ABSTRACT

Ontological Certainty and Psychological Distress: The Role of Religious Beliefs

W. Matthew Henderson, Ph.D.

Committee Chairperson: Matt Bradshaw, Ph.D.

Despite prominent criticisms, scholars generally agree that religious participation conveys important potential psychosocial benefits which contribute to well-being and protect against the deleterious nature of stress. However, the sociology of religion has been reticent investigating the unique impact that adherence to religious beliefs poses to mental health, despite calls for more research in this area. Meanwhile, social theorists have long posited that ontological uncertainty, i.e. doubts about the nature of God, the afterlife, etc., poses a real threat to well-being and a small subset of research findings suggest that committed irreligiosity may provide similar benefits as committed religiosity.

This dissertation tests the general proposition that adherence to ontological beliefs shares a non-linear relationship with psychological distress, and that uncertain views about the nature of reality is associated with higher levels of distress. I test this proposition in three studies, each relying on the 2010 Baylor Religion Survey, a national a nationally random survey of U.S adults ($N = 1,710$). Study one uses Ordinary Least

Squares regression models to predict non-linear relationships between psychological distress and images of God. Study two investigates the effect of divine relationship uncertainty using Ordinary Least Squares regression models to predict non-linear relationships between psychological distress and insecure/secure attachment to God, non-linear relationships between insecure/secure attachment to God and anxious attachment to God, and deleterious linear relationships between psychological distress and anxious attachment to God. Study three uses Ordinary Least Squares regression models to predict non-linear relationships between psychological distress and adherence to afterlife beliefs. Results reveal a consistent pattern: those who exhibit greater certainty regarding ontological matters are predicted to report lower levels of general distress and lower levels of psychiatric symptoms. Those who exhibit less certainty regarding ontological matters are predicted to report the highest levels of general and psychological distress. In the conclusion, I summarize and discuss study findings in relation to existing religion and mental health literature. Theoretical, methodological and practical applications are also discussed.

Ontological Certainty and Psychological Distress: The Role of Religious Beliefs

by

W. Matthew Henderson, B.S., M.A.

A Dissertation

Approved by the Department of Sociology

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F. Carson Mencken, Ph.D., Chairperson

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Approved by the Dissertation Committee

_____

Matt Bradshaw, Ph.D., Chairperson

_____

F. Carson Mencken, Ph.D.

_____

Edward C. Polson, Ph.D.

_____

Jeremy E. Uecker, Ph.D.

_____

Lindsay R. Wilkinson, Ph.D.

Accepted by the Graduate School

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J. Larry Lyon, Ph.D., Dean

Page bearing signatures is kept on file in the Graduate School.

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ACKNOWLEDGMENTS

No man is an island,
Entire of itself,
Every man is a piece of the continent,
A part of the main…

-John Donne

It the words of the poet are true, then perhaps the scale of the main is commensurate with the tasks set before us. During my graduate school career, I have been blessed and honored by the expansion of social and emotional support expand as my responsibilities, ambitions and burdens grew. In pursuit of this dissertation and doctorate, I have had some wonderful people shepherd me.

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DEDICATION

For Mom, who transcribed my earliest work and whose belief in me never wavered.

CHAPTER ONE

Introduction

> "If one attempts to assign to religion its place in man's evolution, it seems not so much to be a lasting acquisition, as a parallel to the neurosis which the civilized individual must pass through on his way from childhood to maturity."
>
> –Sigmund Freud, *Moses and Monotheism*, 1939

> "Religious suffering is, at one and the same time, the expression of real suffering and a protest against real suffering. Religion is the sigh of the oppressed creature, the heart of a heartless world, and the soul of soulless conditions. It is the opium of the people."
>
> –Karl Marx, *Critique of Hegel's "Philosophy of Right."*

From their inception, the social sciences have wrestled to define the normative utility of social institutions and the ultimate telos of the modern self (Smith 2010, 2014); consequently, paradigmatic consensus on the positive or negative contributions of religious behavior to social and personal goods has proved elusive. Emerging from the morass are two general positions. One typically views religion as an impediment to social progress. Early social theorists, most notably Marx (Marx 1843; Marx and Engels 1932) and Feuerbach (1841), took a largely ambivalent position on religion, viewing it as part of a dominant culture which contributes to the alienation of the masses; meanwhile, theorists such as Lewis Henry Morgan, Edward Tylor, and Hebert Spencer, struggled to reconcile how religion fit evolutionary schemes of social progress (Hak 1998).

A second position is more neutral, at times even positive, noting the tremendous potential of religion to facilitate social cohesion. Weber's canonical works (1922, 1930) describe how religious worldviews animate social institutions and influence world

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historical trajectories, and how religion is uniquely capable of sufficiently justifying everyday norms and providing answers to existential dilemmas. Durkheim (1912) famously locates religion at the core of social solidarity, an assertion that undergirds contemporary analyses linking religion with a number of prosocial outcomes. (Putnam 2000; Putnam and Campbell 2012; Wuthnow 1993).

Social scientists also vacillate in their assessments of religion as a regressive or civilizing social force for the individual. Prominent psychologists have critiqued religion as irrational, pathological, punitive and exploitative (Leuba 1925; Skinner 1953) and a long tradition of psychological study maintains that religious behavior represents an expression, or cause, of emotional distress (Ellison and Henderson 2011). Freud (1913, 1927) and his followers, famously forward the position that religious belief and practice is delusional at best, and virulently pathological at worst, setting the stage for a century of acrimony between religious practitioners and psychology and its associated clinical fields (Koenig 2009). Critics attribute Orthodox religious beliefs to a sense of fatalism, escapism, increased feelings of guilt, fear, and hopelessness, and an erosion in feelings of personal control and well-being (Ellison et al. 2001; Ellison and Henderson 2011; Musick 2000; see Ellis 1988 and Watters 1992 for example of this critique). Other critiques suggest that religious behavior contributes to symptoms of psychological disorders, such as anxiety, depression and obsessionality (Loewenthal 2009; Loewenthal and Lewis 2011), and that religious beliefs result from the failure of adults to outgrow infantile cognitive habits (Bering 2006).

Contrariwise, multiple systematic reviews consistently report a general link between religious behavior and numerous desirable mental health outcomes, such as

lower levels of depression and distress and increased life satisfaction and happiness, across multiple demographic categories (Bergin 1983; Ellison and Levin 1998; Gartner, Larson, and Allen 1991; Koenig 2009; Koenig, King, and Carson 2001; Larson et al. 1992; Stark 1971). And though religion has been linked to increased feelings of guilt, the relationship of these feelings and symptoms of anxiety, depression, or clinical obsessionality remain unclear, suggesting that otherwise problematic characteristics may be differentially affective in religious contexts (Greenberg and Witzturn 2001; Lewis 1998).

Ellison (1991) identifies four potential pathways where religion may contribute to improved well-being, each supported by empirical findings: 1) by integrating individuals into networks of social support (Ellison and George 1994; Krause et al. 2001; Krause 2009; Levin, Chatters, and Taylor 1995; Levin, Taylor, and Chatters 1995; Taylor and Chatters 1988); 2) by establishing a personal relationship with a divine other (Jeppsen et al. 2015; Krause 2009; Pollner 1989); 3) by providing followers with a coherent system of meaning and ontology (Ellison 1991; Idler 1987; Park 2005; Perry 1998); and 4) by regulating behaviors through normative control (Koenig et al. 2001; Strawbridge et al. 2001). Evidence also suggests that religious behavior protects against the deleterious effects of stress, physical ailments and of problems associated with aging (Ellison and Henderson 2011; Idler 1987; Krause 2005; Levin 1998; McIntosh, Silver, and Wortman 1993; Schieman and Bierman 2011).

In short, when evaluating the effects of religion on mental health, some scholarship echoes Freud, insisting that religion is a regressive force repressing healthy psychological adjustment. However, the preponderance of evidence from extant research

also suggests that religious participation connects people to effective institutions of social support and provides explanatory schemes of meaning, both of which protect individuals from life's slings and arrows. Yet, despite the general support for the salubrious nature or religion, there is also some evidence to suggest that the old criticisms remain relevant, prompting researchers to consider the contingent conditions where religious involvement contributes to distress or exacerbates psychopathology. Nuanced studies have linked what could broadly be termed religious struggles (e.g. negative congregational interactions, crises of faith, religious doubt, ineffective religious coping), with poorer mental health and psychological adjustment (Ellison and Lee 2010; Exline 2002; Krause, Ellison, and Wulff 1998; Krause and Wulff 2004; Pargament 2002). These findings are especially important in light of the rise of therapeutic religious orientations, which stress religion's role in contributing to the holistic well-being of the self (Brenneman 2013; Rieff 1987; Sinitiere 2015; Smith and Denton 2009). For the increasing number who turn to religion expecting therapeutic solutions to problems of well-being, religious struggles can be especially exacerbating.

Because religion represents an important arena of social and individual consequence, a more complete understanding of its contingent effects on the self and society, malignant, benign or otherwise, is of great value to scholars in multiple fields. The focus of this dissertation is the role of belief. The studies included investigate the relationships between specific beliefs about the divine and the afterlife and psychological well-being. As Schieman and colleagues note, "Although the psychological and social resources that religious activity can provide are central for mental health, beliefs are a key component of any discussion about the mental health effects of religion" (2013:462).

While sociologists of religion have been fairly comprehensive in demonstrating the relationship between religious practices and mental health outcomes, especially service attendance and prayer (Ellison and Levin 1998; George, Ellison, and Larson 2002; Koenig 2009), investigations of the role of specific beliefs about the divine remain scarce (Schieman, Bierman, and Ellison 2010), mirroring a broader trend in the field which assumes religious beliefs as no more than a "latent outcome of social and normative constraints" (Froese and Bader 2007: 466). The limited research has typically focused on the affective aspects of a person's relationship with God (e.g. Ellison and Lee 2010; Exline, Yali, and Lobel 1999; Pollner 1989). This is surprising given that belief is so central to religious practice (Riesebrodt 2012; Woodberry and Smith 1998) and that God represents the central character in the religious narratives of most people. According to Greeley, one's "picture of God is in fact a metaphorical narrative of God's relationship with the world and the self as part of the world." (Greeley 1996:124). Because divine beliefs are so central to the ways most people experience and express religious phenomena, failure to understand those beliefs contributes to a woefully incomplete understanding of religion as a lived social phenomenon and how lived religious practices contribute to well-being (Ammerman 2006; Orsi 1985; Riesebrodt 2012).

Outline of the Dissertation

The primary research question undergirding this dissertation is whether ontological religious beliefs, that is beliefs about the character of God and our ultimate destiny, predict variation in mental health. To investigate this, I present three studies investigating the independent effects of belief constructs on six measures of psychological distress. Each study relies on the third wave of the Baylor Religion Survey

(2010) a large, national random survey focusing on a number of beliefs and values. I test the general proposition that ontological belief measures share a curvilinear relationship with psychological distress and that distress levels will be higher, on average, for those whose beliefs about ontological propositions are ambiguous. Because the data, dependent and covariate variables are the same in all three studies, most of the data and methods are explicated in study one. Each study will begin with a separate abstract.

In order to better introduce and contextualize the basic research question, the following chapter presents a general review of empirical findings which demonstrate a generally salutary relationship between religious belief and mental health. I begin this section by briefly reviewing theoretical work relevant to the role of religious belief. I then review empirical findings suggesting a general salutary pattern of association between religious beliefs and mental health, followed by a review of findings suggesting certain conditions where religious belief is more likely to be pernicious. Next, I review literature exploring the role of religion in providing coherent meaning systems and credible answers to moral and existential dilemma. I also review of a subset of findings suggesting that belief constructs, such as whether God is more distant or present, may typically share a curvilinear relationship with psychological distress, and that ontological certainty is more predictive of mental health than the specific content of religious beliefs. I conclude this chapter by explicating the general proposition that beliefs about the nature of God or the afterlife will have a curvilinear relationship with measures of psychological distress, with those expressing less certainty regarding matters of ontology predicted to have the highest levels of distress.

Study one tests this general proposition by investigating beliefs about the divine using three explicit Image of God constructs: judging image, engaged image, and loving image. The beliefs people have about the character of the divine have long been of interest to social scientists, particularly those interested in linking religious beliefs with personality and psychosis (Freud 1913, 1927; Jones 2008; Kirkpatrick 1992; Leuba 1925; Rizzuto 1974, 1981). Other scholars assert that a person's view of God is a proxy for how they view reality, the nature of the world, and their place in it (Froese and Bader 2010; Greeley 1996). Previous studies have linked image of God with a number of attitudinal outcomes including moral and political beliefs and civic engagement. A small number of studies have begun to investigate how explicit images of God affect mental health outcomes, suggesting that the perceived character of God, as the primary object of veneration in most religious meaning systems, impacts psychological well-being.

Based on available theory and literature, study one assumes that those who express uncertainty about God's judging, engaged or loving nature will exhibit greater levels of general and psychological distress than those who steadfastly affirm or deny these divine attributes. Formal hypotheses predict a curvilinear relationships between image of God measures and psychological distress. Ordinary Least Squares regression analyses are performed for each god image measure on all six distress outcomes. To control for potential non-linear relationships, each analysis includes the main effect measure of God Image and its quadratic term.

Study Two investigates the impact of dispositional beliefs by examining the effects of secure and anxious attachment to God styles. Attachment to God is a sub-field of General Attachment Theory (Bowlby 1969, 1973, 1980) which proposes that humans

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are genetically predisposed in infancy to develop powerful emotional bonds with primary care-givers, which subsequently condition styles of relational attachment into adulthood. Researchers in the Attachment to God paradigm apply the insights of General Attachment Theory, treating God as an attachment figure whose relational characteristics affect interpersonal relationships and affective outcomes in adulthood.

Previous research suggests that secure attachment to God is associated with positive health outcomes, while insecure attachment is associated with poorer mental health. However, based on theory and research suggesting the protective effects of religious certainty, this study hypothesizes that both secure and insecure attachment styles, will be associated with lower levels of general and psychological distress, and that those who are less certain about their attachment to God will report higher levels of distress, on average. Ordinary Least Square regression analyses are performed using a continuous measure of insecure/secure attachment to God style on six outcomes measures of psychological distress. Also, because anxious attachment to God resembles characteristics of religious uncertainty, study two hypothesizes that anxious attachment to God will be associated with higher levels of distress. Ordinary Least Square regression analyses are performed using a continuous measure of anxious attachment to God. Finally, accepting at face value that anxious attachment is a proxy for religious uncertainty, and that both secure and insecure attachment styles represent distinct forms of ontological certainty, I hypothesize that the continuous measure of insecure/secure attachment to God will share a curvilinear association with anxious attachment.

Study three considers matters of ultimate security and ontology by examining the relationship of afterlife beliefs, including pleasant views of the afterlife and belief in the

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existence of Heaven and Hell. Most major religions assert the existence of life after death, a view shared by the overwhelming majority of Americans. Many theorists suggest that providing credible answers to questions of mortality and ultimate destiny is a crucial component of viable religious worldviews. Despite the centrality of the afterlife in most religious belief systems, studies investigating the effect of afterlife belief on mental health remain scarce. A few findings suggest that belief in the afterlife is related to better mental health, and that belief in a pleasant afterlife is especially protective. However, other studies suggest that uncertainty regarding the afterlife is associated with greater psychological distress. Again, based on findings suggesting that certainty is more predictive of distress, study three hypothesizes that pleasant beliefs about the afterlife will share a curvilinear relationship with general and psychological distress. Certainty in the existence or absence of heaven and hell is also predicted to be associated with lower levels of distress.

The concluding chapter summarizes the primary substantive points and revisits the general proposition. I will also discuss the theoretical and empirical implications for our understanding of religion's effect on the self and society. Finally I will summarize study limitations and review suggestions for future research.

CHAPTER TWO

General Background

> "The external courses of religious behavior are so diverse that an understanding of this behavior can only be achieved from the viewpoint of the subjective experiences, ideas, and purposes of the individuals concerned – in short, from the viewpoint of the religious behavior's 'meaning"
>
> –Max Weber, *Economy and Society*

Studies investigating the relationship between religious belief and mental health are shadowed by the historic critiques of prominent psychologists (e.g. Freud 1913, 1927; Leuba 1925; Skinner 1953) who pathologized belief in God and other spiritual assertions as irrational delusions which significantly contribute to psychosis. These critiques were based largely on a priori assumptions embedded within diagnostic definitions, whereby descriptions of obsessive-compulsive behavior, paranoia and anxiety disorder closely resembled descriptions of religious faith and practice (Loewenthal and Lewis 2011). Empirical validation as to whether behaviors associated with religious practice actually contributed to psychotic levels of disorder is lacking. Recent findings suggest that even problematized behaviors fail to reach a threshold of psychosis (Greenberg and Witzturn 2001; Lewis 1998). Thus, the empirical picture of how active beliefs translate to mental health outcomes remains unclear.

Meanwhile, sociological studies have shown more reluctance in problematizing religious belief as necessarily symptomatic of poorer mental health and well-being. Then again, the field has also been reticent to treat specific religious beliefs as though they had any direct effect on mental health outcomes, whatsoever (Ellison and Hummer 2010).

Perhaps the earliest and most influential data-driven sociological treatment of the relationship between religion and mental health is Durkheim's canonical study of suicide (1897). Durkheim departs from his contemporaries' critiques of religion as primitive, illusory or dangerous (e.g. Freud, J.G. Frazer), instead focusing on the role of religious institutions in facilitating social integration and distilling regulatory norms. Durkheim famously theorized that Roman Catholicism, with its "vast system of dogmas and practices" (1897:374) represents a more holistically effective platform of social integration which, in turn, protects against suicide. Thus, from a very early stage, sociological studies of religion and health have commonly focused on the role of collective religious practices and norms within religious communities. While *Suicide* ultimately identifies one kind of religious practice as more effective, Durkheim does conclude that the integrative functions of religious practice are generally protective against mental health pathology. Also, by distinguishing between the effectiveness of different religious traditions, he opens the possibility that distinct institutional characteristics (i.e. the belief structures of a particular religious sect) might have disparate outcomes on mental health.

Durkheim's conclusion proved influential for sociological investigations of religion and health, as decades of studies focus on the impact of collective religious participation and congregational embeddedness on various measures of social pathology, mental health, and quality of life (Acevedo 2010; Bainbridge 1989; Breault 1986; Ellison 1991; Ellison and George 1994; McCann 1962; Pescosolido and Georgianna 1989; Schieman and Bierman 2011) consistently finding that frequent participation in religious communities is related with better overall mental health outcomes (Ellison and Levin

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1998; Lawler and Younger 2002; Strawbridge et al. 2001). Witter and colleagues (1985) conclude that while religion is broadly related to increased well-being, the relationship is typically stronger for measures of religious participation than private or affiliative measures, such as salience or religious tradition (see also, Acevedo 2010). Williams and colleagues (1991) find evidence that religious attendance ameliorates the negative impact that stress and physical ailments presents to subjective well-being. Ellison and George (1994) attribute much of this to the role that religious participation plays in facilitating larger, more effective relationship networks where friendships and supportive social ties often flourish. There is also evidence to suggest that the relationship between religious participation is buttressed by high levels of regional religiosity where participation is more geographically and culturally normative (Okulicz-Kozaryn 2010; Schieman and Bierman 2011). Echoing Durkheim, Ellison and Henderson (2011) highlight the affective impact of moral communities toward developing positive feelings of esteem and self-worth as interactions with coreligionists are often colored by positive appraisals and collectively affirmed moral virtues. Furthermore, moral communities offer unique opportunities for community engagement for many whose modest relative status precludes opportunities in more secular arenas (Schieman et al. 2010).

The Centrality of Belief

While it certainly seems clear that participation in religious congregations links people to social resources which ameliorate the deleterious effects of stress and hardship, the abundant focus on social networks has tended to reduce religious effects to social ties, whereby religious beliefs are dismissed, perhaps inadvertently, as epiphenomenal (Stark, Doyle, and Rushing 1983). However, as some have highlighted, beliefs are central to

religious experience and expression (Froese and Bader 2007, 2008; Geertz 1973; James 1902; Riesebrodt 2012; Schieman et al. 2013; Stark and Glock 1970); failing to account for the contribution of beliefs provides an incomplete picture of how religion contributes to individual and social outcomes, an assertion buttressed by findings suggesting private devotion and perceptions of the divine are persistently associated with improved life satisfaction and psychological well-being (Ellison, Gay, and Glass 1989; Greenfield, Vaillant, and Marks 2009). In fact, some theorists insist on a revised reading of Durkheim's work, suggesting that religious beliefs are just as consequential in producing bonded communities of common practice and belief, which can withstand the challenges of doubt and uncertainty, inherent to modernity (Berger 1967; Collins 2005; Ellison 1991; Marshall 2002).

Elsewhere, studies investigating mental health differences between intrinsic and extrinsic religiosity (Allport and Ross 1967) suggest that religious involvement in the pursuit of primarily non-religious ends (i.e. to maintain social networks, express ethnic identity, etc.) is associated with poorer mental health, while religious devotion, consistent with sincere belief, is associated with improved mental health (Donahue 1985; Green and Elliott 2010; Hackney and Sanders 2003; Smith, McCullough, and Poll 2003; Wink, Dillon, and Larsen 2005). Therefore, since the protective aspects of religious participation appear linked to sincere belief, and weakened by instrumentality, it seems most incumbent that researchers consider the role of beliefs in determining mental health outcomes. Further, because religious practice uniquely entails the observance of specific beliefs and postures toward the sacred, it is impossible to reduce religion to its secular components (Benore and Park 2004; Pargament, Magyar-Russell, and Murray-Swank

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2005). While there is compelling evidence to support the link between religious practice and mental health outcomes, there are also theoretical and empirical reasons to suggest that religious beliefs and practices are distinct in their effects on mental health, and that religious beliefs should be independently assessed in ongoing empirical work (Nooney and Woodrum 2002; Schieman and Bierman 2011).

Religious Belief and Mental Health

Speculation about the relationship between religious belief and mental health is not new, though the relationship has received little empirical attention until relatively recently (Ellison et al. 2001). Fortunately, a relatively recent spate of studies investigates the potential relationship between various dimensions of religious belief and well-being. Broadly, religious beliefs have been linked with lower levels of depression and anxiety, and higher levels of positive affect (Abdel-Khalek 2007; Koenig et al. 2001; Loewenthal and Lewis 2011) and Ellison's (1991) finding of higher life-satisfaction among members of conservative churches suggests sectarian beliefs may also contribute to well-being (see Smith 1998). Not all findings, however, are as clear about the potential benefits of belief. For instance, one study links religious beliefs with greater levels of anxiety and obsessive-compulsiveness, though it should be noted this study relies on a sample of clinically referred psychiatric patients, rather than from the general population (Pieper 2004).

One area scholars have attempted to ascertain the role of religious belief on mental health is by examining the impact of believing in God on one's sense of personal control and self-efficacy (Schieman 2008). Leading mental health scholars identify a sense of personal control as the general expectation that an individual is capable of

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determining their own destiny and affecting their own life outcomes (Mirowsky and Ross 2003b). A strong sense of personal control has been linked with lower levels of distress, better self-rated health and physical functioning, and has been shown to buffer against the deleterious effects of acute and chronic stress (Mirowsky and Ross 2003a; Pearlin 1989; Ross and Wu 1995). One of the critiques linking religious behavior to pathology is that belief in a God who is active and present in one's life is tantamount to fatalism, to ceding control of life's outcomes and eroding personal efficacy (Jackson and Coursey 1988; Schieman 2008).

Available evidence suggests that the relationship is more complicated. Pargament and colleagues find that the modal style of divine relations is not one of fatalism but of collaboration and that those who view God as a coconspirator in daily events usually fare better on emotional outcomes (Pargament et al. 1998; Pargament, Koenig, and Perez 2000). Other scholars note that belief in a divine advocate committed to delivering one through life's trials represents a significant psychosocial resource in managing acute and daily stressors, developing perseverance, and increasing self-esteem (Ellison 1991; Loewenthal and Lewis 2011; Schieman et al. 2017; Schieman and Bierman 2011; Spilka, Shaver, and Kirkpatrick 1985). In separate studies, Krause (2005, 2010) found that believing God actively influences one's life is related to an increased sense of meaning and optimism, better self-rated health over time, and to increased feelings of gratitude which buffer against stress. Recent studies confirm that various aspects of religious involvement are actually associated with a higher sense of personal control (Ellison and Burdette 2012; Krause and Tran 1989; Schieman, Pudrovska, and Milkie 2005). Pollner (1989) suggests that divine relations may contribute to self-efficacy and a sense of

personal control if the perceived relationship contributes to a sense that one is known and valued by God. Schieman (2008) found that individuals who believe God is active in steering their lives indeed have lower levels of personal control, but not when accompanied with higher religious commitment and devotion. Finally, some suggest that because congregational participation provides rich opportunities for civic engagement, (Lincoln and Mamiya 1990; Putnam 2000), religion actually contributes to a sense of personal control or mastery (Ellison and Henderson 2011, Schwadel 2002, Bandura 1997). Thus, it is certainly possible that belief in an engaged God contributes to fatalism in some circumstances, but that when coupled with other aspects of religious behavior divine beliefs may be beneficial.

More recently, a number of studies have contributed greater sophistication to the study of religious effects by narrowing their focus on specific belief constructs. One of the earliest examples looks at the relationship of theodicy and life satisfaction showing that among whites, a theodicy stressing the sinful nature of humanity is associated with lower life satisfaction, especially in times of distress (Musick 2000). However cultural contingencies may affect the relationship. Among Black respondents, no relationship was observed, suggesting that potentially problematic beliefs affect health only within certain cultural interpretive contexts. More recently, scholars link beliefs related to evil, such as doctrines of sin and the existence of demonic powers, with poorer mental health outcomes (Ellison and Burdette 2012; Nie and Olson 2016; Uecker et al. 2016) though evidence also suggests that feeling forgiven by God significantly attenuates these effects (Kent, Bradshaw, and Uecker 2017; Uecker et al. 2016).

It should be noted that while these studies utilize a number of sophisticated treatments and multiple dimensions of religious belief, none focuses on the primary ontological components of religious belief structures, most notably, beliefs about the existence and character of God, or about the ultimate destiny awaiting us (or not) in the afterlife. Initial findings suggest a possible salutary relationship between believing in life after death and psychological distress (Flannelly et al. 2006). Further, because religious beliefs are interwoven throughout social interactions, and because later findings reveal a pattern of contingent effects, treating beliefs as additive constructs with direct and straightforward relationships to mental health outcomes may not be the best approach.

Religious Coping, Negative Interaction and the Dark Side of Faith

Further evidence that religious belief may not share a direct linear relationship with mental health comes from studies examining coping styles and religious struggles. One of the more common hypotheses in the study of religion and health is that religious behavior comforts believers and buffers against the deleterious effects of acute and daily stress on well-being (Hood, Hill, and Spilka 2009; Schieman and Bierman 2011). This hypothesis garners support from studies linking religious faith with improved well-being and adjustment in response to traumatic life events (Ellison 1991; McIntosh et al. 1993).

However, other work finds that religious belief is not uniformly beneficial (Ferraro and Albrecht-Jensen 1991). One of the most influential strains of research is from Pargament and colleagues who delineate between different styles of religious coping and their effects (Pargament et al. 1998, 2000). Pargament and colleagues broadly distinguish between two basic styles of religious coping, positive and negative. Positive religious coping (at least in a North American context) is characterized as typically

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including the following: a sense of spirituality, a stable sense that life is meaningful, a sense of spiritual connectedness with others and a stable relationship with God. Negative religious coping is characterized by the obverse of these traits (Ellison and Henderson 2011; Schieman et al. 2013).[1] A meta-analysis of studies using measures of religious coping supported the conclusion that positive coping styles are associated with better mental health outcomes in response to stress while negative coping styles are associated with declines (Ano and Vasconcelles 2005). A study combining the positive and negative styles into a singular additive measure, found that more positive coping was inversely associated with distress (Nooney and Woodrum 2002).

Initially, studies investigating religious coping styles were primarily focused on measures related to the level of the individual psyche. A few studies expand their treatment of coping by considering the social contexts of religious interactions. One study found that the relationship between positive and negative coping and well-being was stronger for clergy than for rank and file members, suggesting that the impact of religious coping is more significant among those who are more deeply embedded in their religious communities and for whom religion is more salient (Pargament et al. 2001; see also Krause, Ellison, and Wulff 1998). An additional study finds associations between negative religious coping and symptoms of psychopathology, including anxiety, depression, paranoid ideation, obsessive-compulsiveness and somatization and that these

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[1] A more detailed taxonomy of the Brief RCOPE index created by Pargament (1998) includes a positive pattern of religious forgiveness, seeking spiritual support, collaborative religious coping, spiritual connection, religious purification, and benevolent religious reappraisal. The negative pattern is characterized by spiritual discontent, punishing God reappraisals, interpersonal religious discontent, demonic reappraisal, and reappraisal of God's powers.

effects were greater among those with previous mental health problems (McConnell et al. 2006).

Studies also suggest that though religious belief and affiliation provide access to significant sources of social support, they also represent a significant potential stressor when religious involvement is strained or problematic. Ellison and Henderson (2011) summarily identify three potential areas where religious involvement can contribute to poorer mental health: 1) when one's perceived relationship to the divine is troubled or problematic; 2) when religious involvement is characterized by intrapsychic struggles such as acute doubt and uncertainty, and 3) when interactions with other coreligionists are fraught with conflict (see also Exline 2002). The empirical evidence suggests that when interactions within religious social settings include negative appraisals by coreligionists and excessive demands (which can contribute to role strain, role conflict and role overload) then religious involvement can certainly contribute to distress (Ellison et al. 2009; Ellison and Lee 2010). Further, the same appears to apply not only at a congregational level, but when negative interaction spills over to characterize one's relationship with the divine (Ellison and Lee 2010). Because people often turn to religion during times of acute distress, the failure of religious communities to provide effective support, or a relationship with the divine characterized by strain, not only deprives individuals of an important potential source of social and psychological coping, but can amplify the effects of these problems.

While recent research certainly affords a more delineated view of the relationship between religious behavior and well-being, there remains very little research investigating the contingent role of religious beliefs, particularly those about the divine

and the afterlife. Crucially, it is unclear if what people believe about the divine varies in its relationship with mental health. A few initial findings suggest that certain beliefs may be maladaptive. Ellison and Henderson (2011) suggest that those who come to view God as judgmental may interpret negative life events as punishments, and that those who view God as estranged may contribute to distress and negative affect. Pargament et al. (2000) also observe that poorer psychological adjustment in response to stress when stressors are attributed to divine punishment or the work of the Devil. However, Pargament (2002) also notes that adherence to strict beliefs and practices that are often central to sectarian religious groups (i.e. belief in an authoritative God) actually tend to contribute to tighter community bonds and a strong regimen of regulatory norms which protect against anomic outcomes. Thus, more work remains before determining how beliefs about the divine contribute to mental health.

Belief as Maladaptation – Evolutionary Threat Assessment Systems Theory

One potentially fruitful theoretical development in determining how beliefs about God translate to mental health examines belief in God from an evolutionary standpoint. This research relies on Evolutionary Threat Assessment System (ETAS) Theory (Flannelly et al. 2007, 2010; Flannelly and Galek 2010) which synthesizes insights from multiple fields, particularly evolutionary psychology and neurobiology (Flannelly 2017). The basic premise of ETAS is threefold: first, specific and interconnected parts of the brain are responsible for determining whether a situation or object is threatening or harmful; second, certain psychiatric symptoms connected to vigilance and threat assessment, such as paranoid ideation and anxiety, are products of these neural processes;

and third, neurologically based threat assessment is also moderated by our beliefs about the world.

ETAS represents an improvement on previous theoretical models because it does not presume that religious beliefs are uniformly related to mental health, but rather anticipates that different types of beliefs may affect outcomes in different ways. Further it suggests a potential mechanism for these relationships, that the evolutionary wiring of our brain functions interact with the ways we come to understand reality and that particular beliefs about God or the nature of reality can either help or hinder by facilitating or inhibiting the way we assess threat. In short, if one views God as a beneficent protector, then ETAS proposes that symptoms of psychopatholgy related to stress and anxiety will be lower. Obversely, if God is viewed as unreliable and ambivalent, then symptoms should be higher. Studies utilizing ETAS have investigated the relationship between psychiatric outcomes and a variety of belief constructs including images of God (Flannelly et al. 2010; Silton et al. 2013), attachment to God (Ellison et al. 2014; Flannelly and Galek 2010), beliefs about the afterlife (Flannelly et al. 2012), and teleology (Galek et al. 2015). In general, these studies suggest that belief in a beneficent, present, and reliable God, belief in life after death, and believing that life has purpose are all directly or indirectly associated with better mental health.

Nevertheless, there are reasons to question the applicability of ETAS and evolutionary models to the distinct, complex relationships of belief constructs and their relationship with mental health. First, ETAS fails to fully identify whether religious struggles more powerfully predict mental health outcomes than the content of belief constructs. If we accept that religious group norms provide psychosocial resources, then

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perhaps what makes a particular belief threatening to well-being is if it is discordant with group norms. Further, divine beliefs are multidimensional and whether one affirms certain propositions about the divine does not necessarily predict their emotional postures toward God. Second, ETAS implicitly assumes that some religious beliefs are inherently dysfunctional for well-being and psychological adjustment. However this assumption fails to account for the social contexts and contingencies which surround individual beliefs about existence or the nature of the divine. Foundational social theory suggests that religious beliefs, independent of content, can protect against distress and alienation, as they link individuals to social membership and provide a coherent ontological structure and reliable regulatory norms which protect the individual and the group from anomic breakdown (Berger 1967; Durkheim 1897, 1912). To date, I am aware of only one study using ETAS theory which considers the role of group affiliation, finding that a sense of meaninglessness was associated with greater psychopathology for the religiously committed (Galek et al. 2015). Finally, each of these studies treat beliefs as linear constructs in isolation, without considering social norms or group contexts. In fact, one set of findings (Flannelly et al. 2010) found that some beliefs, such as whether God created the world or judges our behavior, had no impact on mental health. If the primary connection between belief and health is the degree of certainty and coherence one experiences, then it is possible that these non-findings obscure a curvilinear relationship, and that a lack of clarity on theological issues is more predictive of distress than straight-line assessments might suggest.

Religious Meaning, Coherence and Doubt

Most research investigating the potential relationships between religious beliefs and health treat religious beliefs as linear constructs, whereby belief in a particular theological tenet is more or less adhered to, along a continuum. Further, these studies typically investigate the direct linear effects of religious belief on mental health outcomes.[2] However, there are significant theoretical and empirical reasons to question previous findings which only examine the direct additive effect on mental health outcomes.

First, there is a long tradition across the social sciences asserting that the evaluative frameworks we employ to make sense of our environment are profoundly determinative of our behaviors and mental states, including how we cope with distress and how appraise our self-worth (Cooley 1922; Ellison and Henderson 2011; Frankl 1946; Lazarus and Folkman 1984; Thomas and Thomas 1928). In the context of religion, beliefs represent an evaluative framework which can be used to ascertain the meaning of events and connect individuals to the attendant social resources contained within religious communities (George, et al. 2002). According to Berger (1967) religious participation offers adherents a comprehensive system of meanings which order and interpret an otherwise meaningless and chaotic stream of human events. Because our views of objective reality are inherently unstable, we rely on patterns of interpretation to maintain our sense of reality, something Berger terms "Plausibility Structures." Because daily and acute stressors, such as physical ailments, interpersonal strife with loved ones,

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[2] As covered in greater detail below, there are notable exceptions. A few studies employ interactive models whereby particular belief constructs are considered in the context of other factors such as prayer and life stress, financial hardship, and forgiveness (Bradshaw and Ellison 2010; Bradshaw, Ellison, and Flannelly 2008; Ellison et al. 2012, 2014; Kent, Bradshaw, and Uecker 2017).

role conflicts and strains, etc., contribute to a sense that life is uncertain and out of our control, we rely on plausibility structures, often religious in nature, to order and interpret events according to a larger system of meaning, thus maintaining mental stability. The end result is a sense of existential coherence which can aid in managing potential stressors and avoiding distress. Similarly, Geertz (1973) defines religion as a system of powerful and persuasive symbols which provide a framework of enduring motives and responses to the world, culminating in a general framework for existence, something Berger terms the Normative Order or *Nomos*. Greeley (1996) later adds that religious orders are most appropriately understood as *narratives* because living out religious meaning systems often means interpreting events as parts of a story, with God often occupying a central role.

Findings from a number of studies suggest that religious behavior links people to a variety of psychosocial strategies for coping with adversity. Among these include access to religious meaning systems which contribute to life satisfaction and well-being (George et al. 2000; Krause 2003; Pollner 1989). Evidence suggests that religious meaning systems are particularly relevant when individuals encounter "boundary experiences" or major life events which call into question the nature of reality, such as bereavement, births, major life changes, periods of prolonged suffering, or facing one's own mortality (Bradshaw, Ellison, and Flannelly 2008; Ellison 1991; Kotarba 1983; Krause 2003; McIntosh et al. 1993). The capacities for religious groups to equip followers with explanations for the most significant of life events is among the most robust predictors of mental health (Baumeister 1991; Idler 1987).

Meanwhile, studies investigating the related constructs of religious doubt and religious certainty support the conclusion that effective plausibility structures contribute to well-being. Recent experimental results demonstrating a connection between subjective estimates of uncertainty and activation of physiological stress responses confirm that the subjective experience of uncertainty contributes to psychological distress (de Berker et al. 2016) and it is possible that feelings of ontological doubt represent a potential stressor. A handful of studies indicate that broad religious doubts, as well as doubts regarding specific belief constructs, indeed contribute to declines in well-being and increased levels of psychological distress, including symptoms of depression, general anxiety, interpersonal sensitivity, paranoia, hostility, and obsessive-compulsiveness (Galek et al. 2007; Krause et al. 1999; Krause 2006; Krause and Ellison 2009). Chronic doubt appears especially deleterious (Ellison and Lee 2010; Krause 2006) as does doubt among clergy and congregational leaders, suggesting that among the more highly religious, doubts not only threaten understandings of reality but also a coherent sense of self (Krause and Wulff 2004). Evidence also suggests that the obverse of doubt, measured in terms of certainty, is also robustly related to psychological well-being (Antonovsky 1987; Anyfantakis et al. 2015; Ellison 1991; George et al. 2002). These findings are also consistent with those linking intrinsic religiosity with better mental health (see above).

While religion represents a potential source of meaning, it also represents a potential stressor, especially when the core assumptions made within a religious system are violated (Janoff-Bulman and Frieze 1983; Schieman and Bierman 2011). According to Dissonance Theory (Festinger 1957), people work toward the alignment of their beliefs

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and actions. When life events occur, whether simple moments of introspection or reconsideration or marginal events of acute crisis, these moments not only threaten emotional equilibrium, they can make certain ontological views seem untenable, contributing to significant distress. For religious believers, a period of religious uncertainty may ultimately result in alignment, as individuals revise which subset of beliefs they adhere. In the meantime, periods or reorientation can be very stressful, riddled with anxiety and lowered self-esteem (Exline 2002; Krause et al. 1999). The role of religious ambiguity can also have a concatenating effect on psychosocial resources as doubt leads to stigmatization and alienation within one's religious community and eventually, withdrawal, resulting in the loss of a valuable source of coping (Ellison and Henderson 2011; Schieman et al. 2013). Further, there is no necessary time table for religious conflicts to sort themselves out.

In sum, treating the content of religious beliefs as having a direct or linear effect on psychological distress may be inappropriate for understanding the relationship between belief and mental health. More directly, the specific content of religious belief systems may have less impact on mental health outcomes than whether those beliefs are plausible. There is even evidence to suggest that beliefs which seem injurious to self-esteem or mental health are actually highly protective in certain conditions. For instance, evidence links the strict beliefs and practices of fundamentalism with a strong sense of community affiliation, clarity and high levels of hope and spiritual satisfaction (Pargament 2002).

Previous studies have examined the plausibility of religious beliefs by measuring self-reported doubt directly (Krause 2006; Krause and Ellison 2009). However, it is

important to note that when asked, very few people report high levels of religious struggles and social desirability may bias people from honestly assessing the depth of their uncertainty. Another method of ascertaining religious ambiguity is to ask respondents their level of agreement or disagreement about certain important belief constructs, such as their views about God and the afterlife. This approach may be superior because a lack of clarity on these matters taps into doubt and uncertainty without forcing people to directly acknowledge them. To that end, it is possible that the level of belief in these constructs is not linearly related to psychological distress, as most studies have assumed, but that strong adherence to a particular belief is reflected in either high or low levels of affirmation *or denial* of a particular construct. Further, those who are more ambiguous about a particular construct may be more likely to report higher levels of psychological distress.

General Support for a Curvilinear Relationship

Previous findings suggest that the relationship between religious beliefs and mental health may actually be curvilinear in nature, and that ambiguous or uncertain beliefs are more predictive of distress. Early findings from a national sample of women found that both strong religiousness and confident non-religiousness were associated with better mental and physical health (Shaver, Lenauer, and Sadd 1980). A similar finding was reported by Ross (1990) who observed low levels of distress among those with strong self-reported religious affiliation and those with no religious affiliation, while those with moderate and weak levels of affiliation reported much higher levels of distress, on average. These findings were observed while controlling for measures of personal efficacy and trust in God, which yielded no significant associations. More

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recently, separate longitudinal studies, one tracking a sample from adolescence to young adulthood, another tracking a sample from middle age into late life, found the lowest levels of depressive symptoms and anxiety levels among those with high or low religiousness (Eliassen, Taylor, and Lloyd 2005; Wink and Scott 2005). In the latter study, a specific belief construct (belief in the afterlife) was tested using linear regression, finding no linear relationship between afterlife belief and death anxiety. Finally, after taking into account a battery of sociodemographic variables, Green and Elliot (2010) failed to find a relationship between religious affiliation and health or happiness. They did however, find that higher religiosity, irrespective of the content their religious beliefs, positively predicted well-being.

Beyond these findings, neurological imaging supports the conclusion that uncertainty is distinct from belief and disbelief. Harris and colleagues (2008) identify distinct patterns of brain functioning when individuals discern whether a proposition was true, false or undecidable. While they note similarity in the processes of accepting or rejecting a proposition, the state of uncertainty corresponded with increased activity in areas of the brain associated with greater cognitive load and interference. The condition of uncertainty in their study appears to support the conclusion that ontological doubt is more taxing than the rejection or acceptance of a proposition. Furthermore, if belief functions in this way, previous non-findings may actually be masking what is curvilinear. For instance, one study found that perceiving God as approving and forgiving and as creating and judging, had little influence on psychopathology (Flannelly et al. 2010; see also Wink and Scott 2005). The possibility of the curve suggests that revisiting the relationship of previous constructs is worthwhile.

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Previous findings suggest a possible deleterious relationship between some aspects of theological belief, specifically belief in a distant, disapproving, or unloving God, and psychological distress, (Bradshaw et al. 2008a; Flannelly et al. 2010; Silton et al. 2013). However, this seems to run contrary to the conclusions of Pargament (2002) that strict religious belief systems, even those with beliefs which seem corrosive to self-esteem and positive affect, actually afford adherents immense psychosocial advantages such as a reliable complex of regulatory norms, strong community bonds, and most importantly, the perception that their lives are divinely sanctioned. In interviews with members of the notorious Westboro Baptist Church of Topeka, Kansas one member illustrated the benefit that even fringe beliefs about God can bring. When asked if the punitive God they worship is capable of love, one member responded "It is simple: God loves us and hates you" (Froese and Bader 2010: 79). Thus, even frightening ideas about God may ultimately be protective in the right circumstance.

General Proposition

In sum, a general review of the literature examining the relationship between religious belief and mental health suggests the following: 1) due to the centrality of beliefs in defining religious behavior, diminution of the role of belief in affecting outcomes is inappropriate; 2) the relationship of religious beliefs with mental health is contingent upon the various dimensions of belief and their interplay in socio-religious interaction; 3) the benefits of religious beliefs are, in part, contingent upon one's emotional posture towards the divine; 4) the benefits of religious belief are also contingent upon their plausibility and their shared congruence in religious communities; and 5) religious doubts are strongly associated with psychological distress while religious

certainty is strongly associated with psychological well-being. Based on these conclusions, I propose the following general proposition, which will be tested in the studies below:

General Proposition 1: Ontological beliefs about the nature of God or the afterlife will have a curvilinear relationship with measures of psychological distress.

This proposition is applicable to the following methodological approach. Unlike previous studies which rely on respondents to directly assess general feelings of uncertainty, I rely on a battery of specific belief construct measures whereupon respondents are asked to ascertain their level of agreement with certain characteristics about the divine or the afterlife. According to General Proposition 1 continuous measures of belief constructs should reveal a curvilinear association with measures of psychological distress (see Figure 2.1). For instance, one of the belief constructs measured in study one, is the extent respondents feel that God is engaged with the world. A high value on this measure reveals a high degree of adherence to the belief that God takes an active role in personal and world affairs. A low value reveals a high degree of adherence to the obverse view that God does not take an active role in personal and world affairs. Based on the general proposition, both values are expected to be associated with lower levels of psychological distress. Meanwhile, a mid-range value reveals a high degree of uncertainty about the nature of God's involvement in personal and world affairs and is expected to be associated with higher levels of psychological distress.

I test this proposition in three studies. Study one investigates the effects of propositional beliefs using three explicit Image of God constructs: judging image of God, engaged image of God, and loving image of God. Study Two investigates the impact of

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Levels of Psychological
Distress

Equivalent Adherence to
Belief Proposition

Less Adherence to
Belief Proposition

Greater Adherence to
Belief Proposition
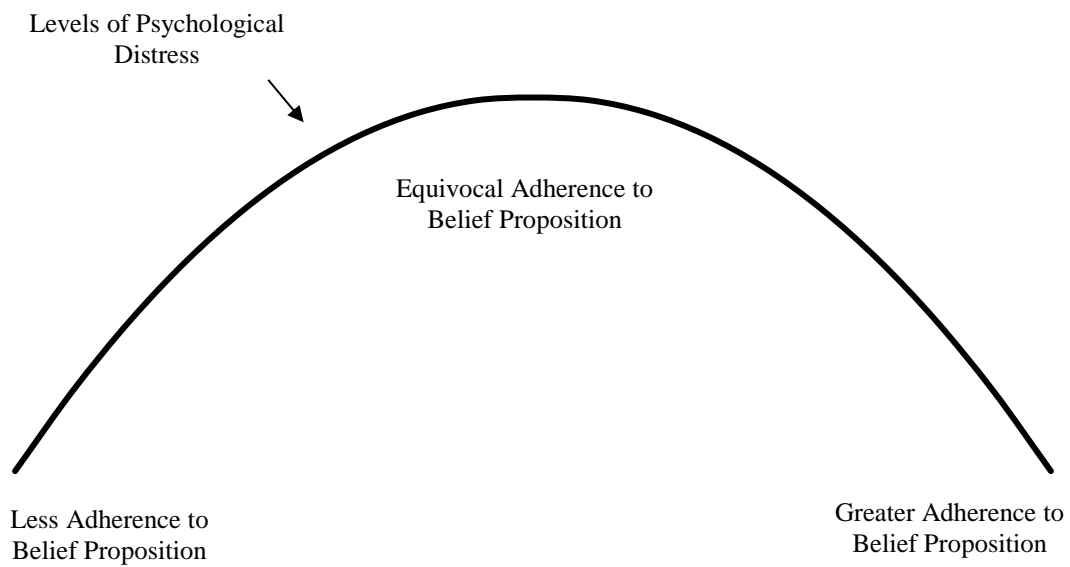
Figure 2.1 Conceptual Model for Proposition One

dispositional beliefs by examining the effects of secure and anxious attachment to God

styles. Study three considers matters of ultimate security and ontology by examining the

relationship of afterlife beliefs, including beliefs in Heaven, Hell, and an index measure

of positive afterlife views.

CHAPTER THREE

Study One: Image of God and Psychological Distress

"What comes into our minds when we think about God is the most
important thing about us."
                                                    –A.W. Tozer, *The Knowledge of the Holy*

Introduction

As explicated in greater detail in Chapter Two, sociological studies of religion

have been reticent to comment on the effects of religious beliefs on mental health with

most studies focusing on the benefits of collective affiliation and participation.

Unfortunately, focus on social network dynamics, to the exclusion of dogma and

theology, diminishes the central role of beliefs, obfuscates the distinct potential

relationships between belief and health, and therefore fails to fully grapple with how

religious experiences affect psychological health. A few key findings support the

assertion that religious beliefs are associated with improved psychological well-being

(Ellison, Gay, and Glass 1989; Greenfield, Vaillant, and Marks 2009). Meanwhile,

studies of intrinsic versus extrinsic religiosity suggest that sincere religious beliefs are

associated with improved mental health, while instrumental motivations for religious

participation are linked with poorer mental health (Donahue 1985; Green and Elliott

2010; Hackney and Sanders 2003; Smith et al. 2003; Wink et al. 2005). Because the

protective aspects of religious participation often appear to be weakened by

instrumentality, religious beliefs appear to play a distinct role in determining the effect of

religious practice on well-being (Schieman and Bierman 2011).

Prominent scholars call for a revision of Durkheim's canonical work, suggesting that the content of belief systems is just as important for joining individuals with solidified moral communities and the attendant psycho-social resources available through group affiliation (Berger 1967; Collins 2005; Ellison 1991; Marshall 2002). A small subset of studies has begun to interrogate the role of religious belief but these typically rely on broad measures which fail to delineate finer points of lay theology. A number of findings suggest that specific beliefs about God may differentially affect well-being in the following ways. First, beliefs which emphasize God's wrath and judgment appear to be associated with poorer mental health outcomes, though these effects appear to be attenuated by belief in God's forgiveness (Ellison and Burdette 2012; Flannelly et al. 2010; Kent, et al. 2017; Musick 2000; Nie and Olson 2016; Uecker et al. 2016). Second, those who believe that God is an active and benevolent presence in their lives appear to report more effective coping and psychological distress (Pargament, et al. 2000; Pollner 1989; Schwadel 2002; Silton et al. 2013).

However, scholars suggest that certainty and coherent beliefs are also important predictors of psychological well-being (Berger 1967; Ellison and Lee 2010; Festinger 1957; Schieman and Bierman 2011). Previous studies investigating the role of religious certainty have relied on broad measures of self-reported doubt in the existence of God (Krause 2006; Krause and Ellison 2009) and fail to address whether ambiguous beliefs about the nature of God are distinctly related to distress.

This study relies on data from the Baylor Religion Survey (2010) to investigate the relationship between a person's image of God and psychological distress. Based on the general proposition that adherence to ontological assertions shares a curvilinear

relationship with mental health, I test to see whether measures of God image are curvilinealy related with measures of general and psychological distress.

Background

The conceptualization of an individual's image of God has long been of theoretical interest to social scientists, primarily psychologists interested in the potential relationship between beliefs about God and neuroticism (Freud 1913, 1927; Leuba 1925; see above). More recent work focuses on how ideas about God impact personality development and shape interpersonal interactions (Jones 2008; Kirkpatrick 1992; Rizzuto 1974, 1981). A brief synthesis of this work posits that the way people conceive of the divine is extrapolated from images formed within intimate relationships shared during early childhood development, especially parents. Subsequent studies and reviews further distinguish between images of God which are largely conscious, explicit and rational, and images which are more complex, emotional, experiential and implicit (Grimes 2008; Hall and Fujikawa 2013; Hoffman 2005).[1]

Understandably, psychodynamic approaches to God Images (Jones 2008) are heavily focused on aspects of God belief which are more emotive, affective, and in other ways, more directly related to the psyche. But this approach is mostly silent on the sociodynamics involved in the acquisition and maintenance of religious beliefs, and how these can be affected by cultural referents and group schemas acquired via social interaction (Geertz 1973). In their review, Hall and Fujikawa (2013), assert that an

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[1] The literature on God Image is a bit inconsistent in its terminology, sometimes using the terms God Concept and God Image as distinct, other times using them interchangeably. Moving forward, the use of God Image will be used to describe the explicit, propositional views people have of God, i.e. judging, loving, engaged.

individual's perception of the divine is not exclusively relevant to matters of individual

consciousness. They confirm that God Image affects and is effected by community level

interpersonal interactions. Therefore, a theoretical model which accounts for cultural

symbols and ideas contributes to a more holistic understanding of how religious beliefs

affect behaviors and attitudes.

A parallel strain of research extends the assertion that religion represents a

complex of symbols and interpretations, acquired and maintained (or transformed) via

mechanisms of social interaction. Most notably, separate works by Greeley (1996) and

Smith (2003) assert that religion represents an orienting narrative that explains the way

the world works, and our place in it. A person's God Image serves as a useful proxy for

religious belief because views about God, as the central character in a person's religious

narrative, are reflective of a host of other paradigmatic assumptions about the nature of

reality, of the world, and of the individual's place in it (Froese and Bader 2010; Greeley

1996). Furthermore, a person's view of God contributes to their general understanding of

the world by adding a coherent reference point by which individuals recognize authority,

ascertain moral correctness, and reify a sense of cosmic order. A person's Image of God

may also reflect an individual's sense of purpose, self-worth, and their role in social

relationships. This approach is distinct from earlier iterations in that, rather than focus on

idiosyncratic religious experiences between an individual and the divine, treating God as

the central religious symbol links human behavior and attitudes to group level cultural

ideas about the nature of reality.[2]

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[2] That is not to say that psychodynamic approaches are not informative and the following chapter on Attachment to God theory will give a more through treatment of this approach.

Early studies of God image have sought to determine how the general population conceptualizes God, using factor analysis to identify distinct belief constructs (Gorsuch 1968; Spilka, Armatas, and Nussbaum 1964).[3] More recently, Kunkel and colleagues (1999) suggest that God Images vary along two distinct dimensions: punitive versus nurturant and mystical versus anthropomorphic. Subsequent studies use similar measures to predict a wide variety of outcomes, including beliefs about human nature, the self, family values, the afterlife and the present state of society (McIntosh 1995; Park 2005; Silberman 2005). Belief in a wrathful God, an engaged God or a loving God has been linked with a host of attitudinal outcomes including the formation of moral opinions (Froese and Bader 2010; Froese, Bader, and Smith 2008; Greeley 1997), political attitudes (Froese et al. 2008; Greeley 1996), support for capital punishment (Bader et al. 2010; Unnever, Cullen, and Bartkowski 2006), views on biotechnology (Scheitle 2005), social trust (Henderson, Fitz, and Mencken 2017; Hinze, Mencken, and Tolbert 2011; Mencken, Bader, and Embry 2009), and community engagement (Mencken and Fitz 2013).

Based on the above, and because religious beliefs are so intimately tied to religious socialization (Krause 2007) there is reason to suspect that while the behavioral aspects of religious participation are essential in determining mental health outcomes, religious beliefs, particularly those about the divine, influence the nature of religious experience and its impact on individual health outcomes (Exline 2002; Schieman et al. 2013). Surprisingly, practices which might aid in coping, such as prayer and meditation, have been linked to increased distress, suggesting that the benefit of these practices may

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[3] See also The God Image Inventory (GII) (Lawrence 1997).

be contingent upon the object being venerated (Bradshaw et al. 2008a; Loewenthal and Lewis 2011; Yorston 2001). Another study suggests that perceptions of God and perceptions of others' beliefs, mediate how religion aids in stress management (Maynard, Gorsuch, and Bjorck 2001). Findings from a sample of Japanese Shinto followers reveal that the worship of ancestors, typically believed to be friendly and benevolent, is associated with greater well-being, while worship of Kami statues, which represent impersonal, unreliable and unpredictable forces of nature, was related to distress (Roemer 2010). This latter finding suggests that a person's view of the divine has important implications for general well-being. While multiple God Image constructs have received attention in the literature, among the most common and potentially important are whether God is believed to be judging, engaged or loving. Each of these constructs will be examined separately here.

Judging God Image

Conceptually, a variant of the divine as a being occupied with meting out punishment for sin has been present in American religious culture at least since the First Great Awakening, typified in Jonathan Edwards' famous sermon *Sinners in the Hands of and Angry God* (1741). Measurement constructs tapping belief in God's judging nature usually include adjectives such as wrathful, angry, or punitive. The idea that belief in a judgmental God is correlated with mental distress makes intuitive sense: those who come to experience God as judgmental may interpret chronic or acute stressors as punishment for sins or spiritual failings, or feel estranged from such a punitive figure, leading to feelings of alienation distress and making it harder to adjust to stressors (Ellison and Henderson 2011; Exline, Yali, and Sanderson 2000; Pargament et al. 2000). Empirical

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studies measuring judging God images or similar constructs find relationships between belief in a judging God and higher levels of psychopathology, such as obsessive-compulsiveness and depressive symptoms, though it should be noted that these findings are culled from small samples of psychiatric patients and Seventh-Day Adventists, respectively (Schaap-Jonker et al. 2002; Webb et al. 2010). A more recent finding using a large national sample does identify pernicious associations between judging God belief and social anxiety, paranoia and obsessive-compulsive symptoms, lending support to the assertion that belief in the God of Jonathan Edwards may very well contribute to distress and neurosis in the general population (Silton et al. 2013). Additionally, a study of AIDS patients finds that belief in a judging God is associated with accelerated disease progression, suggesting that the overall effects of God Image are not limited to mental health (Ironson et al. 2011)

There is, however, reason to suspect that belief in a Judging God might not be straightforwardly pernicious as stated above. First, it is possible that belief in a Judging God provides a meaningful theodicy which protects followers against distress, and that this might be masked in linear regression analyses. Pollner's (1989) study of divine relations found that the beneficial impact of divine relations on well-being was actually greater for those who see God in hierarchical or authoritarian terms. In another study, Flannelly and colleagues (2010) failed to find a relationship between a judging God image and psychopathology. Though it is certainly possible that this failure reflects the lack of a relationship, it is also possible this non-finding masks a curvilinear relationship, especially if levels of psychological distress among those with a highly judging God are comparable to those with a highly non-judging God.

Second, belief in a judging God might actually contribute to greater fealty to and integration within religious communities, which could facilitate a stronger sense of identity and belonging, while also connecting adherents to greater social support (Ellison and George 1994; George et al. 2002; Pargament 2002). A study of sectarian Christian groups found uniformity in views about God as a punitive judge, suggesting that God images are partly produced by and for religious socialization (Eurelings-Bontekoe, Steeg, and Verschuur 2005). Further the authors suggest that clinical or therapeutic attempts to change people's God images might actually cause significant harm by contributing to internal religious conflict, interpersonal strife with coreligionists, loosening of social ties and support, and anxiety produced by ontological uncertainty; these dynamics would be even more deleterious if one was prone to personality disorder, or a high degree of psychological distress.

Third, though many of these studies measure different types of God image constructs, such as whether God is judging, distant, etc., beliefs about the divine are complex, comprised of a mixture of simultaneously adhered constructs (Froese and Bader 2010; Schieman and Bierman 2011). Those who believe in a highly Judging God, may also believe in a highly loving God, which could offset or complicate the nature of the relationship by providing believers with an image of God as strict, but forgiving. Separate studies find that a lack of forgiveness by God is associated with higher levels of depression and lower life satisfaction, mediated entirely by a lack of self-forgiveness (Ingersoll-Dayton, Torges, and Krause 2010; Krause and Ellison 2003). For these reasons, it is possible that a view of God as either highly judging or non-judging may both contribute to well-being. If true, then we would expect those in the middle of the

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response range, those who are ambiguous about God's judging nature, to have the highest

predicted levels of psychological distress. Stated formally,

H1: There will be a non-linear association between a judging image of God and

psychological distress, with the highest levels of distress being observed for individuals

who hold less certain beliefs about God's judgment.

Engaged God Image

Previous critiques of religious belief forward that orthodox Christian teachings

that God desires a personal relationship, intervenes in people's lives, and affects good

outcomes for them, contributes to fatalism and erodes well-being and self-efficacy.

Accordingly, this critique posits that belief in a God concerned with and active in our

lives should ultimately be associated with poorer mental health measures and

psychological distress. However, findings from a number of studies refute this assertion,

demonstrating that belief in a God who is active in an individual's life contributes to

greater self-efficacy, lower depressive symptoms, increased meaning and optimism, and

better psychological adjustment during times of adversity (Greenway, Milne, and Clarke

2003; Krause 2010, 2010; Pargament et al. 2000; Petersen and Roy 1985; Stark and

Maier 2008; Watson, Morris, and Hood 1988), especially when accompanied with other

forms of religious commitment (Schieman 2008)[4]. And although a nuanced finding that

belief in an engaged God was associated with lower personal mastery and self-esteem

among a regional subsample of older whites (Schieman et al. 2005), among Blacks, the

relationship was reversed (see also Krause 2005). Meanwhile, a more recent finding from

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[4] For more, see section on Divine Relations and Personal Control, above.

a national sample of adults finds that divine support contributes to greater self-esteem (Schieman et al. 2017).

There is also evidence to suggest that belief in a God who is uninvolved in human affairs is actually associated with poorer outcomes. A study from Bradshaw and colleagues (2008) identifies relationships between belief in a distant God and increases in symptoms of depression, anxiety, interpersonal sensitivity, phobic anxiety, obsessive-compulsiveness, paranoia and hostility. Findings from Phillips and colleagues (2004) provide further nuance: in a study using multiple God image items, the belief that God is remote and unresponsive is consistently associated with poorer mental health outcomes, while belief in a God that is distant, but nevertheless supportive, is associated with better well-being measures, but also greater symptoms of psychological distress. Schaap-Jonker, et al. (2002) find similar associations between a distant and remote and unresponsive God and symptoms of paranoia, and schizoid and schizotypal personality disorders.

Based on the above, it appears that belief in an engaged God may indeed be beneficial to mental health, but that this belief is conditional upon whether one believes that God is also reliable and loving (Flannelly et al. 2010; Schieman and Bierman 2011). Further, Schieman and Bierman (2011) conclude in their review that the evidence generally suggests that belief in an engaged God is related to existential well-being, but the relationship with psychological distress is less clear. Also, because belief in a distant but supportive God appears related to better mental health, as does belief in a close and supportive God, it may be that the relationship of Engaged God depends on other factors.

The possibility of a curvilinear relationship, which would reflect the protective effects of both a highly engaged, and also a clearly distant God, is worth testing. Stated formally,

> H2: There will be a non-linear association between an engaged image of God and psychological distress, with the highest levels of distress being observed for individuals who hold less certain beliefs about God's engagement.

Loving God Image

In their extended treatment of God images Froese and Bader (2010) note that the majority of Americans feel the term "loving" describes God well, one of the few areas of relative agreement among U.S religious believers across categories of class, gender, race, political affiliation and religious tradition. Froese and Bader conclude that belief in a loving God is almost synonymous with belief in God, a likely reflection of the pervasive influence of Christian teaching about the divine. However, the idea that God is wholly benevolent is far from uniform in the general population. Further, it is reasonable to suspect that not only would a view of God as loving be correlated with better mental health and resilience, but that a view of God as less than fully loving would correlate with distress and mental health struggles.

Due to the ubiquity of belief in a loving God, a number of studies have devoted attention to its relationship with a number of relevant outcomes. Some of the earliest work focuses on the positive relationship between belief in a loving God and self-esteem (Benson and Spilka 1973). More recently, scholars have confirmed salutary associations between loving God image and a sense of meaning and purpose (Stroope, Draper, and Whitehead 2013) and self-worth (Francis, Gibson, and Robbins 2001). In a sample of chronic pain patients, loving God image is associated with greater happiness and

protective interpretations of pain and suffering (Dezutter et al. 2010). Evidence also suggests that this belief translates to self-appraisals, as feeling loved by God is found to be protective against depression and psychological distress (Levin 2002). Finally, studies looking at multiple images of God find that Loving God image is related to fewer symptoms of multiple forms of psychopathology (Bradshaw et al. 2008a; Flannelly et al. 2010; Silton et al. 2013) and slower disease progression among AIDS patients (Ironson et al. 2011). Thus, findings suggest the relationship between loving God and well-being should be relatively straightforward. However, based on the above theoretical arguments regarding certainty and meaning, it is possible that a more certain belief in a non-loving God may be related to better mental health .Thus, as with the previous two God image constructs, I will test for a curvilinear relationship to determine if there is any evidence that a low level of belief in God's love is similar to a high level. If true, this would suggest the need to revisit the use of additive linear constructs in the assessment of belief and well-being. Stated formally,

> H3: There will be a non-linear association between a loving image of God and psychological distress, with the highest levels of distress being observed for individuals who hold less certain beliefs about God's lovingness.

Data, Methods, and Sample Characteristics

The data are from Wave III of the Baylor Religion Survey (BRS) a national random sample of adults in the contiguous United States aged 18 years or older collected by the Gallup Organization in 2010. Random Digit Dialing was used to contact a sample of 7,000 potential respondents. Of these, 2,556 were subsequently mailed a questionnaire and 1,714 of these were returned, resulting in a response rate of 24.5%. Potential non-

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response bias is addressed using Groves'(2006) "gold standard" approach, comparing key demographic means and proportions with the 2010 General Social Survey (Cross-Section and Panel Combined). Descriptive statistics of representative demographic and religiosity variables for both the BRS and GSS are presented in Table 3.1. Compared with the GSS, the BRS has less than 6% higher rates of males, whites and college graduates and slightly less than 9% more married respondents. Mean age and income bracket are comparable. The BRS also has a greater proportion of Protestants, though approximately 6% of GSS respondents identifying as Christian are unclear in their affiliation. With more information, some of these respondents might be coded as Protestant, which would partially offset the proportional disparity between the two samples. Mean rates of religious attendance are comparable. The relative similarity suggests that BRS is reliable.

BRS religion measures used in this study are also modeled from the General Social Survey. Mental health measures are adapted from the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV). Of the 1,714 cases, three respondents reported ages either less than 18 or beyond the fence for statistical outliers; these were excluded from all analyses, reducing the initial sample size to 1,711. Also, because this and the following study ask people about their beliefs about God, those who report being atheists are withheld from analysis, reducing the sample to 1,624.

Dependent Variables

As Schieman and Bierman (2011) note, analysis of general measures of well-being, such as those encapsulated by measuring happiness or stress, may fail to observe potential relationships between belief and specific types of psychopathology. Further,

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Table 3.1. BRS Comparisons to the GSS - Demographic and Religion Measures

Variable	BRS (2010)		GSS (2010)		Diff
	N	Mean or %	N	Mean or %	
Demographic Variables					
Age	1663	49.28	4901	47.31	1.97
White	1711	71.45%	4901	68.94%	2.51%
Male	1691	46.30%	4899	41.57%	4.73%
Married	1666	61.58%	4901	52.75%	8.83%
Household Income Bracket	1578	4.23	4397	4.18	0.06
College Graduate	1666	34.24%	4901	28.55%	5.70%
Religion Variables					
Evangelical Protestant	1659	30.55%	4901	24.35%	6%
Mainline Protestant	1659	23.38%	4901	12.88%	11%
Black Protestant	1659	2.73%	4901	7.33%	-5%
Catholic	1659	22.85%	4901	24.97%	-2%
Religious Other	1659	8.05%	4901	7.68%	0%
No Religious	1659	12.43%	4901	16.46%	-4%
Indeterminate Christian	-	-	4901	5.67%	-
Religious Attendance	1699	3.71	4901	3.60	0.11

Sources: Baylor Religion Survey (2010); General Social Survey Cross-Section and Panel Combined (2010). BRS weighted using the *weight* variable. GSS 2010 weighted using the *wtcomb* variable.

analysis of clinical subsamples falls short of observing how these phenomena behave among the general public. Here, a total of six dependent variables measuring mental health and psychopathology in the general population are analyzed. Table 3.2 lists each of the items for each scale and the corresponding Cronbach's Alpha value.

General distress is measured using an additive scale of three Likert items, adapted from measures included by the Centre for Disease Control Health Related Quality of Life Instrument. The first item asks respondents: "Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?"; the second asks "During the past 30 days, for about how many days have you felt sad, blue, or depressed?" and the third asks "During the past 30 days, for about how many days have you felt worried,

Table 3.2. Items Used to Measure General Distress and Psychiatric Symptoms.

General Distress α = 0.878
In the past 30 days…
… how many was your mental health not good
… how many have you felt sad lonely or blue
… how many have your felt worried, tense or anxious?
Generalized Anxiety α = 0.841
Over the past month how often have you …
… felt nervous, anxious, or on edge
… not been able to stop or control worrying
… worried too much about different things
Social Anxiety α = 0.824
… feared that you might do something embarrassing in social situations
… became anxious doing things b/c people watching
… endured intense anxiety in social performance situations
Paranoia α = 0.763
… felt like you were being watched/ talked about by others
… felt that it is not safe to trust anyone
… felt that people were taking advantage of you
Obsession α = 0.764
… been plagued by thoughts/images cannot rid from mind
… thought too much about things that would not bother others
… thought too much about pointless matters
Compulsion α = 0.763
… felt compelled to perform certain actions unjustified
… repeated simple actions that need not be repeated
… been afraid terrible happen if not perform certain ritual

Source: Baylor Religion Survey 2010

tense, or anxious?". For each item, respondents choose between the following responses:
None = 0, 1-10 days = 1, 11-20 days = 2, 21-29 days = 3, and All 30 days = 4. Items were
coded 0-4 and responses were added together to provide a general distress score (α =
0.878).

Psychological distress is measured using scales adapted from the DSM-IV to
measure psychiatric symptoms of general anxiety (Ellison et al. 2014; Kroenke et al.
2010), social anxiety (Ellison et al. 2014; Moore and Gee 2003), paranoia (Fenigstein and

Vanable 1992), obsession and compulsion (Ellison et al. 2014; Kaplan 1994). Each

construct is measured using three items, scaled 0-4 and then summed. For each item

respondents were asked "Over the past month, how often have you:" followed by a

specific symptom. Available responses were Never = 0, Rarely = 1, Sometimes = 2,

Often = 3, and Very Often = 4.

Independent Variables – Images of God

Three measures of Image of God are analyzed, each constructed from a series of

questions about the nature of God and summed to create indices previously validated in

earlier work (Mencken, Bader, and Embry 2009). All index items are coded 0-3. To

assess Judging God Image ($\alpha = 0.893$) respondents were asked the extent they agreed that

God was (a) "Angered by my sins" and (b) "Angered by human sins" and how well the

words (c) "Critical", (d) "Punishing", (e) "Wrathful", and (f) "Severe" described God. To

assess Engaged God Image ($\alpha = 0.899$) respondents were asked the extent they felt God

was (a) "Concerned with the well-being of the world", (b) "Directly involved in world

affairs", (c) "Concerned with my personal well-being", and (d) "Directly involved in my

affairs". Available responses included 0 = Strongly Disagree, 1 = Disagree, 2 = Agree,

and 3 = Strongly Agree. Finally, Loving God Image ($\alpha = 0.943$) was assessed with two

items, the first asking respondents the extent they feel God is described by the words (a)

"Just" and (b) "Forgiving", with responses including 0 = Not at all, 1 = Not very well, 2 =

Somewhat well, and 3 = Very well. Respondents are also asked to indicate their level of

agreement with the following statements: (c) "God loves all living things", (d) "God's

love is eternal", and (e) "God's love never fails". Available responses include 0 =

Strongly Disagree, 1 = Disagree, 2 = Agree, and 3 = Strongly Agree.

Control Variables

Analyses also include several religious and demographic control measures. A series of discrete religious tradition categories is included (Ellison, Gay, and Glass 1989) and is constructed using RELTRAD (Dougherty, Johnson, and Polson 2007; Steensland et al. 2000). These are included as control variables for all studies and include Mainline Protestant, Black Protestant, Catholic, Religious Other, and No Religious Tradition with Evangelical Protestant as the reference category. A continuous measure of religious service attendance is also included (0 = Never; 1 = Less than once a year; 2 = Once or twice a year; 3 = Several times a year; 4 = Once a month; 5 = 2-3 times a month; 6 = About Weekly; 7 = Weekly; 8 = Several times a week). Demographic controls include discrete measures of gender (1 = male), marital status (1 = married), whether the respondent is currently living with one or more child under the age of 18 (1 = yes) and employed (1 = yes). A system of binary measures was constructed for region (East, Midwest, and West, - reference category is South) and education (Some College, Bachelors Degree and beyond Bachelors Degree –reference category is High School Diploma or Less). Also included is a continuous measure of age (18-100) and an interval measure of annual household income bracket ranging from "1=$10,000 or less", 2=$10,001 to $20,000, 3=$20,001 to $35,000, 4=35,001 to $50,000, 5=50,001 to $100,000, 6=$100,001 to $150,000 and "7 = 150,001 or more".

Sample Characteristics

Table 3.3 presents unweighted descriptive statistics for Image of God and Psychological Distress study variables. On average, psychological distress index values (non-transformed) are low, ranging from 1.098 for Compulsion to 3.537 for General

Table 3.3. Descriptive Statistics for Image of God and Psychological Distress Study Variables

Variable	N	Mean/ Proportion	SD	Range	Alpha
Dependent Variables					
General Distress	1538	2.299	2.573	0-12	0.878
General Anxiety	1573	3.537	2.678	0-12	0.841
Social Anxiety	1564	2.032	2.289	0-12	0.824
Paranoia	1567	2.338	2.356	0-12	0.763
Obsession	1566	2.897	2.326	0-12	0.764
Compulsion	1564	1.098	1.778	0-12	0.763
Image of God Variables					
Judging God	1381	7.965	4.807	0-18	0.882
Engaged God	1453	8.006	3.353	0-12	0.896
Loving God	1466	12.432	3.772	0-15	0.939
Religious Control Variables					
Evangelical Protestant [a]	1575	0.323	0.468	0,1	-
Mainline Protestant	1575	0.260	0.439	0,1	-
Black Protestant	1575	0.025	0.157	0,1	-
Catholic	1575	0.253	0.435	0,1	-
Religious Other	1575	0.075	0.263	0,1	-
Non-Religious	1575	0.064	0.245	0,1	-
Religious Attendance	1612	4.102	2.921	0,8	-
Control Variables					
Age	1577	56.157	16.133	18-100	-
White	1624	0.820	0.384	0,1	-
Female	1604	0.548	0.498	0,1	-
South [a]	1624	0.250	0.433	0,1	-
East	1624	0.175	0.380	0,1	-
Midwest	1624	0.361	0.481	0,1	-
West	1624	0.214	0.410	0,1	-
Married	1580	0.634	0.482	0,1	-
Raising Minor Child/ren	1622	0.232	0.423	0,1	-
Ed: HS or Less [a]	1580	0.309	0.462	0,1	-
Ed: Some College	1580	0.322	0.467	0,1	-
Ed: Bachelor's Degree	1580	0.194	0.395	0,1	-
Ed: Beyond Bachelor's	1580	0.175	0.380	0,1	-
Income Bracket	1495	4.249	1.619	1-7	-
Employed	1570	0.628	0.483	0,1	-

Notes: Means and standard deviations are unweighted and recorded prior to imputation. [a] Indicates reference category. *Source*: Baylor Religion Survey (2010);

Anxiety, all on a scale of 0-12. Because the BRS is a national random sample, these values are likely much lower than they would be in a sample of clinically referred patients. The means of judging God image, engaged God image and loving God image were respectively 7.965 (on a scale of 0-18), 8.006 (on a scale of 0-12) and 12.432 (on a scale of 0-15). Thus, the typical respondent would likely view God as slightly more judging, but also more loving and engaged. Approximately 86% of the sample identified belonging to a Christian religious tradition (32% Evangelical Protestant, 26% Mainline Protestant, 3% Black Protestant, and 25% Catholic) while approximately 8% and 6% of respondents respectively identify belonging either to a different religious tradition or none at all. Mean level religious service attendance was 4.102, suggesting that respondents attend, on average, about once a month (though Chaves and Stephens (2003) note that self-reported religious attendance rates are likely inflated). Mean age was 56.157 and roughly 82% of the sample was white, 55% was female, 23% reported living with a person less than 18 years of age, and 63% reported being employed. 25% of the sample reported living in the southern United States, compared to 18% in the East, 36% in the Midwest and 21% in the West. Approximately 31% reported having at least the equivalent of a High School education while approximately 37% reported completing a bachelor's degree. Mean income bracket was 4.249 suggesting that the average respondent household earns between $35,001 and $50,000 annually.

Analytic Approach

All data analysis was performed using SAS 9.4. Diagnostic tests of normality indicated that the dependent variable distributions are positively skewed. To reduce the impact of potential bias, square root transformations were performed on each variable.

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Table 3.4 presents variable skewness of each variable before and after transformation, generated using the PROC UNIVARIATE procedure. Prior to transformation, a skewness of greater than 1.0 was observed for each dependent variable with the exception of General Anxiety (skewness = 0.864). Square root transformations reduced skewness of all variables to below 1.0 and will yield less biased estimates for all analyses. Using the PROC SGPLOT procedure, density lines were fit to variable distributions, before and after transformation. These lines are presented in Figures 3.1 and 3.2. Compared to the lines in Figure 3.1, the lines in 3.2 demonstrate a reduction in positive skewness and appear more normally distributed.

Initial modeling demonstrated that listwise deletion of incomplete cases resulted in an 11% sample loss. The potential biases attributable to missing cases are well documented (Acock 2005). Once appropriate sample restrictions were made, PROC MI and MI ANALYZE, using the MCMC[5] method of data imputation, were used to recover incomplete or missing cases. Results are based on analysis of 25 imputed datasets and similar to results obtained through listwise deletion. Because transformed dependent variables are continuous and normally distributed, Ordinary Least Squares regression is used for all analyses; the data were also weighted to achieve a more representative sample of blacks and non-white Hispanics.

Main tables include four sets of results. The first presents the effects of three image of God measures on general distress. The remaining series present the results of each Image of God measure on five psychological distress measures. To control for

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[5] MCMC refers to the Markov chain Monte Carlo method of algorithmic estimation. For more information see (Zhang 2003).

Table 3.4. Skewness Values of Dependent Variables Before and After Square Root Transformation

Variable	Skewness Before Transformation	Skewness After Transformation
General Distress	1.743	0.177
General Anxiety	0.864	-0.388
Social Anxiety	1.349	0.176
Paranoia	1.185	-0.001
Obsession	1.013	-0.342
Compulsion	2.253	0.918

nonlinear relationships, each model controls for independent variable main effects and the effect of quadratic terms. Prediction lines are also presented based on each set of regression results.

Results

Table 3.5 reports the results of Ordinary Least Squares regression of each of the three image of God measures on the general distress index. Model 1 reports the results of judging image of God. Model 2 reports the results of engaged image of God and Model 3 reports the results of loving image of God. In preliminary analyses (Table A.1), linear relationships were tested for each image of God measure, yielding non-significant relationships for each, excepting loving image of God (b=0.02) which is somewhat surprising in light of findings linking belief in a benevolent god with lower psychopathology (Flannelly et al. 2010; Silton et al. 2013). However, if the true nature of the relationship between these measures and distress is curvilinear, than this is expected. When the quadratic term is included, both the lower level and quadratic measures of each image of God are significant.

Due to the square root transformation and significant quadratic effects, direct interpretation of the results are difficult. The nature of the relationships, scaled to the
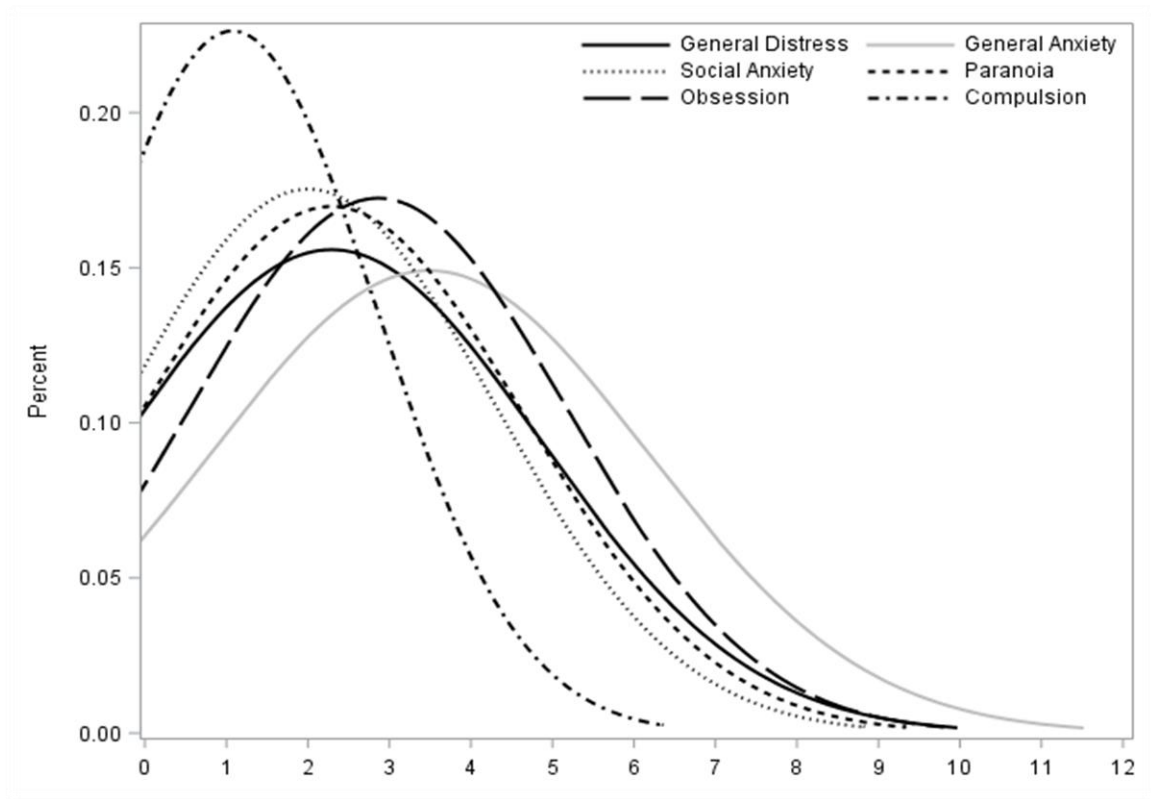
Figure 3.1. Distribution of Dependent Variables
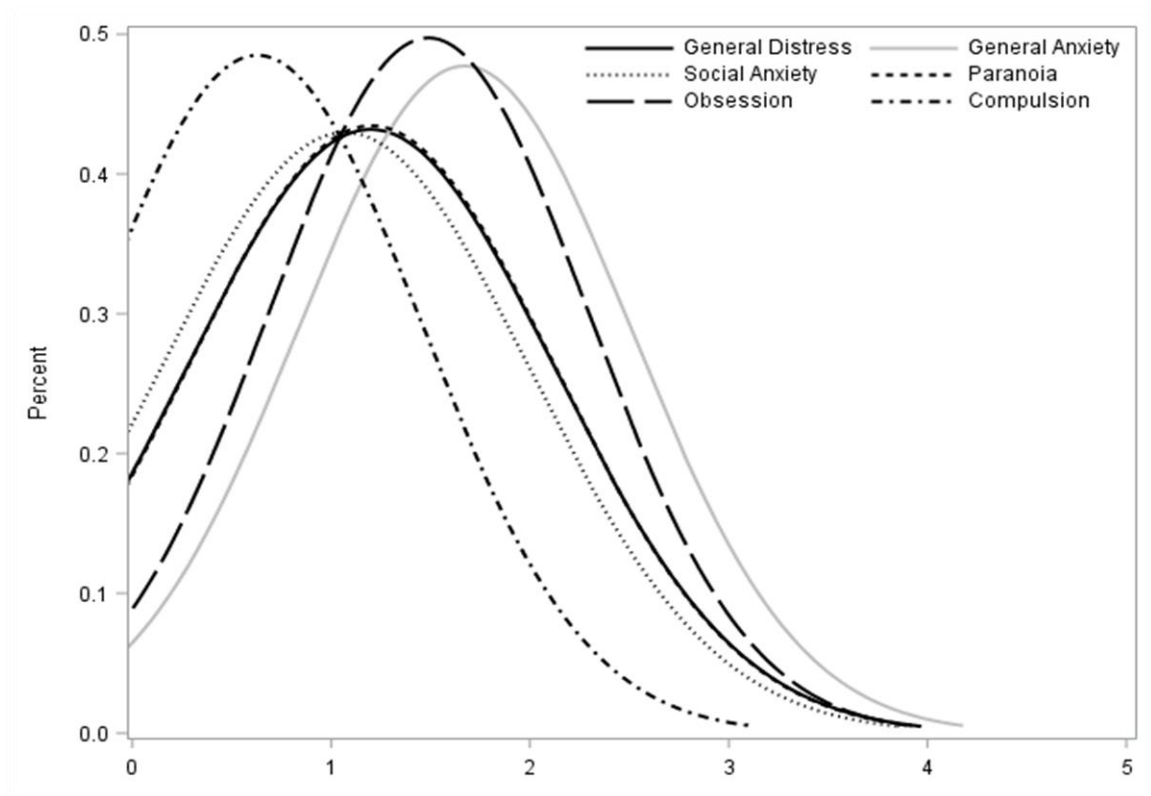
Figure 3.2. Distribution of Dependent Variables, Transformed

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Table 3.5. Results of Ordinary Least Squares Analysis of General Distress Index on Image of God

Parameter	Judging God B		SE	Engaged God b		SE	Loving God b		SE
Intercept	2.166	***	0.15	2.067	***	0.16	1.903	***	0.18
Judging God	0.047	**	0.02	-		-	-		-
Judging God²	-0.003	**	0.00	-		-	-		-
Engaged God	-		-	0.088	**	0.03	-		-
Engaged God²	-		-	-0.006	***	0.00	-		-
Loving God	-		-	-		-	0.073	**	0.02
Loving God²	-		-	-		-	-0.005	*	0.00
Mainline Protestant	0.061		0.06	0.065		0.06	0.079		0.07
Black Protestant	-0.255	†	0.15	-0.250	†	0.15	-0.268	†	0.15
Catholic	0.106	†	0.06	0.113	†	0.06	0.128	*	0.06
Religious Other	0.070		0.09	0.072		0.09	0.074		0.09
No Religion	0.177	†	0.11	0.183	†	0.10	0.264	*	0.11
Religious Attendance	-0.040	***	0.01	-0.037	***	0.01	-0.048	***	0.01
Age	-0.009	***	0.00	-0.009	***	0.00	-0.009	***	0.00
White	-0.068		0.05	-0.068		0.05	-0.065		0.05
Male	-0.152	**	0.05	-0.137	**	0.05	-0.140	**	0.05
East	0.153	*	0.07	0.151	*	0.07	0.152	*	0.07
Midwest	-0.025		0.06	-0.028		0.06	-0.037		0.06
West	0.072		0.07	0.073		0.07	0.061		0.07
Married	-0.093	†	0.06	-0.103	†	0.06	-0.086		0.06
Raising Minor Child/ren	0.042		0.06	0.056		0.06	0.058		0.06
Some College	-0.074		0.06	-0.072		0.06	-0.066		0.06
Bachelor's Degree	-0.096		0.07	-0.082		0.07	-0.080		0.07
Beyond Bachelor's	0.038		0.08	0.036		0.08	0.056		0.08
Employed	-0.098	†	0.05	-0.109	*	0.05	-0.105	†	0.05
Income Bracket	-0.062	***	0.02	-0.062	***	0.02	-0.063	***	0.02
Pseudo r^2	0.1280			0.1241			0.1262		

Notes: n = 1,624; $*p <. 05$; $**p < .01$; $***p < .001$; † $p < .10$; Pseudo r^2 taken from models using non-imputed data. *Source*: Baylor Religion Survey (2010)

transformed dependent variables, is displayed in Figure 3.3.[6] Based on the results from

Model 1, the prediction line for judging image of God demonstrates a nearly symmetric

curve, as the line begins at 2.166 and ends at 2.147 with an inflection point of 8.799

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[6] Variable ranges are scaled to fit on the same figure.
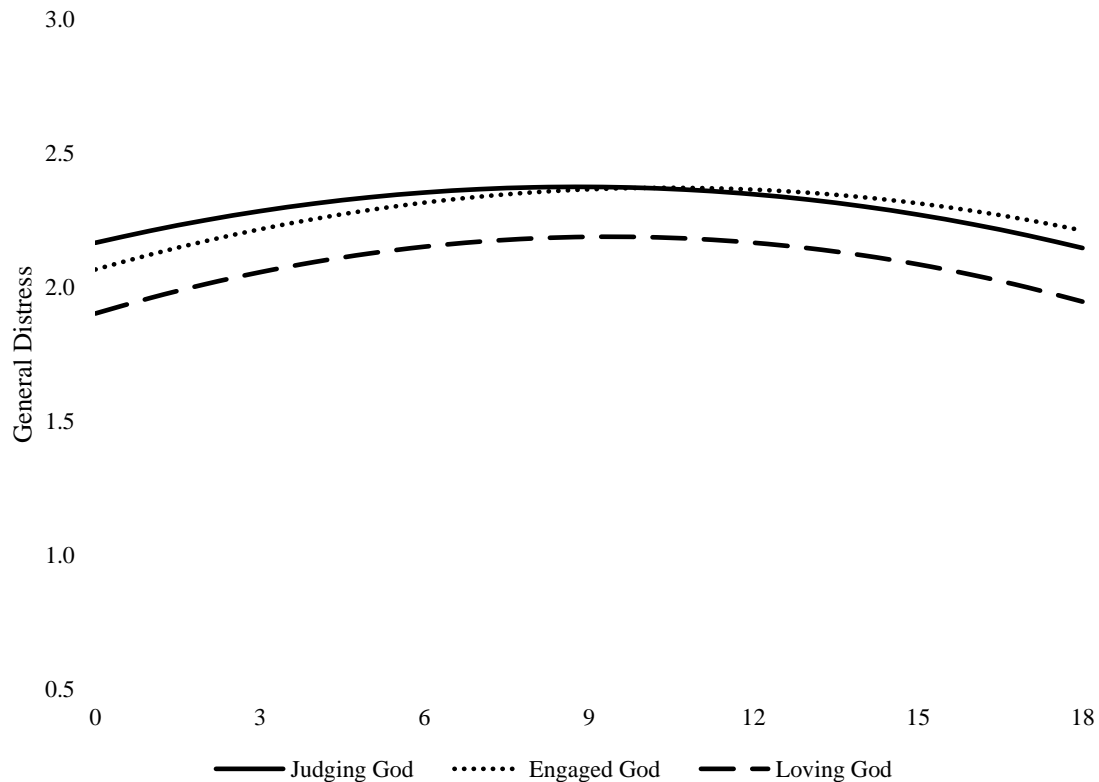
Figure 3.3. Non-Linear Effects of General Distress on Image of God; Note: Variable ranges are scaled to fit on the same figure

occurring very near the midpoint of 9. The highest levels of distress are predicted for those in the middle of the index, who appear unclear about whether God is or is not judging. The prediction line for engaged God is less uniform. Those who reflect strong belief in God's disengagement are predicted to have slightly lower distress than those who reflect strong belief in God's engagement. The inflection point of 6.965 is slightly beyond the midpoint of 6, suggesting that belief in a disengaged God is slightly more protective than belief in an engaged god, but that both beliefs are protective relative to those in the middle of the index. A similar pattern is observed for loving image of God with a prediction line ranging from 1.903 to 1.947, and an inflection point of 7.815 at almost the exact midpoint of 7.5.

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Among religion measures, when compared to Evangelical Protestants, Catholics and those with no religious tradition were predicted to have significantly higher distress levels in model 3, but these increases were only marginally significant in Models 1 and 2. Black Protestants were predicted to report marginally lower distress than Evangelical Protestants in all three models. In all three models, a significantly salutary relationship between distress and the rate of religious attendance was observed, where a one unit increase predicted a 0.040, 0.376 and 0.048 unit decrease in square root distress, respectively. Among demographic measures, similarly significant salutary relationships were observed between distress and measures of age, male and income in all three models. Also living in the east had a deleterious relationship, compared to living in the south. In models 1 and 2, married respondents reported lower distress than unmarried respondents, but only at significance level $p<0.10$. Employed respondents also reported significantly lower distress in Model 2, but only marginally significant reductions in distress in models 1 and 3.

Tables 3.6 reports the results of Ordinary Least Squares regression of judging image on psychological symptom scales. Significant non-linear relationships were observed between judging God and general anxiety, social anxiety and obsession, but not paranoia and compulsion. Ancillary analysis (Table A2) did demonstrate a positive linear relationship between judging Image of God and these two measures, suggesting that in the case of paranoia and compulsion, belief in a more judging God contributes to greater pathology. Figure 3.4 displays the prediction lines for judging image of God and the three significant non-linear associations. The overall pattern does suggest that those with a less judgmental view of God will have the lowest levels of psychopathology. However, as the

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Table 3.6. Results of Ordinary Least Squares Analysis of Psychological Symptom Scales on Belief in God's Judgment

Parameter	General Anxiety			Social Anxiety			Paranoia			Obsession			Compulsion		
	b		SE	b		SE	b		SE	b		SE	b		SE
Intercept	2.467	***	0.13	1.530	***	0.16	1.799	***	0.15	1.848	***	0.13	1.091	***	0.13
Judging God	0.039	*	0.02	0.069	***	0.02	0.037	*	0.02	0.060	***	0.01	0.031	*	0.02
Judging God²	-0.002	*	0.00	-0.003	**	0.00	0.000		0.00	-0.003	***	0.00	-0.001		0.00
Mainline Protestant	-0.008		0.06	0.020		0.07	0.048		0.07	0.099	†	0.06	0.064		0.06
Black Protestant	-0.206		0.14	0.114		0.15	0.047		0.15	-0.276	*	0.13	0.017		0.14
Catholic	0.001		0.06	0.054		0.07	0.030		0.06	0.083		0.06	0.065		0.06
Religious Other	-0.086		0.08	-0.124		0.10	-0.024		0.09	-0.050		0.08	-0.024		0.08
No Religion	0.016		0.09	0.032		0.10	-0.093		0.10	0.166	†	0.09	0.040		0.10
Religious Attendance	-0.034	***	0.01	-0.013		0.01	-0.051	***	0.01	-0.029	***	0.01	-0.027	**	0.01
Age	-0.005	**	0.00	-0.007	***	0.00	-0.002		0.00	-0.004	**	0.00	-0.002		0.00
White	-0.061		0.05	0.085		0.06	-0.004		0.05	0.052		0.05	-0.145	**	0.05
Male	-0.125	**	0.04	0.007		0.05	-0.014		0.05	-0.031		0.04	0.069		0.04
East	0.098		0.06	0.059		0.08	-0.040		0.07	0.003		0.06	0.035		0.07
Midwest	-0.065		0.05	-0.133	*	0.06	-0.082		0.06	-0.109	*	0.05	-0.119	*	0.06
West	-0.031		0.06	-0.058		0.07	-0.169	*	0.07	-0.107	†	0.06	-0.080		0.06
Married	-0.038		0.05	-0.136	*	0.06	-0.132	*	0.06	-0.109	*	0.05	-0.072		0.05
Child/ren < 18	0.045		0.05	-0.106	†	0.06	-0.005		0.06	0.060		0.05	0.100	†	0.05
Some College	-0.072		0.05	-0.017		0.06	-0.077		0.06	0.034		0.05	0.076		0.06
Bachelor's Degree	-0.197	**	0.07	-0.104		0.08	-0.239	**	0.07	-0.134	*	0.07	-0.149	*	0.07
Beyond Bachelor's	0.022		0.08	-0.107		0.08	-0.210	**	0.08	-0.082		0.07	-0.116		0.07
Income Bracket	-0.064	***	0.02	-0.046	*	0.02	-0.075	***	0.02	-0.036	*	0.02	-0.059	***	0.02
Employed	-0.043		0.05	0.050		0.06	0.075		0.05	0.011		0.05	-0.033		0.05
Pseudo r²	0.1067			0.0750			0.1201			0.0910			0.1093		

Notes: n = 1,624; *p <. 05; **p < .01; ***p < .001; † p < .10; Pseudo r² taken from models using non-imputed data.
Source: Baylor Religion Survey (2010).
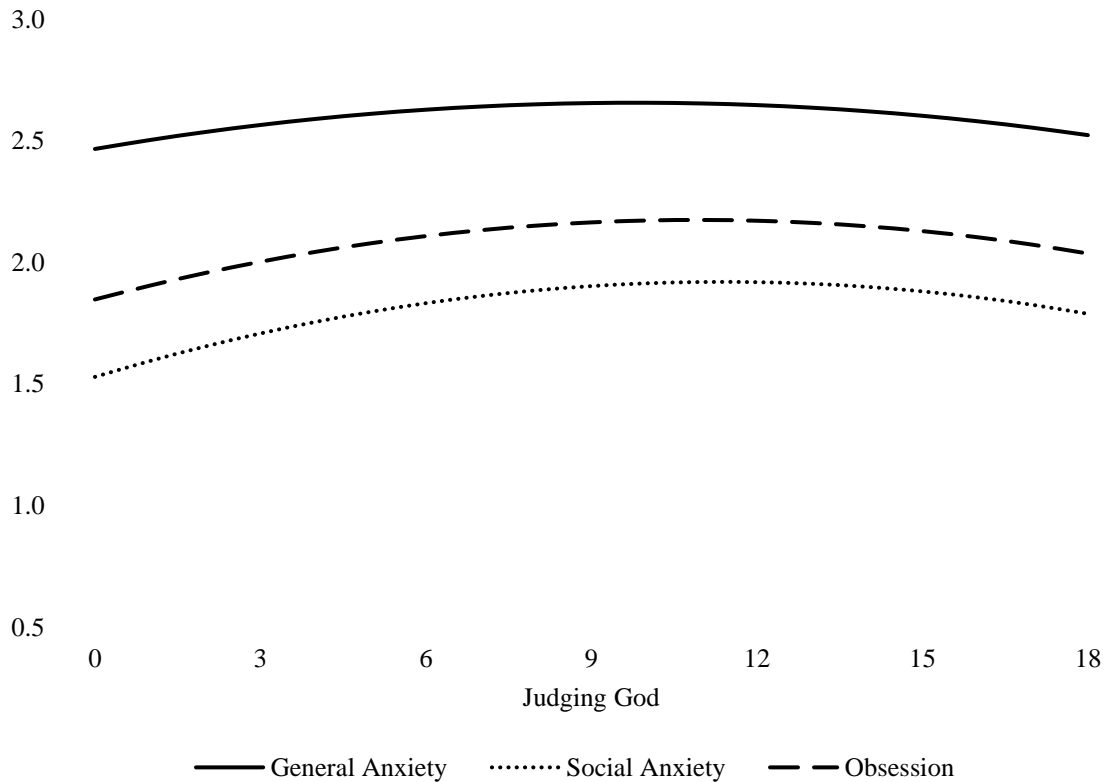
Figure 3.4. Non-Linear Effects of Psychological Distress on Judging Image of God

prediction lines demonstrate, a highly judgmental view of God still appears somewhat protective against psychological distress, due to the increased levels predicted for those toward the middle of the spectrum.

Significant non-linear relationships were also observed between Engaged God (Table 3.7) and Loving God (Table 3.8) and all five outcome variables, consistent with the general pattern that those in the middle of the spectrum of belief constructs are predicted to have the highest levels of psychological distress. Figures 3.5 and 3.6 display the prediction lines for both analyses. For engaged God, the general pattern is that the greatest reductions are expected for those who view God as disengaged. However, those who believe in a highly engaged God have lower predicted levels than those closer to the middle suggesting that the highest expected levels of distress are for those who are less

Table 3.7. Results of Ordinary Least Squares Analysis of Psychological Symptom Scales on Belief in God's Engagement

Parameter	General Anxiety b		SE	Social Anxiety b		SE	Paranoia b		SE	Obsession b		SE	Compulsion b		SE
Intercept	2.311	***	0.14	1.503	***	0.16	1.810	***	0.16	1.793	***	0.14	1.004	***	0.14
Engaged God	0.100	***	0.02	0.113	***	0.03	0.088	**	0.03	0.104	***	0.02	0.095	***	0.02
Engaged God²	-0.007	***	0.00	-0.008	***	0.00	-0.005	**	0.00	-0.007	***	0.00	-0.006	***	0.00
Mainline Protestant	-0.010		0.06	0.015		0.07	0.032		0.06	0.095	†	0.05	0.054		0.06
Black Protestant	-0.219		0.13	0.097		0.15	0.085		0.15	-0.264	*	0.13	0.025		0.15
Catholic	0.002		0.06	0.051		0.07	0.021		0.06	0.084		0.06	0.057		0.06
Religious Other	-0.085		0.08	-0.110		0.10	-0.032		0.09	-0.045		0.08	-0.031		0.09
No Religion	0.069		0.09	0.052		0.11	-0.054		0.10	0.194	*	0.09	0.076		0.10
Religious Attendance	-0.030	***	0.01	-0.006		0.01	-0.042	***	0.01	-0.025	**	0.01	-0.021	*	0.01
Age	-0.005	**	0.00	-0.007	***	0.00	-0.002		0.00	-0.005	***	0.00	-0.002		0.00
White	-0.060		0.05	0.076		0.06	-0.030		0.05	0.044		0.05	-0.152	**	0.05
Male	-0.106	*	0.04	0.040		0.05	0.036		0.05	-0.001		0.04	0.100	*	0.04
East	0.096		0.06	0.060		0.07	-0.040		0.07	0.009		0.06	0.039		0.07
Midwest	-0.065		0.05	-0.130	*	0.06	-0.066		0.06	-0.107	*	0.05	-0.107	†	0.06
West	-0.033		0.06	-0.067		0.07	-0.174	*	0.07	-0.105	†	0.06	-0.080		0.06
Married	-0.044		0.05	-0.149	*	0.06	-0.149	**	0.06	-0.112	*	0.05	-0.079		0.05
Child/ren < 18	0.053		0.05	-0.097		0.06	-0.004		0.06	0.060		0.05	0.102	†	0.05
Some College	-0.073		0.05	-0.040		0.06	-0.120	†	0.06	0.023		0.05	0.059		0.06
Bachelor's Degree	-0.179	**	0.06	-0.122		0.08	-0.299	***	0.07	-0.129	*	0.06	-0.169	*	0.07
Beyond Bachelor's	0.022		0.07	-0.162	*	0.08	-0.289	***	0.08	-0.105		0.07	-0.149	*	0.07
Income Bracket	-0.068	***	0.02	-0.047	*	0.02	-0.078	***	0.02	-0.040	*	0.02	-0.062	***	0.02
Employed	-0.046		0.05	0.035		0.06	0.070		0.06	0.005		0.05	-0.043		0.05
Pseudo r²	0.1029			0.0683			0.0997			0.0864			0.0976		

Notes: n = 1,624; *p <. 05; **p < .01; ***p < .001; † p < .10; Pseudo r² taken from models using non-imputed data.
Source: Baylor Religion Survey (2010).

Table 3.8. Results of Ordinary Least Squares Analysis of Psychological Symptom Scales on Belief in God's Lovingness

Parameter	General Anxiety b		SE	Social Anxiety b		SE	Paranoia b		SE	Obsession b		SE	Compulsion b		SE
Intercept	2.306	***	0.16	1.475	***	0.18	1.930	***	0.18	1.722	***	0.16	1.157	***	0.16
Loving God	0.075	**	0.02	0.107	***	0.03	0.053	*	0.03	0.104	***	0.02	0.073	**	0.02
Loving God²	-0.004	**	0.00	-0.006	***	0.00	-0.003	*	0.00	-0.006	***	0.00	-0.005	***	0.00
Mainline Protestant	-0.008		0.06	0.013		0.07	0.039		0.06	0.101	†	0.05	0.048		0.06
Black Protestant	-0.214		0.13	0.122		0.15	0.076		0.15	-0.261	*	0.13	0.068		0.15
Catholic	0.008		0.06	0.058		0.07	0.019		0.06	0.083		0.06	0.054		0.06
Religious Other	-0.094		0.08	-0.130		0.10	-0.052		0.09	-0.065		0.08	-0.042		0.08
No Religion	0.062		0.10	0.038		0.11	-0.100		0.11	0.204	*	0.10	0.019		0.10
Religious Attendance	-0.029	***	0.01	0.002		0.01	-0.033	***	0.01	-0.017	*	0.01	-0.006		0.01
Age	-0.004	**	0.00	-0.007	***	0.00	-0.002		0.00	-0.004	**	0.00	-0.002		0.00
White	-0.068		0.05	0.063		0.05	-0.043		0.05	0.029		0.05	-0.175	***	0.05
Male	-0.125	**	0.04	0.013		0.05	0.013		0.05	-0.029		0.04	0.070		0.04
East	0.097		0.06	0.050		0.07	-0.047		0.07	0.002		0.06	0.032		0.07
Midwest	-0.069		0.05	-0.130	*	0.06	-0.066		0.06	-0.107	*	0.05	-0.102	†	0.06
West	-0.046		0.06	-0.084		0.07	-0.189	**	0.07	-0.125	*	0.06	-0.094		0.06
Married	-0.028		0.05	-0.135	*	0.06	-0.132	*	0.06	-0.103	*	0.05	-0.065		0.05
Child/ren < 18	0.059		0.05	-0.083		0.06	0.009		0.06	0.074		0.05	0.113	*	0.05
Some College	-0.079		0.05	-0.051		0.06	-0.130	*	0.06	0.010		0.05	0.042		0.06
Bachelor's Degree	-0.191	**	0.06	-0.122		0.08	-0.310	***	0.07	-0.144	*	0.06	-0.185	**	0.07
Beyond Bachelor's	0.011		0.07	-0.167	*	0.08	-0.312	***	0.08	-0.121	†	0.07	-0.185	*	0.07
Income Bracket	-0.067	***	0.02	-0.049	*	0.02	-0.081	***	0.02	-0.039	*	0.02	-0.067	***	0.02
Employed	-0.044		0.05	0.038		0.06	0.071		0.06	0.007		0.05	-0.036		0.05
Pseudo r²	0.0987			0.0657			0.0965			0.0908			0.1016		

Notes: n = 1,624; *p <. 05; **p < .01; ***p < .001; † p < .10; Pseudo r² taken from models using non-imputed data.
*Source*: Baylor Religion Survey (2010).
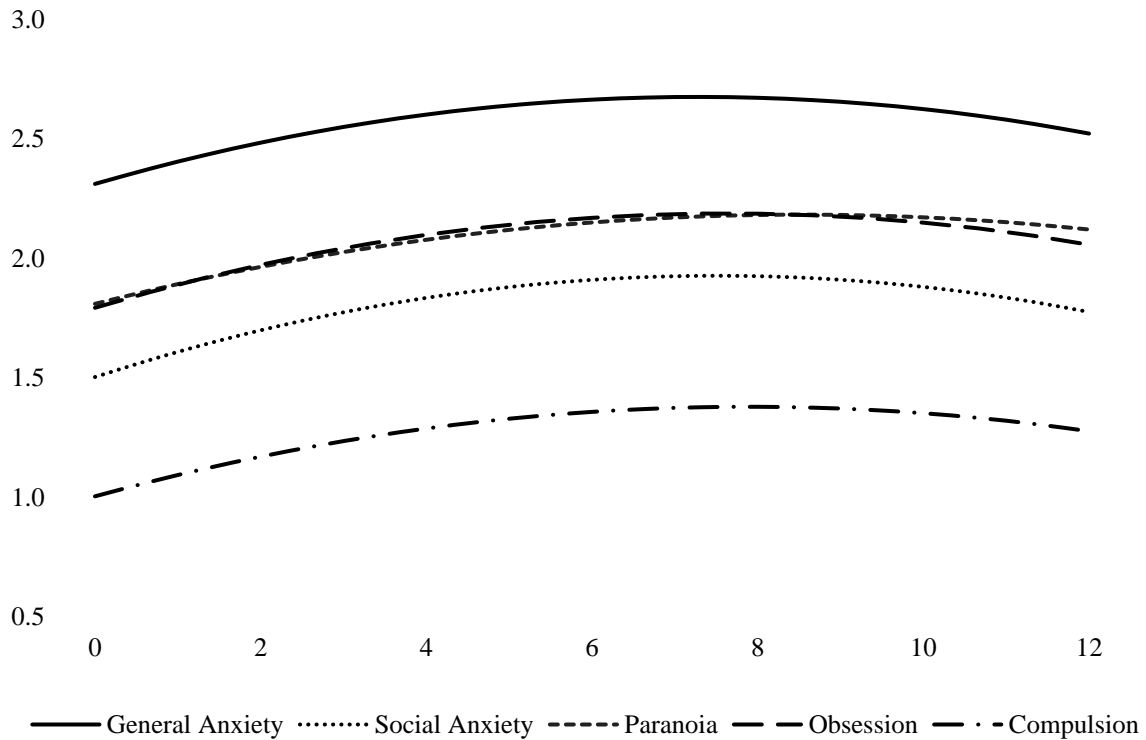
Figure 3.5. Non-Linear Effects of Psychological Distress on Engaged Image of God

certain about God's level of engagement. Prediction lines of loving image of God displayed in Figure 3.6 are also consistent with this pattern. More consistently, and perhaps surprisingly, a non-loving image of God is associated with the lowest predicted levels of psychological distress, though for some measures, paranoia and compulsion specifically, a highly loving God is much closer in relation to a non-loving God.

A few general patterns are consistent across all three analyses. Among religion measures, religious attendance was associated with reductions in general anxiety, paranoia and obsession across all analyses, and compulsion in judging and engaged God analyses. Differential effects were observed for religious tradition and obsession: compared to Evangelical Protestants, Black Protestants were predicted to have reduced
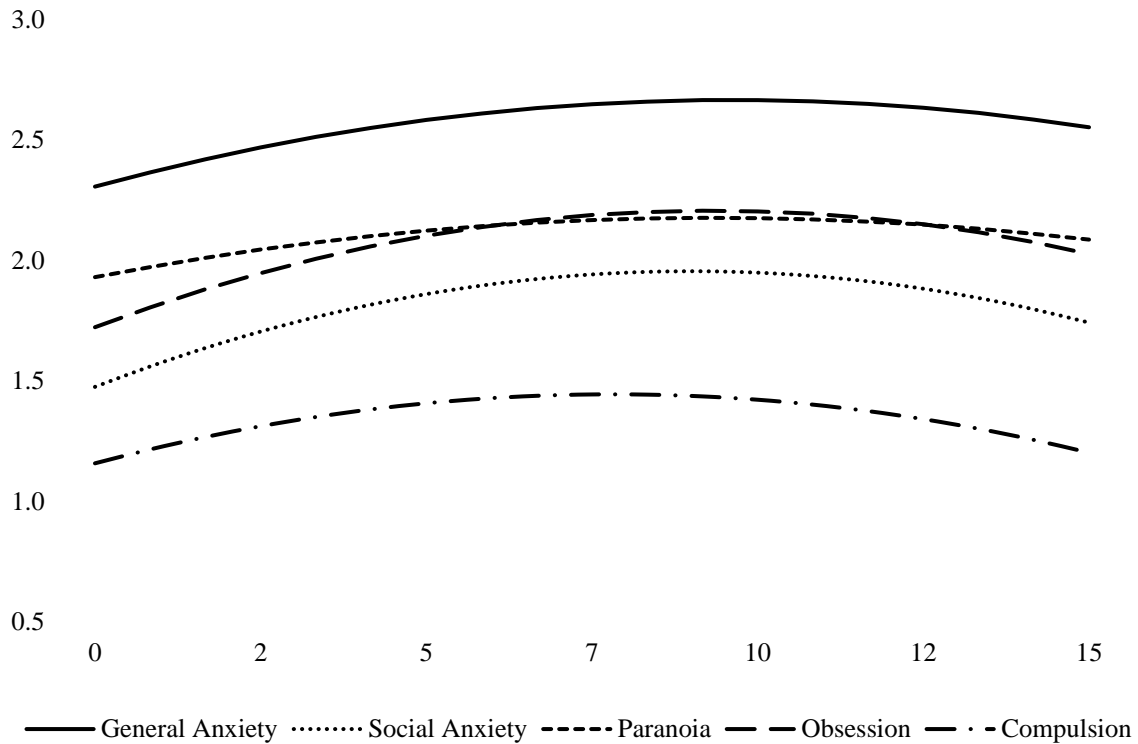
Figure 3.6. Non-Linear Effects of Psychological Distress on Loving Image of God

levels across all analyses, while those with no religious tradition were predicted to have increased levels in engaged God and loving God analyses.

Among demographic measures, age was predicted to reduce general anxiety, social anxiety and obsession. Reduced levels of compulsion were predicted for whites. Being married was associated with reductions in social anxiety, paranoia, and obsession. Income was associated with reductions for all five outcomes. Compared with high school graduates, a bachelor's degree was associated with lower levels of all outcomes, excluding social anxiety. Relationships were also observed for variables in some, but not all analyses. Men were predicted to have lower levels of general anxiety across all analyses, and lower levels of compulsion in engaged God and loving God analyses.

Compared to those living in the South, living in the Midwest was associated with reduced social anxiety and obsession across all analyses, and compulsion in engaged God and loving God analyses. Living in the West was associated with reduced paranoia across all analyses, and reduced obsession in loving God analysis. Living with one or more minor was associated with reduced compulsion in loving God analyses. Compared with high school graduates, some college experience was associated with reduced compulsion in loving God analyses. An advanced degree was associated with reduced paranoia in all three analyses, and reduced social anxiety and compulsion in engaged God and loving God analyses.

Discussion

This study relies on a nationwide sample of Americans to investigate the relationship between an individual's image of God and symptoms of psychological distress. Based on the general proposition that religious certainty and coherence is a more powerful determinant of psychological well-being, I hypothesized that three separate measures of God image would predict a curvilinear relationship with measures of psychological distress, with the highest rates levels predicted for those who express less certainty in measured God image constructs. Three separate God images were measured: God's judging nature (H1), God's engaged nature (H2), and God's loving nature (H3). In each analysis, a host of demographic and religious covariates were also included. In general, the findings suggest that whether God is assessed to be judgmental, engaged, or loving is less important than the belief that God is one way or the other. Echoing prominent social theorists (Berger 1967; Festinger 1957), the certainty of a person's view

of God appears more predictive of whether a religious worldview is more or less protective or harmful, than if one views God in a particular way.

Hypothesis 1 proposed that mid-range affirmation of God's judging nature would predict the highest levels of psychological distress (H1). Previous studies investigating the judging God image and psychological distress failed to find a linear relationship between the two (Flannelly et al. 2010), and preliminary analysis also failed to yield a statistically significant relationship. However, the presence of a curvilinear relationship is often masked in linear analysis which proved true for these data. Indeed, results for general distress and general anxiety present nearly symmetric curves. Results for social anxiety and obsession also supported the hypothesis, though analysis of paranoia and compulsion demonstrated linear positive relationships, only. However, results also suggest that a higher judging God image is associated with slightly higher psychological distress than a lower judging God, but overall, psychological distress appears consistently highest for those who are less certain.

Mid-range affirmation of God's engaged nature was also predicted to associate with the highest levels of psychological distress (Hypothesis 2). Previous findings suggest on the one hand, that belief in a present and active God may lead to fatalism and a decline in self-efficacy, while on the other hand, belief in a distant God may contribute to higher levels of distress and less effective coping (Pargament et al. 2000). Based on these conflicting positions, a curvilinear relationship between engaged God and psychological distress was proposed and the results support this hypothesis. Findings demonstrate a curvilinear relationship with all six outcomes, as the highest levels of distress were predicted for those in the middle of the response range. These findings

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support the conclusion that a less coherent view of God's engagement is more protective

of distress than whether God is viewed as distant or engaged. However, the curves also

suggest that while uncertainty about God's proximity is linked with the highest distress

levels, a highly engaged God was associated with slightly higher levels of distress than a

highly distant God.

Finally, Hypothesis 3 predicted the highest levels of psychological distress for

those with mid-level affirmation of God's loving nature. Findings support this hypothesis

as a curvilinear relationship was observed between Loving God and all six outcomes. In

fact, the prediction line for general distress showed a remarkable similarity with the line

for Judging God image. It is also somewhat surprising that belief in a highly loving God

was associated with slightly higher distress than a highly non-loving God, as this seems

to run completely counter to analysis proposing that belief in a benevolent God represents

an evolutionary protective advantage against mental distress (Flannelly et al. 2007;

Flannelly and Galek 2010).

From the perspective of ETAS theory, people make general assessments about

how dangerous the world is, and the extent of their own existential or ontological peril;

furthermore, the processes by which people form these assessments is both cognitive and

sub-cognitive, simultaneously linked to multiple levels of neurological functioning

(Flannelly et al. 2010; Harris, Sheth, and Cohen 2008). Implicitly from this perspective,

hyper-vigilant beliefs, such as an image of a judgmental, distant or unloving God, reflect

a view of a dangerous world and ought to be associated with greater distress and

psychological disorder. This is the assumption of Silton, et al (2013) who find evidence

that some images of god would directly contribute to distress. Using the same data used

by Silton et al (2013), this study tested the alternative hypothesis, that more important than the content of religious belief, those who reflect a lack of clarity of their beliefs about their Image of God, would reflect the greatest levels of distress and psychological disorder. Ordinary Least Squares analysis of the effect of three different beliefs about God's nature on distress and symptoms of psychological disorder, all while controlling for a curvilinear relationship between image of God and distress, mostly support my hypotheses.

The findings for Judging God pose the greatest challenge to ETAS. If ETAS were appropriate to explain the effects of religious belief on distress, then the hyper-vigilance and higher threat awareness which should be associated with a highly judging should hold steady once we control for non-linear effects. However, the results presented here suggest distress levels for those with a highly judgmental view of God which mirror those with the opposite view. The findings presented here warrant a reexamination of the merits of ETAS or other evolutionary theories to explain the impact of ontologies and/or beliefs about the nature of the divine. The formation and maintenance of religious beliefs is a collaborative process, which not only occurs at the level of neurological processing, but also at discursive and interactional levels as people learn and exchange ideas about the cosmos during religious socialization and interaction. Failure to consider the role of social context inevitably leads to misrecognition of belief as purely physiological.

Further, due to the social nature of beliefs, and the increasingly pluralism f modern social environments, individuals are more likely than ever to encounter threats to the integrity of their ontological frameworks and their conceptions of the divine. The role of religious beliefs should be examined while accounting for the social contexts of those

beliefs, looking specifically at the role of families, congregations and communities. For example, highly loving, engaged and judgmental god images predicted higher distress, when not accounting for curvilinearity and the inflections for each of these images in non-linear analyses suggest that some set of factors might account for the dip in distress. Images of God which are more judging, engaged, and loving imply greater religious commitment and salience. If this is the case, then some of the dip in the effect of these beliefs could be the result of embeddedness in a community of co-believers, which should be more protective against distress. Past findings of God Image have suggested that analysis of direct additive relationships fails to account for the different ways the effects of Image of God are potentially contingent on the religious social milieus. Future research should strive to account for the interplay of collective input when studying individually subscribed concepts of the divine while also investigating the contingent role of social environment and ontological incongruence in assessing the role of religious belief and well-being. Holding a judging God image when embedded in a religious community might be especially good for if it binds you to community based psychosocial resources.

An important caveat to this analysis is the cross-sectional design of the study. Unfortunately, data limitations prevent longitudinal analysis of the variables, and as such, reverse causality is a real possibility. More theoretically important and less well understood, is the temporal nature of belief, doubt and distress throughout the life-course. While religious affiliation may often hold steady across the life course, it is possible that specific attitudes and beliefs about the divine may vary significantly as people age. It is also possible that some distress, while felt acutely by the individual as unpleasant, is also

interpreted as a necessary part of one's maturation (Ano and Vasconcelles 2005). It is also possible that increased intensity of belief may lead to greater distress, but that some of this distress may be perceived by the individual as a net benefit. In other words, serving an intensely personal god, might lead to more stress, but the individual may view that as the result of a higher calling. Therefore, modeling how distress is interpreted and how it relates to life-satisfaction would also be useful. Accounting for the interpretation of life's struggles in light of their beliefs about God, should provide a more nuanced and clearer understanding of the relationship between belief and well-being.

CHAPTER FOUR

Study Two: Attachment to God and Psychological Distress

"God allows us to experience the low points of life in order to teach us
lessons that we could learn in no other way."

$\qquad$ –C.S. Lewis, *The Problem of Pain*

Introduction

As described above, the bulk of previous findings suggest that religious

participation is generally associated with better mental health (Ellison, Gay, and Glass

1989; Ellison 1991; Greenfield, Vaillant, and Marks 2009; Schieman et al 2013).

However, the relationships between specific beliefs about the divine and mental health

remain unclear. A few studies suggest that in certain circumstances, religious devotion

directly contributes to or exacerbates psychological distress (Ellison et al. 2009; Ellison

and Lee 2010; Exline 2002). Ellison and Henderson (2011) summarize that when one's

relationship with the divine is characterized by anxiety and doubt, then religious

involvement is more likely to lead to mental health struggles.

Meanwhile a thorough review of the religion and mental health literature suggests

that religious doubt and intrapsychic struggles with the divine uniquely contribute to

psychological distress. The previous study above investigated the relationship of

adherence to propositional aspects of God belief, demonstrating a consistent curvilinear

pattern of association between measures of psychological distress. However, adherence to

a particular religious tenet is conceptually different from the affective aspects of one's

relationship with the divine. For example, whether one perceives the divine as male or

female is distinct from whether their relationship with the divine is fraught with positive affect or anxiety. Previous findings also suggest that strained relations with the divine likely contribute to mental health outcomes, independent of adherence to propositional tenets. This study relies on data from the Baylor Religion Survey (2010) to investigate the relationship between attachment to God and psychological distress. Based on the general proposition that adherence to ontological assertions shares a curvilinear relationship with mental health, I test to see whether measures of attachment style are curvilinearly related with measures of general and psychological distress.

Background

As described above, studies investigating the effect of God Beliefs have typically taken one of two approaches: the sociodynamic (Greeley 1996) and the psychodynamic (Jones 2008). The latter focuses on the relationship between views of the divine and personality development. In their exhaustive review, Hall and Fujikawa (2013) distinguish between two basic types of image of God constructs measured in the literature: explicit God images and implicit God images. Explicit God images are based on the conscious acceptance or rejection of formally articulated propositions about the nature of God, usually grounded in normative descriptions and narratives encountered within faith communities or the culture at large. These types of images were examined in the previous chapter.

Implicit God images, on the other hand, are based on more emotional and experiential aspects of belief, grounded in how people develop relational expectations of themselves, of others, and of the divine. Accordingly, these types of God Images are treated distinctly, as they describe distinct dimensions of one's relationship to God.

Findings from neuroscience and clinical psychology confirm this duality, as Noffke and Hall (2008) highlight the strong influence both caregivers and religious subcultures have in transmitting systems of religious symbols, meanings, and practices and how these are consciously interpreted and adhered. At the same time, religious stimuli produce visceral and emotional responses which are primed by antecedent patterns of intimate interpersonal attachment and which may or may not fully align with propositional beliefs (see also Bucci 1997).

Thus, whether one accepts that God is highly engaged or highly judging, does not necessarily determine their individual posture toward the God they believe in. One could accept the premise, learned from group socialization that God is a being of perfect love; however, acceptance of that tenet does not preclude one from having anxieties or doubts about their relationship with that loving God or what can be reliably expected of that God. In short, explicit God Image is about the propositional and the expositional aspects of religious faith; implicit God image is about the dispositional aspects of religious faith. Whereas the focus of study one was the impact of explicit God image, this study relies on Attachment to God to interrogate the impact of implicit God image.

Attachment Theory

Attachment to God is a sub-field of a larger body of work utilizing General Attachment Theory (Bowlby 1969, 1973, 1980), an evolutionary-ethological frame which identifies mother-infant bonding as a primary motivator of human behavior and a primer for future interpersonal relationships . Bowlby describes the essential features in greater detail:

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''…the human infant comes into the world genetically biased to develop a set of behavioral patterns that, given an appropriate environment, will result in his keeping more or less close proximity to whomever cares for him, and that this tendency to maintain proximity serves the function of protecting the mobile infant and growing child from a number of dangers, among which in man's environment of evolutionary adaptedness the danger of predation is likely to have been paramount'' (Bowlby 1984:9).

In other words, Attachment Theory proposes that we are born genetically predisposed to form powerful emotional bonds with primary care-givers during early development, who in turn protect us from danger. Infants engage in proximity-seeking behavior, drawing close to primary caregivers for emotional comfort and support, and feelings of safety and security. In this capacity, primary care-givers provide infants with a "secure base" from which to explore the world (Ainsworth et al. 1978; Behrens, Parker, and Haltigan 2011). According to Bowlby, one's style of attachment to primary caregivers serves as an "Internal Working Model" (IWM), a collection of neurological, biological, emotional and social stimuli that coalesce to prime one's expectations of others in future relationships (Johnson et al. 2010; Kent 2017).

Ainsworth (1985) identifies five criteria of attachment relationships based on observational research: 1) attached persons seek proximity to an attachment figure especially when distressed and, 2) experiences anxiety during separation; 3) the attachment figure provides care and protection, 4) a sense of security, and 5) would grieve the loss of the attached person (see also Flannelly and Galek 2010; Kirkpatrick 2004). Consistent with this paradigm, the role of the primary care-giver, (usually, but not always the mother), is crucial in determining the conditions of attachment and thus the nature of IWMs.

Because this process varies according to the idiosyncrasies and whims of the attachment figure, attachment styles are commensurately varied. Attachment scholars distinguish between several basic styles of attachment which are predicated by infant-caregiver relationships (Ainsworth et al. 1978; Granqvist and Kirkpatrick 2013; Hazan and Shaver 1987; Kirkpatrick 2004). Secure attachment, the prototypical, and most common style, is characterized by feelings of warmth, approval, closeness and trust toward a reliable figure of attachment. Insecure or avoidant attachment style is characterized by the inverse of these traits and the sense that the attachment figure is generally aloof toward the attached. A third style, anxious attachment, is characterized by inconsistent levels of response of the attachment figure toward the attached, and feelings of ambivalence of the latter toward the former.

Attachment Theory proposes that IWMs influence the nature of other relationships throughout childhood development and into adulthood. Researchers applying this approach have contributed a richer understanding of the dynamics of a wide spectrum of relational contexts such as caregiving (Collins and Feeney 2000), romance (Fraley and Shaver 2000; Hazan and Shaver 1987), friendships (Saferstein, Neimeyer, and Hagans 2005), and employee/employer relationships (Frazier et al 2014), among others, while also demonstrating salutary relationships between a secure attachment style and measures of depression, distress, coping, psychological functioning and other mental health outcomes (Kirkpatrick and Davis 1994; Kirkpatrick and Hazan 1994; Mikulincer and Florian 1998; Murphy and Bates 1997; Pielage, Luteijn, and Arrindell 2005; Riggs, Vosvick, and Stallings 2007).

Attachment to God

More recently, scholars have recognized that the close bonds and proximity seeking behavior people exhibit toward God, the anxiety produced in the believer by feelings of alienation from God, and commonly subscribed teachings about God's desire to love and protect us, meet the criteria of an attachment relationship described above (Ellison et al. 2014; Exline et al. 1999, 2000; Granqvist 1998; Granqvist and Hagekull 1999, 2003; Hood et al. 2009; Kirkpatrick 2004, 2004; Noffke and Hall 2008). In fact, some scholars suggest that compared to the variability of human relationships, God represents the ultimate attachment figure, particular in late-life stages (Cicirelli 2004; Kirkpatrick 2004).

The sub-field of attachment to God analyzes how an individual's emotional connection to God is related to childhood attachments (Birgegard and Granqvist 2004; Granqvist and Hagekull 1999, 2003; McDonald et al. 2005) which then condition a variety of social, psychological, and organizational outcomes (Bradshaw, Ellison, and Marcum 2010; Bradshaw and Kent 2017; Ellison et al. 2012, 2014; Kent 2017; Kent, Bradshaw, and Dougherty 2016; Kent et al. 2017; Kent and Henderson 2017; Krause and Hayward 2016). A number of relevant findings link attachment to God with mental health outcomes. For instance, feelings of abandonment or difficulty trusting God have been linked to greater levels of depression in clinical and student samples (Exline et al. 2000). Feelings of estrangement from God are a common type of divine struggle which has been linked with feelings of worthlessness, declines in personal control and mastery, and ultimately psychological distress (Ellison and Henderson 2011; Ellison and Lee 2010). Meanwhile feeling close and supported by God has been linked with higher levels of

optimism and agreeableness, while anxiety toward God has been linked with neuroticism (Braam et al. 2008; Krause 2002). Finally, despite evidence that practices such as mediation and prayer can aid in coping and protect against distress, one study found that in some instances these practices can actually contribute to fits of mania (Yorston 2001).

While these findings suggest that attachment to God affects mental health, none of these test for these effects directly, nor do they employ validated attachment measurement constructs in their analysis. Drawing heavily on the schematic work of General Attachment Theory, Rowatt and Kirkpatrick (2002) identify two dimensions of attachment style specific to attachment to God: avoidant and anxious. In the measurement scheme provided, which has since become standard in assessing the effects of attachment to God constructs (Ellison et al. 2012), avoidant attachment is treated as the inverse of secure attachment and these are placed on opposite ends of a continuum and measured using the same additive scale. Anxious is treated as distinct from secure or insecure (avoidant) and assessed using a separate measurement.

Subsequent studies investigating the impact of attachment to God have found a few consistent patterns. First, secure attachment to God is consistently associated with positive mental health outcomes, including greater life satisfaction, optimism, and agreeableness as well as lower depressed affect, lower anxiety, decreased psychological distress, and decreased loneliness (Bradshaw et al. 2010; Ellison et al. 2014; Kirkpatrick and Shaver 1992; Kirkpatrick, Shillito, and Kellas 1999; Rowatt and Kirkpatrick 2002), a pattern confirmed with longitudinal data (Bradshaw and Kent 2017; Ellison et al. 2012). Second, deleterious relationships have been observed between anxious attachment and positive effect, distress, neuroticism, psychiatric symptoms, and distress over time. Third,

while these effects appear straightforward on their own, findings involving the interactive effects of non-organizational practices, such as the frequency of prayer and feeling forgiven by God, complicate this interpretation. As Ellison and colleagues (2014) note, despite sound reasons for suspecting regular religious practices benefit mental health, empirical findings have been mixed: multiple interaction models demonstrate that religious practice contributes to improved mental health outcomes for those who are securely attached to God, but poorer outcomes for those who are insecurely attached (Bradshaw and Kent 2017; Ellison et al. 2014; Kent et al. 2017). These models include measures of anxiety and obsessive-compulsiveness and suggest an intriguing possibility in light of attachment theory. Prayer represents a type of proximity-seeking behavior which should contribute to improved well-being for believers. However, this outcome only appears true for the securely attached, suggesting that for some, proximity to the divine may contribute to distress (Schieman et al. 2013). One possible explanation is that ontological certainty about God undergirds the interplay of attachment and religious practice and that prayer is a beneficial practice for those who are certain about God's role, or lack thereof, in their lives. Theoretically, this would include those who are securely attached, i.e. those who have come to perceive God as consistently personal, warm and responsive, but also those who are insecurely attached, i.e. those who have come to view God as consistently cold, distant and unresponsive. This leads to the first formal hypothesis of this study:

> H1: There will be a non-linear association between secure/insecure attachment to God and psychological distress, with the highest levels of distress being observed for individuals who are less certain about the security of their attachment.

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Turning to the other dimension of Attachment to God, it is conceptually unlikely that anxious attachment styles would correspond in the same curvilinear fashion. This has everything to do with the nature of the construct. If anything, anxious attachment in this light could be considered a direct measure of religious uncertainty. If religious certainty indeed undergirds the effects of attachment to God on well-being, then this should be reflected in positive linear associations with measures of psychological distress. This leads to the second formal hypothesis:

> H2: Anxious attachment to God will be positively associated with psychological
> distress.

Additionally, taking at face value the proposition that anxious attachment represents a proxy measure of religious uncertainty, and that both secure and insecure attachment styles represent distinct forms of certainty, then it is reasonable to expect that secure attachment will have a curvilinear relationship with anxious attachment. Thus the third formal hypothesis:

> H3: There will be a non-linear association between secure/insecure attachment to
> God and anxious attachment, with the highest levels of anxious attachment being
> observed for individuals who are less certain about the security of their
> attachment.

Data, Methods, and Sample Characteristics

Dependent and Control Variables

The Data for this study are the same as in study one. Dependent and control variables are identical to those detailed in study one.

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Independent Variables – Attachment to God

Following the lead of recent studies (Ellison et al. 2014; Kent and Henderson 2017) attachment to God is assessed using Rowatt and Kirkpatrick's (2002) nine item multidimensional measure which identifies two orthogonal dimensions of attachment style, secure and anxious. Secure attachment is gauged by respondent's agreement with six items: Secure (as opposed to insecure) attachment to God ($\alpha = 0.914$) was tapped by respondent's agreement with each of the following six items, (a) "I have a warm relationship with God." (b) "God knows when I need support." (c) "I feel that God is generally responsive to me." (d) "God seems impersonal to me" (reverse coded). (e) "God seems to have little or no interest in my personal problems" (reverse coded). (f) "God seems to have little or no interest in my personal affairs" (reverse coded). Available responses include 0=Strongly Disagree; 1=Disagree; 2=Agree, and 3=Strongly Agree. Anxious attachment ($\alpha = 0.786$) is assessed from the following three items which are scaled identically to Secure attachment items: (a) "God sometimes seems responsive to my needs, but sometimes not." (b) "God's reactions to me seem to be inconsistent." (c) "God sometimes seems warm and other times very cold to me."

Sample Characteristics

Table 4.1 presents unweighted descriptive statistics for attachment to God and psychological distress study variables. Because this study uses the same sample as the image of God study, the sample characteristics are identical on all dependent and control measures. Means of secure and anxious attachment to God styles were 13.20 (on a scale of 0-18) and 2.99 (on a scale of 0-9), respectively.

Analytic Approach

All data analysis is performed using SAS 9.4. Dependent variables underwent the same square root transformations as in Study One. Initial modeling demonstrated that listwise deletion of incomplete cases resulted in 10% sample loss. Once appropriate sample restrictions were made, PROC MI and MI ANALYZE, using the MCMC method of data imputation, were used to recover incomplete or missing cases. Results are based on analysis of 25 imputed datasets and similar to results obtained through listwise deletion.

Since dependent variables are the same as those in study one, analyses use the same Ordinary Least Squares regression techniques and weights. Main tables include four sets of results. The first presents the effects of both attachment to God measures on general distress. Preliminary analyses failed to produce significant non-linear coefficients when quadratic terms were included in analyses, so only main effects are presented. The second and third set presents the respective results of the two attachment to God measures and their effects on the five psychological distress measures. In analysis controlling for non-linear effects, only measures of secure Attachment generated significant effects. Thus, results for anxious Attachment present models which include main effects only, while results for secure Attachment include quadratic term effects. A final set of analyses is included whereby the non-linear effects of secure attachment are analyzed on anxious attachment. Model 1 includes main effects while model 2 adds squared term effects. Two sets of prediction lines are also included, one presenting the effects of secure attachment on psychological distress and the other, the effects of secure attachment on anxious attachment.

Table 4.1. Descriptive Statistics for Attachment to God and Distress Study Variables

Variable	N	Mean/ Proportion	SD	Range	Alpha
Dependent Variables					
General Distress	1538	2.299	2.573	0-12	0.878
General Anxiety	1573	3.537	2.678	0-12	0.841
Social Anxiety	1564	2.032	2.289	0-12	0.824
Paranoia	1567	2.338	2.356	0-12	0.763
Obsession	1566	2.897	2.326	0-12	0.764
Compulsion	1564	1.098	1.778	0-12	0.763
Attachment to God Variables					
Secure Attachment	1464	13.20	4.29	0-18	0.914
Anxious Attachment	1461	2.99	2.10	0-9	0.786
Religious Control Variables					
Evangelical Protestant [a]	1575	0.323	0.468	0,1	-
Mainline Protestant	1575	0.260	0.439	0,1	-
Black Protestant	1575	0.025	0.157	0,1	-
Catholic	1575	0.253	0.435	0,1	-
Religious Other	1575	0.075	0.263	0,1	-
Non-Religious	1575	0.064	0.245	0,1	-
Religious Attendance	1612	4.102	2.921	0,8	-
Control Variables					
Age	1577	56.157	16.133	18-100	-
White	1624	0.820	0.384	0,1	-
Female	1604	0..548	0.498	0,1	-
South [a]	1624	0.250	0.433	0,1	-
East	1624	0.175	0.380	0,1	-
Midwest	1624	0.361	0.481	0,1	-
West	1624	0.214	0.410	0,1	-
Married	1580	0.634	0.482	0,1	-
Raising Minor Child/ren	1622	0.232	0.423	0,1	-
Ed: HS or Less [a]	1580	0.309	0.462	0,1	-
Ed: Some College	1580	0.322	0.467	0,1	-
Ed: Bachelor's Degree	1580	0.194	0.395	0,1	-
Ed: Beyond Bachelor's	1580	0.175	0.380	0,1	-
Income Bracket	1495	4.249	1.619	1-7	-
Employed	1570	0.6`28	0.483	0,1	-

Notes: Means and standard deviations are unweighted and recorded prior to imputation. [a] Indicates reference category. *Source*: Baylor Religion Survey (2010).

Results

Table 4.2 reports the results of ordinary least squares regression of attachment to God on the general distress index. Model 1 reports the results of insecure/secure Attachment to God. Results fail to demonstrate a significant relationship between secure attachment style and general distress. Ancillary analysis also failed to demonstrate a significant curvilinear relationship (Table A5). Among demographic variables in Model 1, lower general distress was observed for measures of age and income at significance level $p<.05$ and employment at level $p<.10$. Higher distress was predicted for women and those living in the Eastern United States, compared with those living in the south. Among religion measures, attendance was salutarily related to general distress while black Protestants were predicted to report lower general distress than religiously non-affiliated. Model 2 reports the results of Anxious Attachment to God. There a one unit increase in anxious attachment style was associated with a 0.69 increase in the square root of reported general distress. Ancillary analysis also failed to demonstrate a significant curvilinear relationship with general distress (Table A5). Among demographic variables, salutary relationships were reported for age and income at significance level $p<.05$ and employment at level $p<.10$, while deleterious relationships were observed for women and those living in the east, just as in Model 1. Salutary relationships were also observed for measures of attendance and for black and Evangelical Protestants compared with religiously unaffiliated, though the relationship for Evangelical Protestants was only marginally significant. In sum, analysis of general distress demonstrated only a linearly deleterious relationship with Anxious Attachment, while curvilinear relationships were not observed for either measure.

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Table 4.2. Results of Ordinary Least Squares Analysis of General Distress on Attachment to God Styles

Parameter	b		SE	b		SE
Intercept	2.300	***	0.16	2.007	***	0.15
Secure Attachment	-0.010		0.01	-		-
Anxious Attachment	-		-	0.069	***	0.01
Evangelical Protestant	-0.086		0.11	-0.165	†	0.10
Mainline Protestant	-0.020		0.10	-0.114		0.10
Black Protestant	-0.327	*	0.17	-0.411	*	0.17
Catholic	0.024		0.11	-0.071		0.10
Religious Other	-0.015		0.12	-0.095		0.12
Attendance	-0.035	***	0.01	-0.030	***	0.01
Age	-0.008	***	0.00	-0.009	***	0.00
White	-0.016		0.06	-0.018		0.06
Female	0.154	***	0.05	0.158	***	0.05
East	0.153	*	0.07	0.156	*	0.07
Midwest	-0.018		0.06	0.003		0.06
West	0.087		0.07	0.097		0.07
Married	-0.085		0.06	-0.063		0.06
Raising Minor Child/ren	0.069		0.06	0.050		0.06
Some College	-0.086		0.06	-0.081		0.06
Bachelor's Degree	-0.100		0.07	-0.071		0.07
Beyond Bachelor's	0.018		0.08	0.031		0.08
Income	-0.064	***	0.02	-0.065	***	0.02
Employed	-0.104	†	0.05	-0.097	†	0.06
Pseudo r^2	0.1357			0.1327		

Notes: n = 1,624; *$p <. 05$; **$p < .01$; ***$p < .001$; † $p < .10$. Pseudo r^2 taken from models using non-imputed data; Previous models (Table A5) failed to demonstrate a significant non-linear relationship between either of the Attachment to God Measures and General Distress.
Source: Baylor Religion Survey (2010)

Table 4.3 reports the results of Ordinary Least Squares regression of secure attachment to God on psychological symptom scales. To test for a potential curvilinear relationship, each of the five models includes the lower order measure of secure attachment, along with its quadratic square. In each of the five models both the lower order measure of secure attachment to God and its square term were significant. The resulting prediction lines in each of the five models are presented in Figure 4.1. The prediction lines for general anxiety and social anxiety are nearly symmetric curves, as the

Table 4.3. Results of Ordinary Least Squares Analysis of Psychological Symptom Scales on Secure Attachment to God

Parameter	General Anxiety B		SE	Social Anxiety b		SE	Paranoia b		SE	Obsession b		SE	Compulsion b		SE
Intercept	2.196	***	0.16	1.484	***	0.18	1.617	***	0.18	1.952	***	0.16	1.154	***	0.17
Secure God	0.056	**	0.02	0.068	**	0.02	0.097	***	0.02	0.043	*	0.02	0.053	*	0.02
Secure God²	-0.003	***	0.00	-0.004	***	0.00	-0.005	***	0.00	-0.003	**	0.00	-0.003	**	0.00
Evangelical Protestant	0.019		0.09	0.052		0.10	0.118		0.10	-0.078		0.09	0.022		0.09
Mainline Protestant	-0.004		0.09	0.058		0.11	0.136		0.10	0.005		0.09	0.057		0.10
Black Protestant	-0.150		0.15	0.195		0.17	0.173		0.17	-0.293	†	0.15	0.106		0.16
Catholic	0.013		0.09	0.106		0.11	0.131		0.10	-0.003		0.09	0.085		0.09
Religious Other	-0.073		0.11	-0.053		0.12	0.069		0.12	-0.130		0.11	-0.022		0.11
Attendance	-0.018	*	0.01	0.011		0.01	-0.023	*	0.01	-0.008		0.01	-0.005		0.01
Age	-0.004	**	0.00	-0.007	***	0.00	-0.002		0.00	-0.004	**	0.00	-0.002		0.00
White	0.023		0.05	0.172	**	0.06	-0.073		0.06	0.135	*	0.05	-0.103	†	0.06
Female	0.143	***	0.04	-0.007		0.05	0.012		0.05	0.042		0.04	-0.064		0.04
East	0.096		0.06	0.053		0.07	-0.046		0.07	0.004		0.06	0.037		0.07
Midwest	-0.036		0.05	-0.105	†	0.06	-0.040		0.06	-0.080		0.05	-0.077		0.06
West	-0.016		0.06	-0.069		0.07	-0.165	*	0.07	-0.099	†	0.06	-0.053		0.06
Married	-0.029		0.05	-0.118	*	0.06	-0.125	*	0.06	-0.091	†	0.05	-0.068		0.05
Raising Minor Child/ren	0.061		0.05	-0.101	†	0.06	-0.002		0.06	0.061		0.05	0.111	*	0.05
Some College	-0.074		0.05	-0.035		0.06	-0.109	†	0.06	0.017		0.05	0.050		0.05
Bachelor's Degree	-0.190	**	0.07	-0.109		0.08	-0.298	***	0.07	-0.132	*	0.07	-0.184	**	0.07
Beyond Bachelor's	-0.007		0.07	-0.184	*	0.08	-0.306	***	0.08	-0.132	†	0.07	-0.183	*	0.07
Income	-0.070	***	0.02	-0.056	**	0.02	-0.082	***	0.02	-0.043	**	0.02	-0.066	***	0.02
Employed	-0.044		0.05	0.043		0.06	0.076		0.05	0.011		0.05	-0.0315		0.05
Pseudo r²	0.1012			0.0728			0.1162			0.0882			0.0867		

Notes: n = 1,624; *$p <. 05$; **$p < .01$; ***$p < .001$; † $p < .10$; Pseudo r² taken from models using non-imputed data.
Source: Baylor Religion Survey (2010).

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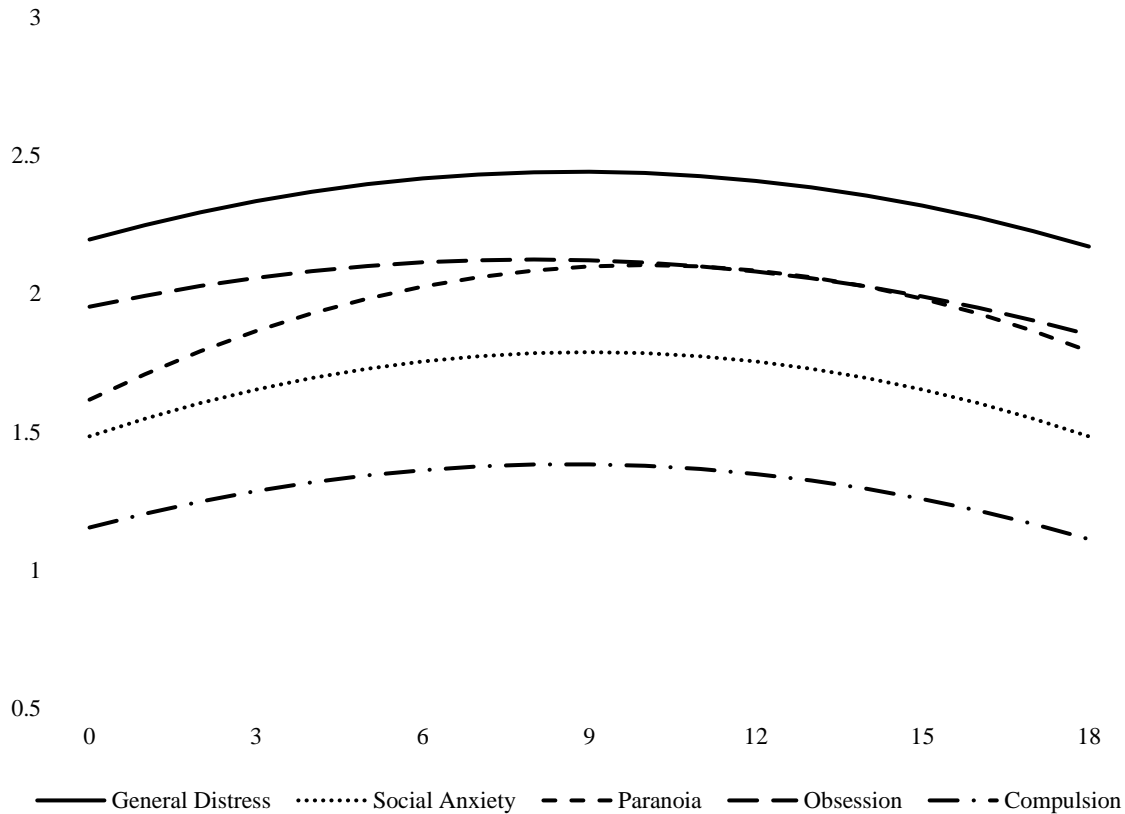
Figure 4.1. Non-Linear Effects of Psychological Distress on Secure Attachment

beginning and end points of each line are nearly identical and the respective inflection

points of 8.782 and 8.999 are virtually equal to the midpoint of the secure attachment

range. The prediction line and the inflection point of 9.999 for paranoia, a full point past

the midpoint, predicts lower levels for those with a highly insecure attachment style than

those with a highly secure attachment style. For Obsession, the prediction line predicts

the obverse: highly insecure attachment predicts higher obsession than highly secure

attachment with an inflection point (7.918) just over a full point shy of the midpoint.

Finally, the prediction line for Compulsion shows slightly lower levels for highly secure

attachment, and the inflection point of 8.617 suggests that compulsion levels begin to

decline just short of the midpoint.

Among religion measures, service attendance was associated with lower levels of general anxiety and paranoia, while black Protestants were predicted to have lower levels of obsession, compared to religiously unaffiliated, but only at a marginal level of significance. Among demographic measures, a salutary relationship was observed for age and general anxiety, social anxiety and obsession. Whites were predicted to have higher levels of social anxiety and obsession than non-whites, and marginally significant reductions in compulsion. Higher general anxiety was predicted for women. Those living in the Western U.S. were predicted to have significantly lower levels of paranoia, compared to those living in the south, while marginally significant reductions in social anxiety and obsession were predicted for those living in the Midwest and the West, respectively. Married people were predicted to have lower levels of social anxiety and paranoia, and marginally significant reductions in obsession. Those raising children were predicted to have significantly higher levels of compulsion and marginally significant reductions in social anxiety. A number of educational differences were observed. Compared to those with only an equivalent high school degree, respondents with a Bachelor's degree were predicted to have lower levels of general anxiety, paranoia, obsession and compulsion while respondents with education beyond a Bachelor's were predicted to have significantly lower levels of social anxiety, paranoia, and compulsion and marginally significant reductions in obsession. A marginally significant reduction in paranoia was also observed for those with some college experience. For all five dependent measures, the measure of income level was associated with a reduction in symptom levels.

Table 4.4 reports the results of Ordinary Least Squares regression of anxious attachment to God on psychological symptom scales. The results reported here show only analyses controlling for a linear relationship, as ancillary analyses failed to show a significant curvilinear relationship between Anxious Attachment and any of the five outcomes (Table A7). However, anxious attachment was associated with increases in each of the symptom scales.

Among religion measures, service attendance was associated with lower levels of general anxiety and paranoia. Significantly lower paranoia was predicted for black Protestants compared to religiously unaffiliated. Lower paranoia was predicted for Evangelical Protestants and those from non-Christian religious traditions, albeit at only marginal significance levels. Among demographic variables age was associated with lower levels of general anxiety, social anxiety and obsession. Whites were predicted to have higher levels of social anxiety and obsession, but lower levels of compulsion (p<.10). Women were predicted to have higher general anxiety, but lower compulsion (p<.10). Regional differences include those a reduction in paranoia for those living in the west, compared to those living in the south and marginally significant reductions in social anxiety for those living in the Midwest and obsession for those living in the west. Married respondents were predicted to have lower levels of paranoia, and marginally significant reductions in social anxiety and obsession. Those raising children were predicted to have significantly higher compulsion, but lower social anxiety (p<.10). Compared to high school graduates, college experience was associated with lower paranoia, a bachelor's degree was associated with lower levels of general anxiety, paranoia, obsession (p<.10) and compulsion, and education beyond a bachelor's degree

Table 4.4. Results of Ordinary Least Squares Analysis of Psychological Symptom Scales on Anxious Attachment to God

Parameter	General Anxiety			Social Anxiety			Paranoia			Obsession			Compulsion		
	b		SE	b		SE	b		SE	b		SE	b		SE
Intercept	2.112	***	0.13	1.450	***	0.16	1.700	***	0.15	1.838	***	0.13	1.113	***	0.14
Anxious God	0.073	***	0.01	0.073	***	0.01	0.083	***	0.01	0.074	***	0.01	0.066	***	0.01
Evangelical Protestant	-0.005		0.09	0.02777		0.10	0.109		0.10	-0.143	†	0.09	-0.022		0.09
Mainline Protestant	-0.042		0.09	0.03176		0.10	0.128		0.10	-0.058		0.09	0.010		0.09
Black Protestant	-0.176		0.15	0.184		0.17	0.164		0.17	-0.357	*	0.15	0.034		0.16
Catholic	-0.025		0.09	0.072		0.10	0.106		0.10	-0.077		0.09	0.020		0.09
Religious Other	-0.099		0.11	-0.084		0.12	0.055		0.12	-0.195	†	0.10	-0.077		0.11
Attendance	-0.021	**	0.01	0.005		0.01	-0.023	**	0.01	-0.011		0.01	-0.009		0.01
Age	-0.004	**	0.00	-0.007	***	0.00	-0.002		0.00	-0.004	**	0.00	-0.002		0.00
White	0.028		0.05	0.176	**	0.06	-0.079		0.06	0.141	**	0.05	-0.098	†	0.06
Female	0.140	***	0.04	-0.012		0.05	0.012		0.05	0.036		0.04	-0.071	†	0.04
East	0.096		0.06	0.050		0.07	-0.047		0.07	0.002		0.06	0.038		0.07
Midwest	-0.037		0.05	-0.109	†	0.06	-0.041		0.06	-0.081		0.05	-0.075		0.06
West	-0.015		0.06	-0.068		0.07	-0.162	*	0.07	-0.098	†	0.06	-0.044		0.06
Married	-0.020		0.05	-0.109	†	0.06	-0.119	*	0.06	-0.080	†	0.05	-0.060		0.05
Raising Minor Child/ren	0.054		0.05	-0.105	†	0.06	-0.001		0.06	0.053		0.05	0.108	*	0.05
Some College	-0.073		0.05	-0.043		0.06	-0.122	*	0.06	0.017		0.05	0.045		0.05
Bachelor's	-0.173	**	0.06	-0.106		0.08	-0.301	***	0.07	-0.120	†	0.06	-0.174	**	0.07
Beyond Bachelor's	0.007		0.07	-0.175	*	0.08	-0.314	***	0.08	-0.123	†	0.07	-0.172	*	0.07
Income	-0.066	***	0.02	-0.050	*	0.02	-0.076	***	0.02	-0.042	**	0.02	-0.065	***	0.02
Employed	-0.044		0.05	0.045		0.06	0.076		0.05	0.017		0.05	-0.034		0.05
Pseudo r^2	0.1221			0.0844			0.1352			0.1173			0.1090		

Notes: n = 1,624; *p < .05; **p < .01; ***p < .001; † p < .10; Pseudo r^2 taken from models using non-imputed data.
*Source*: Baylor Religion Survey (2010)

was associated with lower levels of social anxiety, paranoia, obsession (p<.10) and compulsion. Income was associated with significant reductions in each outcome measure.

Table 4.5 presents the results of Ordinary Least Squares analysis of secure attachment to God as a predictor of anxious attachment to God. Model 1 presents the results assuming a linear relationship. A marginally significant increase was observed for those raising children, and a Bachelor's degree was observed to have a marginally significant decrease in anxious attachment, compared to those with a high school equivalency. Model 1 also includes the measure of general distress, as this could account for a significant amount of the variance in anxious attachment (see Table 4.2, Model 2). General distress predicts an increase in anxious attachment style. Additionally, results show significant increases in anxious attachment, for all religious tradition categories, compared to religiously unaffiliated, and that secure attachment to God is associated with lower anxious attachment. Model 2 presents the results, adding a quadratic measure of secure attachment style. Here, the marginal effects of parental status and education are no longer observed, and the effects of general distress and all religious tradition categories remain significant, but are reduced in magnitude. Finally, both the lower order measure of secure God and its quadratic term are significant. Figure 4.2 displays the prediction lines for the relationships observed in both models. The dotted line displays the linear prediction line reported in Model 1. As presented, the results suggest that those who are insecurely attached will be the most anxious in their attachment to God. The solid line, displays the prediction line in Model 2 where those who are more insecurely attached are predicted to have lower anxious attachment. The highest levels of anxious attachment are among those who appear in the middle of the insecure/secure continuum.

Table 4.5. Results of Ordinary Least Squares Analysis of
Anxious Attachment on Secure Attachment to God

Parameter	b		SE	b		SE
Intercept	3.993	***	0.37	1.188	**	0.39
Secure God	-0.206	***	0.01	0.501	***	0.05
Secure God²	-		-	-0.032	***	0.00
Evangelical Protestant	1.367	***	0.22	0.898	***	0.21
Mainline Protestant	1.454	***	0.23	0.857	***	0.21
Black Protestant	1.549	***	0.38	1.018	**	0.36
Catholic	1.552	***	0.22	1.042	***	0.21
Religious Other	1.378	***	0.28	0.859	***	0.26
Attendance	-0.021		0.02	0.025		0.02
Age	0.005		0.00	0.003		0.00
White	0.061		0.14	0.065		0.13
Female	-0.030		0.11	0.041		0.10
East	-0.044		0.16	-0.062		0.15
Midwest	-0.179		0.14	-0.045		0.13
West	-0.142		0.15	-0.089		0.14
Married	-0.135		0.13	-0.095		0.12
Raising Minor Child/ren	0.220	†	0.13	0.120		0.12
Some College	-0.022		0.14	0.073		0.13
Bachelor's	-0.297	†	0.17	-0.145		0.16
Beyond Bachelor's	-0.212		0.18	-0.135		0.17
Income	0.011		0.04	-0.017		0.04
Employed	0.014		0.12	0.010		0.12
General Distress	0.122	***	0.02	0.117	***	0.02
Pseudo r²	0.2285			0.3387		

Notes: n = 1,624; *$p <. 05$; **$p < .01$; ***$p < .001$; † $p < .10$; Pseudo r^2 taken from models using non-imputed data. *Source*: Baylor Religion Survey (2010)

Discussion

Using data from a nationwide random sample, this study investigates the

relationship of attachment to God styles and psychological distress. Consistent with the

general proposition that ontological beliefs share a curvilinear relationship with distress, I

hypothesized that lower levels of psychological distress would be predicted for those who

express either a more secure attachment style or a more insecure attachment style, but
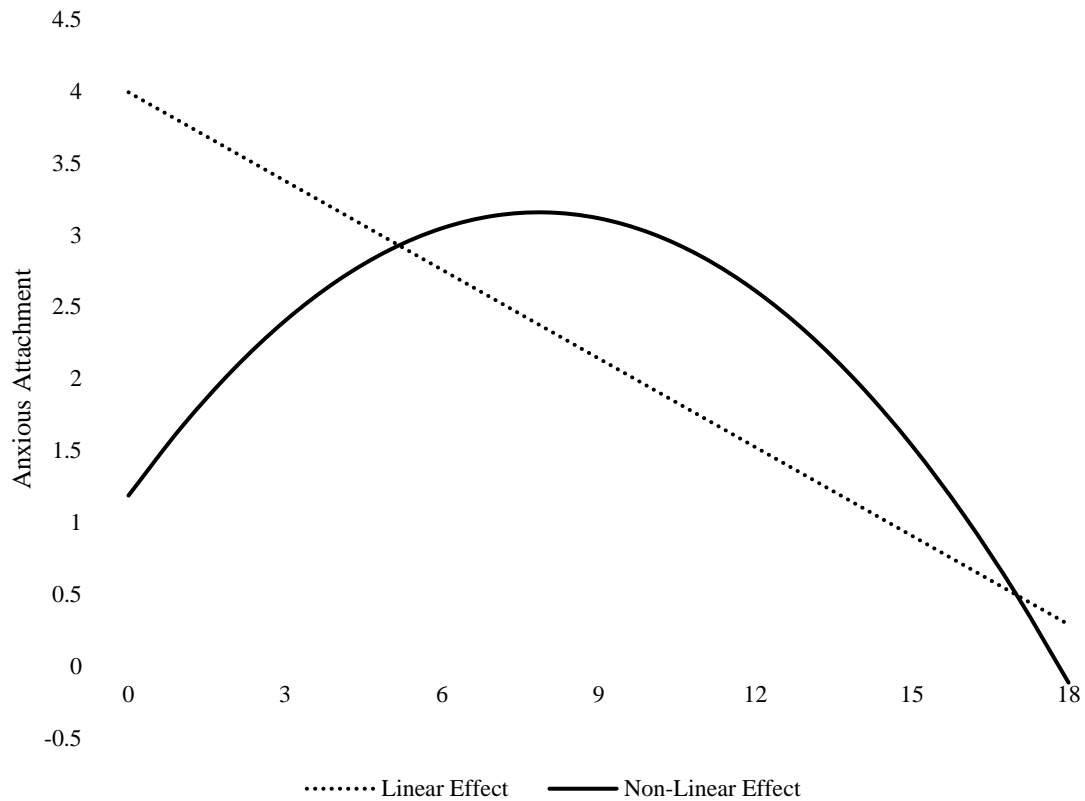
Figure 4.2. Insecure/Secure Attachment to God as Predictor of Anxious Attachment to God

higher for those in the middle of the response range (Hypothesis 1). I also hypothesized

that because anxious attachment style likely approximates the experience of uncertainty,

higher levels of psychological distress would be positively associated with anxious

attachment (Hypothesis 2). Six dependent measures of psychological distress were

analyzed. Results overwhelmingly support these hypotheses.

Preliminary analysis failed to demonstrate either a linear or curvilinear association

between secure attachment style and general distress. However, robust curvilinear

relationships were observed for all five measures of psychological distress symptoms.

Furthermore, prediction lines were relatively uniform, predicting comparably low distress

levels for those at both ends of the response ranges and higher levels for those in the

middle. Only the results for paranoia present a slight deviation as higher secure attachment predicted slightly higher levels of distress than highly insecure attachment.

Results also support the hypothesis that anxious attachment is positively associated with distress (H2), as positive associations were observed for all six dependent measures of psychological distress. These results remained robust when controlling for religious and demographic variables. Separate models, testing for curvilinear relationships between anxious attachment and distress were also analyzed and failed to demonstrate significant findings, suggesting that a linear model best explains this relationship.

My third hypothesis is based on the prima facie assertion that anxious attachment is a proxy for ontological uncertainty which should be negatively correlated with both secure and insecure attachment (Hypothesis 3). The broad consensus among adult attachment scholars is that multi-item self-report measures, like those used here, tap two continuous and relatively orthogonal dimensions (Ellison et al. 2012; Rowatt and Kirkpatrick 2002). However, both the consistent curvilinear relationships between secure attachment and distress measures, and the consistent and robust positive relationships between anxious attachment and distress support the possibility that secure attachment is curvilinearly related to anxious attachment. Subsequent analyses presented in Table 4.5 and corresponding prediction lines in Figure 4.2 support this assertion as results demonstrate a curvilinear relationship between secure and anxious attachment, supporting hypothesis three.

The results presented here suggest a few substantive conclusions. First, these results should be considered in concert with results from analyses of God image, above.

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There, results confirmed a pattern of curvilinearity for measures capturing propositional belief constructs and suggested that a lack of certainty regarding the explicit nature of the divine is linked to psychological distress. Attachment to God, as a separate dimension of divine beliefs, captures the dispositional aspects of faith and the affective postures people have towards the divine. The results here support a similar conclusion: a lack of certainty about one's affective relationship with the divine represents a threat to psychological well-being.

Second, the results reported here suggest revisiting previous findings which report generally salutary effects of secure attachment and generally deleterious effects of anxious attachment (Bradshaw et al. 2010; Bradshaw and Kent 2017; Ellison et al. 2012, 2014; Kirkpatrick and Shaver 1992; Kirkpatrick et al. 1999; Rowatt and Kirkpatrick 2002).[1] The implicit conclusion drawn from those results is that insecure/avoidant attachment predicts declines in psychological health. From the point of view of general attachment theory this makes intuitive sense, as avoidant behaviors directed at a primary caregiver should contribute to psychological maladjustment. However, this may be an inappropriate application in the context of one's relationship with God because it implicitly assumes that everyone desires a close relationship with God, just as everyone likely desires a stable relationship with their primary caregiver. Social theory and common sense suggest that this simply isn't so. Our ideas about the character of the divine and what kinds of relationships are possible, are intimately connected to religious socialization. Many, perhaps a growing number (Lipka 2015; Pew Forum on Religion and Public Life 2012; Smith and Cooperman 2016) simply aren't socialized to believe

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[1] One of these studies, Ellison, et al. 2014, uses data from the same wave of the Baylor Religion Survey (2010).

that a close relationship with God is useful or desirable. Therefore, while many may continue to believe in God, there is no reason to assume that everyone finds solace in divine proximity.

The findings for anxious attachment are also consistent with this conclusion. If we assume that proximity seeking and proximal ambivalence are both consistent with a stable and coherent posture toward the divine, then it also makes sense that those with the highest rates of psychological distress would be those who seek God but are uncertain about the effectiveness of their efforts. In the previous study, lower distress was predicted for those who expressed more certain views. Likewise, anxious attachment to God seems to be capturing a similar dynamic. The results here suggest that both secure and insecure attachment styles represent a conclusive posture about the availability of the divine while anxious attachment represents a measure of dispositional ontological uncertainty that robustly predicts distress. Those who are unclear about God's proximal availability appear the most likely to be anxious in their attachment orientation.

Third, these results contribute to work investigating the relationship between spiritual struggles and psychological distress (Ellison et al. 2009; Ellison and Lee 2010; Exline 2002). My general conclusion from these data is that both secure and insecure attachment represent their own styles of ontological certainty which are both associated with lower levels of distress. Meanwhile, anxious attachment represents a unique type of spiritual struggle which can complicate the potential benefits of religious commitment and coping. Previous work from attachment scholars suggests that individual attachment styles in the domains of parental and romantic relations affect religious commitment in response to potential stressors, such as interpersonal relationship strain or dissolution

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(Granqvist and Hagekull 1999, 2003). In other words, people who are securely attached to parents or romantic partners, are more likely to turn away from religion during periods of relationship strain, while the inverse is true for insecurely attached. It is possible that attachment to God contributes to similarly differential effects during stress responses. For instance, two studies find salutary associations between frequency of prayer and measures of well-being among the securely attached to God, and deleterious relationships among the insecurely attached (Bradshaw and Kent 2017; Ellison et al. 2014)[2]. Thus, religious commitment appears protective for those who express a proximally secure relationship with God. In light of my results, perhaps these findings point less to the role of prayer among the insecurely attached, and more to the symptoms of uncertainty in the proximity seeking behaviors of the anxiously attached. More work on the unique impacts of anxious attachment on exacerbating religiously struggles is merited.

In the same vein, anxious attachment may also represent a threat to well-being by making it difficult to access or utilize the psychosocial resources that religious commitment often provides (Ellison and George 1994; Krause 2009; Krause et al. 2001; Levin, Chatters, et al. 1995; Levin, Taylor, et al. 1995). Recent findings suggest that both insecure and anxious attachment to God styles erode commitment to religious congregations where one would find networks of social support and positive appraisals (Freeze and DiTommaso 2014; Kent and Henderson 2017). The data here suggest that this may not be especially problematic for the insecurely attached, as this may fit a larger pattern of proximal ambivalence which may not necessarily correlate with distress. Those who are ambivalent about God may also be ambivalent about potential resources in a

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[2] Again, Ellison et al. 2014 also use data from BRS3.

congregation. However, research suggests that proximity seeking is still characteristic for those who are anxiously attached and these efforts are likely to exacerbate distress if they interfere with congregational participation and its associated resources.

Finally, I suspect that in terms of spiritual struggles, ontological uncertainty is likely coterminous with life uncertainty. While it is beyond the scope of this study, future research should investigate whether chaotic inconsistencies contained within ontological belief systems, overlap with any temporal chaos in day to day life. The cross sectional nature of this data represents a limitation to these findings, as we are unable to interpret the longitudinal nature of the relationship between dispositional postures toward the divine and fluctuating emotional states as people respond to the ebb and flow of daily stressors. Furthermore, the cross-sectional sample also prevents me from drawing any conclusions about the causal direction of attachment to God and psychological distress, nor am I able to provide any insights as to the durability of attachment styles. It is possible, that as a form of ontological uncertainty, anxious attachments tend to be temporary, as people eventually settle between primarily secure and secure attachment styles. More research is needed to investigate, not only attachment styles across the life course, but also their trajectories for psychological well-being over time.

In short, results support the conclusion that insecure and secure attachments to God among the general population represent stable ontological dispositions and that those who are uncertain about the security of their attachment to God are more likely to experience distress. Likewise, anxious attachment also represents a mark of spiritual struggle. Whether one is securely attached, or solidly unattached, it appears that what is most evincing of distress is dispositional anxiety relative to the divine.

CHAPTER FIVE

Study Three: Afterlife Belief and Psychological Distress

"The mind is its own place, and in itself can make a heaven of hell, a hell of heaven."

–John Milton, *Paradise Lost*

Introduction

The previous two studies investigate the general proposition that uncertain ontological views are associated with greater psychological distress by examining propositional beliefs (God image) and dispositional beliefs (attachment to God) about God. But the questions religious systems typically provide answers to are not limited to the existence or character of God. Some of the most important questions addressed by most religions is whether people live on in some capacity beyond their own deaths, and what their ultimate destiny will be in the hereafter.

As explained above, previous research demonstrates that religious behaviors share a generally salutary relationship with mental health. But few studies investigate whether specific religious beliefs vary in their salubriousness. A small subset of findings suggests that beliefs which favor punitive aspects of religious faith, such as belief that God is wrathful rather than forgiving, are connected to greater vigilance and ultimately greater distress (Flannelly et al. 2007, 2010; Silton et al. 2013). Meanwhile, a host of findings suggest that religious certainty is strongly associated with well-being and that ontological doubts erode it (Antonovsky 1987; Anyfantakis et al. 2015; Ellison 1991; Ellison and Lee 2010; Galek et al. 2007; George et al. 2002; Krause 2006; Krause et al. 1999; Krause and

Ellison 2009; Krause and Wulff 2004). Thus, available evidence suggests that believing in the afterlife, especially one that is pleasant and eventual, may be directly related to lower levels of psychological distress. Evidence also suggests that whether one believes in an afterlife or not, it is the certainty with which one adheres to their belief that is most predictive of distress. Consistent with the general proposition that adherence to ontological belief propositions shares a curvilinear relationship with well-being, this study relies on data from the Baylor Religion Survey to test the hypothesis that beliefs about the afterlife exhibit a curvilinear relationship with measures of psychological distress.

Background

Though not a universal component of all religious faiths, most major religions assert the existence of life after death. Eminent social theorists go so far as asserting that the role of religious systems in making sense of the certain, but inevitable nature of death is the sine qua non of religious systems (Becker 1997; Choron 1973; Durkheim 1912; Malinowski 1954). In prefacing the need for effective theodicies, Berger concludes: "Every human society is, in the last resort, men banded together in the face of death. The power of religion depends, in the last resort, upon the credibility of the banners it puts in the hands of men as they stand before death, or more accurately, as they walk, inevitably, toward it" (Berger 1967:51). Current theorists affirm the central place of belief in the afterlife and the promise of a meaningful and rewarding hereafter in most contemporary religious and quasi-religious meaning systems (Flannelly et al. 2008; Moreman 2010; Obayashi 1991; Stark 1997; Stark and Finke 2000). In the United States, multiple national surveys conducted over the last few decades confirm that the substantial majority

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of Americans, approximately three-fourths, believe in life after death (Greeley and Hout 1999; Harley and Firebaugh 1993; Klenow and Bolin 1990; Murphy 2015; Pew Forum on Religion and Public Life 2008). Due to the ubiquity of afterlife belief in the U.S and its centrality to complexes of belief more generally, failing to investigate the impact of these beliefs on mental health provides an incomplete understanding of the impact of lived religion (Vail et al. 2010).

Unfortunately, studies of the effect of afterlife belief on mental health have been scarce, despite calls for more attention from prominent scholars (Ellison et al. 2001; Exline 2002). What is available typically follows the pattern set by psychoanalysis of problematizing religious belief as a detriment to psychological functioning, citing afterlife beliefs as neurotic, delusional wish fulfilment (Benore and Park 2004; Kalish and Reynolds 1973; Weisman 1972). Until relatively recently, existing research has also been relatively isolated in scope, focusing on the effects of afterlife belief on anxieties about death[1] (Alvarado et al. 1995; Edmondson et al. 2008; Flannelly et al. 2006; Neimeyer, Wittkowski, and Moser 2004; Templer and Dotson 1970). In general, these studies undermine critiques of afterlife belief as detrimental, demonstrating that strong beliefs in the afterlife are associated with lower death anxiety, decreased fear of the unknown, and more effective bereavement, and that these effects are amplified by stronger religious commitment (Alvarado et al. 1995; Clarke et al. 2003; Fortner and Neimeyer 1999; Neimeyer et al. 2004; Silton et al. 2011; Smith, Range, and Ulmer 1992).

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[1] Most of this research is based on Terror Management Theory which shares significant theoretical overlap with the assertion of Berger and others, that religion addresses the problem of evil, ultimately related to the random inevitability of mortality (see Neimeyer, Wittkowski, and Moser, 2004 for a review).

A small but notable number of studies have started to expand the investigative breadth of research by focusing on the effects of afterlife belief on mental health more broadly. Echoing similar criticisms that belief in God erodes a sense of efficacy and self-mastery, a common critique is that belief in the afterlife results in similarly unfavorable effects (Ellison and Henderson 2011). However, the bulk of recent findings suggest that belief in life after death is more typically beneficial to physical and psychological well-being (Ellison 1991; Flannelly et al. 2006; Krause et al. 2002). Separate studies using the 1996 General Social Survey demonstrate associations between belief in an afterlife and increased sense of control, decreased anxiety and greater tranquility (Ellison and Burdette 2012; Ellison, Burdette, and Hill 2009). Evidence also suggests that belief in an afterlife contributes to one's sense of meaning (Alvarado et al. 1995) and mitigates the deleterious effects of major stressors on psychological well-being (Bradshaw and Ellison 2010; Ellison et al. 2001). Finally, in studies of late stage cancer patients, afterlife beliefs are prominent in contributing to emotional functioning and lower levels of depression related to end of life (van Laarhoven et al. 2011; McClain-Jacobson et al. 2004).

While the evidence generally points to a salutary relationship between belief in an afterlife and well-being, findings also suggest that, as with God belief, this relationship may be contingent on the specific content of belief. For instance, while finding an overall relationship between afterlife belief and sense of control, Ellison and Burdette (2012) observe that other belief constructs, such as belief in human sin, are inversely related, suggesting that the salubrious effects of afterlife may not extend to those whose image of the afterlife is more retributive than clement (see also Rose and O'Sullivan 2002). Flannelly and colleagues (2006) also observe lower levels of depression, anxiety, anger,

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and paranoia, somatization and phobia for those who believe in an afterlife. However, it should be noted that both of these studies measured afterlife belief dichotomously. It is possible that variation in afterlife beliefs, both in terms of content and degree, may differentially affect outcomes.

Survey data confirm that the majority of Americans believe in a pleasant afterlife, often involving reunion with friends and family, and a peaceful transition from life to death (Lester et al. 2002; Pew Forum on Religion and Public Life 2008; Smietana 2016). The potential importance of what the afterlife is believed to be like is underscored by Flannelly and colleagues (2008) who measure the effects of seven types of afterlife beliefs: five pleasant, two unpleasant.[2] The authors, as expected, observe associations between pleasant beliefs and decreased levels of anxiety, depression, obsession compulsion, paranoia, social anxiety and somatization. Unpleasant beliefs were related to increased levels of these symptoms. Ellison and colleagues (2009) conclude that any salubrious effect of afterlife belief is contingent on whether one believes the hereafter is a desirable destination.

While the benefits of afterlife belief for well-being are likely contingent on the desirability of one's image of the afterlife, it is also possible that well-being outcomes are contingent on whether afterlife beliefs cohere with an effective overall theodicy of response to the problem of mortality. The relationship between certainty and well-being is relatively well established in previous research (Ellison 1991; Galek et al. 2007; Krause 2006; Krause et al. 1999; Krause and Ellison 2009; see chapter two above). In a

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[2] Pleasant beliefs included belief that the afterlife is: "a union with God", "a reunion with loved ones", "a life of peace and tranquility", "a paradise of pleasures and delights", and "a life of eternal reward or punishment". Unpleasant beliefs included belief that the afterlife is a "pale shadowy form of life, hardly any life at all", and "reincarnation into another life form".

study of recently bereaved older spouses, Carr and Sharpe (2013) found that uncertainty about life after death was associated with symptoms of psychological distress which mimicked posttraumatic distress. Further the highest levels of death anxiety and psychological distress related to mortality are observed among those who report being only moderately religious, leading researchers to conclude that afterlife belief is most beneficial for those with a thriving religious faith (Edmondson et al. 2008; Koenig 2009; McClain-Jacobson et al. 2004; Wink and Scott 2005). Thus, it is reasonable to suspect a possible link between psychological distress and the degree of ontological certainty reflected in an individual's beliefs about the afterlife. If true, then the degree of adherence to, or disregard of a particular belief about the afterlife should predict symptoms of psychological distress. Stated formally,

> H1: There will be a non-linear association between pleasant afterlife and psychological distress, with the highest levels of distress being observed for individuals who are uncertain about the nature of afterlife.
>
> H2: There will be a non-linear association between belief in Heaven and psychological distress, with the highest levels of distress being observed for individuals who are uncertain about the existence of Heaven.
>
> H3: There will be a non-linear association between belief in Hell and psychological distress, with the highest levels of distress being observed for individuals who are uncertain about the existence of Hell.

Data, Methods, and Sample Characteristics

Data, Dependent and Control Variables

The Data for this study are also from Wave III of the Baylor Religion Survey (BRS). A surprising 24% of Atheists responded to questions about the afterlife in non-absolute terms, suggesting potential variation in afterlife belief among those who do not believe in the existence of God. Consequently, unlike the previous two studies, Atheists were not withheld from analysis. Dependent and control variables are identical from those in studies one and two.

Independent Variables – Pleasant Afterlife Belief, Heaven and Hell

Three measures assessing beliefs about life after death are analyzed: Pleasant Afterlife Belief ($\alpha = 0.934$) is an additive scale constructed from a series of questions about the nature of the afterlife, similar to those included on previous waves of the General Social Survey (Greeley and Hout 1999). Respondents are asked to assess the likelihood that life after death is: (a) "A union with God", (b) "A reunion with loved ones", and (c) "A life of eternal reward or eternal punishment". Available item responses include 0=I do not believe in life after death, 1=Not at all likely, 2=Somewhat likely, and 3=Very likely. Belief in Heaven is measured from a single item asking respondents whether Heaven exists. Available responses range from 1=Absolutely Not, 2=Probably Not, 3=Probably, and 4=Absolutely. Belief in Hell is also measured using a single item using asking whether Hell exists with the same available responses.

Sample Characteristics

Table 5.1 presents unweighted descriptive statistics for study variables. In this sample, mean psychological distress index values (non-transformed) are slightly lower, attributable to the lower levels of reported psychological distress among Atheists. Values range from 1.071 for compulsion to 3.49 for general anxiety. Mean index score of pleasant afterlife index was 4.143 on a scale of 0-9, while the mean level of belief in Heaven is 3.350 and belief in Hell is 3.068 on a scale of 1-4, reflecting the fact that approximately 81% and 68% of the sample affirmed the likelihood of Heaven and Hell respectively, while 63% and 51% of the sample expressed absolute certainty.[3] The inclusion of atheists also reduces the approximate proportions of the sample affiliating with a Christian religious tradition (32% Evangelical Protestant, 26% Mainline Protestant, 3% Black Protestant, and 25% Catholic). Approximately 6% identify belonging to a different religious and 10% identify as having no religious tradition. Mean level religious service attendance was 3.903. Mean age was 58.897 and roughly 83% of the sample was white, 54% was female, 23% reported living with a person less than 18 years of age, and 63% reported being employed. 25% of the sample reported living in the southern United States, compared to 18% in the East, 35% in the Midwest and 22% in the West. Approximately 30% reported having at least the equivalent of a High School education while approximately 38% reported completing a bachelor's degree. Mean income bracket was 4.282 suggesting that the average respondent household earns between $35,001 and $50,000 annually.

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[3] Proportions of Heaven variable responses are as follows: Absolutely Not (0.10); Probably Not (0.09); Probably (0.18) and Absolutely (0.63). Proportions of Hell variable responses are as follows: Absolutely Not (0.13); Probably Not (0.18); Probably (0.18) and Absolutely (0.51).

Table 5.1. Descriptive Statistics for Belief in an Afterlife Study

Variable	N	Mean/ Proportion	SD	Range	Alpha
Dependent Variables					
General Distress	1622	2.288	2.56	0-12	0.877
General Anxiety	1660	3.490	2.68	0-12	0.842
Social Anxiety	1651	2.005	2.28	0-12	0.824
Paranoia	1654	2.286	2.35	0-12	0.765
Obsession	1653	2.861	2.31	0-12	0.760
Compulsion	1651	1.071	1.76	0-12	0.765
Afterlife Variables					
Pleasant Afterlife Belief Index	1581	4.143	2.17	0-9	0.934
Belief in Heaven	1663	3.350	1.00	1-4	
Belief in Hell	1640	3.068	1.10	1-4	
Religious Control Variables					
Evangelical Protestant [a]	1659	0.309	0.46	0,1	
Mainline Protestant	1659	0.248	0.43	0,1	
Black Protestant	1659	0.024	0.15	0,1	
Catholic	1659	0.243	0.43	0,1	
Religious Other	1659	0.073	0.26	0,1	
Non-Religious	1659	0.102	0.30	0,1	
Religious Attendance	1699	3.903	2.98	0-8	
Control Variables					
Age	1663	55.897	16.11	18-100	
White	1711	0.825	0.38	0,1	
Female	1691	0.542	0.50	0,1	
South [a]	1711	0.247	0.43	0,1	
East	1711	0.181	0.38	0,1	
Midwest	1711	0.352	0.48	0,1	
West	1711	0.221	0.41	0,1	
Married	1666	0.630	0.48	0,1	
Raising Minor Child/ren	1711	0.233	0.42	0,1	
Ed: HS or Less [a]	1666	0.301	0.46	0,1	
Ed: Some College	1666	0.322	0.47	0,1	
Ed: Bachelor's Degree	1666	0.194	0.40	0,1	
Ed: Beyond Bachelor's	1666	0.183	0.39	0,1	
Income Bracket	1578	4.282	1.62	1-7	
Employed	1657	0.631	0.48	0,1	

Notes: Means and standard deviations are unweighted and recorded prior to imputation. [a] Indicates reference category. *Source*: Baylor Religion Survey (2010).

All data analysis was performed using SAS 9.4. Dependent variables underwent the same square root transformations as above. Initial modeling demonstrated that listwise deletion of incomplete cases resulted 10% sample loss. Once appropriate sample restrictions were made, PROC MI and MI ANALYZE, using the MCMC method of data imputation, were used to recover incomplete or missing cases. Results are based on analysis of 25 imputed datasets and similar to results obtained through listwise deletion.

Since dependent variables are the same as those in studies one and two, I rely on the same ordinary least squares regression techniques and weights. Main tables include four sets of results. The first set includes the non-linear effects of pleasant afterlife belief, belief in Heaven, and belief in Hell on general distress, including both main effects and squared term effects. The second set includes the non-linear effects of pleasant afterlife belief on psychological distress. Prediction lines for all models are also included in a supplementary figure. The third set of results presents models measuring the relationship between belief in Heaven and psychological distress. Because belief in Heaven is not a continuous measure, results of Ordinary Least Squares regression are presented as a series of bar charts, opposed to prediction lines. The fourth set of results presents models measuring the relationship of belief in Hell and psychological distress and results are also presented in a series of bar charts in a separate figure.

Results

Table 5.2 reports the results of Ordinary Least Squares regression of afterlife beliefs on general distress. Models 1, 2 and 3 include the curvilinear effects of the pleasant afterlife belief index, belief in Heaven, and belief in Hell, respectively. Results

Table 5.2. Results of Ordinary Least Squares Analysis of General Distress on Afterlife Beliefs

Parameter	Afterlife Belief			Heaven Belief			Hell Belief		
	b		SE	b		SE	b		SE
Intercept	2.092	***	0.15	1.767	***	0.22	1.902	***	0.20
Afterlife Belief	0.078	*	0.04	-		-	-		-
Afterlife Belief ²	-0.008	†	0.00	-		-	-		-
Heaven Belief	-		-	0.336	***	0.15	-		-
Heaven Belief²	-		-	-0.049	†	0.03	-		-
Hell Belief	-		-	-		-	0.235	†	0.14
Hell Belief²	-		-	-		-	-0.038		0.03
Evangelical Protestant	-0.108		0.10	-0.147		0.10	-0.081		0.09
Mainline Protestant	-0.030		0.10	-0.072		0.10	-0.012		0.09
Black Protestant	-0.326	†	0.17	-0.372		0.17	-0.291	†	0.17
Catholic	0.018		0.09	-0.032		0.10	0.035		0.09
Religious Other	-0.010		0.11	-0.056		0.11	0.011		0.11
Attendance	-0.044	***	0.01	-0.046	***	0.01	-0.043	***	0.01
Age	-0.009	***	0.00	-0.009	***	0.00	-0.009	***	0.00
White	0.007		0.06	0.004		0.06	0.019		0.06
Female	0.130	**	0.05	0.124	**	0.05	0.138	**	0.05
East	0.144	*	0.07	0.144		0.07	0.142	*	0.07
Midwest	-0.032		0.06	-0.028		0.06	-0.034		0.06
West	0.090		0.07	0.092		0.07	0.089		0.07
Married	-0.066		0.05	-0.063		0.05	-0.067		0.06
Child/ren < 18	0.072		0.06	0.081		0.06	0.077		0.06
Some College	-0.075		0.06	-0.078		0.06	-0.076		0.06
Bachelor's Degree	-0.123	†	0.07	-0.118	***	0.07	-0.122	†	0.07
Beyond Bachelor's	0.006		0.08	0.016		0.08	0.005		0.08
Income	-0.066	***	0.02	-0.069	***	0.02	-0.067	***	0.02
Employed	-0.124	*	0.05	-0.120		0.05	-0.123	*	0.05
Pseudo r²	0.1082			0.1130			0.1076		

Notes: n = 1,711; *p <. 05; **p < .01; ***p < .001; † p < .10; Pseudo r² taken from models using non-imputed data. *Source*: Baylor Religion Survey (2010)

fail to produce significant non-linear relationships between either of the afterlife belief measures and general distress. Preliminary analyses (Table A8) did result in salutary linear relationships between pleasant afterlife belief index and belief in Heaven, but failed to produce a significant association between belief in Hell and general distress. In Model 1, the main effects of the afterlife index are significant, though the quadratic term is only significant at p=0.069. Similar results were observed in Model 2 for belief in

Heaven. In model 3, the main effect of belief in Hell yielded only a modestly significant association and the quadratic term was not significant. Among religious variables, attendance was associated with lower general distress across all models while black Protestants were predicted to have lower general distress than religiously unaffiliated, though at a marginal significance level. Among demographic variables, salutary effects were observed in all models for measures of age and income, and for men. Compared to those with a high school equivalency, a Bachelor's degree had a significant salutary effect on general distress in Model 2, but this effect was only marginally significant in Models 1 and 3. Results in Models 1 and 3 also predicted higher general distress for those living in the eastern United States, compared to those who live in the south, and lower general distress among the employed

Compared with results in Table 5.2, analyses of psychological distress present a different picture. Tables 5.3, 5.4, and 5.5 present the respective results of Ordinary Least Squares regression of pleasant afterlife belief index, belief in Heaven and belief in Hell on psychological symptom scales. A few patterns emerge across all three sets of analyses. Significant curvilinear relationships were observed across all three analyses between afterlife belief and each of the five psychological symptom measures. Figure 5.1 demonstrates the prediction lines for pleasant afterlife belief index and psychological distress. A visual review of the prediction lines for general anxiety, social anxiety and paranoia suggest near symmetric curvilinearity with inflection points near the middle of the response range. Prediction lines for obsession and compulsion predict slightly higher levels for higher scores on the pleasant afterlife belief index, though the lines appear

Table 5.3. Results of Ordinary Least Squares Analysis of Psychological Symptom Scales on Pleasant Afterlife Beliefs

Parameter	General Anxiety b		SE	Social Anxiety b		SE	Paranoia b		SE	Obsession b		SE	Compulsion b		SE
Intercept	2.168	***	0.13	1.566	***	0.15	1.716	***	0.14	1.835	***	0.13	1.110	***	0.13
Afterlife Belief	0.129	***	0.03	0.138	***	0.04	0.224	***	0.04	0.156	***	0.03	0.119	***	0.03
Afterlife Belief ²	-0.013	***	0.00	-0.015	***	0.00	-0.025	***	0.00	-0.016	***	0.00	-0.011	**	0.00
Evangelical Protestant	0.032		0.08	0.000		0.09	0.091		0.09	-0.110		0.08	0.003		0.08
Mainline Protestant	0.027		0.08	0.018		0.10	0.131		0.10	-0.012		0.08	0.058		0.09
Black Protestant	-0.106		0.15	0.150		0.17	0.146		0.17	-0.324	*	0.15	0.083		0.16
Catholic	0.038		0.08	0.057		0.10	0.111		0.09	-0.029		0.08	0.061		0.08
Religious Other	-0.044		0.10	-0.103		0.12	0.069		0.11	-0.142		0.10	-0.024		0.10
Attendance	-0.036	***	0.01	-0.013		0.01	-0.050	***	0.01	-0.028	***	0.01	-0.022	**	0.01
Age	-0.005	***	0.00	-0.007	***	0.00	-0.002		0.00	-0.005	**	0.00	-0.002		0.00
White	0.054		0.05	0.208	**	0.06	-0.051		0.06	0.157	**	0.05	-0.081		0.06
Female	0.107	**	0.04	-0.059		0.05	-0.061		0.05	-0.011		0.04	-0.096	*	0.04
East	0.099		0.06	0.041		0.07	-0.060		0.07	0.016		0.06	0.037		0.06
Midwest	-0.064		0.05	-0.135	*	0.06	-0.072		0.06	-0.093	†	0.05	-0.098	†	0.06
West	-0.027		0.06	-0.080		0.07	-0.159	*	0.07	-0.111	†	0.06	-0.079		0.06
Married	-0.027		0.05	-0.130	*	0.06	-0.139	**	0.05	-0.096	*	0.05	-0.091	†	0.05
Child/ren < 18	0.046		0.05	-0.106	†	0.06	-0.007		0.06	0.053		0.05	0.096	†	0.05
Some College	-0.076		0.05	-0.033		0.06	-0.114	†	0.06	0.009		0.05	0.061		0.05
Bachelor's Degree	-0.229	***	0.06	-0.126	†	0.07	-0.309	***	0.07	-0.162	**	0.06	-0.167	*	0.07
Beyond Bachelor's	0.004		0.07	-0.123		0.08	-0.275	***	0.08	-0.107		0.07	-0.157	*	0.07
Income	-0.068	***	0.02	-0.054	**	0.02	-0.077	***	0.02	-0.045	**	0.02	-0.066	***	0.02
Employed	-0.048		0.05	0.039		0.06	0.063		0.05	0.011		0.05	-0.034		0.05
Pseudo r²	0.0945			0.0728			0.1174			0.0899			0.0913		

Notes: n = 1,711; *$p < .05$; **$p < .01$; ***$p < .001$; † $p < .10$; Pseudo r^2 taken from models using non-imputed data.
Source: Baylor Religion Survey (2010).

Table 5.4. Results of Ordinary Least Squares Analysis of Psychological Symptom Scales on Belief in Heaven

Parameter	General Anxiety			Social Anxiety			Paranoia			Obsession			Compulsion		
	b		SE	b		SE	b		SE	b		SE	b		SE
Intercept	1.622	***	0.19	1.019	***	0.22	1.255	***	0.21	1.219	***	0.19	0.788	***	0.20
Heaven Belief	0.548	***	0.14	0.584	***	0.16	0.468	**	0.15	0.685	***	0.13	0.459	***	0.14
Heaven Belief ²	-0.085	***	0.03	-0.100	***	0.03	-0.064	*	0.03	-0.117	***	0.02	-0.085	***	0.03
Evangelical Protestant	0.000		0.08	0.018		0.10	0.114		0.09	-0.073		0.08	0.080		0.09
Mainline Protestant	-0.006		0.09	0.034		0.10	0.161	†	0.10	0.013		0.08	0.125		0.09
Black Protestant	-0.163		0.15	0.178		0.17	0.183		0.17	-0.307	*	0.14	0.129		0.16
Catholic	0.005		0.09	0.060		0.10	0.125		0.09	-0.002		0.08	0.128		0.09
Religious Other	-0.075		0.10	-0.074		0.12	0.079		0.12	-0.099		0.10	0.040		0.11
Attendance	-0.036	***	0.01	-0.005		0.01	-0.048	***	0.01	-0.023	**	0.01	-0.014		0.01
Age	-0.005	***	0.00	-0.007	***	0.00	-0.002		0.00	-0.004	**	0.00	-0.002		0.00
White	0.049		0.05	0.198	**	0.06	-0.054		0.06	0.150	**	0.05	-0.096	†	0.06
Female	0.109	**	0.04	-0.046		0.05	-0.046		0.05	0.000		0.04	-0.085	*	0.04
East	0.091		0.06	0.035		0.07	-0.061		0.07	0.003		0.06	0.031		0.06
Midwest	-0.063		0.05	-0.128	*	0.06	-0.063		0.06	-0.092	†	0.05	-0.095	†	0.06
West	-0.029		0.06	-0.081		0.07	-0.156	*	0.07	-0.113	*	0.06	-0.075		0.06
Married	-0.026		0.05	-0.131	*	0.06	-0.137	*	0.05	-0.081	†	0.05	-0.079		0.05
Child/ren < 18	0.059		0.05	-0.088		0.06	0.008		0.06	0.071		0.05	0.110	*	0.05
Some College	-0.071		0.05	-0.049		0.06	-0.115	*	0.06	0.019		0.05	0.048		0.05
Bachelor's Degree	-0.219	***	0.06	-0.148	*	0.07	-0.316	***	0.07	-0.159	*	0.06	-0.188	**	0.07
Beyond Bachelor's	0.004		0.07	-0.155	†	0.08	-0.295	***	0.08	-0.115	†	0.07	-0.190	**	0.07
Income	-0.070	***	0.02	-0.056	**	0.02	-0.077	***	0.02	-0.051	**	0.02	-0.068	***	0.02
Employed	-0.043		0.05	0.040		0.06	0.064		0.05	0.011		0.05	-0.043		0.05
Pseudo r²	0.0997			0.0665			0.1091			0.0887			0.0884		

Notes: n = 1,711; *p <. 05; **p < .01; ***p < .001; † p < .10; Pseudo r² taken from models using non-imputed data.
Source: Baylor Religion Survey (2010).

Table 5.5. Results of Ordinary Least Squares Analysis of Psychological Symptom Scales on Belief in Hell

Parameter	General Anxiety			Social Anxiety			Paranoia			Obsession			Compulsion		
	b		SE	b		SE	b		SE	b		SE	b		SE
Intercept	1.817	***	0.18	1.115	***	0.21	1.174	***	0.20	1.291	***	0.18	0.924	***	0.19
Hell Belief	0.403	**	0.13	0.514	***	0.15	0.591	***	0.14	0.641	***	0.12	0.328	*	0.13
Hell Belief ²	-0.063	**	0.02	-0.086	**	0.03	-0.089	***	0.03	-0.109	***	0.02	-0.058	*	0.02
Evangelical Protestant	0.039		0.08	0.005		0.10	0.098		0.09	-0.090		0.08	0.053		0.09
Mainline Protestant	0.025		0.08	0.022		0.10	0.145		0.09	0.001		0.08	0.098		0.09
Black Protestant	-0.105		0.15	0.175		0.17	0.165		0.16	-0.296	*	0.15	0.137		0.16
Catholic	0.043		0.09	0.043		0.10	0.112		0.09	-0.015		0.08	0.107		0.09
Religious Other	-0.022		0.10	-0.083		0.12	0.080		0.11	-0.121		0.10	0.014		0.10
Attendance	-0.037	***	0.01	-0.009		0.01	-0.047	***	0.01	-0.024	**	0.01	-0.018	*	0.01
Age	-0.005	**	0.00	-0.007	***	0.00	-0.002		0.00	-0.005	**	0.00	-0.002		0.00
White	0.058		0.05	0.204	***	0.06	-0.052		0.06	0.161	**	0.05	-0.091		0.06
Female	0.118	**	0.04	-0.043		0.05	-0.037		0.05	0.002		0.04	-0.088	*	0.04
East	0.089		0.06	0.036		0.07	-0.066		0.07	0.001		0.06	0.029		0.06
Midwest	-0.058		0.05	-0.127	*	0.06	-0.063		0.06	-0.090	†	0.05	-0.100	†	0.06
West	-0.027		0.06	-0.075		0.07	-0.159	*	0.07	-0.103	†	0.06	-0.078		0.06
Married	-0.031		0.05	-0.126	*	0.06	-0.128	*	0.05	-0.083	†	0.05	-0.074		0.05
Child/ren < 18	0.062		0.05	-0.095	†	0.06	0.002		0.06	0.066		0.05	0.104	*	0.05
Some College	-0.062		0.05	-0.033		0.06	-0.102	†	0.06	0.025		0.05	0.061		0.05
Bachelor's Degree	-0.218	***	0.07	-0.130	†	0.08	-0.300	***	0.07	-0.149	*	0.06	-0.174	**	0.07
Beyond Bachelor's	0.004		0.07	-0.137	†	0.08	-0.275	***	0.08	-0.105		0.07	-0.175	*	0.07
Income	-0.072	***	0.02	-0.059	**	0.02	-0.083	***	0.02	-0.051	***	0.02	-0.070	***	0.02
Employed	-0.047		0.05	0.040		0.06	0.072		0.05	0.007		0.05	-0.038		0.05
Pseudo r²	0.0954			0.0664			0.1138			0.0895			0.0856		

Notes: n = 1,711; *$p < .05$; **$p < .01$; ***$p < .001$; † $p < .10$; Pseudo r^2 taken from models using non-imputed data.
Source: Baylor Religion Survey (2010).
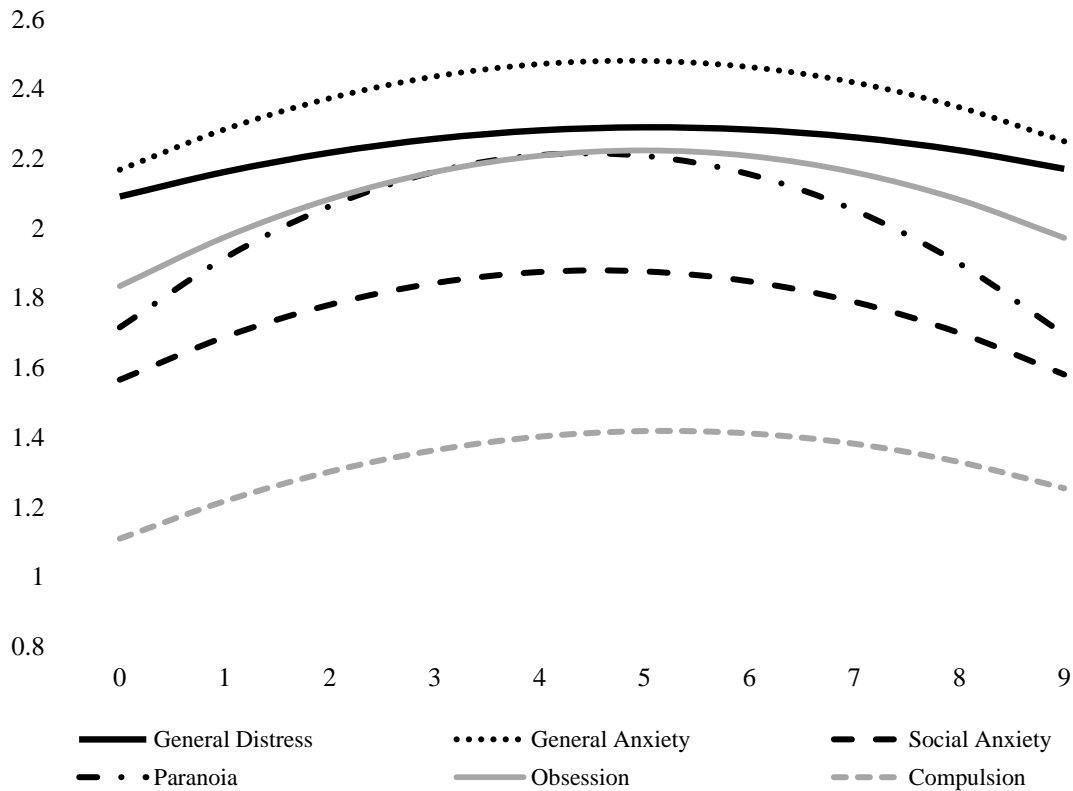
Figure 5.1. Psychological Distress and Pleasant Afterlife Belief

generally consistent with previous results, with the highest levels nearer the middle of the response range.

Figure 5.2 presents the predicted levels of psychological distress at each level of belief in Heaven and Hell. The general pattern predicted in these results is higher levels of distress for those who believe Heaven is probably real, followed by those who believe it is probably not real, those who believe it is absolutely real, and those who believe it is absolutely not real. A few results slightly deviate from this pattern. Those who express absolute certainty in the existence of Heaven are predicted to have slightly higher levels of general distress and paranoia than those who believe Heaven is probably not real. Those who are certain about heaven are also predicted to have slightly higher levels of paranoia than those who express slight doubts. The results presented for belief in Hell fit

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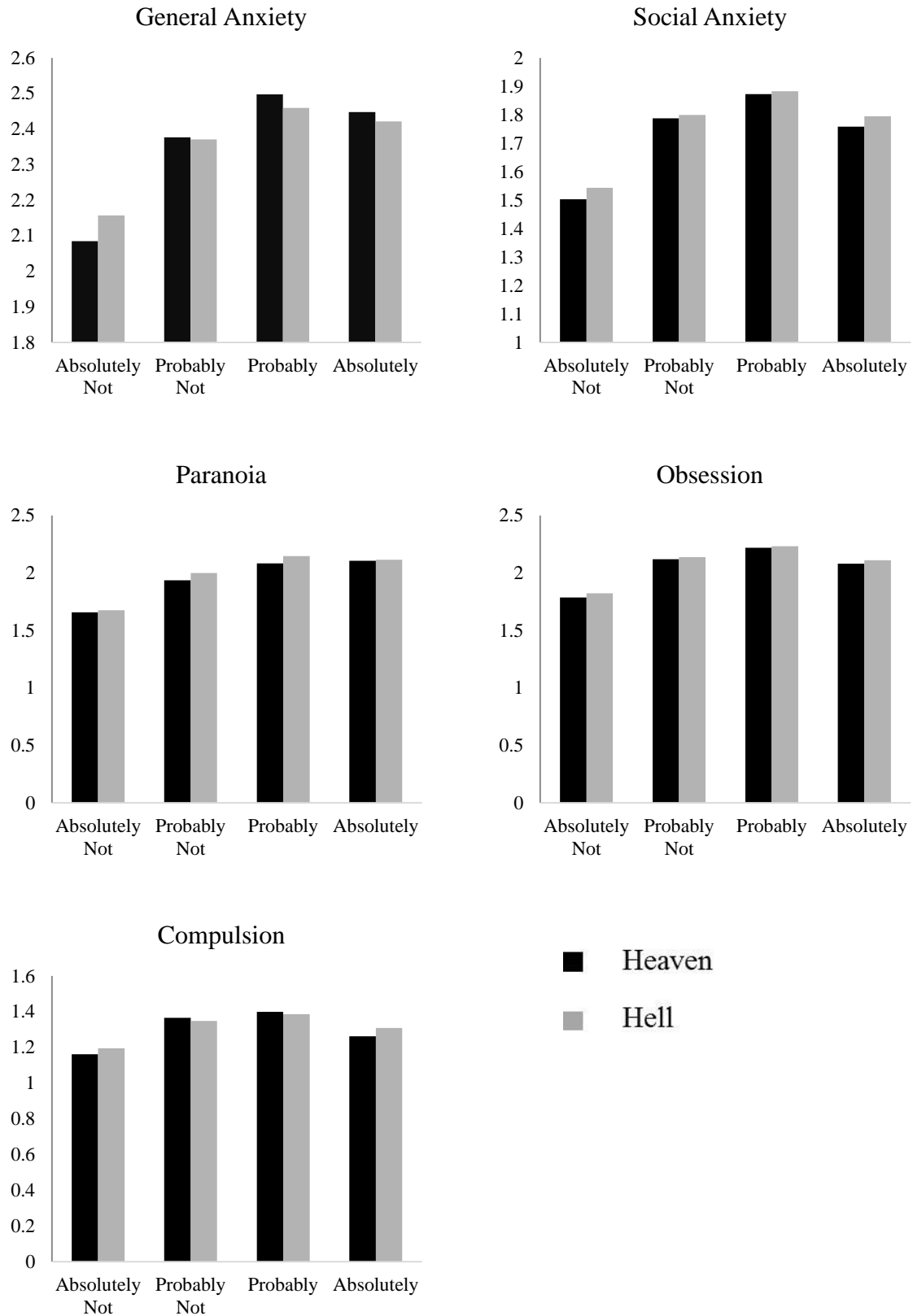
Figure 5.2. Beliefs in Heaven and Hell on Distress

a similar pattern, with slightly more dramatic differences. The highest levels of distress are consistently for those who express doubts about the existence of Hell and lower for those who express greater certainty.

Other patterns also emerge. Among religion measures, significant salutary associations were observed between attendance and general anxiety, paranoia, and obsession, across all analyses. A salutary relationship between attendance and compulsion was also observed, excluding belief in Heaven analyses. Finally, compared with the religiously unaffiliated, black Protestants were predicted to report lower levels of obsession, across all analyses, while Mainline Protestants were predicted to report a marginally significant increase in paranoia (Heaven analyses only). No other effects of religious tradition were reported.

Among demographic variables, significant salutary relationships were observed between age and general anxiety, paranoia, and obsession. Whites were predicted to have higher levels of social anxiety and obsession, compared to non-whites, while a marginally significant reduction in compulsion was observed in the belief in Heaven analysis, only (Table 5.4). Women were predicted to have higher levels of general anxiety but lower levels of compulsion across all analyses. Compared to those living in the southern United States, those living in the Midwest were predicted to report significantly lower levels of social anxiety, and marginally significant decreases in obsession and compulsion. Those living in the western United States were predicted to report significantly lower levels of paranoia and obsession, though relationships for obsession were only marginally significant in analyses for pleasant afterlife belief index and belief in Hell. Marital status was significantly associated with lower levels of social anxiety, paranoia and obsession

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across all three analyses, though the relationship between obsession was only marginally significant in analyses for belief in Heaven (Table 5.4) and belief in Hell (Table 5.5). Marital status also predicted a marginally significant reduction in compulsion in the pleasant afterlife belief index analysis (Table 5.3). Raising children was significantly associated with higher levels of compulsion, excepting pleasant afterlife belief index analysis, which yielded only a marginally significant increase. Marginally significant reductions in social anxiety were also observed in pleasant afterlife belief index and belief in Hell analyses.

Compared to those with high school equivalence, some college experience was associated with lower levels of paranoia, though this association was only marginally significant in pleasant afterlife belief index and belief in Hell analyses. A bachelor's degree was significantly associated with lowered levels of distress for each outcome, across all analyses, except social anxiety, which was only marginally associated in pleasant afterlife belief index and belief in Hell analyses. For those with education greater than a bachelor's degree, significantly lower levels of paranoia and compulsion were also observed across all three analyses. Marginally significant reductions in social anxiety and obsession were also observed in belief in Heaven analyses, and a marginally significant reduction in social anxiety was also observed in belief in Hell analyses. Income was significantly associated with lower levels of psychological distress for each outcome, across all analyses.

Discussion

Using data from a nationwide random sample, this study investigates the relationship between beliefs about the afterlife and psychological distress. Consistent

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with the general proposition that ontological beliefs share a curvilinear relationship with distress, I hypothesized that either strong or weak adherence to the belief in a pleasant afterlife would predict lower levels of psychological distress while higher distress would be predicted for those who are less certain (Hypothesis 1). I also hypothesized that the degree one affirms or denies the existence of Heaven (Hypothesis 2) and Hell (Hypothesis 3) would also reflect a curvilinear relationship with psychological distress. The consistent pattern of results is consistent with these hypotheses, as significant curvilinear relationships were observed between each afterlife belief and all but one outcome measure, general distress. Again, as in the previous two studies, the consistent pattern that emerges is that less certain beliefs about the nature of reality are associated with poorer mental health.

Hypothesis 1 predicted that mid-range affirmation of a pleasant afterlife would predict higher levels of general and psychological distress. Although, previous findings suggest that that distress will be lower for those with a more pleasant view of the afterlife (Ellison et al. 2009; Flannelly et al. 2008), no study has tested a potential curvilinear relationship between afterlife beliefs and distress, as has been observed for other measures of religiosity (Eliassen et al. 2005; Ross 1990; Shaver et al. 1980; Wink and Scott 2005). Based on these findings, I predicted that controlling for a curvilinear relationship would reveal lower levels of distress among those who report both high and low adherence to a pleasant view of the afterlife. Though results typically support the hypothesis, I failed to find evidence that afterlife belief is curvilinearly related to general distress (Table 5.2). Results did yield a significant main effect for the pleasant afterlife beliefs and for belief in Heaven; however, the quadratic terms were only marginally

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significant. Preliminary analyses controlling for a linear relationship between pleasant afterlife beliefs and general distress failed to produce a relationship of any significance, suggesting that if a relationship is present, it is more likely to be curvilinear.

Meanwhile, when the analysis was narrowed to psychological distress indices measuring specific symptom patterns, the results demonstrated a robust and consistent curvilinear pattern. Prediction lines shown in Figure 5.1 show nearly symmetric curves for the measures of general anxiety and social anxiety and a pronouncedly dramatic curve for paranoia. Further, the results are contrary to previous findings suggesting that the overall relationship between belief in a pleasant afterlife and well-being is positive, as prediction lines for obsession and compulsion predict the lowest levels of distress for those who express certainty that there is no life after death. In short, the results for this measure mirror those in the studies above; those who more assuredly affirm a pleasant afterlife, or deny its very existence are predicted to have lower symptoms of psychological distress.

Hypothesis 2 predicted that mid-range affirmation of the existence of Heaven would be associated with higher levels of general and psychological distress. Similar to results for pleasant afterlife belief and general distress, belief in Heaven also yielded a significant main effect but a quadratic term that was only marginally significant. Results differ however, in that preliminary analyses controlling for a linear relationship did demonstrate a positive linear association between belief in Heaven and general distress. This suggests, that at least in terms of general distress, belief in Heaven erodes well-being, consistent with earlier critiques (Benore and Park 2004; Kalish and Reynolds 1973; Weisman 1972). However, since the results for curvilinearity were marginally

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significant, follow up analyses using different data may more reliably confirm whether the relationship between belief in Heaven and distress is indeed deleterious.

Hypothesis 3 predicted that mid-range affirmation in the existence of Hell would also be associated with higher levels of general and psychological distress. Analyses for belief in Hell and general distress failed to generate significant results. The disparate findings for belief in Hell, relative to the other independent measures, may partly be due to the emergence of religious postures eschewing the punitive aspects of spirituality, such as belief in the devil, agentic evil, or Hell (Smith and Denton 2009). Indeed, the proportion of BRS3 respondents reporting belief in Hell was lower than the proportion reporting belief in Heaven, supporting the idea that the idea of Hell is less congruous with contemporary mainstream beliefs. To that end, recent findings suggesting that punitive beliefs are associated with poorer mental health (Ellison and Burdette 2012; Nie and Olson 2016; Uecker et al. 2016), however, analyses are unclear whether this relationship is the result of adherence to sectarian viewpoints, or if belief in evil uniquely contributes to distress. It may also be true that because belief in Hell is decreasingly mainstream, and because fewer Americans actually believe they, or anyone they love, is destined for it, belief in Hell is more limited in its emotional consequence and ontological importance. Either way, because these data fail to confirm the relationship between belief in Hell and general distress, more analysis is necessary before concluding that punitive beliefs are related with poorer mental health.

Again, as with pleasant afterlife beliefs, results of Heaven and Hell belief analyses demonstrated a robust and consistent curvilinear pattern of association with psychological distress. The predicted values presented in Figure 5.2 demonstrate that absolute certainty

in the absence of Heaven is correlated with the lowest levels of distress, followed by absolute certainty in the existence of Heaven. Thus the general results for psychological distress support both Hypotheses 2 and 3. The implications of these findings suggest a revision of theoretical and empirical models presuming that afterlife belief is either salubrious or perniciously delusional, as absolute ontological positions about the afterlife were consistently shown to be more protective. Furthermore, longstanding critiques that belief in the afterlife is deleterious to health are not supported in this data. If belief in the afterlife represented a straightforward threat to mental health, then it would follow that those who claim strict adherence to those beliefs would be predicted to report higher levels of distress. Results consistently fail to demonstrate this.

It is an interdisciplinary assertion that one of the primary functions of religious systems is to provide plausible and effective theodicies for deriving meaning from the problem of inevitable death (Becker 1997; Berger 1967; Choron 1973; Durkheim 1912; Malinowski 1954). The preponderant pattern of results explicated here suggest that multiple theodicy systems may effectively do this. Thus, rather than problematizing one particular view of the afterlife as pernicious wish-fulfillment, it seems more appropriate to conclude that the danger of a particular theodicy to well-being is whether one's meaning system maintains its integrity. A lack of certainty about the afterlife may be a symptom of a type of spiritual struggle, which may also overlap periods of extraordinary life stress. More research on how people negotiate questions of ultimate meaning and destiny during periods of stress would be especially helpful for understanding, not only how religious beliefs aid coping, but also how belief systems are maintained or reconfigured when facing morality. Another question worth visiting is whether strongly

adhered beliefs reinforce the protective benefits of positive religious coping, or if uncertain beliefs about the afterlife contribute to negative religious coping.

While the results generally support the conclusion that certainty is more correlative with distress, the predicted values demonstrated in Figure 5.2 do suggest a nuanced view that belief in the absence of an afterlife is associated with better mental health than even certain affirmation of the afterlife. Absolute certainty that no afterlife exists was consistently associated with the lowest levels of distress. However, based on the consistent pattern reported here and in the studies presented above, I would caution against the simple conclusion that afterlife belief, or any belief construct for that matter, shares such a straightforward relationship with mental health. One possible explanation for the slightly higher rates of distress among those with strong beliefs in the afterlife is that the very congregational networks which represent stocks of available social resources, also represents a potential stressor. Previous studies link congregational struggles with lower well-being (Ellison et al. 2009; Ellison and Lee 2010; Krause et al. 1998). Although inclusion in these networks introduces individuals to communities of social support and positive appraisal, they also provide greater opportunity for interpersonal struggle while also encouraging individuals to assume greater responsibility and ownership of the daily life struggles of others in their congregation.

One limitation of this study is its reliance on cross sectional data which prevents drawing conclusions about the causal effect of beliefs on mental health, especially over time. Further, the data do not permit confirmation of the presence of acute or chronic stressors in respondent's lives at the time of measurement. Previous research demonstrates that certain aspects of religiosity, such as prayer or service attendance,

actually increase during periods of acute distress (Bradshaw et al. 2014; Ellison et al. 2001; Eliassen et al. 2005). Meanwhile, increased religiosity also appears to contribute to more effective coping and better well-being, even in times of crisis (Pargament 1998, 2000). It would be a mistake to conclude that increased religious behavior represents a common cause of distress, simply because many people increase their religious behavior during extraordinary periods of their life. It is possible that similar dynamics may be present for measures of afterlife belief. Because afterlife beliefs are so integral to individual theodicies, it may be that as one experiences bereavement or as one matures, beliefs about the afterlife undergo something of a stress test whereby people grow either more certain about their beliefs or possibly come to doubt them more deeply. In this case, afterlife belief would be more appropriately understood as part of a larger project of meaning making in response to stress and should be evaluated on its capacity to aid in coping with distress, rather than shielding one from it (Bradshaw and Ellison 2010). In concluding their review piece, Ano and Vascolines (2005) suggest that many religious adherents view life as a quest, where daily and acute struggles are understood as contributing to greater personal refinement toward an ultimate end. Previous research confirms that those who appraise life challenges as potential opportunities are more content and resilient over time (Lazarus and Folkman 1984; Thoits 1995; Turner and Avison 1992). Researchers also demonstrates that those who view managing life challenges as part of their religious calling are also more resilient when dealing with daily stressors (Henderson, Uecker, and Stroope 2016; Mahoney 2010). I am aware of few studies which investigate the relationship of afterlife belief with distress either across the life course or in response to acute stressors. Future work in this area would be especially

helpful in ascertaining not only whether beliefs in an afterlife were pernicious or beneficial, but also if the relationship changes with age or is affected by periods of crisis.

This study has other limitations which should also be noted. First, while the sample is nationally drawn, it is not representative of racial and ethnic minorities and may not provide the best estimates for these demographic subgroups. The shrinking proportion of the population that is white suggests that future studies should strive to further represent changing national demographics in order to yield more accurate estimates. Second, I advise caution not to inappropriately apply these findings to those struggling with more severe mental health challenges. The advantage of the national sample used here is that effects can be estimated for the general population. However, as one might expect, the levels of psychosis in the general population sample measured here is relatively low, much lower than they would likely be in a sample of clinically referred psychiatric patients. Thus, care should be taken not to infer these results as representative of those with more acute symptoms, as their interactions with religious belief structures are likely to vary widely from those of the general population.

CHAPTER SIX

Summary and Conclusion

"For we know today that a religion does not necessarily imply symbols and rites, properly speaking, or temples and priests. This whole exterior apparatus is only the superficial part. Essentially, it is nothing other than a body of collective beliefs and practices endowed with a certain authority."
–Emile Durkheim, *Individualism and the Intellectuals*

Decades of research have documented a generally salubrious relationship between religious behavior and a host of physical and health outcomes (Ellison and Levin 1998). As explained above, most of this research understandably focuses on the benefits of religious affiliation and collective participation in religious communities. Only recently have scholars begun to call for more analysis of specific religious belief in determining mental health outcomes. Ironically, classical social theory predicts that modernity drives religion increasingly out of the public sphere and into the limited private and semi-private spaces of individual psyches and religious subcultures (Berger 1967, 2014; Smith 1998; Weber 1922). The reluctance to examine the effects of religious beliefs on mental health represents a failure, not only to examine the effects of religion as it is actually lived and experienced, but also to grapple with the dimensions of religion which are likely to show greater variability and increasing influence.

This dissertation addresses this research gap by examining whether ontological religious beliefs predict variation in psychological distress. Ontological beliefs represent an important part of belief structures because they are linked with our most taken for granted expectations and assumptions regarding daily life and ultimate destiny. As such,

they can influence our values and behaviors, prime our expectations for interpersonal relationships, and condition our responses to social and environmental stimuli.

As explained above, sociological studies of religion and mental health typically emphasize the role of collective religious practices to the diminishment of religious beliefs. Meanwhile, traditional critiques from psychoanalytic fields have long problematized religious belief as irrational, delusional, and symptomatic of psychological maladjustment. While not characterizing the entire field, early psychological studies of religious belief seem to retain the implicit assumption that some forms of religious belief are more or less pathological. In the meantime, subsequent studies which have begun to address the need for more studies of religious beliefs, have adopted an approach consistent with the assumption that certain beliefs about God or about the afterlife are more likely to be associated with psychopathology. However, the assumption that certain religious beliefs are directly related to poorer mental health must also be weighed in light of volumes of research and theory suggesting that strongly held group affiliations, a clear sense of group norms, and a coherent system of meaning which provides workable answers to life's biggest questions, are all strong indicators of mental health and well-being.

The theoretical assumption of this dissertation is that the content of people's ontological religious beliefs is less related to psychological health than the certainty and adherence people exhibit about those beliefs. Previous research suggests that psychological distress is more acute for those whose religious lives are beset with doubts and anxieties about their faith and a few findings suggest that certain beliefs which would seem to dovetail naturally with psychopathology are actually protective against distress

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when they are strongly adhered to. Based on a thorough review of the religion and mental health literature, I forwarded the proposition that ontological belief measures would share a non-linear relationship with measures of psychological distress, and that those who are uncertain about their beliefs would have the highest levels of distress. I tested this proposition in three studies, each investigating the independent effects of belief constructs about God and the afterlife on six measures of psychological distress including a measure of general distress, and five classes of psychiatric symptoms: general anxiety, social anxiety, paranoia, obsession, and compulsion. Each study relied on data from the 2010 Baylor Religion Survey, a national random survey of U.S adults (N = 1,714). Findings from all three studies demonstrate consistent support for this proposition.

Study one investigated the relationship between explicit images of God and psychological distress. Consistent with the general proposition, I hypothesized that a judging image of God, an engaged image of God, and a loving image of God would each exhibit non-linear relationships with psychological distress, with the highest levels for those who are uncertain about their image of God. The data generally support these hypotheses and the general proposition.

Study two investigated the relationship between implicit god images, measured using attachment to God indices, and psychological distress. Previous findings suggest a pernicious effect of insecure attachment to God on mental health. Contrary to these findings, but consistent with the general proposition, I hypothesized that insecure/secure attachment to God would have a non-linear relationship with psychological distress, with the highest levels of distress for those who are uncertain about the security of their relationship to God. I also hypothesized that anxious attachment to God, as a measure of

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religious uncertainty, would have a positively linear relationship with psychological distress, and that insecure/secure attachment to god would have a similarly non-linear relationship with anxious attachment to God, as with psychological distress. The data consistently support all three hypotheses. Significant non-linear relationships were observed between insecure/secure attachment, and all but one dependent variable (general distress). Deleterious linear relationships were observed between anxious attachment to God and all six distress outcomes. These findings support the general proposition that ontological certainty regarding one's relationship with God is more predictive of distress then if one feels close to or distant from God. Finally, insecure/secure attachment to God predicted a non-linear relationship between anxious attachment to God, supporting the conclusion that anxious attachment represents a unique type of spiritual struggle with implications for mental health.

Study three investigated whether adherence to beliefs about the afterlife differentially impacts psychological distress. Consistent with the general proposition, I hypothesized that adherence to pleasant afterlife beliefs would have a non-linear association with psychological distress with the highest levels of distress for those who are uncertain about the nature of the afterlife. I also hypothesized that certainty about the existence of Heaven and about the existence in Hell would each share a non-linear relationship with psychological distress, with the highest levels of distress among those who are uncertain about the existence of Heaven or Hell. The data reveal a consistent pattern of non-linear relationships between each afterlife measure and five of the six measures of psychological distress (non-linear relationships between pleasant afterlife and general distress and belief in Heaven and general distress were only marginally

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significant). Results generally confirmed all three hypotheses and support the general proposition that greater certainty about the existence or absence of an afterlife is more predictive of lower psychological distress.

Taken together, the results suggest a few general conclusions. First, traditional psychoanalytical critiques of religious belief as innately pathological and symptomatic of mental psychosis may not adequately capture the complexity and contingent nature of religious beliefs. It is likely that some religious beliefs contribute to mental distress. However, these results suggest that what really drives distress outcomes is whether one is certain of their view of reality, and in this way, religious beliefs do not appear uniquely predisposed to contribute to distress unless they are undermined. While it is beyond the scope of the studies presented here, future work should compare the differential effects of different kinds of belief constructs. For instance, though most would not call it a religious belief, atheism does represent an ontological position wherein people vary in their adherence. Perhaps uncertainty in the absence of God among professed atheists would exhibit similar results as those presented here. Future studies could also compare the relationship between those who profess atheism and those who profess other kinds of irreligion, which may be more equivocal about spirituality.

Second, evolutionary frameworks may be limited in their ability to explain the relationship between abstract complexes of beliefs and mental health outcomes. For instance, both Evolutionary Threat Assessment Systems Theory and Attachment to God Theory assume that evolutionary genetic dispositions are applicable to explaining how people come to absorb and comprehend complex systems of abstract imagery and meaning inherent in religious systems. Consistent with these models, certain kinds of

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belief should share a straightforward relationships with mental health. However the results presented here showed this not to be the case. For instance, both a high judging God image and an insecure attachment to God were more often than not associated with surprisingly low levels of psychological distress, contrary to the assumptions of ETAS and attachment to God, respectively. Social theory may provide an adequate explanation for this discrepancy. In their classic of phenomenology, Berger and Luckmann (1967) borrow from social philosopher Arnold Gehlen in calling *homo sapiens* "instinctually deprived" (1967:48)[1]. The resulting shortfall means that learning most systems of ritual and meaning are left to the processes of intergroup socialization. In other words, the absorption of complex abstractions related to social reality, such as group affiliations, cultural values and mores, and theological systems are more the product of socialization, than they are outcomes of evolutionary instinct.

This implies a fundamentally sociological conclusion: when adjudicating the effects of belief systems on the psyche, researchers should also consider the environmental contexts of beliefs, i.e. families, communities, congregations, etc. It may be that the greatest threat to mental health posed by religious beliefs, is when they are discordant with their immediate social groups, or with previously taken for granted understandings of the self. Similarly, one of the reasons that religious service attendance is such a robust predictor of well-being, may be because regular religious participation is a likely sign of belief congruity between individuals and their religious community. Likewise, beliefs which are less religiously mainstream may be more congruous to secular society. Thus, certain high tension beliefs may actually contribute to intergroup

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[1] See also Chapter One of *The Sacred Canopy*.

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solidarity and strengthen adherence to regulatory norms, despite their incongruity with the larger society. If true, this could explain why some beliefs, say belief in a punitive God, would be beneficial in certain contexts. Future studies should incorporate interactive models which examine beliefs in the context of congregational attendance. Doing so could confirm whether adherence to subcultural beliefs explains counterintuitive relationships between sectarian views and mental health.

A few general comments regarding caveats and limitations are warranted. First, this study uses self-reported indices of psychiatric symptom classes as measures of psychological distress. My concern is that some of the behaviors measured in symptom indices mimic religious ritual. Loewenthal and Lewis (2011) note that some religious practices, such as prayer, or ritualistic observance may mirror low levels of paranoia and obsessive compulsiveness. In this case, if a person reports feeling like they are being watched, it may be a sign of paranoid psychosis. However, for those who feel as though they are being watched [over] by God, this feeling may bring comfort and serve as a sign of psychological adjustment. If anything, the results presented in this dissertation suggest that caution should be taken before inferring a straightforward link between religious belief and psychosis in the general public. Second, each of the analyses included in this dissertation utilized a method of data imputation to recover incomplete or missing cases whereby missing values were imputed for both independent and dependent measures. Though there is not yet conventional consensus on this issue, some argue that imputing missing values for the dependent variable introduces potential bias and that cases with missing dependent variable values should be excluded from analysis (Von Hippel 2007). While I did not employ this method here, it is possible that such a method might produce

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slightly different results; though based on the similarity between reported findings and initial analyses using listwise deletion, I do not expect that this method would produce significantly different results.

The studies presented here are also limited in a number of ways. First, because the data are cross-sectional, reverse causation is distinctly possible. Although my theoretical framework assumes that beliefs predict mental health outcomes, mental instabilities may also drive religious doubts. Previous findings demonstrate that some religious behaviors, such as frequency of prayer, are associated with greater distress (Bradshaw, et al. 2008). It is reasonable to presume that many people revise or refine their religious beliefs in response to periods of crisis, similar to how they may augment their religious practices. A potentially illuminating approach may be to investigate whether the onset of specific stressors predicts religious uncertainty.

The cross sectional nature of these data also make it impossible to infer anything about how religious beliefs change over the life course, or the effects of these changes on well-being. A life course approach which tracks periods of doubt and uncertainty, and their affects over time, would be particularly helpful for understanding how people use religion to cope with life's problems, how life's problems challenge religious faith, and how people negotiate that tension over the course of their lives. Longitudinal data would afford us the opportunity to investigate whether religious uncertainty is more commonly dispositional, or if doubts typically represent temporary periods of ontological crisis akin to the "dark night of the soul."[2] We may also be able to determine whether periods of

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[2] This is in reference to the 16th century poem by St. John of the Cross

religious doubt do lasting harm to well-being, or if successfully negotiating challenges to their faith leads people to ultimately derive benefit from their trials.

Second, the results presented here suggest that the process of religious conversion, either toward conversion or apostasy, may be anxiety producing. Lofland and Stark's (1965) influential model of conversion suggests that belief anxiety is a necessary precondition for religious conversion. Though it is beyond the scope of this study, life course analyses may be able to accurately chart the course of mental health for people who undergo a period of religious conversion or apostasy. In a similar vein, clinicians and practitioners may benefit from a richer awareness of how the integrity of belief systems contribute to mental health.

Third, while these data measure the level of certainty with which respondents adhere to ontological propositions, ambiguity is not the same condition as ambivalence. It is possible that uncertain beliefs have more impact on psychological distress if those beliefs are more saliently felt by respondents, and that effects are less likely for those who are ambivalent about ontology.

Fourth, results are drawn from a sample of the general population, and do not necessarily speak to experiences of clinically referred patients. The relationships detailed here may be different among samples with more acute psychiatric symptoms.

The primary aim of the analyses presented here, was to more fully determine the complex relationships between religious beliefs and psychological health. Results consistently demonstrate non-linear relationships between belief constructs and measures of psychological distress. Based on these results, I recommend that future studies continue to consider the contingent and contextual factors which condition religious

beliefs, such as salience, congregational dynamics, and the interaction of multiple belief

constructs, when investigating the impacts of religious belief on mental health.

APPENDIX

Supplementary Tables

Supplementary Tables for Image of God Study

Table A1. Results of Ordinary Least Squares Analysis of General Distress Index on Image of God – Linear Models

Parameter	Judging God			Engaged God			Loving God		
	B		SE	b		SE	b		SE
Intercept	2.289	***	0.15	2.288	***	0.14	2.076	***	0.16
Judging God	0.001		0.01	-		-	-		-
Engaged God	-		-	0.002		0.01	-		-
Loving God	-		-	-		-	0.020	*	0.01
Mainline Protestant	0.072		0.06	0.074		0.06	0.084		0.06
Black Protestant	-0.266	†	0.15	-0.263	†	0.15	-0.274	†	0.15
Catholic	0.115	†	0.06	0.119	†	0.06	0.130	*	0.06
Religious Other	0.078		0.09	0.074		0.09	0.088		0.09
No Religion	0.132		0.10	0.104		0.10	0.217	*	0.11
Religious Attendance	-0.042	***	0.01	-0.043	***	0.01	-0.053	***	0.01
Age	-0.009	***	0.00	-0.008	***	0.00	-0.009	***	0.00
White	-0.067		0.05	-0.071		0.05	-0.059		0.05
Male	-0.149	**	0.05	-0.143	**	0.05	-0.130	**	0.05
East	0.156	*	0.07	0.156	*	0.07	0.154	*	0.07
Midwest	-0.035		0.06	-0.040		0.06	-0.041		0.06
West	0.070		0.07	0.069		0.07	0.066		0.07
Married	-0.089		0.06	-0.094	†	0.06	-0.090		0.06
Raising Minor Child/ren	0.055		0.06	0.062		0.06	0.055		0.06
Some College	-0.079		0.06	-0.076		0.06	-0.063		0.06
Bachelor's Degree	-0.087		0.07	-0.093		0.07	-0.083		0.07
Beyond Bachelor's	0.031		0.08	0.032		0.08	0.055		0.08
Employed	-0.102	†	0.05	-0.107	*	0.05	-0.105	†	0.05
Income Bracket	-0.061	***	0.02	-0.061	***	0.02	-0.062	***	0.02
Pseudo r^2	0.1257			0.1177			0.1177		

Notes: n = 1,624; *$p < .05$; **$p < .01$; ***$p < .001$; † $p < .10$; Pseudo r^2 taken from models using non-imputed data. *Source*: Baylor Religion Survey (2010)

Table A2. Results of Ordinary Least Squares Analysis of Psychological Symptom Scales on Belief in God's Judgment on – Linear Analyses

	General Anxiety			Social Anxiety			Paranoia			Obsession			Compulsion		
Parameter	b		SE	b		SE	b		SE	b		SE	b		SE
Intercept	2.558	***	0.13	1.669	***	0.15	1.819	***	0.14	1.974	***	0.13	1.125	***	0.13
Judging God	0.004		0.01	0.016	**	0.01	0.030	***	0.01	0.012	*	0.00	0.018	***	0.00
Mainline Protestant	-0.001		0.06	0.031		0.07	0.050		0.07	0.110	*	0.06	0.067		0.06
Black Protestant	-0.216		0.14	0.099		0.15	0.044		0.15	-0.290	*	0.13	0.014		0.14
Catholic	0.008		0.06	0.063		0.07	0.031		0.06	0.092	†	0.06	0.068		0.06
Religious Other	-0.080		0.08	-0.117		0.10	-0.023		0.09	-0.042		0.08	-0.022		0.08
No Religion	-0.017		0.09	-0.019		0.10	-0.100		0.10	0.120		0.09	0.027		0.10
Religious Attendance	-0.035	***	0.01	-0.014		0.01	-0.051	***	0.01	-0.031	***	0.01	-0.028	***	0.01
Age	-0.004	**	0.00	-0.007	***	0.00	-0.002		0.00	-0.004	**	0.00	-0.002		0.00
White	-0.060		0.05	0.085		0.06	-0.005		0.05	0.053		0.05	-0.145	**	0.05
Male	-0.123	**	0.04	0.009		0.05	-0.013		0.05	-0.028		0.04	0.070		0.04
East	0.100		0.06	0.062		0.08	-0.040		0.07	0.007		0.06	0.036		0.07
Midwest	-0.072		0.05	-0.143	*	0.06	-0.083		0.06	-0.118	*	0.05	-0.121	*	0.06
West	-0.033		0.06	-0.062		0.07	-0.170	*	0.07	-0.109	†	0.06	-0.081		0.06
Married	-0.035		0.05	-0.133	*	0.06	-0.132	*	0.06	-0.105	*	0.05	-0.071		0.05
Child/ren < 18	0.055		0.05	-0.091		0.06	-0.003		0.06	0.073		0.05	0.103	†	0.05
Some College	-0.075		0.05	-0.023		0.06	-0.078		0.06	0.030		0.05	0.075		0.06
Bachelor's Degree	-0.190	**	0.07	-0.094		0.08	-0.237	**	0.07	-0.124	†	0.07	-0.146	*	0.07
Beyond Bachelor's	0.017		0.08	-0.115		0.08	-0.211	**	0.08	-0.088		0.07	-0.117		0.07
Income Bracket	-0.063	***	0.02	-0.045	*	0.02	-0.075	***	0.02	-0.035	*	0.02	-0.059	***	0.02
Employed	-0.046		0.05	0.046		0.06	0.074		0.05	0.006		0.05	-0.034		0.05
Pseudo r²	0.0898			0.0621			0.1125			0.0714			0.0850		

Notes: n = 1,624; *$p <. 05$; **$p < .01$; ***$p < .001$; † $p < .10$; Pseudo r² taken from models using non-imputed data.
Source: Baylor Religion Survey (2010).

Table A3. Results of Ordinary Least Squares Analysis of Psychological Symptom Scales on Belief in God's Engagement – Linear Analyses

Parameter	General Anxiety b		SE	Social Anxiety b		SE	Paranoia b		SE	Obsession b		SE	Compulsion b		SE
Intercept	2.552	***	0.13	1.768	***	0.15	1.989	***	0.14	2.032	***	0.13	1.216	***	0.13
Engaged God	0.007		0.01	0.011		0.01	0.018	*	0.01	0.011		0.01	0.013		0.01
Mainline Protestant	-0.001		0.06	0.025		0.07	0.040		0.06	0.104	†	0.05	0.062		0.06
Black Protestant	-0.233	†	0.13	0.080		0.16	0.073		0.15	-0.281	*	0.13	0.011		0.15
Catholic	0.009		0.06	0.058		0.07	0.026		0.06	0.091		0.06	0.063		0.06
Religious Other	-0.081		0.08	-0.107		0.10	-0.030		0.09	-0.043		0.08	-0.029		0.09
No Religion	-0.017		0.09	-0.042		0.11	-0.118		0.10	0.109		0.09	0.002		0.09
Religious Attendance	-0.037	***	0.01	-0.013		0.01	-0.047	***	0.01	-0.031	***	0.01	-0.027	**	0.01
Age	-0.004	**	0.00	-0.007	***	0.00	-0.002		0.00	-0.004	**	0.00	-0.002		0.00
White	-0.062		0.05	0.073		0.06	-0.032		0.05	0.041		0.05	-0.154	**	0.05
Male	-0.112	**	0.04	0.034		0.05	0.032		0.05	-0.007		0.04	0.095	*	0.04
East	0.100		0.06	0.066		0.08	-0.036		0.07	0.013		0.06	0.043		0.07
Midwest	-0.077		0.05	-0.144	*	0.06	-0.075		0.06	-0.119	*	0.05	-0.118	*	0.06
West	-0.037		0.06	-0.072		0.07	-0.177	*	0.07	-0.110	†	0.06	-0.084		0.06
Married	-0.034		0.05	-0.139	*	0.06	-0.142	*	0.06	-0.103	*	0.05	-0.072		0.05
Child/ren < 18	0.059		0.05	-0.090		0.06	0.001		0.06	0.066		0.05	0.108	*	0.05
Some College	-0.075		0.05	-0.043		0.06	-0.122	*	0.06	0.019		0.05	0.056		0.06
Bachelor's Degree	-0.190	**	0.07	-0.134	†	0.08	-0.307	***	0.07	-0.141	*	0.06	-0.179	**	0.07
Beyond Bachelor's	0.017		0.07	-0.167	*	0.08	-0.293	***	0.08	-0.109		0.07	-0.154	*	0.07
Income Bracket	-0.067	***	0.02	-0.045	*	0.02	-0.077	***	0.02	-0.038	*	0.02	-0.061	***	0.02
Employed	-0.044		0.05	0.037		0.06	0.071		0.06	0.007		0.05	-0.042		0.05
Pseudo r^2	0.0796			0.0552			0.0980			0.0634			0.0733		

Notes: n = 1,624; *p <. 05; **p < .01; ***p < .001; † p < .10; Pseudo r^2 taken from models using non-imputed data.
Source: Baylor Religion Survey (2010).

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Table A4. Results of Ordinary Least Squares Analysis of Psychological Symptom Scales on Belief in God's Lovingness – Linear Analyses

Parameter	General Anxiety			Social Anxiety			Paranoia			Obsession			Compulsion		
	b		SE	b		SE	b		SE	b		SE	b		SE
Intercept	2.521	***	0.15	1.803	***	0.16	2.086	***	0.16	2.029	***	0.14	1.417	***	0.14
Loving God	0.006		0.01	0.002		0.01	0.003		0.01	0.006		0.01	-0.009		0.01
Mainline Protestant	-0.002		0.06	0.022		0.07	0.043		0.06	0.109	*	0.06	0.055		0.06
Black Protestant	-0.224	†	0.13	0.108		0.16	0.069		0.15	-0.272	*	0.13	0.058		0.15
Catholic	0.011		0.06	0.062		0.07	0.021		0.06	0.088		0.06	0.058		0.06
Religious Other	-0.077		0.08	-0.106		0.10	-0.040		0.09	-0.040		0.08	-0.021		0.08
No Religion	0.004		0.09	-0.051		0.11	-0.142		0.10	0.122		0.09	-0.052		0.10
Religious Attendance	-0.036	***	0.01	-0.009		0.01	-0.038	***	0.01	-0.027	**	0.01	-0.014		0.01
Age	-0.004	**	0.00	-0.007	***	0.00	-0.002		0.00	-0.004	**	0.00	-0.002		0.00
White	-0.062		0.05	0.074		0.05	-0.037		0.05	0.040		0.05	-0.167	***	0.05
Male	-0.113	**	0.04	0.031		0.05	0.022		0.05	-0.012		0.04	0.084	*	0.04
East	0.100		0.06	0.054		0.08	-0.045		0.07	0.005		0.06	0.035		0.07
Midwest	-0.075		0.05	-0.140	*	0.06	-0.070		0.06	-0.116	*	0.05	-0.109	†	0.06
West	-0.039		0.06	-0.075		0.07	-0.184	**	0.07	-0.116	†	0.06	-0.086		0.06
Married	-0.032		0.05	-0.142	*	0.06	-0.135	*	0.06	-0.109	*	0.05	-0.070		0.05
Child/ren < 18	0.056		0.05	-0.087		0.06	0.007		0.06	0.070		0.05	0.109	*	0.05
Some College	-0.076		0.05	-0.048		0.06	-0.128	*	0.06	0.014		0.05	0.045		0.06
Bachelor's Degree	-0.195	**	0.06	-0.130	†	0.08	-0.313	***	0.07	-0.148	*	0.06	-0.190	**	0.07
Beyond Bachelor's	0.010		0.07	-0.169	*	0.08	-0.312	***	0.08	-0.120	†	0.07	-0.186	*	0.07
Income Bracket	-0.066	***	0.02	-0.045	*	0.02	-0.079	***	0.02	-0.036	*	0.02	-0.065	***	0.02
Employed	-0.044		0.05	0.037		0.06	0.071		0.06	0.008		0.05	-0.036		0.05
Pseudo r^2	0.0759			0.0517			0.0996			0.0636			0.0776		

Notes: n = 1,624; *$p <. 05$; **$p < .01$; ***$p < .001$; † $p < .10$; Pseudo r^2 taken from models using non-imputed data.

Source: Baylor Religion Survey (2010).

Supplementary Tables for Attachment to God Study

Table A5. Results of Ordinary Least Squares Analysis of General Distress on Attachment to God Styles – Non Linear Analyses

Parameter	b		SE	b		SE
Intercept	2.158	***	0.18	2.008	***	0.15
Secure Attachment	0.024		0.02	-		-
Secure Attachment²	-0.001		0.00	-		-
Anxious Attachment	-		-	0.081	**	0.03
Anxious Attachment²	-		-	-0.002		0.00
Evangelical Protestant	-0.119		0.10	-0.175	†	0.10
Mainline Protestant	-0.060		0.10	-0.125		0.10
Black Protestant	-0.334	*	0.17	-0.435	**	0.16
Catholic	-0.001		0.10	-0.075		0.10
Religious Other	-0.031		0.12	-0.116		0.12
Attendance	-0.033	***	0.01	-0.029	***	0.01
Age	-0.008	***	0.00	-0.008	***	0.00
White	-0.015		0.06	-0.027		0.06
Female	0.161	***	0.05	0.162	***	0.05
East	0.162	*	0.07	0.151	*	0.07
Midwest	-0.006		0.06	-0.001		0.06
West	0.092		0.07	0.093		0.07
Married	-0.089		0.06	-0.064		0.05
Raising Minor Child/ren	0.061		0.06	0.048		0.06
Some College	-0.075		0.06	-0.079		0.06
Bachelor's Degree	-0.087		0.07	-0.072		0.07
Beyond Bachelor's	0.024		0.08	0.031		0.08
Income	-0.064	***	0.02	-0.066	***	0.02
Employed	-0.105	†	0.06	-0.092	†	0.05
Pseudo r²	0.1375			0.1501		

Notes: n = 1,624; *p <. 05; **p < .01; ***p < .001; † p < .10. Pseudo r^2 taken from models using non-imputed data;.

Source: Baylor Religion Survey (2010)

Table A6. Results of Ordinary Least Squares Analysis of Psychological Symptom Scales on Secure Attachment to God – Linear Analyses

Parameter	General Anxiety			Social Anxiety			Paranoia			Obsession			Compulsion		
	B		SE	b		SE	b		SE	b		SE	b		SE
Intercept	2.456	***	0.14	1.803	***	0.16	2.045	***	0.15	2.195	***	0.14	1.423	***	0.14
Secure God	-0.015	**	0.01	-0.015	*	0.01	-0.010		0.01	-0.017	**	0.01	-0.015	*	0.01
Evangelical Protestant	0.0821		0.09	0.106		0.11	0.190	†	0.10	-0.041		0.09	0.072		0.09
Mainline Protestant	0.063		0.09	0.118		0.11	0.221	*	0.10	0.049		0.09	0.114		0.09
Black Protestant	-0.083		0.15	0.264		0.18	0.273		0.18	-0.243		0.15	0.140		0.17
Catholic	0.085		0.09	0.162		0.11	0.209	*	0.10	0.037		0.09	0.128		0.09
Religious Other	-0.013		0.11	-0.004		0.13	0.145		0.12	-0.081		0.11	0.030		0.11
Attendance	-0.022	*	0.01	0.004		0.01	-0.030	**	0.01	-0.012		0.01	-0.010		0.01
Age	-0.004	**	0.00	-0.006	***	0.00	-0.001		0.00	-0.004	**	0.00	-0.002		0.00
White	0.0224		0.06	0.171	**	0.06	-0.072		0.06	0.135	*	0.05	-0.101	†	0.06
Female	0.1393	***	0.04	-0.013		0.05	0.003		0.05	0.034		0.04	-0.068		0.04
East	0.0974		0.06	0.057		0.07	-0.050		0.07	0.003		0.06	0.036		0.07
Midwest	-0.049		0.05	-0.119	†	0.06	-0.063		0.06	-0.094	†	0.05	-0.089		0.06
West	-0.018		0.06	-0.069		0.07	-0.171	*	0.07	-0.105	†	0.06	-0.059		0.06
Married	-0.037		0.05	-0.129	*	0.06	-0.141	*	0.06	-0.101	*	0.05	-0.069		0.05
Raising Minor Child/ren	0.0694		0.05	-0.086		0.06	0.018		0.06	0.074		0.05	0.125	*	0.05
Some College	-0.088	†	0.05	-0.052		0.06	-0.130	*	0.06	0.004		0.05	0.043		0.06
Bachelor's Degree	-0.2	**	0.06	-0.132	†	0.08	-0.327	***	0.07	-0.157	*	0.06	-0.196	**	0.07
Beyond Bachelor's	-0.015		0.07	-0.192	*	0.08	-0.327	***	0.08	-0.149	*	0.07	-0.183	*	0.07
Income	-0.065	***	0.02	-0.052	**	0.02	-0.077	***	0.02	-0.039	*	0.02	-0.065	***	0.02
Employed	-0.041		0.05	0.050		0.06	0.074		0.06	0.010		0.05	-0.036		0.05
Pseudo r^2	0.1012			0.0628			0.1023			0.0785			0.0843		

Notes: n = 1,624; *$p < .05$; **$p < .01$; ***$p < .001$; † $p < .10$; Pseudo r^2 taken from models using non-imputed data.
Source: Baylor Religion Survey (2010).

Table A7. Results of Ordinary Least Squares Analysis of Psychological Symptom Scales on Anxious Attachment to God – Non-Linear Analyses

Parameter	General Anxiety			Social Anxiety			Paranoia			Obsession			Compulsion		
	B		SE	b		SE	b		SE	b		SE	b		SE
Intercept	2.114	***	0.13	1.462	***	0.16	1.707	***	0.15	1.832	***	0.13	1.122	***	0.14
Anxious God	0.071	**	0.03	0.047		0.03	0.038		0.03	0.045	†	0.03	0.050	†	0.03
Anxious God²	0.001		0.00	0.004		0.00	0.007		0.00	0.005		0.00	0.002		0.00
Evangelical Protestant	-0.006		0.09	0.039		0.10	0.137		0.10	-0.122		0.09	-0.015		0.09
Mainline Protestant	-0.027		0.09	0.042		0.11	0.163		0.10	-0.039		0.09	0.024		0.09
Black Protestant	-0.175		0.15	0.198		0.18	0.194		0.17	-0.332	*	0.15	0.049		0.16
Catholic	-0.017		0.09	0.084		0.10	0.136		0.10	-0.057		0.09	0.030		0.09
Religious Other	-0.100		0.11	-0.072		0.13	0.088		0.12	-0.180	†	0.10	-0.060		0.12
Attendance	-0.021	**	0.01	0.006		0.01	-0.025	**	0.01	-0.012		0.01	-0.009		0.01
Age	-0.004	**	0.00	-0.007	***	0.00	-0.002		0.00	-0.004	**	0.00	-0.002		0.00
White	0.020		0.05	0.169	**	0.06	-0.082		0.06	0.141	**	0.05	-0.100	†	0.06
Female	0.138	***	0.04	-0.014		0.05	0.006		0.05	0.033		0.04	-0.071	†	0.04
East	0.098		0.06	0.050		0.07	-0.054		0.07	-0.002		0.06	0.036		0.07
Midwest	-0.036		0.05	-0.112	†	0.06	-0.049		0.06	-0.086		0.05	-0.079		0.06
West	-0.011		0.06	-0.069		0.07	-0.164	*	0.07	-0.104	†	0.06	-0.051		0.06
Married	-0.017		0.05	-0.110	†	0.06	-0.110	*	0.06	-0.080		0.05	-0.064		0.05
Raising Minor Child/ren	0.048		0.05	-0.107	†	0.06	-0.005		0.06	0.051		0.05	0.108	*	0.05
Some College	-0.080		0.05	-0.034		0.06	-0.120	*	0.06	0.014		0.05	0.044		0.06
Bachelor's Degree	-0.178	**	0.07	-0.101		0.08	-0.292	***	0.07	-0.123	†	0.06	-0.181	**	0.07
Beyond Bachelor's	0.006		0.07	-0.165	*	0.08	-0.296	***	0.08	-0.121	†	0.07	-0.170	*	0.07
Income	-0.066	***	0.02	-0.051	**	0.02	-0.076	***	0.02	-0.038	*	0.02	-0.063	***	0.02
Employed	-0.036		0.05	0.046		0.06	0.080		0.06	0.019		0.05	-0.033		0.05
Pseudo r²	0.1228			0.0861			0.1384			0.1192			0.1097		

Notes: n = 1,624; *p <. 05; **p < .01; ***p < .001; † p < .10; Pseudo r² taken from models using non-imputed data.
Source: Baylor Religion Survey (2010).

Supplementary Tables for Afterlife Belief Study

Table A8. Results of Ordinary Least Squares Analysis of General Distress on Afterlife Beliefs – Linear Analyses

Parameter	Afterlife Belief			Heaven Belief			Hell Belief		
	b		SE	b		SE	b		SE
Intercept	2.158	***	0.15	2.030	***	0.15	2.105	***	0.15
Afterlife Belief	0.010		0.01	-		-	-		-
Heaven Belief	-		-	0.075	*	0.03	-		-
Hell Belief	-		-	-		-	0.029		0.03
Evangelical Protestant	-0.042		0.09	-0.120		0.09	-0.044		0.09
Mainline Protestant	0.034		0.09	-0.029		0.10	0.031		0.09
Black Protestant	-0.266	†	0.16	-0.341	*	0.17	-0.245		0.16
Catholic	0.071		0.09	0.009		0.09	0.081		0.09
Religious Other	0.032		0.11	-0.043		0.12	0.038		0.11
Attendance	-0.040	***	0.01	-0.050	***	0.01	-0.046	***	0.01
Age	-0.009	***	0.00	-0.009	***	0.00	-0.009	***	0.00
White	0.001		0.06	0.012		0.06	0.014		0.06
Female	0.139	**	0.05	0.123	**	0.04	0.133	**	0.05
East	0.148	*	0.07	0.146	*	0.07	0.147	*	0.07
Midwest	-0.030		0.06	-0.034		0.06	-0.038		0.06
West	0.084		0.07	0.086		0.07	0.083		0.07
Married	-0.066		0.05	-0.062		0.06	-0.061		0.05
Child/ren < 18	0.080		0.06	0.069		0.05	0.075		0.06
Some College	-0.093		0.06	-0.076		0.06	-0.076		0.06
Bachelor's Degree	-0.144	†	0.07	-0.116		0.07	-0.121		0.07
Beyond Bachelor's	-0.019		0.08	0.016		0.08	0.003		0.08
Income	-0.068	***	0.02	-0.066	***	0.02	-0.068	***	0.02
Employed	-0.121	*	0.05	-0.115	*	0.05	-0.115	*	0.05
Pseudo r²	0.1054			0.1099			0.1058		

Notes: n = 1,711; *$p < .05$; **$p < .01$; ***$p < .001$; † $p < .10$; Pseudo r^2 taken from models using non-imputed data. *Source*: Baylor Religion Survey (2010)

Table A9. Results of Ordinary Least Squares Analysis of Psychological Symptom Scales on Pleasant Afterlife Beliefs – Linear Analyses

Parameter	General Anxiety			Social Anxiety			Paranoia			Obsession			Compulsion		
	b		SE	b		SE	b		SE	b		SE	b		SE
Intercept	2.233	***	0.13	1.667	***	0.15	1.876	***	0.14	1.913	***	0.13	1.191	***	0.13
Afterlife Belief	0.014		0.01	0.007		0.01	0.005		0.01	0.022	*	0.01	0.019	*	0.01
Evangelical Protestant	0.133	†	0.08	0.091		0.09	0.273	**	0.09	0.002		0.08	0.095		0.08
Mainline Protestant	0.115		0.08	0.114		0.09	0.308	***	0.09	0.103		0.08	0.142	†	0.08
Black Protestant	-0.003		0.14	0.260		0.17	0.332	†	0.17	-0.205		0.15	0.155		0.15
Catholic	0.129		0.08	0.142		0.09	0.287	**	0.09	0.077		0.08	0.146	†	0.08
Religious Other	0.040		0.10	-0.015		0.12	0.212	*	0.11	-0.048		0.10	0.048		0.10
Attendance	-0.029	***	0.01	-0.004		0.01	-0.036	***	0.01	-0.020	*	0.01	-0.016	†	0.01
Age	-0.005	***	0.00	-0.007	***	0.00	-0.002		0.00	-0.005	**	0.00	-0.002		0.00
White	0.047		0.05	0.194	**	0.06	-0.072		0.06	0.152	**	0.05	-0.091		0.06
Female	0.127	**	0.04	-0.036		0.05	-0.028		0.05	0.011		0.04	-0.081	†	0.04
East	0.105	†	0.06	0.046		0.07	-0.062		0.07	0.020		0.06	0.039		0.06
Midwest	-0.056		0.05	-0.127	*	0.06	-0.066		0.06	-0.085		0.05	-0.094	†	0.06
West	-0.028		0.06	-0.081		0.07	-0.168	*	0.07	-0.111	†	0.06	-0.085		0.06
Married	-0.022		0.05	-0.133	*	0.06	-0.129	*	0.05	-0.086	†	0.05	-0.080		0.05
Child/ren < 18	0.056		0.05	-0.098	†	0.06	0.007		0.06	0.065		0.05	0.103	*	0.05
Some College	-0.083		0.05	-0.060		0.06	-0.144	*	0.06	-0.002		0.05	0.052		0.06
Bachelor's Degree	-0.247	***	0.06	-0.156	*	0.07	-0.350	***	0.07	-0.183	**	0.06	-0.182	**	0.07
Beyond Bachelor's	-0.036		0.07	-0.179	*	0.08	-0.348	***	0.08	-0.150	*	0.07	-0.182	*	0.07
Income	-0.070	***	0.02	-0.054	**	0.02	-0.077	***	0.02	-0.048	**	0.02	-0.069	***	0.02
Employed	-0.038		0.05	0.044		0.06	0.062		0.05	0.016		0.05	-0.038		0.05
Pseudo r²	0.0848			0.0643			0.0946			0.0759			0.0839		

Notes: n = 1,711; *p* <. 05; **p* < .01; ***p* < .001; † *p* < .10; Pseudo r² taken from models using non-imputed data.
Source: Baylor Religion Survey (2010).

Table A10. Results of Ordinary Least Squares Analysis of Psychological Symptom Scales on Belief in Heaven – Linear Analyses

Parameter	General Anxiety			Social Anxiety			Paranoia			Obsession			Compulsion		
	b		SE	b		SE	b		SE	b		SE	b		SE
Intercept	2.094	***	0.13	1.554	***	0.16	1.617	***	0.15	1.837	***	0.13	1.238	***	0.14
Heaven Belief	0.091	***	0.03	0.052	†	0.03	0.127	***	0.03	0.065	*	0.03	0.007		0.03
Evangelical Protestant	0.048		0.09	0.074		0.10	0.147		0.09	-0.022		0.08	0.124		0.09
Mainline Protestant	0.051		0.09	0.090		0.10	0.198	*	0.09	0.078		0.08	0.174	*	0.09
Black Protestant	-0.090		0.15	0.240		0.17	0.217		0.17	-0.222		0.15	0.208		0.16
Catholic	0.062		0.09	0.124		0.10	0.168	†	0.09	0.063		0.08	0.179	*	0.09
Religious Other	-0.027		0.10	-0.038		0.12	0.101		0.11	-0.068		0.10	0.078		0.10
Attendance	-0.043	***	0.01	-0.013		0.01	-0.053	***	0.01	-0.031	***	0.01	-0.020	*	0.01
Age	-0.005	***	0.00	-0.007	***	0.00	-0.002		0.00	-0.005	***	0.00	-0.002		0.00
White	0.057		0.05	0.212	***	0.06	-0.050		0.06	0.165	**	0.05	-0.082		0.06
Female	0.108	**	0.04	-0.047		0.05	-0.049		0.05	-0.003		0.04	-0.088	*	0.04
East	0.099		0.06	0.041		0.07	-0.055		0.07	0.017		0.06	0.033		0.06
Midwest	-0.060		0.05	-0.131	*	0.06	-0.067		0.06	-0.093	†	0.05	-0.106	†	0.05
West	-0.024		0.06	-0.079		0.07	-0.159	*	0.07	-0.108	†	0.06	-0.081		0.06
Married	-0.029		0.05	-0.130	*	0.06	-0.136	*	0.05	-0.090	†	0.05	-0.082		0.05
Child/ren < 18	0.050		0.05	-0.099	†	0.06	-0.005		0.06	0.059		0.05	0.100	†	0.05
Some College	-0.069		0.05	-0.047		0.06	-0.125	*	0.06	0.005		0.05	0.046		0.05
Bachelor's Degree	-0.220	***	0.06	-0.143	†	0.07	-0.313	***	0.07	-0.163	**	0.06	-0.187	**	0.07
Beyond Bachelor's	0.007		0.07	-0.150	†	0.08	-0.292	***	0.08	-0.124	†	0.07	-0.190	**	0.07
Income	-0.067	***	0.02	-0.055	**	0.02	-0.074	***	0.02	-0.043	**	0.02	-0.065	***	0.02
Employed	-0.045		0.05	0.051		0.06	0.067		0.05	0.011		0.05	-0.036		0.05
Pseudo r²	0.0923			0.0614			0.1070			0.0749			0.0839		

Notes: n = 1,711; *p <. 05; **p < .01; ***p < .001; † p < .10; Pseudo r² taken from models using non-imputed data.
Source: Baylor Religion Survey (2010).

Table A11. Results of Ordinary Least Squares Analysis of Psychological Symptom Scales on Belief in Hell – Linear Analyses

Parameter	General Anxiety b		SE	Social Anxiety b		SE	Paranoia b		SE	Obsession b		SE	Compulsion b		SE
Intercept	2.143	***	0.13	1.550	***	0.16	1.635	***	0.15	1.847	***	0.13	1.210	***	0.14
Hell Belief	0.066	**	0.02	0.057	*	0.03	0.118	***	0.03	0.061	**	0.02	0.021		0.02
Evangelical Protestant	0.084		0.08	0.061		0.09	0.160	†	0.09	-0.012		0.08	0.097		0.08
Mainline Protestant	0.092		0.08	0.090		0.10	0.222	*	0.09	0.102		0.08	0.145	†	0.08
Black Protestant	-0.055		0.15	0.244		0.17	0.226		0.17	-0.210		0.15	0.170		0.16
Catholic	0.097		0.08	0.114		0.09	0.188	*	0.09	0.077		0.08	0.156	†	0.09
Religious Other	0.013		0.10	-0.042		0.12	0.132		0.11	-0.048		0.10	0.051		0.10
Attendance	-0.042	***	0.01	-0.014		0.01	-0.054	***	0.01	-0.033	***	0.01	-0.021	*	0.01
Age	-0.005	***	0.00	-0.007	***	0.00	-0.002		0.00	-0.005	**	0.00	-0.002		0.00
White	0.058		0.05	0.213	***	0.06	-0.047		0.06	0.164	**	0.05	-0.076		0.06
Female	0.117	**	0.04	-0.040		0.05	-0.042		0.04	0.002		0.04	-0.086	*	0.04
East	0.102		0.06	0.050		0.07	-0.052		0.07	0.017		0.06	0.038		0.06
Midwest	-0.062		0.05	-0.134	*	0.06	-0.070		0.06	-0.094	†	0.05	-0.098	†	0.06
West	-0.025		0.06	-0.075		0.07	-0.163	*	0.07	-0.107	†	0.06	-0.074		0.06
Married	-0.025		0.05	-0.134	*	0.06	-0.132	*	0.06	-0.098	*	0.05	-0.075		0.05
Child/ren < 18	0.053		0.05	-0.102	†	0.06	-0.002		0.06	0.064		0.05	0.097	†	0.05
Some College	-0.068		0.05	-0.038		0.06	-0.104	†	0.06	0.016		0.05	0.053		0.05
Bachelor's Degree	-0.217	***	0.06	-0.133	†	0.07	-0.301	***	0.07	-0.156	*	0.06	-0.180	**	0.07
Beyond Bachelor's	0.003		0.07	-0.142	†	0.08	-0.276	***	0.08	-0.114	†	0.07	-0.182	*	0.07
Income	-0.070	***	0.02	-0.054	**	0.02	-0.080	***	0.02	-0.044	**	0.02	-0.066	***	0.02
Employed	-0.039		0.05	0.049		0.06	0.075		0.05	0.009		0.05	-0.037		0.05
Pseudo r²	0.0911			0.0617			0.1080			0.0746			0.0832		

Notes: n = 1,711; *$p <. 05$; **$p < .01$; ***$p < .001$; † $p < .10$; Pseudo r^2 taken from models using non-imputed data.
Source: Baylor Religion Survey (2010).

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