

Beliefs About God and Mental Health Among American Adults

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Abstract This study examines the association between beliefs about God and psychiatric symptoms in the context of Evolutionary Threat Assessment System Theory, using data from the 2010 Baylor Religion Survey of US Adults ($N = 1,426$). Three beliefs about God were tested separately in ordinary least squares regression models to predict five classes of psychiatric symptoms: general anxiety, social anxiety, paranoia, obsession, and compulsion. Belief in a punitive God was positively associated with four psychiatric symptoms, while belief in a benevolent God was negatively associated with four psychiatric symptoms, controlling for demographic characteristics, religiousness, and strength of belief in God. Belief in a deistic God and one's overall belief in God were not significantly related to any psychiatric symptoms.

Keywords Beliefs · ETAS theory · General anxiety · Social anxiety · Obsession–compulsion · Paranoia · Religion

Introduction

While almost 96 % of a national random sample of Americans report some level of faith in God, there is a great deal of variation in how Americans perceive God's character (Froese and Bader 2007, 2010). Froese and Bader (2010) classify beliefs about God into four broad

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categories or conceptual types: an authoritative God, a benevolent God, a critical/punitive God, and a disengaged deistic God—a God that created the world, yet is not directly involved in worldly matters.

Anthropomorphic (e.g., angry, fatherly, kind, loving, vindictive) and deistic beliefs about God (e.g., authoritative, creator, judge) are both relatively common among Americans (Foster and Keating 1992; Hammersla et al. 1986; Nelsen et al. 1985; Tamayo and Desjardins 1976), and Christians tend to hold such beliefs more strongly than do Jews (Roof and Roof 1984). However, very devout Christians in the USA are far less likely to believe God is distant or disengaged (Froese and Bader 2010; Hammersla et al. 1986; Noffke and McFadden 2001).

Research on beliefs about God and mental health has examined elements of Froese and Bader's (2010) conceptual types, mainly focusing on anthropomorphic beliefs about God. In general, the research has found that belief in a benevolent God is associated with better psychological well-being, whereas belief in a punitive God is associated with poorer psychological well-being.

Beliefs and Mental Health

“Cognitive theorists propose that [psychiatric] disorders result from distorted beliefs about the dangerousness of certain situations” Clark (1999, p. S5). One of the theorists to which Clark alludes is Aaron Beck, who along with his colleagues, has identified dysfunctional beliefs that are associated with psychiatric problems, including general anxiety (Beck et al. 1985, p. 63), panic attacks (Wenzel et al. 2006), and personality disorders (Beck et al. 2001). Other researchers have identified dysfunctional beliefs as contributing sources to bipolar disorder (Alatiq et al. 2010), obsessive–compulsive disorder (OCD) (Moritz and Pohl 2006; Taylor et al. 2005), and social anxiety disorder (Gilbert 2001).

In the 1980s, cognitive therapists Aaron Beck and Paul Gilbert began to link the dysfunctional beliefs they thought underlie psychiatric symptoms to primitive brain systems for assessing threats or risks of potential harm (Beck et al. 1985; Gilbert 1984). A central feature of psychiatric disorders, in their view, is a primitive concern about one's own safety and the dangerousness of the world (Beck et al. 1985; Gilbert 1984). These beliefs are typically quite broad. In general anxiety, two common beliefs include: “It is always best to assume the worst,” and “Any strange situation should be regarded as dangerous” (Beck et al. 1985, p. 63). This is consistent with animal research (Blanchard et al. 2001; McNaughton and Corr 2004) that indicates that general anxiety is akin to Freud's conception of anxiety as the fear of an ill-defined threat (Freud 1920). Marks and Nesse (1994) and Nesse (1998) reach a similar conclusion, but they consider specific anxiety disorders to be related to specific threats of harm that were present throughout human evolution.

The broad dysfunctional belief underlying panic attacks is that common physical and emotional experiences are catastrophic (Wenzel et al. 2006; see also Nesse 1987). Additionally though OCD appears to be driven by three related beliefs, the most basic one is that everyday situations are believed to be more dangerous than they are (Brune 2006; Moritz and Pohl 2006; Taylor et al. 2005), such that individuals “develop harm-avoiding behavioral strategies without being subjected to real-life dangers” (Brune 2006, p. 320).

Turning to some examples of dysfunctional beliefs among the personality disorders, individuals with narcissistic personalities believe “I don't have to be bound by the rules that apply to other people,” whereas people with paranoid personalities believe “other

people will try to use me or manipulate me if I don't watch out" (Beck et al. 2001, p. 1217). Schlager (1995) has made a particularly good argument for the evolutionary underpinnings of paranoia in terms of social vigilance mechanisms. He claims that different classes of paranoid delusions (e.g., jealous, persecutory) reflect specific classes of social threats, noting that the paranoiac's concern may be unjustified in a given instance, but not unjustified in general (Schlager 1995, p. 264).

Gilbert et al. (2005) found paranoid ideation was comorbid with social anxiety in a sample of clinical outpatients, and they discuss why this is the case. While there are several subtypes of social anxiety (Stein et al. 2000), a central element in social anxiety is a person's belief that he or she will be rejected by others, which constitutes a threat to social status and the resources that accompany social status (Gilbert 2001). The observed overlap between social anxiety and paranoia was most pronounced for patients who believed people were malevolent, and therefore posed a serious threat to their social rank.

The brain mechanisms underlying these kinds of beliefs presumably evolved because such beliefs have survival value, in that they provide heuristics for making decisions (Gilbert 2002). They are thought to reflect primitive systems of decision-making that have evolved to make quick decisions about potentially dangerous situations (Gilbert 1998a, b, 2002). Thus, different psychiatric disorders represent the response of defensive or threat assessment systems in the brain to different kinds of potential threats (Gilbert 1998a; Marks and Nesse 1994). However, the number of people with psychiatric diagnoses is just the tip of the iceberg. Many more individuals exhibit various kinds of sub-clinical psychiatric symptoms, which also reflect the reaction of these threat assessment systems to perceived threats.

The ideas of Beck, Gilbert, and other proponents of evolutionary psychiatry (e.g., Marks and Nesse 1994; Nesse 1998; MacLean 1977, 1985, 1990) have been incorporated into Evolutionary Threat Assessment System (ETAS) Theory (Flannelly et al. 2007; Flannelly and Galek 2010; Silton et al. 2011). ETAS Theory proposes (1) that specific brain structures are involved in assessing the degree to which situations and animate and inanimate objects pose a potential threat of harm; (2) that certain classes of psychiatric symptoms are products of these neural threat assessments, (3) that threat assessments are moderated by beliefs about the world; and, therefore, that beliefs about the world, including secular and religious beliefs, can directly affect psychiatric symptoms.

Beliefs about God and Mental Health

A number of studies have linked positive beliefs about God to better mental health, mainly among convenience samples of students. For instance, belief in a loving God has been positively related to self-esteem (Benson and Spilka 1973), self-worth (Francis et al. 2001), positive mood (Wiegand and Weiss 2006), and life satisfaction among high school and college students in the USA and UK (Steenwyk et al. 2010). Using Benson and Spilka's (1973) images of God, Wiegand and Weiss (2006) showed that US college students, who harbored a strong belief that God is loving, exhibited a higher positive mood than those who believed less strongly in the lovingness of God. Other research has found that belief in a loving, supportive, nurturing and protective God is inversely related to depressive symptoms in US undergraduates (Wood et al. 2010).

Other lines of research indicate that belief in a supportive, collaborative God is also positively related to mental health. Belief in a supportive, collaborative God is directly related to self-esteem and life satisfaction in American college students (Phillips et al. 2004), and probability samples of older Americans (Krause 2002, 2005), and it is inversely

related to anxiety and depression in older Americans (Schieman et al. 2006). Jewish traditional texts suggest that belief in an omniscient and benevolent God is essential for mental health (Rosmarin et al. 2009). Additionally, studies surveying samples of Orthodox Jewish participants indicate that these beliefs significantly relate to higher levels of happiness and lower levels of anxiety and depression (Rosmarin et al. 2009a, b).

Conversely, several lines of research have found an inverse association between belief in a punitive God and psychological well-being. For instance, research on convenience samples of high school and college students in the USA and UK has found that belief in a stern, vindictive, cruel, or punishing God was related to high psychological distress (Pargament et al. 2000) and low self-esteem (Benson and Spilka 1973; Francis 2001; Francis et al. 2001; Phillips et al. 2004). Belief in a cruel God has also been associated with depressive symptoms among US college students (Exline et al. 2011).

Similarly, belief in a punishing God has been associated with depression and anxiety in Church congregants in Holland (Schaap-Jonker et al. 2002) and hospital patients in the USA (Burker et al. 2005; Fitchett et al. 2004). Moreover, scores on the negative RCOPE, which captures negative beliefs about God (including belief in a punitive God), have been positively associated with general anxiety, social anxiety, depression, paranoia, and obsession–compulsion in a national sample of US adults (McConnell et al. 2006).

Very few studies have examined the relationship between deistic beliefs about God and mental health, and their results are inconsistent. On the one hand, the findings of Phillips et al. (2004) indicate that belief in a deistic God is associated with higher levels of anxiety and depression among US undergraduates. On the other hand, the findings of Flannelly et al. (2010) indicate that there is no association between belief in a deistic God and anxiety or depression in a nationally representative sample of US adults.

The present study analyzes the association between beliefs about God and several classes of psychiatric symptoms that have been linked to threat assessments in a random sample of American adults. The study furthers research in this area in its use of a national probability sample, the specific beliefs about God that are tested as independent variables, and the range of dependent variables that are examined. It also uses separate measures of obsession and compulsion, which has never been done in previous research on religion and mental health, to see whether beliefs are differentially related to obsessive thoughts and or to compulsive acts (Aardema et al. 2006). Four hypotheses were tested: (1) belief in a benevolent God would have a salubrious association with psychiatric symptoms; (2) belief in a punitive God would have a pernicious association with psychiatric symptoms; (3) belief in a deistic God would have no association with psychiatric symptoms; and (4) positive and negative beliefs about God would have less of an association with compulsion than with obsession.

Methods

A national survey was conducted for the Baylor Religion Survey in November 2010 by the Gallup Organization. Random digit dialing was used to contact a sample of 7,000 US adults, who were asked to participate in a survey. Approximately 2,500 of those who were contacted were subsequently mailed the survey questionnaire, of which 1,714 returned the survey. A total of 186 participants did not respond to one or more of the survey items that measured the independent variables, another 52 did not respond to one or more of the items that measured the dependent variables, and 50 did not answer some of the demographic questions, reducing the sample size to 1,426.

Dependent Variables

Five classes of psychiatric symptoms were measured by three items each: general anxiety, social anxiety, paranoia, obsession, and compulsion. The items were adapted from existing scales in the public domain: general anxiety (Kroenke et al. 2009), social anxiety (Moore and Gee 2003), paranoia (Fenigstein and Venable 1992), obsession (Kaplan 1994), and compulsion (Kaplan 1994). The root question was: Over the past month, how often have you ... The response options were: never = 0; rarely = 1; sometimes = 3; often = 3; and very often = 4. The items for each symptom class are listed in Table 1, along with the Cronbach's alpha (α) for the three items measuring each symptom class. The variable for each symptom class consisted of the sum of the standardized scores for the three items comprising each class.

Independent Variables

Beliefs about God were measured by participants' responses to a list of adjectives describing God: absolute, critical, just, punishing, severe, or wrathful. The list of adjectives was preceded by the question: How well do you feel that each of the following words describes God, in your opinion? The response options were: very well = 4; somewhat well = 3; not very well = 2; and not at all = 1. Three beliefs about God were measured: a punitive God ($\alpha = 0.84$), a deistic God ($\alpha = 0.83$), and a benevolent God ($\alpha = 0.71$). The first was measured by average responses to the adjectives describing God as punishing and wrathful. The second was measured by averaging responses to the adjectives describing God as absolute and just. The third was measured by averaging the reverse-scored responses to a critical and severe God.

Table 1 Items used to measure each class of psychiatric symptoms

Generalized anxiety disorder $\alpha = 0.84$
Felt nervous, anxious, or on edge
Been unable to stop or control worrying
Worried too much about different things
Social anxiety $\alpha = 0.82$
Feared that you might do something to embarrass yourself in a social situation
Became anxious doing things because people were watching
Endured intense anxiety in social or performance situations
Paranoia $\alpha = 0.77$
Felt like you were being watched or talked about by others
Felt that it is not safe to trust anyone.
Felt that people were taking advantage of you
Obsession $\alpha = 0.76$
Been plagued by thoughts or images that you cannot get out of your mind
Thought too much about things that would not bother other people
Thought too much about pointless matters
Compulsion $\alpha = 0.77$
Felt compelled to perform certain actions, for no justifiable reason
Repeated simple actions that realistically did not need to be repeated
Been afraid something terrible would happen if you did not perform certain rituals

Control Variables

Several demographic and religious variables served as control variables in the analyses. The demographic controls were age, gender, race, education, and marital status. Gender was coded as female (1 vs. 0), race was coded as black (1 vs. 0) and white (1 vs. 0), and marital status was coded as married (1 vs. 0). Education was measured on a 7-point scale from “8th grade or less” = 1 to “postgraduate work/degree” = 7.

Self-reported frequency of attending religious services and religiosity were combined to form the control variable of “religiousness.” Frequency of attending religious services was measured on a 9-point scale in response to the question “How often do you attend religious services at a place of worship?”, with “never = 0, and “several times a week” = 8. Religiosity was measured by responses to the question “How religious do you consider yourself to be?” with “not at all religious” = 1 and “very religious” = 4. The responses to both questions were standardized, with the mean of the two standardized scores forming the variable of religiousness ($\alpha = 0.80$).

A second religious control variable (belief in God) was created based upon responses to the question “Which statement comes closest to your personal beliefs about God?” The response options “I have no doubt God exists,” “I believe in God, but with some doubts,” “I sometimes believe in God,” and “I believe in a higher power or cosmic force” were scored 4 through 1, respectively. The three remaining response options were scored as zero: “I don’t know and there is no way to find out,” “I am an atheist,” or “I have no opinion.” However, none of the participants who reported that they were atheists responded to the items comprising the independent variables.

Statistical Analyses

The association between each of the independent variables and each of the dependent variables was tested using ordinary least squares (OLS) regression. An initial set of five OLS regression models was performed to measure the association between the eight control variables and the five dependent variables (classes of psychiatric symptoms). Separate OLS regression models were then performed to measure the net effects of each independent variable (beliefs about God) with each of the dependent variables. All eight control variables were included in each of these 15 models. Hypotheses 1 and 2 were directly tested based on the regression analyses. Hypothesis 3 was tested by z tests comparing the β 's for a benevolent and punitive God to the β 's for a deistic God. Hypothesis 4 was tested by z tests comparing the β 's for compulsion with the β 's for obsession.

Results

Control Variables

Table 2 presents the estimated net effects of the control variables on psychiatric symptoms. As seen in the table, older participants in the sample reported significantly fewer symptoms than younger participants on all five classes of psychiatric symptoms. Like age, education and marital status had significant negative associations with all five dependent variables. More highly educated participants and married participants were significantly less likely to report psychiatric symptoms than less educated or single participants. Female participants were significantly more likely to exhibit general anxiety than male participants.

Table 2 Estimated net effects of control variables on psychiatric symptoms

	General anxiety	Social anxiety	Paranoia	Obsession	Compulsion
Age	-0.120***	-0.010***	-0.084**	-0.124***	-0.076**
Female	0.118***	0.035	0.016	0.036	-0.044
Caucasian	-0.013	0.006	-0.047	-0.004	-0.093*
African American	-0.017	-0.030	0.022	-0.055	0.008
Education	-0.115***	-0.142***	-0.208***	-0.161***	-0.168***
Married	-0.090**	-0.113***	-0.141***	-0.100***	-0.081**
Religiousness	-0.096**	-0.031	-0.095**	-0.063	-0.046
Belief in God	0.006	-0.018	-0.004	-0.018	-0.057
Adjusted R^2	0.060	0.043	0.091	0.056	0.059

Values are standardized estimates (β 's)

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

Religiousness had a significant salutary association with two classes of psychiatric symptoms: general anxiety and paranoia. Finally, it is noteworthy that belief in God, in and of itself, had no significant association with any of the five classes of psychiatric symptoms.

Independent Variables

Table 3 provides the estimated net effects of specific beliefs about God on psychiatric symptoms, controlling for participants' demographic characteristics, religiousness, and belief in God, per se. Although the effect sizes are modest, they are consistent with the predictions made in Hypotheses 1 and 2. The results provide support for Hypothesis 1, in that belief in a benevolent God had a significant salutary relationship with four of the five classes of psychiatric symptoms: Social Anxiety ($\beta = -0.080$), Paranoia ($\beta = -0.135$), Obsession ($\beta = -0.106$), and Compulsion ($\beta = -0.125$). The results also provide support for Hypothesis 2, in that belief in a punitive God had a significantly pernicious association with the same four dependent variables: Social Anxiety ($\beta = 0.083$), Paranoia ($\beta = 0.136$), Obsession ($\beta = 0.068$), and Compulsion ($\beta = 0.079$).

Table 3 Estimated net effects of different beliefs about God on psychiatric symptoms, controlling for demographic characteristics, religiousness, and belief in God

Beliefs about God	General anxiety	Social anxiety	Paranoia	Obsession	Compulsion
Benevolent God	-0.052	-0.080**	-0.135***	-0.106**	-0.125***
Adjusted R^2	0.051	0.041	0.094	0.057	0.061
Punitive God	0.047	0.083**	0.136***	0.068*	0.079**
Adjusted R^2	0.049	0.041	0.095	0.052	0.051
Deistic God	-0.011	0.047	0.065	0.027	0.024
Adjusted R^2	0.046	0.036	0.081	0.048	0.049

Values are standardized estimates (β 's)

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

The findings are consistent with Hypothesis 3 since there was no significant association between belief in a deistic God and any of the five psychiatric symptoms. The z tests further showed that belief in a benevolent God had a significantly stronger negative association than belief in a deistic God with all of the dependent variables except general anxiety, lending further support for Hypothesis 3. However, belief in a deistic God differed significantly than belief in a punitive God only on general anxiety.

Finally, the results offer no support for Hypothesis 4. Significant associations were found between compulsion and belief in a benevolent God and a punitive God, and z tests found no significant differences in the strength of associations of either of these beliefs with obsession or compulsion.

Discussion

Three of the four hypotheses were largely confirmed by the study results. As hypothesized, belief in a benevolent God had a salubrious association with psychiatric symptoms (Hypothesis 1), belief in a punitive God had a pernicious association with psychiatric symptoms (Hypothesis 2), and belief in a deistic God had no association with psychiatric symptoms (Hypothesis 3). These results are unique in simultaneously demonstrating the differential associations of positive and negative beliefs about God with psychiatric symptoms in a national representative sample of US adults.

Belief in a benevolent God had a salubrious association with four of the five classes of psychiatric symptoms: social anxiety, paranoia, obsession, and compulsion. These findings align with earlier studies which indicated that belief in a loving God is positively related to psychological well-being, including self-esteem (Benson and Spilka 1973; Francis et al. 2001), positive mood (Wiegand and Weiss 2006), and life satisfaction (Steenwyk et al. 2010).

The research findings confirmed the second hypothesis in that belief in a punitive God had a significant pernicious association with the same five dependent variables. These results extend the findings of previous studies which suggest that belief in a stern, vindictive, cruel, or punishing God is related to high psychological distress (Pargament et al. 2000), including anxiety and depression (Burker et al. 2005; Fitchett et al. 2004; Schaap-Jonker et al. 2002). Additionally, these findings parallel previous studies that have found that scores on the negative RCOPE, which includes negative beliefs about God (e.g., belief in a punishing God), are positively associated with general anxiety, social anxiety, depression, paranoia, and obsession–compulsion in a national sample of US adults (McConnell et al. 2006).

In line with the third hypothesis, belief in a deistic God had no significant association with any of the five psychiatric symptoms. These findings expand upon those of Flannelly et al. (2010), who found no association between belief in a deistic God and anxiety and depression in a national representative sample of US adults.

These findings should be viewed in light of the evolutionary perspective of cognitive therapists, such as Aaron Beck and Paul Gilbert, who claim that dysfunctional beliefs about the dangerousness of the world underlie different classes of psychiatric disorders. This perspective is widely accepted and supported by research showing that dysfunctional, negative beliefs about the world are associated with general anxiety (Beck et al. 1985, p. 63), panic attacks (Wenzel et al. 2006), personality disorders (Beck et al. 2001), bipolar disorder (Alatiq et al. 2010), obsessive–compulsive disorder (OCD) (Moritz and Pohl 2006; Taylor et al. 2005), and social anxiety disorder (Gilbert 2001). The current findings

make a major contribution to this theoretical perspective to the degree they imply that positive and negative beliefs about the world (in this case, God) may enhance or ameliorate psychiatric symptoms.

Finally, the results fail to support Hypothesis 4, since significant associations were found between compulsion about belief in a benevolent God and a punitive God, and z tests indicated no significant differences in the strength of associations of either of these beliefs with obsession or compulsion. While this study is unique in examining obsessions and compulsions separately in order to determine whether beliefs are differentially associated with obsessive thoughts and/or with compulsive acts, future studies may seek to expand upon how these separate constructs may relate differentially to beliefs. For instance, a theoretical paper by Flannelly et al. (2007) and a related paper by Flannelly and Galek (2010) suggest that beliefs may not affect certain types of psychiatric symptoms. Thus, beliefs may affect obsessions, but not the action feature of compulsions.

The current study further expands upon previous research by controlling for overall belief in God in the analyses. To our knowledge, no other study of beliefs or “images” of God have ever employed this control variable. It is important to control for this variable, since faith in God is a crucial ingredient toward understanding individual’s genuine perceptions of God, and strength of belief in God, per se, may confound the measurement of specific beliefs about God.

It is important to note some of the limitations of the study in reflecting upon the research results. While the current study benefited from a large sample size, a substantial number of survey participants had to be excluded from the analyses due to missing data. Additionally, since the study is cross-sectional in nature, one cannot make causal inferences about the observed associations between the independent and dependent variables.

Interpreting the current findings from the perspective of ETAS theory, we propose that belief in a benevolent God inhibits threat assessments about the dangerousness of the world, thereby decreasing psychiatric symptoms. Belief in a punitive God, on the other hand, facilitates threat assessments that the world is dangerous and even that God poses a threat of harm, thereby increasing psychiatric symptomology. Finally, belief in a deistic God neither inhibits nor facilitates threat assessments and, therefore, has no effect on psychiatric symptoms.

Future studies would benefit from testing hypotheses derived from theoretical models, including Attachment Theory (Kirkpatrick 1992, 2005; Silton et al. 2011), ETAS Theory (Flannelly and Galek 2010; Flannelly et al. 2007; Silton et al. 2011), Terror Management Theory (Cicirelli 2002; Vail et al. 2010), and Uncertainty Theory (Hogg et al. 2010; Silton et al. 2011). Some research areas might include exploring how fears of death may relate to participants’ perceptions of God and to their psychiatric symptomology. Do participants who possess more harsh, punishing, and vindictive beliefs about God exhibit greater death anxiety than those who believe God is accepting and loving?

It might also be interesting to delineate which psychiatric disorders may relate to various beliefs about God. How might belief in a punitive God relate to depression and disordered eating? Finally, qualitative questions may allow participants to delve further into when they perceive that God has been helpful, loving, or punishing toward them. Qualitative questioning may also afford participants an opportunity to select their own adjectives to describe God, rather than choosing a term from a preselected list. Analyzing the aforementioned qualitative data would likely shed light on participants’ richer and more-detailed conceptualizations of God.

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