a). As such, and in order to ascertain the general associations of spirituality with health via positive psychological traits, age, gender, and ethnicity were used as covariates in the present study.

Statistical Analysis

Two primary methods of analysis were used to examine the hypothesized associations among the RiTE dimensions, positive psychological characteristics, and health. The first method

utilized Pearson's product-moment correlations (*r*) to examine correlations among all focal variables and covariates. The second and primary method of analysis comprised a series of ordinal least-squares regression analyses, specifically, parallel mediation analysis (Hayes, 2013). Of note, in addition to the three covariates mentioned above, each non-focal dimension of spirituality not being directly analyzed as an independent variable in a given model was also used as a covariate (Preacher & Hayes, 2008). For example, when examining ritualistic spirituality as the independent variable, theistic and existential spirituality were entered into the model as covariates. Conceptually, this results in one model in the sense that all individual models will have the same characteristics (*F*-values, *R*-squared values). Practically, however, this results in three separate statistical models so as to allow for intuitive interpretations of specific effects for individual RiTE dimensions (Preacher & Hayes, 2008).

Parallel mediation analyses (Hayes, 2013, Chapter 5) were chosen for multiple reasons. First, utilizing an approach which simultaneously analyses multiple mediators allows for comparison of relative effect sizes among mediators, providing insight into which particular mediators may be more relevant to a given relationship. Second, and more generally, utilizing Hayes's prescribed tests of mediation allow for testing of indirect-only effects (i.e., the relationship between X and Y is purely a function of X's influence on Y via the mediator(s)). Such methods are therefore more sensitive to potential mediating relationships, and also do not require that X and Y be directly related before mediation testing is permitted (Baron & Kenny, 1986). This results in fewer necessary hypothesis tests, and therefore greater power. Power is also further increased in Hayes's method of mediation due to the fact that bootstrapping is built in to the statistical package which tests mediation (PROCESS). As discussed above, the present

study will input a total of three statistical models into this program, one for each RiTE dimension (see Figure 2 for a depiction of the model being tested in the present study).

Power analyses are often useful to determine necessary sample sizes before beginning formal analyses. For the purposes of the present study, however, such a priori analysis may be both unnecessary and impractical for multiple reasons. For one, power analyses, such as those seen in Monte Carlo simulations, require the input of pre-estimated parameters based on previous literature (e.g., the size of *a* and *b*) to determine the likelihood that the null hypothesis is rejected given those parameters and a given sample size. Given the novelty of the present study, and the wide variability of reported effect sizes in previous literature for specific associations, specifying those parameters would be very difficult and likely inaccurate due to limited information. Furthermore, given the use of bootstrapping in combination with the present study's sample size of almost 2,000 participants, it is likely that sufficient power will be achieved to allow for detection of any clinically relevant and significant effects. For the present study, bootstrapped resampling was performed 10,000 times for each model using percentile confidence intervals, which utilize repeated resampling of indirect effects (e.g., *ab*) to construct an empirical distribution of all indirect effects being tested. Such a method is more accurate given the empirical construction of the sampling distribution for indirect effects, rather than assuming the distribution is normal (Hayes, 2013).

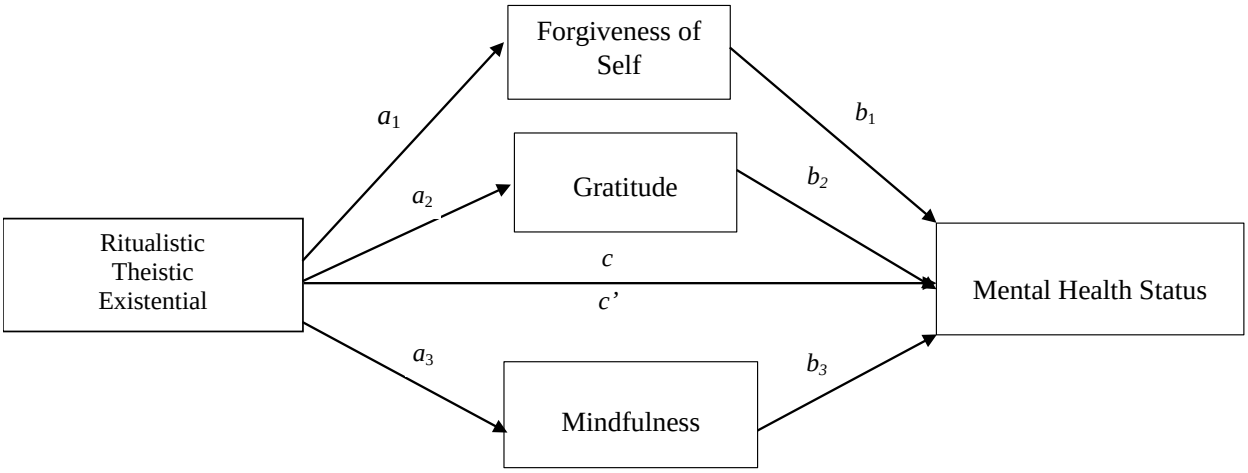

Figure 2. Hypothesized Multivariable Associations

Hypothesis Testing

Hypothesis 1 concerns all focal bivariate relationships in this study, which are all hypothesized to be positive in nature. These relationships were tested via Pearson's product-moment correlations and examination of their valence and significance.

Hypotheses 2-4 concern the direct and indirect relationships among specific RiTE dimensions, mental health status, and all positive psychological mediators, all of which are hypothesized to be positive in nature. These were tested by examining the valence and significance of multiple components of a parallel mediation model. Hypotheses regarding the direct relationship between the RiTE dimensions and mental health status would be supported by a significant and positively valenced *direct effect* (path *c*′), which would suggest that the relevant RiTE dimension exerts a significant influence on mental health status after taking the effects of all mediator variables into consideration. Indirect associations between the RiTE dimensions and mental health status were tested via examination of the *total indirect effect* (*ab*) for each specific

RiTE dimension, with the total indirect effect being an indicator of whether *any* indirect relationship exists between a predictor and an outcome as a function of at least one mediator variable. This coefficient is the sum of all *specific indirect effects* ($a_1b_1 + a_2b_2 + a_3b_3$), which represent the product of each individual path leading from the predictor variable to a mediator (e.g., a_1), and a mediator variable to a predictor (e.g., b_1).

Of note regarding hypotheses 2-4, not all RiTE dimensions are hypothesized to be associated with mental health status and all mediators in identical ways. In other words, some RiTE dimensions were hypothesized to display stronger or more diffuse (i.e., through multiple mediators) associations with mental health status than others. To determine the contribution of specific mediators, comparisons of specific indirect effects were examined. If a particular mediator exhibited a significant contribution to the RiTE-mental health associations compared to another, this is denoted by the confidence interval for that comparison not containing zero. More generally, holistic examinations of the statistical models for each RiTE dimension were examined, with more salient effects for a particular RiTE dimension being denoted by larger regression coefficients (since all three predictor variables are on the same metric).

CHAPTER 3

RESULTS

Sample Characteristics

In total, 1,977 participants fully completed all relevant survey materials (see Table 1 for a breakdown of all sample characteristics). The sample composition was primarily white (88.6%; n = 1,751) and female (67.2%; n = 1,328) with a mean age of 21.5 years (SD = 5.9; Range = 18-60). Concerning belief status, the majority of the sample identified as religious (50.8%; n = 1,004) or spiritual (29.4%; n = 582).

Bivariate Correlations

All correlations were examined via a correlation matrix that included all focal variables and covariates (see table 2). Unless otherwise specified, all correlations discussed in this section are statistically significant at $p < .05$. Ritualistic spirituality was positively correlated with all focal variables and covariates with the exception of age, which was an inverse association (r = -.094), and ethnicity, which was a non-significant association (r = -.01). Theistic spirituality was also positively correlated with all variables except age (r = -.05) and ethnicity (r = -.05), and was most closely associated with gratitude (r = .30) followed by self-forgiveness (r = .11) and mindfulness (r = .05). Finally, existential spirituality was positively associated with all variables except ethnicity (r = -.05).

Of note, all RiTE dimensions demonstrated positive associations with all three mediators and mental health status, with existential spirituality demonstrating the strongest correlations with the mediator variables (r_{range} = .08 - .38), while ritualistic spirituality displayed the strongest correlation with mental health status (r = .19). All significant correlations generally ranged from .05 to .40, suggesting weak to moderate associations.

Table 1

Sample Characteristics (N = 1,977)

Characteristic/Variable	Mean/N	Standard Deviation/%
Gender		
Male	649	32.8%
Female	1,328	67.2%
Ethnicity		
White	1,751	88.6%
African American/Black	103	5.2%
Hispanic	37	1.9%
Asian	24	1.2%
Pacific Islander	2	.1%
Native American	7	.4%
Multiracial	38	1.9%
Other	15	.8%
Belief Status		
Atheist	114	5.8%
Agnostic	151	7.6%
Unsure	114	5.8%
Spiritual	582	29.4%
Religious	1,004	50.8%
Did Not Answer	12	.6%
Age	21.47	5.94
Ritualistic Spirituality (Possible range 10-50)	32.99	10.91
Theistic Spirituality (Possible range 10-50)	38.85	12.75
Existential Spirituality (Possible range 10-50)	44.01	6.12
Self-Forgiveness (Possible range 6-42)	29.28	6.73
Gratitude (Possible range 6-42)	35.53	6.02
Mindfulness (Possible range 15-90)	57.79	14.21
Mental Health Status	.0136	.73

*Note: Mental Health Status scores are near zero due to being transformed to a Z-score metric (i.e., mean of zero, SD of 1)

Table 2

Bivariate Associations (N = 1,977)

	1	2	3	4	5	6	7	8	9
1. Ritualistic Spirituality	(.95)[a]								
2. Theistic Spirituality	.76**	(.99)							
3. Existential Spirituality	.35**	.37**	(.93)						
4. Self-Forgiveness	.09**	.11**	.21**	(.79)					
5. Gratitude	.27**	.30**	.38**	.38**	(.77)				
6. Mindfulness	.05*	.05**	.08**	.37**	.28**	(.91)			
7. Mental Health Status	.19**	.19**	.09**	.44*	.38**	.44**	(.74)		
8. Age	-.09**	-.05*	.05*	.06*	-.01	.07**	-.09**		
9. Gender	-.09**	-.10**	.06*	-.05*	.11**	-.10**	-.14*	-.02	
10. Ethnicity[b]	-.01	-.05*	-.05*	.07*	-.05*	.033	.00	.00	.00

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

[a]Cronbach's alpha coefficients are displayed for relevant measures along the matrix diagonal

[b]Ethnicity: 0 = White, 1 = Non-white

Multivariable Associations

The general model which examined associations between all RiTE dimensions and mental health status was significant (see Table 3; $F(9, 1{,}967) = 126.89$, $p < .0001$), and explained approximately 37% of the variance in mental health status scores. Self-forgiveness ($b_1 = .03$), gratitude ($b_2 = .03$), and mindfulness ($b_3 = .01$) were all significantly and positively associated with mental health status across all RiTE dimensions ($p < .0001$).

In terms of specific RiTE dimensions, ritualistic spirituality displayed a significant positive total ($c = .0125$, $p < .0001$) and direct ($c' = .0113$, $p < .0001$) association with mental health status, with no significant indirect associations being observed. In other words, ritualistic spirituality appears to be associated with mental health status despite the presence of the mediator variables, and ritualistic spirituality did not display any significant associations with self-forgiveness, gratitude, or mindfulness. This pattern matches the hypothesized results for ritualistic spirituality.

Theistic spirituality displayed a non-significant total ($c = .00$) and direct ($c' = .00$) association with mental health status, suggesting that theistic spirituality and mental health status are not directly associated with each other. Theistic spirituality was, however, significantly and positively associated with mental health status in an indirect fashion ($ab = .0029$; 95% CI = .0007, .0051). This indirect effect operated specifically through gratitude ($a_2b_2 = .0018$; 95% CI = .0009, .0028), such that higher levels of theistic spirituality were significantly associated with higher levels of gratitude ($a_2 = .07$, $p < .0001$), which were in turn associated with higher mental health status scores. The specific indirect effect of gratitude was at least twice as great as the effects of the other two non-significant mediators in the context of theistic spirituality.

Finally, existential spirituality displayed a non-significant total association with mental health status (c = .0040), but a significant direct (c' = -.0124, p < .0001) and indirect (ab = .0164; 95% CI = .0128, .0203) association. Of note, the direct effect was negative in nature, while the indirect effect was positive, suggesting that existential spirituality exerts differential associations with mental health status depending on how this relationship is examined. Regarding indirect effects, existential spirituality was significantly associated with mental health status via self-forgiveness (a_1b_1 = .0064; 95% CI = .0047, .0082), gratitude (a_2b_2 = .0078; 95% CI = .0057, .0101), and mindfulness (a_3b_3 = .0021, 95% CI = .0005, .0029). Higher levels of existential spirituality were associated with higher levels of self-forgiveness (a_1 = .22, p < .0001), gratitude (a_2 = .30, p < .0001), and mindfulness (a_3 = .15, p < .0001), all of which were then associated with higher mental health status scores. As evidenced by confidence intervals for specific contrasts, the effect size of self-forgiveness was greater than that of mindfulness (contrast = .0042; 95% CI = .0020, .0066). Similarly, the effect size of gratitude was significantly greater than the effect size for mindfulness (contrast = .0057; 95% CI = .0030, .0084). The effect sizes of self-forgiveness versus gratitude were not significantly different.

In sum, it appears that the RiTE dimensions were differentially associated with mental health status. Ritualistic spirituality was directly and positively associated with mental health status; theistic spirituality was positively and indirectly associated with mental health status via gratitude; existential spirituality was directly and negatively associated with mental health status, while also being positively and indirectly associated with it via all three mediators.

Table 3

Parallel Mediation Associations of Spirituality with Mental Health Status

	Ritualistic Spirituality			Theistic Spirituality			Existential Spirituality		
	(N = 1,977); R^2 = .37; p < .0001								
	Coefficient	p value		Coefficient	p value		Coefficient	p value	
a_1	-.0004	.9860		.0254	.1559		**.2186**	<.0001	
a_2	.0271	.1187		**.0684**	<.0001		**.2979**	<.0001	
a_3	.0338	.4498		.0221	.5654		**.1509**	.0074	
b_1	**.0295**	<.0001		**.0295**	<.0001		**.0295**	<.0001	
b_2	**.0262**	<.0001		**.0262**	<.0001		**.0262**	<.0001	
b_3	**.0142**	<.0001		**.0142**	<.0001		**.0142**	<.0001	
c	**.0125**	<.0001		.0003	.8922		.0040	.1614	
c'	**.0113**	<.0001		-.0026	.1072		**-.0124**	<.0001	
	Effect	95CI		Effect	95CI		Effect	95CI	
ab	.0012	-.0013	.0036	**.0029**	.0007	.0051	**.0164**	.0128	.0203
a_1b_1	.0001	-.0012	.0012	.0007	-.0003	.0018	**.0064**	.0047	.0083
a_2b_2	.0007	-.0002	.0017	**.0018**	.0009	.0028	**.0078**	.0057	.0101
a_3b_3	.0005	-.0008	.0017	.0003	-.0007	.0014	**.0021**	.0005	.0039

Note: Analyses controlled for age, gender, ethnicity, and non-focal spirituality dimensions. 95CI = 95% bias-corrected confidence interval.

a_1 = basic association of Spirituality with Self-Forgiveness
a_2 = basic association of Spirituality with Gratitude
a_3 = basic association of Spirituality with Mindfulness
b_1 = basic association of Self-Forgiveness with Mental Health Status
b_2 = basic association of Gratitude with Mental Health Status
b_3 = basic association of Mindfulness with Mental Health Status
c = total effect of Spirituality on Mental Health Status, without accounting for mediator variables
c' = direct effect of Spirituality on Mental Health Status, after accounting for mediator variables

ab = total indirect effect of Spirituality on Mental Health Status through all mediators
a_1b_1 = specific indirect effect of Spirituality on Mental Health Status through Self-Forgiveness
a_2b_2 = specific indirect effect of Spirituality on Mental Health Status through Gratitude
a_3b_3 = specific indirect effect of Spirituality on Mental Health Status through Mindfulness

CHAPTER 4

DISCUSSION

The results of the present study suggest that multiple dimensions of spirituality are associated with mental health status via self-forgiveness, gratitude, and mindfulness. The nature of these relationships varied depending on which particular spirituality dimension and positive psychological trait were being considered. Such associations generally support the extant literature base on the role of spirituality and positive psychology in mental health-related outcomes.

Evaluation of Hypotheses

Hypothesis 1 concerning bivariate relationships among the RiTE dimensions, self-forgiveness, gratitude, mindfulness, and SF-12 MHS scores was fully supported. That is, all of these variables were significantly and positively associated with one another at the bivariate level as was hypothesized. These correlations generally ranged from small to moderate in size, with the correlation between ritualistic and theistic spirituality being the strongest of all bivariate associations.

Hypothesis 2 concerning multivariable associations between ritualistic spirituality and mental health status was fully supported in that ritualistic spirituality was directly and positively associated with mental health status. No significant indirect effects were found. As such, this relationship suggests that greater ritualistic spirituality may be associated with greater mental health status via 1) a direct causal connection, 2) via indirect mechanisms not included in the present study (e.g., social support), or 3) both of these pathways.

Hypothesis 3, which posited direct associations between theistic spirituality and mental health status, as well as indirect associations via gratitude, was partially supported. Specifically,

the hypothesized indirect associations were observed, but no significant direct effects were found, resulting in an *indirect-only* effect. This suggests that theistic spirituality may be associated with mental health-related functioning primarily via its associations with gratitude.

Finally, Hypothesis 4 concerning positive direct and indirect associations between existential spirituality and mental health status was partially supported. While the hypothesized positive and indirect associations across all mediator variables were found, the direct association between existential spirituality and mental health status was negative, contrary to hypotheses. As such, it appears that existential spirituality may display both positive and negative associations with mental health status. This counter-intuitive misalignment between the direct and indirect effects is discussed below in light of previous relevant theoretical and empirical work.

Connections with Past Literature

Studies using the RiTE model. The results of this study are both consistent and inconsistent with various relationships identified in previous studies using the RiTE model. For instance, the study that is arguably most similar to the present one (and even used a sample from the same geographic area) found a similar pattern of results concerning direct and indirect effects (Chang et al., 2016). That is, all dimensions of spirituality displayed positive indirect associations with a mental health outcome (i.e., depressive symptoms) as mediated by a positive psychological trait (i.e., hope agency). However, the two studies are different in that the present study displayed some direct associations (both positive and negative) whereas the Chang et al. (2016) study did not. Such differences could be a function of the larger sample size in the present study (i.e., greater power to detect direct effects), or differences in the mental health outcome (depressive symptoms versus mental health status) or mediators being examined across studies. The only other known study that utilized a mediation-based approach with the RiTE model also

yielded a very similar pattern of results when examining the RiTE model and its association with psychache (i.e., agonizing psychological pain) via various forms of social support (Dangel & Webb, 2017). The only difference in this pattern was that ritualistic spirituality displayed both direct *and* indirect associations in the Dangel and Webb (2017) study, while only direct effects were found in the present study. As such, and despite some minor differences, the pattern of results in the present study appears to be generally consistent with previous RiTE model studies that have used mediation-based analyses.

More generally, and consistent with the present study, results from *all* known studies that have used the RiTE measure suggest that existential spirituality displays the strongest and greatest number of associations with multiple outcome variables compared to ritualistic and theistic spirituality (Chang et al., 2015a; Chang et al., 2015b; Chang et al., 2016; Dangel & Webb, 2017). While more research is needed to further establish this pattern (and patterns within the RiTE literature more generally), this preliminary trend could be a function of the goal-oriented, meaning-focused, and prosocial nature of existential spirituality as measured by the RiTE and the nature of the constructs that have been examined within the RiTE literature thus far. Indeed, variables examined in past studies such as hope, high personal achievement standards, organization, and agreeableness all reflect these themes to varying degrees. As such, existential spirituality may be a facet of the spiritual experience that enables individuals to engage in various meaning-making strategies, prosocial behaviors, and coping strategies that facilitate greater overall mental health-related functioning. This perspective is consistent with multiple theories on the general relationship between spirituality and health (e.g., Park, 2013; Rye et al., 2013), while extending beyond them by identifying the existential element of spirituality as one of the drivers of such associations. Such a hypothesis would, however, require

further research to provide support for this perspective and to rule out alternative perspectives (e.g., an underlying variable being the cause of both existential spirituality and gratitude). Related to this issue of underlying causes, there is always the possibility that a relationship between two survey measures is partially a function of similar item content across measures. In the case of the RiTE measure and the SF-12 MHS, however, it is unlikely that such similarities would cause any significant statistical overlap in the context of a regression model. Statistically, bivariate relationships between the RiTE dimensions and MHS were relatively weak (.19 or less); conceptually, the RiTE dimensions assess for one's particular beliefs (and to a limited extent, behaviors) in the context of spirituality, whereas the MHS investigates the occurrence of general daily activity and mood states.

One key finding that was unexpected regarding existential spirituality was its direct and *negative* association with mental health status, while displaying a *positive* indirect association. While contrary to hypotheses that assumed existential spirituality would be positively and directly related to mental health status, this pattern of findings was also present in the study conducted by Dangel and Webb (2017). Given that their study's outcome was based in the fulfillment of psychological needs, the authors proposed that this pattern of findings was due to the fact that the items on the existential spirituality subscale did not reflect the degree to which participants were able to meet those needs. Mental health status, however, is a more global variable which may require a broader perspective to explain this finding, with the notion of spiritual struggle being one possible explanation (Exline & Rose, 2005; Exline, Pargament, Grubbs, & Yali, 2014; Dworsky, Pargament, Wong, & Exline, 2016). Specifically, a spiritual struggle occurs whenever someone grapples with "…conflicts, questions, and tensions about spiritual and religious issues" (Dworsky et al., 2016, p. 258). Such struggles are common among

both religious and nonreligious people, and failing to resolve them is associated with a multitude of negative health outcomes including early mortality (e.g., Ano & Vasconcelles, 2005; Dworsky et al., 2016; Pargament, Koenig, Trakeshwar, & Hahn, 2001).

Given the highly introspective nature of existential spirituality and its emphasis on growth and finding meaning, individuals high in existential spirituality are likely to experience such struggles (compared to individuals who do not value such existential principles) as they progress on their search for growth and meaning. Furthermore, the present sample consisted of undergraduates, with college being a significant time of growth and exposure to new and diverse worldviews, possibly increasing the likelihood of such struggles. Similarly to the Dangel and Webb (2017) study, however, the questions on the existential subscale do not indicate the degree to which individuals have resolved any of their struggles. As such, it is possible that the individuals in the present study, who generally endorsed a high degree of existential spirituality, may be in a phase of spiritual struggle that has direct negative implications for their mental health status, with the same existential spirituality also allowing them to engage in other positive coping strategies (i.e., self-forgiveness, gratitude, mindfulness). Such statistical configurations (i.e., a direct effect and indirect effect displaying opposite valences) are possible, and somewhat common, within a mediation-based framework (see Hayes, 2013, Chapter 6).

Another potential explanation for the negative direct effect of existential spirituality concerns the mediator variables used in this study. As all three mediators concern positive and adaptive coping strategies thought to be associated with existential spirituality, any variance in the outcome is then left to be explained may represent the less adaptive or distressful aspects of existential thinking (e.g., existential anxiety or lack of meaning).

While existential spirituality appears to be the most prominent RiTE dimension in the context of the present study, the contributions of the other two RiTE dimensions to the prediction of mental health status are noteworthy in their own right, and further support the theorized overlap among the three dimensions. For example, findings revealed indirect effects of theistic spirituality on mental health status via gratitude, with existential spirituality also being significantly associated with gratitude. Per the RiTE model, the fact that these two specific dimensions were associated with gratitude is likely a result of their shared emphasis on meaning-making (Lambert et al., 2009; Webb et al., 2014), albeit via different sources (i.e., deity-based versus secular). It is currently unclear, however, whether such meaning making is a precursor to the experience of gratitude, an outcome of gratitude, or both a precursor and outcome in the context of the present study.

Regarding ritualistic spirituality, its associations with mental health status were largely direct in nature. One reason for such direct associations could be the positive feelings associated with the social component of ritualistic spirituality (e.g., church attendance) that may confer direct benefits to mental health-related functioning (Park, 2007). Indeed, such positive feelings are directly embedded into the ritualistic spirituality subscale via an item that states “I feel good after I attend organized worship services”, and social support has been found to be strongly related to ritualistic spirituality (Dangel & Webb, 2017). As such, it is possible that these specific elements of ritualistic spirituality have a direct (i.e., causal) relationship with mental health status. Alternatively, other mediators that are closely associated with ritualistic spirituality (e.g., prayer) were not measured in the present study, with inclusion of such mediators likely resulting in more indirect associations between ritualistic spirituality and mental health status.

Another potential reason for the direct-only associations for ritualistic spirituality concerns the non-orthogonal nature of the RiTE dimensions. That is, while the dimensions are distinct from one another, they share a moderate degree of statistical overlap, especially ritualistic and theistic spirituality (Webb et al., 2014). As such, and as alluded to above in the section titled "Mindfulness and the RiTE model", it is possible that ritualistic spirituality may be related to the present study's mediators due to such overlap with the other RiTE dimensions. For example, ritualistic spirituality may be indirectly associated with mindfulness due to the fact that a particular individual's ritualistic spirituality leads them to endorse a high degree of existential spirituality, which then leads to mindfulness. Such potential relationships between individual RiTE dimensions and positive psychological traits have broader implications for positive psychology and spirituality research, with these implications being discussed below.

Spirituality and positive psychology. Beyond the extant literature on the RiTE model specifically, the present study also supports previous research identifying spirituality as a protective factor within the context of positive psychology (see Rye et al., 2013). In other words, spiritual and religious beliefs and practices may serve as a protective factor that may confer additional benefits beyond typical secular (and non-spiritual) coping strategies. Indeed, and supported by a review by Rye and colleagues (2013), many of the variables traditionally studied under the purview of positive psychology (e.g., hope, gratitude, self-compassion, forgiveness) are at least partially based in spiritual or religious ideas.

Barton and Miller (2015) conducted a study that exemplifies the intertwined nature of spirituality and positive psychology variables. Specifically, a latent class analysis with emerging adults (ages 18-25) found that levels of spirituality and endorsement of gratitude, grit, optimism, and meaning in life coincided across 83% of the sample. That is, levels of spirituality directly

coincided with levels of those positive traits (i.e., high-high, low-low), with those endorsing higher spirituality and positive psychology demonstrating reduced depressive symptoms and substance use. The remaining 17% were labeled "virtuous humanists" who displayed low levels of personal spirituality but high endorsement of positive psychological traits. The present study echoes the trends found in their study while also demonstrating via mediation analyses that positive psychological traits may be an intervening mechanism through which spirituality exerts its influence on mental health outcomes. Furthermore, past studies examining the specific facets of the spiritual experience that predict positive psychological traits have been extremely limited, and represent the newest efforts in this area of research. Despite the limited nature of this research, a discussion of current trends is warranted in order to determine the extent to which the present study is consistent or inconsistent with previous studies.

The RiTE dimensions and self-forgiveness. The previously mentioned meta-analysis by Davis and colleagues (2013) represents one of the most consolidated efforts to determine how spirituality may be related to self-forgiveness. As mentioned above, their study found that one's beliefs about the benevolence of his/her personal deity and his/her feelings of connectedness to that deity were the most salient predictor of self-forgiveness, as individuals who endorsed this benevolent view of God were more likely to be benevolent toward themselves. General measures of religiousness, however, were found to be less strongly related to self-forgiveness. As such, this would suggest that both theistic and existential spirituality should have been related to self-forgiveness given their emphasis on connectedness to deity and benevolence, respectively. However, two factors could be responsible for the finding that theistic spirituality was not associated with self-forgiveness. First, nationwide polls suggest that individuals from the Appalachian region of the United States are more likely to view God as judgmental compared to

the rest of the country, who are more likely to view God as benevolent and loving (Pew Forum on Religion and Public Life, 2008). Such cultural differences in the expression of religious beliefs could have attenuated the association between theistic spirituality and forgiveness in the present study, given that the sample was taken from southern Appalachia. Furthermore, while the questions pertaining to theistic spirituality in the RiTE assess one's beliefs about feeling connected to a deity, the measure does not include any items about the respondent's beliefs about God as punishing or loving, which could also have prevented theistic spirituality from having a stronger association with self-forgiveness (either positive or negative).

The RiTE dimensions and gratitude. As discussed previously, the core features of gratitude include the acknowledgement of the positive aspects of one's life, its utility as a motivator of prosocial behavior as a result of being the recipient of such positive experiences, and one's relationship to powers (supernatural or otherwise) larger than oneself that provide such benefits (Carlisle & Tsang, 2013; Wood et al., 2010). Within the context of the present study, the finding that theistic and existential spirituality were the RiTE dimensions associated with gratitude are consistent with those core features, many of which are reflected in the item content of the Theistic and Existential spirituality subscales. More broadly, the present study's findings are consistent with past studies that suggest gratitude is closely associated with the elements of spirituality that emphasize connectedness, prosociality, and meaning in life (McCullough et al., 2002; Wood et al., 2010), all of which are a reflected to some degree in the Theistic and Existential subscales.

On the other hand, findings concerning the relationship between factors associated with ritualistic spirituality and gratitude are mixed. For example, a study by Kraus, Desmond, and Palmer (2015) found that variables such as religious affiliation, religious service attendance, and

private religious practices (e.g., prayer, reading the bible) were not related to gratitude scores in a sample of 17-24-year-olds, whereas having religious friends and having perceived direct intervention from God in one's life (i.e., answering prayers or witnessing a miracle) were associated with higher levels of gratitude. In contrast, a study by Koenig and colleagues (2014) found that factors such as religious service attendance, private religious practices, and intrinsic religiosity (i.e., basing one's worldview and behavior in one's religious beliefs) were positively associated with gratitude scores in a sample of adults with a chronic illness and major depressive disorder. Other studies on the gratitude-religiousness association also reflect these mixed findings (Krause, 2009; Tsang, Schulwitz, & Carlisle, 2012).

More in-depth examination of these studies provides some potential insight into the reasons for these mixed findings. First, these studies demonstrated significant variability in the way in which religiousness and religious practices were measured, which could be one contributor to the variability of results. Second, and relevant to the present study, the relationship between religiousness (i.e., ritualistic practices) and gratitude appears to be highly related to age. Specifically, the association between religiousness and gratitude appeared to be weaker in younger samples compared to older samples across these studies. This could be due to longitudinal and developmental changes in religiousness and gratitude over time (i.e., a dynamic relationship between gratitude and religiousness as one ages), cohort-based differences that reflect changing demographic trends in the importance of religion and religious practices in young adults (Pew Research Center, 2014), or both.

The RiTE dimensions and mindfulness. The final positive psychological characteristic, mindfulness, was only significantly associated with existential spirituality. Although limited, previous research supports this facet of spirituality being related to mindfulness (Bloch et al.,

2016; Greeson et al., 2011). For example, Greeson and colleagues (2011) conducted an 8-week mindfulness-based stress reduction with 279 healthy adults from a variety of spiritual backgrounds. Longitudinal SEM-based mediation analyses suggested that increases in spirituality were associated with increased mindfulness scores, which were in turn associated with better mental health-related functioning. The authors suggested that this mindfulness-based intervention may have allowed participants to "...more easily notice the everyday 'background experiences' often associated with spirituality—for instance, beauty, joy, connection, and awe" (p. 514).

In terms of how this relates to the present study, it is possible that all three RiTE dimensions could be involved in these experiences for different reasons despite the apparent centrality of existential spirituality. That is, specific item content and wording used in the Existential subscale may be more closely aligned with such mindfulness-related factors in the RiTE measure's current form. Specifically, items and wording reflective of contemplation and introspection ("Understanding oneself is very important", "Finding meaning and purpose in life is very important"), and experiencing beauty ("Human life is a beautiful thing") are more heavily reflected in the Existential subscale compared to the other two subscales. As such, it is possible that other elements of the spiritual experience may also be associated with mindfulness so long as they invoke existential beliefs and values. Such a process could be secular (see Harris, 2014) or religious (see Pargament, 2013). For example, a person who frequently engages in contemplative prayer as a result of his/her high value of ritualistic spirituality may be experiencing mindfulness through this practice as a result of simultaneously invoking his/her existential values.

Implications for Treatment and Application of the RiTE Model

Due to the limited number of studies directly examining the relationship between the RiTE dimensions and mental health outcomes (i.e., Chang et al. (2016b) and the present study), treatment implications derived from this study are preliminary in nature and would require further evaluation in experimental paradigms. However, the present study provides unique information about the specific elements of spirituality that are worthy of investigation for their potential for fostering positive psychological characteristics such as self-forgiveness, gratitude, and/or mindfulness. If supported, such characteristics may then be valuable treatment tools for reducing the functional impairment caused by poor mental health. As such, this study represents a first step in the process of conducting basic research with the ultimate intent of clinical application. In light of these caveats, and when considered in light of past research, the present study provides unique insights into the importance of obtaining an in-depth understanding of a patient's spiritual worldview within treatment, and the ways in which spirituality and positive psychology can be utilized within a strengths-based approach to treatment.

Attendance to spirituality. Despite the centrality of religious and spiritual issues in American life and the burgeoning literature on the psychology of religion and spirituality, formal competencies regarding religious and spiritual issues within clinical practice and clinical supervision have only recently been published, and only a quarter of graduate clinical psychology programs provide formal training on religious and spiritual issues in psychotherapy (Vieten, Scammell, & Siegel, 2015). The present study's findings lend further support to the importance of obtaining more than a cursory understanding of a patient's spiritual worldview in treatment (e.g., simply asking the patient's religious affiliation and whether they regularly attend worship services), and highlight the nuanced manner in which spirituality may manifest across

people. Indeed, the ability to understand and utilize any given patient's particular manifestation of spirituality within treatment is one of the core competencies discussed by Vieten and colleagues (2015), with the RiTE model potentially representing one means through which to address this issue.

It should be noted that the RiTE model was developed not to contradict or undermine pre-existing theories of spirituality, but rather to provide a framework through which to consolidate previous work while also isolating the unique facets of spirituality within one comprehensive model (Webb et al., 2014). As such, it is likely that the utility of the RiTE model lies not in developing novel spiritually sensitive treatment protocols, but in its utility in helping clinicians to quickly conceptualize the various facets of spirituality that may be personally relevant for their patients and/or directly relevant to the presenting problem. For example, a patient may endorse a strong belief in God and value ritualistic practices like prayer, while also indicating that he/she does not regularly attend worship services. Such information then paves the way for further questioning regarding this disconnect, and potentially developing a plan to help the patient reestablish a connection to a place of worship if he/she wishes to do so. The utility of using the RiTE model in this manner would be supported by future studies assessing the degree to which personally desired changes in a person's RiTE scores are associated with improvements in mental health status over time.

Given the relevance of existential spirituality to a variety of mental-health related factors (e.g., meaning-making, prosocial behavior, positive psychological traits), this particular RiTE dimension may represent an especially fruitful area of exploration within treatment contexts. Indeed, patients frequently endorse a variety of religious and nonreligious existential concerns (e.g., questioning the meaning of life, doubting one's faith) in treatment for various reasons

including major life events (e.g., retirement; trauma) or as a result of psychopathology (e.g., maintaining a nihilistic worldview due to depressive cognitions).

As such, directly asking about and addressing these existential issues in treatment either through skillful use of evidence-based protocols or appropriate referrals to spiritual resources may improve the treatment experience and the therapeutic alliance, with the RiTE model potentially serving as a framework for helping clinicians to inquire about such issues given its relevance to mental health status. While more research is sorely needed regarding efficacy for spirituality-integrated therapy compared to standard secular practice, preliminary evidence suggests that spirituality-integrated psychotherapy that addresses such issues is often comparable in efficacy to standard treatment (see Worthington, Hook, Davis, Gartner, & Jennings, 2013). Such spiritually-integrated therapy could include a range of practices including tweaking a secular treatment technique to incorporate religious beliefs, or directly addressing spiritual or religious concerns in treatment. Furthermore, and just as importantly, several studies document concerns from religious patients about attending therapy, including lack of empathy towards their spiritual beliefs, and concerns that therapy would weaken one's faith (e.g., Buckholtz, 2005; Mayers, Leavey, Vallianatou, & Barker, 2007). The present study is relevant to this issue in that it again highlights the potential utility of the RiTE model in attending to all elements of a patient's spiritual worldview given the relationship between all three RiTE dimensions and mental health status. In sum, the present study's findings regarding the RiTE model's relevance to mental health status highlights its potential utility as a guiding framework to help clinicians assess the complex nature of a patient's spirituality, thereby allowing them to be more sensitive to such issues in treatment and provide more effective care.

Spirituality and positive psychology as tools in strengths-based approaches. In addition to highlighting the potential utility of the RiTE model as a guiding framework for conceptualizing a patient's spirituality, the present study also provides support for the use of strengths-based approaches in treatment. That is, the present study's findings regarding the mediating role of positive psychological traits in the spirituality-mental health relationship are consistent with past treatment-based research demonstrating the beneficial effects of utilizing spirituality and positive psychology principles in tandem to foster patient resilience (see Rye et al., 2013). Furthermore, the present study extends beyond this research by highlighting the particular facets of spirituality that may be most relevant to fostering this resilience.

Rather than examining applications of spirituality to "positive psychology" as a general construct, extant literature has tended to focus on how spirituality may be involved in facilitating the development of particular characteristics such as forgiveness and gratitude (Rye et al., 2013). For example, Rye and colleagues (2002, 2005) conducted two studies assessing the effects of a religiously-integrated forgiveness intervention for college women and persons who had experienced divorce, respectively. Participants in both studies were randomly assigned to a religiously-integrated forgiveness intervention, a secular forgiveness intervention, or a control group. Across both studies, participants in both treatment groups displayed increased forgiveness and mental health variables including depression, anxiety, and hostility relative to the control group. No significant differences in these outcomes were found between the religiously-integrated versus secular forgiveness intervention. This trend concerning the relatively similar efficacy of religiously-integrated versus secular treatments has been found in the majority of comparison studies thus far (Rye et al., 2013).

Compared to forgiveness-based interventions, intervention-based studies examining the effects of gratitude and mindfulness have generally been more secular while allowing for individual-level incorporation of one's personal spiritual beliefs. In general, meta-analyses have suggested that both gratitude- and mindfulness-based interventions result in improvements for multiple mental health outcomes (Davis et al., 2016; Gu et al,. 2015), with various scholars suggesting potential ways in which such interventions may be inherently spiritual, or ways in which they could easily accommodate religious/spiritual principles. For example, in discussing the inherently spiritual nature of mindfulness, Bergemann and colleagues stated:

> "*...components of mindfulness training may be recognized as spiritual when they explicitly engage concepts that practitioners would experience as transcendent, boundless, ultimate, and unifying. For instance, nirvana, the presence of God, and even the notion of soul may be considered spiritual concepts*" (2013, p. 207).

Other scholars have also suggested that incorporating religious and spiritual beliefs into gratitude and mindfulness-interventions may make such practices more relevant for patients. For example, Rye and colleagues suggest that expressing gratitude toward God or incorporating religious mantras into one's meditative practices may be relatively easy means of incorporating spirituality into such interventions (2013). Such studies regarding the relative efficacy of spiritually-integrated gratitude and mindfulness interventions compared to secular versions of these interventions are sorely needed. Even if such research suggests that spiritually-integrated versus non-integrated approaches are similarly effective, this research would still support using spirituality as applicable in psychotherapy in order to make treatment as relevant as possible for all persons, with spirituality being one element of the patient's many individual characteristics.

The question then remains as to how the present study is related to this literature, which is itself still in infancy. Although preliminary and in need of further research, one primary contribution of the present study is that it provides some insight into the potential unique mechanisms of these interventions. Future research that examines the application of spiritually-integrated positive psychology interventions may benefit from using the RiTE model as a framework to determine the ways in which the interventions are changing patient spirituality (and in turn, traits such as gratitude) to promote better mental health. For example, interventions that attempt to foster connectedness to the divine and greater utilization of religious coping strategies would likely enhance ritualistic and theistic spirituality. Understanding these mechanisms is important for two reasons. First, greater knowledge of how changes in particular elements of spirituality are associated with changes in specific positive psychological characteristics can help guide clinicians in determining which traits may be worthwhile intervention targets. For example, if a clinician happens to know that theistic and existential spirituality are closely aligned with gratitude, this then provides a potential means of fostering gratitude for his/her patient, either by helping the patient realign with those spiritual values or by using the patient's pre-existing spirituality. Second, and more broadly, further research into these mechanisms will serve to strengthen our knowledge of the highly nuanced relationships between spiritual and psychological variables. While much has been learned throughout the past few decades, much work still remains (Pargament, 2013).

Limitations

As alluded to throughout this text, the present study is limited by several factors. First, this study used primarily college-aged participants that were mostly white, young, female, and religious or spiritual. As such, these results may not wholly generalize to other samples including

non-college-age individuals, ethnic minorities, or non-spiritual persons. Furthermore, the interaction between cultural values and Christianity (the area's most commonly followed faith) within the Appalachian region results in unique differences in how Christianity is expressed compared to other areas of the United States, such as the value placed on forgiveness (Pew Forum on Religion and Public Life, 2008). As such, in other samples that utilize primarily Christian participants, the relationships examined in the present study may be different. A related limitation is the fact that the present study did not include religious affiliation (e.g., Christian, Muslim) in the analyses. Given the varying beliefs across different faiths concerning some of the constructs in the present study (see Webb et al [2012] for a discussion of this issue in the context of forgiveness), it is possible that the relationships observed in this study may differ across persons of varying faith backgrounds. In sum, and in light of the developmental and cultural factors that may influence the spirituality-mental health association, future studies should incorporate such issues into their analyses. Such studies are important, as identifying how the RiTE dimensions may relate to mental health status across various faith traditions can provide useful information in tailoring any future interventions to be more culturally and personally relevant for such patients.

An additional limitation concerns the nature of the analyses in the present study. Specifically, mediation analyses were used within cross-sectional data. While the specific configuration of variables in this study were determined based on past empirical and theoretical literature, direct inferences about causality cannot be made from this specific study. Future studies of a longitudinal and experimental nature would be needed to support such claims. Relatedly, other moderators that may have influenced the present study's results (e.g., previous history of psychopathology) were not incorporated in the present study. Future studies that can

incorporate more complex model designs may be able to explain a greater amount of variance in mental health status via the incorporation of such factors.

Summary, Future Directions, and Conclusions

The present study examined a parallel mediation of model of the associations between multiple dimensions of spirituality and mental health status via self-forgiveness, gratitude, and mindfulness. These analyses identified positive direct associations between ritualistic spirituality and mental health status, while existential spirituality displayed a negative direct association. Additionally, theistic spirituality displayed significant indirect associations with mental health status via higher levels of gratitude, while existential spirituality was positively associated with mental health status via all three mediators.

The novelty of this study, the RiTE measure itself, and the limited amount of research on the interplay between spirituality and positive psychology leaves an abundance of research avenues to be explored. One such avenue would involve continuing to explore the RiTE measure and its relationship to various mental health-related outcomes (e.g., suicide, substance use), affective states (e.g., anxiety, anger), and protective factors (e.g., other positive psychological traits). Such research should also be done in the context of diverse samples and research designs to ensure generalizability of findings. Further exploration of this avenue of research will provide information regarding the utility of the RiTE model, a more nuanced understanding of how different elements of the spiritual experience may influence mental health, and as discussed above, potentially have direct implications for treatment and assessment efforts.

An additional implication concerns the structure of the RiTE measure itself. Historically, studies that have used the RiTE measure have often found significant overlap between the Ritualistic and Theistic subscales, (e.g., Chang et al., 2015b; Chang et al., 2016; Webb et al.,

2014). While this could be due to the fact that almost all studies using the RiTE have utilized samples from the same geographic region, where theistic beliefs and practices often take place within an organized church environment, it could also point to a need for continued adaptation of those subscales to further differentiate them conceptually and statistically. Regarding the Existential subscale, some items ask very similar questions (e.g., "I feel that helping others is very important" and "Helping other people is very important"), which could potentially be sacrificing the amount of construct coverage that is possible within that subscale. As such, future adaptation of this subscale could involve pruning items that may be statistically redundant and replacing such items with more varied questions that could provide more in-depth information regarding one's beliefs about the importance of meaning, ethics, and connectedness. More generally, further exploration of the RiTE measure in its relationship to pre-existing measures of spirituality is warranted in order to determine its incremental validity. In other words, the RiTE subscales should be able to explain unique variance in relevant outcomes when included among other measures of religious and spiritual beliefs and practices.

In sum, the present study represents a small first step into a currently broad and minimally explored area of psychology: the intersection between spirituality and positive psychology. Further research in this area can hopefully illuminate how spirituality can be utilized as a means of fostering strength and resilience. Such research will, hopefully, then be used to develop further interventions that may help foster resilience in those experiencing poor mental health, and help to them to restore their sense of connection to the world (or the divine) and restore their sense of meaning.

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APPENDIX

List of Measures

The RiTE Spirituality Measure

This survey is for use with different cultures, so keep in mind that deity/deities can have several meanings, including supremeness of one God or Goddess, multiple gods/goddesses, a higher power, a divine quality in nature and/or the universe, etc. As such, please think of the term deity/deities <u>as it applies to you</u>.

For example, if you are a: Buddhist, read deity or deities as "Buddha"

Christian or Jew, read deity or deities as "God", "Jehovah," or "Yahweh"

Hindu, read deity or deities as "Brahma" "Shiva", "Vishnu," "Ram," etc.

Muslim, read deity or deities as "Allah"

Spiritual, non-specific, read deity or deities as "Nature," "Higher Power," etc.

Wiccan, read deity or deities as "The Goddess," "Horned God," etc.

READ EACH ITEM AND MARK THE LEVEL OF AGREEMENT THAT COMES CLOSEST TO HOW YOU THINK, FEEL, OR BELIEVE.

1. A deity or deities was/were responsible for the creation of the universe.

A. Strongly Disagree B. Disagree C. Neutral/No Opinion D. Agree E. Strongly Agree

2. The world was created by a deity or deities.

A. Strongly Disagree B. Disagree C. Neutral/No Opinion D. Agree E. Strongly Agree

3. I believe in a deity or deities.

A. Strongly Disagree B. Disagree C. Neutral/No Opinion D. Agree E. Strongly Agree

4. I believe in a deity or deities who know/s me.

A. Strongly Disagree B. Disagree C. Neutral/No Opinion D. Agree E. Strongly Agree

5. A deity or deities is/are at some time going to judge the rightness or wrongness of the actions of individuals.

A. Strongly Disagree B. Disagree C. Neutral/No Opinion D. Agree E. Strongly Agree

6. I feel connected to a deity or deities.

A. Strongly Disagree B. Disagree C. Neutral/No Opinion D. Agree E. Strongly Agree

7. I feel belief in a deity or deities is very important.

A. Strongly Disagree B. Disagree C. Neutral/No Opinion D. Agree E. Strongly Agree

8. I believe in a deity or deities who has/have a purpose/plan for my life.

A. Strongly Disagree B. Disagree C. Neutral/No Opinion D. Agree E. Strongly Agree

9. I believe in a deity or deities who has/have power to control world events.

A. Strongly Disagree B. Disagree C. Neutral/No Opinion D. Agree E. Strongly Agree

10. It is important to acknowledge the existence or reality of a deity or deities.

A. Strongly Disagree B. Disagree C. Neutral/No Opinion D. Agree E. Strongly Agree

11. I regularly perform traditional spiritual practices.

A. Strongly Disagree B. Disagree C. Neutral/No Opinion D. Agree E. Strongly Agree

12. I observe or follow the rules of a formal belief system.

A. Strongly Disagree B. Disagree C. Neutral/No Opinion D. Agree E. Strongly Agree

13. I regularly attend organized worship services.

A. Strongly Disagree B. Disagree C. Neutral/No Opinion D. Agree E. Strongly Agree

14. I feel faith-related rituals and/or practices are very important.

A. Strongly Disagree B. Disagree C. Neutral/No Opinion D. Agree E. Strongly Agree

15. I set aside time to contemplate issues related to religious or spiritual teachings.

A. Strongly Disagree B. Disagree C. Neutral/No Opinion D. Agree E. Strongly Agree

16. I regularly meditate as I have been taught in my faith.

A. Strongly Disagree B. Disagree C. Neutral/No Opinion D. Agree E. Strongly Agree

17. I feel good after I attend organized worship services.

A. Strongly Disagree B. Disagree C. Neutral/No Opinion D. Agree E. Strongly Agree

18. Observing or following traditions is a very important part of spirituality or faith.

A. Strongly Disagree B. Disagree C. Neutral/No Opinion D. Agree E. Strongly Agree

19. It is important to tell others about one's own spiritual path in order to try and convince them of the correct path.

A. Strongly Disagree B. Disagree C. Neutral/No Opinion D. Agree E. Strongly Agree

20. I would not be good in the judgment of a deity or deities if I did not practice my faith as prescribed.

A. Strongly Disagree B. Disagree C. Neutral/No Opinion D. Agree E. Strongly Agree

21. I feel that helping others is very important.

A. Strongly Disagree B. Disagree C. Neutral/No Opinion D. Agree E. Strongly Agree

22. Helping other people is very important.

A. Strongly Disagree B. Disagree C. Neutral/No Opinion D. Agree E. Strongly Agree

23. I feel that understanding oneself is very important.

A. Strongly Disagree B. Disagree C. Neutral/No Opinion D. Agree E. Strongly Agree

24. I believe that finding meaning and purpose in life is very important.

A. Strongly Disagree B. Disagree C. Neutral/No Opinion D. Agree E. Strongly Agree

25. I feel that taking care of nature is very important.

A. Strongly Disagree B. Disagree C. Neutral/No Opinion D. Agree E. Strongly Agree

26. Human life is a beautiful thing.

A. Strongly Disagree B. Disagree C. Neutral/No Opinion D. Agree E. Strongly Agree

27. There is a right way to treat other people.

A. Strongly Disagree B. Disagree C. Neutral/No Opinion D. Agree E. Strongly Agree

28. There is a wrong way to treat other people.

A. Strongly Disagree B. Disagree C. Neutral/No Opinion D. Agree E. Strongly Agree

29. It is the responsibility of each person to find their purpose in life.

A. Strongly Disagree B. Disagree C. Neutral/No Opinion D. Agree E. Strongly Agree

30. I see life as a journey toward fulfillment.

A. Strongly Disagree B. Disagree C. Neutral/No Opinion D. Agree E. Strongly Agree

SF-12 (PHYSICAL HEALTH STATUS and MENTAL HEALTH STATUS)

Ware, J. E., Jr., Kosinski, M., & Keller, S. D. (1996). A 12-item short-form health survey: Construction of scales and preliminary tests of reliability and validity. *Medical Care, 34*, 220-233.

Note: MHS subscale items are highlighted

Please answer every question my marking one box [choosing/circling one response]. If you are unsure about how to answer, please give the best answer you can.

1. In general, would you say your health is:

   1 Excellent
   2 Very Good
   3 Good
   4 Fair
   5 Poor

The following items are about activities you might do during a typical day. Does your health now limit you in these activities? If so, how much?

2. Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf

   1 Yes, Limited A Lot
   2 Yes, Limited A Little
   3 No, Not Limited At All

3. Climbing several flights of stairs

   1 Yes, Limited A Lot
   2 Yes, Limited A Little
   3 No, Not Limited At All

During the past 4 weeks have you had any of the following problems with your work or other regular daily activities as a result of your physical health?

4. Accomplished less than you would like

   1 YES
   2 NO

5. Were limited in the kind of work or other activities

   1 YES
   2 NO

During the past 4 weeks have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious)?*Note: Highlighted items are those used in the present study.

6. Accomplished less than you would like

1 YES
2 NO

7. Didn't do work or other activities as carefully as usual

1 YES
2 NO

8. During the past 4 weeks how much did pain interfere with your normal work (including both work outside the home and housework)?

1 Not at all
2 A little bit
3 Moderately
4 Quite a bit
5 Extremely

These questions are about how you feel and how things have been with you during the past 4 weeks. For each question, please give the one answer that comes closest to the way you have been feeling. How much of the time during the past 4 weeks

9. Have you felt calm and peaceful?

1 All of the Time
2 Most of the Time
3 A Good Bit of the Time
4 Some of the Time
5 A Little of the Time
6 None of the Time

10. Did you have a lot of energy?

1 All of the Time
2 Most of the Time
3 A Good Bit of the Time
4 Some of the Time
5 A Little of the Time
6 None of the Time

11. Have you felt downhearted and blue?

1 All of the Time
2 Most of the Time
3 A Good Bit of the Time
4 Some of the Time
5 A Little of the Time
6 None of the Time

12. During the past 4 weeks how much of the time has your physical health or emotional problems interfered with your social activities (like visiting with friends, relatives, etc.)?

1 All of the time
2 Most of the time
3 Some of the time
4 A little of the time
5 None of the time

Heartland Forgiveness Scale

Directions: In the course of our lives negative things may occur because of our own actions, the actions of others, or circumstances beyond our control. For some time after these events, we may have negative thoughts or feelings about ourselves, others, or the situation. Think about how you typically respond to such negative events. Next to each of the following items write the number (from the 7-point scale below) that best describes how you typically respond to the type of negative situation described. There are no right or wrong answers. Please be as open as possible in your answers.

Note: Self-forgiveness items are highlighted

1	2	3	4	5	6	7
Almost Always False of Me		More Often False of Me		More Often True of Me		Almost Always True of Me

1. Although I feel badly at first when I mess up, over time I can give myself some slack. _____
2. I hold grudges against myself for negative things I've done. _____
3. Learning from bad things that I've done helps me get over them. _____
4. It is really hard for me to accept myself once I've messed up. _____
5. With time I am understanding of myself for mistakes I've made. _____
6. I don't stop criticizing myself for negative things I've felt, thought, said, or done. _____
7. I continue to punish a person who has done something that I think is wrong. _____
8. With time I am understanding of others for the mistakes they've made. _____
9. I continue to be hard on others who have hurt me. _____
10. Although others have hurt me in the past, I have eventually been able to see them as good people. _____
11. If others mistreat me, I continue to think badly of them. _____
12. When someone disappoints me, I can eventually move past it. _____
13. When things go wrong for reasons that can't be controlled, I get stuck in negative thoughts about it. _____
14. With time I can be understanding of bad circumstances in my life. _____
15. If I am disappointed by uncontrollable circumstances in my life, I continue to think negatively about them. _____
16. I eventually make peace with bad situations in my life. _____
17. It's really hard for me to accept negative situations that aren't anybody's fault. _____
18. Eventually I let go of negative thoughts about bad circumstances that are beyond anyone's control. _____

From: Thompson, L., Snyder, C., Hoffman, L., Michael, S., Rasmussen, H., Billings, L., … Roberts, D. (2005). Dispositional forgiveness of self, others, and situations. *Journal of Personality, 73*, 313-359. doi: 10.1111/j.1467-6494.2005.00311.x

The Gratitude Questionnaire-Six Item Form (GQ-6)

Using the scale below as a guide, write a number beside each statement to indicate how much you agree with it. 1 = strongly disagree 2 = disagree 3 = slightly disagree 4 = neutral 5 = slightly agree 6 = agree 7 = strongly agree

____1. I have so much in life to be thankful for.

____2. If I had to list everything that I felt grateful for, it would be a very long list.

____3. When I look at the world, I don't see much to be grateful for.

____4. I am grateful to a wide variety of people.

____5. As I get older I find myself more able to appreciate the people, events, and situations that have been part of my life history.

____6. Long amounts of time can go by before I feel grateful to something or someone.

Mindful Attention Awareness Scale

Instructions: Below is a collection of statements about your everyday experience. Using the 1-6 scale below, please indicate how frequently or infrequently you currently have each experience. Please answer according to what really reflects your experience rather than what you think your experience should be. Please treat each item separately from every other item. 1 = almost always; 2 = very frequently; 3 = somewhat frequently; 4 = somewhat infrequently; 5 = very infrequently; 6 = almost never.

1. I could be experiencing some emotion and not be conscious of it until some time later.

2. I break or spill things because of carelessness, not paying attention, or thinking of something else.

3. I find it difficult to stay focused on what's happening in the present.

4. I tend to walk quickly to get where I'm going without paying attention to what I experience along the way.

5. I tend not to notice feelings of physical tension or discomfort until they really grab my attention.

6. I forget a person's name almost as soon as I've been told it for the first time.

7. It seems I am "running on automatic" without much awareness of what I'm doing.

8. I rush through activities without being really attentive to them.

9. I get so focused on the goal I want to achieve that I lose touch with what I am doing right now to get there.

10. I do jobs or tasks automatically, without being aware of what I'm doing.

11. I find myself listening to someone with one ear, doing something else at the same time.

12. I drive places on "automatic pilot" and then wonder why I went there.

13. I find myself preoccupied with the future or the past.

14. I find myself doing things without paying attention.

15. I snack without being aware that I'm eating.

VITA

TREVER DANGEL

Education: B.A., Psychology, The Pennsylvania State University, Altoona Campus, Altoona, Pennsylvania, 2014

M.A., Psychology, East Tennessee State University, Johnson City, Tennessee, 2016

Ph.D., Psychology, East Tennessee State University, Johnson City, Tennessee, 2019

Professional Experience: Graduate Assistant, East Tennessee State University, College of Arts and Sciences, 2014-2016

Clinical Extern, First Tennessee Human Resource Agency, Johnson City, Tennessee, 2016-2017

Clinical Extern, Johnson City Downtown Day Center, Johnson City, Tennessee, 2017-2018

Publications: **Dangel, T. J.**, Webb, J. R., & Hirsch, J. K. (2017). Forgiveness and suicidal behavior: Cynicism and psychache as serial mediators. *Journal of Psychology: Interdisciplinary and Applied, 152*, 77-95.

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Honors and Awards: Best Graduate Poster- 2017 Appalachian Student Research Forum

Society, Behavior, and Learning Category

East Tennessee State University

Best Graduate Poster- 2016 Appalachian Student Research Forum

Society, Behavior, and Learning Category

East Tennessee State University

Priester-Sloan Family Scholarship

East Tennessee State University