Research paper

Anxiety, depressive, and trauma symptoms during the COVID-19 pandemic: Evaluating the role of disappointment with God

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ABSTRACT

Background: The COVID-19 pandemic has led to pervasive social and economic disruptions. This cross-sectional investigation aimed to evaluate associations between religious/spiritual factors and mental health symptoms among community residents in a southern US state. In particular, we focused on perceptions of God's distance, a salient aspect of religious/spiritual struggle that has received little scrutiny in health research.
Methods: Participants included 551 respondents assessed during a period of gradual reopening but rising infection rates. Mental health outcomes were assessed using standardized measures of generalized anxiety, depression, and trauma symptoms. Perceptions of an affirming relationship with God, anger at God, and disappointment at God's distance were evaluated using an adapted version of the Attitudes-Toward-God Scale-9.
Results: In multivariate analyses that accounted for pandemic-related and demographic factors, positive relationships with God were related to diminished symptoms on all three mental heatlh indices (all p's $\leq$.003), whereas disappointment with God's distance was associated with more pronounced difficulties (all p's $\leq$.014).
Limtations: The cross-sectional design precludes causal conclusions.
Conclusions: Findings suggest that perceived relationships with God are tied to clinically relevant mental health outcomes during periods of major upheaval. Disappointment with God's distance may be an important, understudied dimension of religious/spiritual struggle meriting further investigation.

1. Introduction

The COVID-19 pandemic has confronted the world community with a public health crisis of massive scope. In the US, the healthcare system faced shortages of viral testing and contact tracing resources, and access to routine care was altered or constrained (Blumenthal et al., 2020; Clark et al., 2021; Gawron et al., 2020). The impact of the pandemic on the economy was dramatic, with shuttered businesses and soaring unemployment rates (Board of Governors of the Federal Reserve System, 2020; Nicola et al., 2020). Almost all individuals experienced marked disruption in daily life.

An extensive literature has documented a range of mental health difficulties that often emerge following community-level natural disasters, including symptoms of anxiety, depression, and trauma (e.g., Beaglehole et al. 2018, Lowe et al. 2019; Tang et al., 2017). In response to the COVID-19 pandemic, similar difficulties were reported in a cluster of geographically diverse studies, many conducted in the immediate aftermath of the outbreak (Bäuerle et al., 2020; Choi et al., 2020; Forte et al., 2020; Gonzalez-Sanguino et al., 2020; Hyland et al., 2020; Huang and Zhao, 2020; Liu et al., 2020; Newby et al., 2020; Qiu et al., 2020; Smith et al., 2020; Tull et al., 2020; Varshney et al. 2020). Indications of increased psychosocial morbidity are especially troubling because access to routine sources of social support (e.g., gatherings with friends) and spiritual comfort (e.g., religious services) were narrowed at just the

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time these resources may have been most needed (Chirico and Nucera, 2020; Pew Research Center, 2020).

As the pandemic progresses, a prominent question concerns which individuals may be most vulnerable to mental health difficulties. The broader literature regarding natural disasters and mental health sequelae suggests that individuals who experience more severe exposure to the disaster, or more intensive disruption or loss, are likely to have poorer outcomes (Dai et al., 2016; Lowe et al., 2019; Tang et al., 2017). Event-related factors that might contribute to adverse outcomes from the COVID-19 pandemic might include, among others, viral exposure, loss of income or employment, food or financial insecurity, reduced access to routine healthcare, perceived isolation, and unwelcome changes in daily structure and routines (Sherman et al., 2020; Tull et al., 2020).

Adjustment to the pandemic might also be influenced by a range of personal and social resources. One important resource involves religious or spiritual involvement, which plays a significant role in the lives of many Americans. In response to a disaster, spiritual concerns may become more salient (Davis et al., 2019; Sibley and Bulbulia, 2012). In the broader disaster literature, evidence has been mixed regarding potential effects of different dimensions of religiousness/spirituality on psychosocial outcomes (Aten et al., 2019; Kucharska, 2020; Park et al., 2019). A dimension that may be especially relevant concerns perceived relationships with God. Individuals often experience their connection with God as nurturing or affirming. At times, however, these interactions can be a source of strain instead of support (Exline, 2002; Pargament, 1997; Sherman et al., 2009). In studies of disasters, spiritual struggles have been related rather consistently to poorer mental health outcomes (Mesidor and Sly, 2019; Ochu et al., 2018; Park et al., 2019).

Divine religious struggle may encompass a number of distinct facets, including for example disquieting experiences of God's punishment, unfairness, or personal rejection, or an individuals' anger toward, alienation from, or rejection of God (Exline, Pargament, et al., 2014; Exline et al., 2000; Hall and Edwards, 2002; Pargament et al., 2000; Pargament et al., 1998; Wood et al., 2010). Another type of struggle, which has received little research attention, involves disappointment that God does not protect us from misfortune. Several pioneering investigations have examined constructs related to a sense of distance from God, such as doctrinal appraisals of the degree to which God is remote versus actively engaged in worldly affairs (e.g., Exline, Grubbs, et al., 2014; Froese and Bader, 2010); personal theodicies to explain why God allows suffering (Hale-Smith et al., 2012), or insecure attachment and anxious reactivity to God (Beck and McDonald, 2004; Rowatt and Kirkpatrick, 2002). However, surprisingly little quantitative research has focused specifically on discomfort or disillusionment with God's apparent distance during difficult moments. The sense that God is distant or unresponsive during particular stressful circumstances is distinct from these related constructs (which involve broader theological frameworks or dispositional characteristics); clearly, this important dimension of spiritual/religious struggle requires further study. For individuals who perceive God as personal and agentic rather than removed (beliefs that are very common in America; Smith, 2012), concerns about God's distance or lack of protection during the ravages of a pandemic might have appreciable implications for mental health. Efforts to examine these relationships would address a significant gap in the literature, given the dearth of research thus far regarding religious/spiritual responses to COVID-19 and the large portion of Americans who turn to their faith to help manage periods of upheaval (e.g., Schuster et al., 2001).

The current investigation examined associations between relationships with God and mental health outcomes in response to the COVID-19 pandemic among community residents in a southern US state. The experience in Arkansas offers a good opportunity to evaluate these associations, in view of its location in the Bible Belt and the salience of spiritual activities in the daily lives of many residents. Government mitigation strategies to control the pandemic have varied widely across different geographical regions and time periods; we focused on responses among residents during an earlier period of phased reopening— a time when infection rates in the state were rising significantly (Centers for Disease Control and Prevention, 2020). We examined three mental health outcomes in response to the pandemic: levels of generalized anxiety, depressive symptoms, and trauma symptoms. We hypothesized that an affirming relationship with God would be associated with fewer symptoms even after controlling for significant pandemic-related and demographic covariates, which offers a conservative test of this association. In contrast, we expected that greater anger toward God, and greater disappointment at God's distance, would each be related to poorer outcomes, after accounting for the effects of pandemic-related and demographic variables. Moreover, we anticipated that disappointment with God's distance would have independent associations with mental health symptoms above and beyond the (better known) effects of anger toward God. The study was intended to offer novel information about a type of religious struggle that has been notably understudied, in the context of a global health crisis.

2. Methods

2.1. Participants and procedures

In this cross-sectional, registry-based study, a survey regarding responses to the COVID-19 pandemic among community residents in Arkansas was administered during a one month period between May 22nd and June 24th, a time of progressive reopening in the state (phase 1 and early phase 2) but notably increasing infection rates. This period was important because it was characterized by reopening of a wide range of venues, including gyms, hair salons, and dine-in service in restaurants (one-third capacity during phase 1 and two-thirds during phase 2), in addition to movie theaters and sports arenas with audiences of fewer than 50. Mental health indices and pandemic-related risk-factors are the subject of a separate report (Sherman et al., 2020). This paper evaluates associations of psychiatric symptoms with religious/spiritual resources. An invitation with a link to the on-line survey was emailed to participants in the Translational Research Center's ARresearch registry at University of Arkansas for Medical Sciences (UAMS). Registrants have expressed a potential interest in research participation, and vary widely with respect to socioeconomic, racial, and rural/urban characteristics. Inclusion criteria included age 18 or older, residence in the state, and being listed in the in the registry as a healthy community resident (as opposed to classification under a specific chronic illness). The survey was administered using REDCap, a secure web application for online research (Harris et al., 2009). The protocol was approved by the UAMS Institutional Review Board with a waiver of written documentation of consent. Potential participants were informed about study procedures using an information form, and completion of the survey signified consent.

2.2. Psychological adjustment

Anxiety symptoms were evaluated using the 7-item Generalized Anxiety Disorder questionnaire (GAD-7; Spitzer et al., 2006), a widely used screening measure. Research has supported the reliability and factorial and criterion-related validity of this measure in primary care patients (Spitzer et al., 2006) and the general population (Löwe et al., 2008). In the current sample, coefficient alpha was .93.

Depressive symptoms were measured using the Patient Health Questionnaire (PHQ-9; Spitzer et al., 1999), a 9-item screening instrument. Evidence for internal consistency and construct validity has been reported in multiple studies (Spitzer et al., 1999; Levis et al., 2019). Coefficient alpha was .91 in the present sample.

Trauma-related symptoms were assessed with the 20-item PTSD Checklist for DSM-5 (PCL-5; Blevins et al., 2015). Items were keyed to the COVID-19 pandemic. Evidence supports the internal consistency and

convergent validity of this measure in student and clinical populations (Blevins et al., 2015; Bovin et al., 2015). Coefficient alpha was .92.

2.3. Religious variables

Relationships with God were assessed with the Attitudes Toward God Scale-9 (ATGS-9; Wood et al., 2010). This 9-item measure evaluates positive/supportive (e.g., "feel nurtured or cared for by God") and angry/disappointing (e.g., "feel angry at God") relationships with God. Participants respond on an 11-point Likert scale, and the instructions were keyed to the COVID-19 pandemic. The internal consistency, factor structure, and construct validity of the instrument have been demonstrated in prior research (Wood et al., 2010). In the current sample, coefficient alphas were .98 for the positive scale and .79 for the anger scale. To assess disappointment with God's distance in response to stressful circumstances, we added four items using the same response format (i.e., "feel disappointed or confused that God lets awful things happen," "feel that God isn't as active in our lives as you would like," "feel frustrated that God does not play a more active role in the world," "feel disappointed or frustrated that God does not protect us from tragedies"). Items were constructed based on a review of the literature to enhance content validity. Coefficient alpha was .83, indicating good internal consistency. With respect to divergent validity, small-to-moderate correlations with the positive relationship scale (r =.13) and the anger scale (r =.52) suggested that it represents a distinct construct not wholly captured by the other scales.

General religiousness was assessed with a single item regarding religious commitment ("to what extent do you consider yourself a religious person"), which was rated on a 4-point Likert scale. It was drawn from the Fetzer Institute and National Institute on Aging Working Group (1999) and is widely used in health research.

2.4. Demographic and pandemic-related variables

Participants responded to items regarding demographic background (e.g. age, gender, ethnicity, etc.). In addition, a series of Likert-scale items inquired about pandemic-related burdens. Participants were asked about COVID-19 testing using an item adapted from the University of Southern California (2020) Center for Economic and Social Research Understanding America Study (UAS) Coronavirus Tracking Survey, and about perceived viral exposure and COVID-19 symptom severity using items adapted from the Australian Treatment Outcome Study (ATOS) 18-20 Year Follow-up study (Marel et al., 2020). Three items (coded for analysis as 0= no or not sure, 1 =yes) inquired about food insecurity (e.g., "worried that you would run out of food"), and two items asked about financial insecurity (e.g., missed or delayed payment of rent/mortgage) using items adapted from the UAS. Eight items (coded for analysis as 0 =no or not sure, 1 =yes) assessed absence of recommended social distancing behaviors (e.g., "attended a gathering with more than 10 people"), using items adapted from the UAS; these items were summed to create a total score.

Disruptions in daily life due to the pandemic were evaluated with seven items generated by the authors (e.g., "trouble arranging for childcare"); these items was rated on a 4-point Likert scale and summed to create a total score (coefficient alpha =.73). Four single items, each with 4-5 response options, were used to assess other burdens, including illness or loss of loved ones due to COVID-19 (coded for analysis as 0 =no, 1 = illness or death), and the impact of the pandemic on employment (coded 0 =no change, 1 = loss of income, job, or business), daily structure (coded 0 =no more than 1-2 planned/scheduled activities per week, 1 =at least several planned/scheduled activities per week), and sheltering at home (coded 0 = leave home at least several times per week, 1 =shelter at home, supplies are delivered and almost never leave the residence). One item (coded 0 =no or not sure, 1 =yes) inquired whether the pandemic had affected access to usual medical care.

2.5. Statistical analysis

We conducted preliminary bivariate analyses to examine associations of the three mental health variables (i.e., GAD-7 anxiety symptoms, PHQ-9 depressive symptoms, and PCL-5 trauma symptoms) with background demographic and pandemic-related variables, using correlations for continuous variables and t-tests for categorical variables. A log transformation was used for the disruption in daily life score due to its non-normal distribution (skewness for the transformed variable =.36).

In the main analyses, separate multiple regression models were used to evaluate associations of each mental health outcome with the three religious relationship variables (i.e., positive relationship, anger toward God, and distance from God), after controlling for demographic and pandemic-related variables that were significantly related in bivariate analyses. A log transformation was used for each of the mental health variables due to non-normal distributions (skewness for the transformed variables = .70 for GAD-7log, .71 for PHQ-9log, and .94 for PCL-5log), and the religious variables were dichotomized (using median splits or closest approximation), due to non-normal, bimodal or leptokurtic distributions that were not amenable to efforts at transformation. The critical p-value was set at <.017 (i.e., 3 outcomes divided by .05) to adjust for multiple comparisons.

Several sensitivity analyses were conducted. Previous research has suggested that perceived relationships with God and spiritual struggles can be meaningfully assessed even among individuals who do not view themselves as religious (Exline et al., 2011; Weber et al., 2012; Wilt et al., 2016). Nonetheless, supplementary analyses were performed to account for the possibility that relationships with God are less pertinent for individuals who are not religious. We repeated the multiple regression analyses, excluding participants who reported being "not at all" religious on a 4-point scale of general religiousness. Moreover, in ancillary multiple regression analyses conducted with the full sample, we checked for potential moderator effects by examining statistical interactions between religiousness (after centering these scores) and each of the relationship with God scales. An additional sensitivity analysis was conducted using a modified version of the anger with God scale. Although its correlations with the distance from God scale was only moderate (as noted above), we took a step further by deleting two items from the anger toward God scale that might be viewed as overlapping conceptually with the construct of distance from God (i.e., "feel that God has let you down," "feel abandoned by God"; coefficient alpha for the modified scale =.71, correlation with distance from God =.46). We conducted the multiple regression analyses again using the adapted scale.

3. Results

3.1. Sample characteristics

A total of 551 (33.0%) individuals responded to the survey, completed the religious measures and were included in the analyses, among the 1672 who received emailed invitations. On average, participants were more likely to be older (p =.001), female (p =.04), and white (p =.001) relative to those who did not complete the survey. Among the 551 respondents included in the analysis, 12 (2.2%) were missing data for the PCL-5 (which was located at the end of the survey); these individuals did not differ significantly from the remainder of the participants on any of the demographic or outcome measures (all p's >.12). Missing data for all of the remaining variables was negligible (<0.02%).

Table 1 summarizes sample characteristics. Mean age was 51.48 (14.86) years, and respondents were predominantly white (83.67%), female (76.95%) and well-educated (mean =15.93 years).

The burdens of the pandemic were clearly evident in this sample. A considerable proportion had experienced loss of work or income due to the pandemic (21.78%) or were contending with food insecurity (13.97%). A notable number reported diminished access to routine

Table 1

Sample characteristics.

Characteristic	N (%)	Mean (SD)
Age		51.47 (14.86)
education (years)		15.93 (2.05)
disruptions in daily life (log)		1.16 (.10)
lack of social distancing (0-16)		3.94 (1.68)
gender		
male	127 (23.05)	
female	424 (76.95)	
ethnicity		
majority	461 (83.67)	
non-majority	90 (16.33)	
income (n = 547)		
$0-59,999	180 (32.91)	
≥$60,000	367 (67.09)	
tested for coronavirus		
not tested	505 (91.65)	
results pending	7 (1.27)	
negative	36 (6.53)	
positive	3 (.54)	
self-reported COVID symptoms	48 (8.71)	
perceived exposure	45 (8.18)	
food insecurity	77 (13.97)	
financial insecurity	60 (10.89)	
reduced access medical care	220 (39.93)	
loss of employment/income	120 (21.78)	
lack of daily structure	214 (38.84)	
stringent sheltering at home	96 (17.49)	
illness/death of loved one	33 (5.99)	

medical care (39.93%), many were struggling with greatly reduced daily structure (38.84%), and some were still stringently sheltering at home (17.49%). Most participants (89.47%) endorsed at least some level of disruption in daily life ("somewhat" or more). Only a small percentage had been tested for coronavirus (8.35%) at this phase of the pandemic.

An appreciable percentage of participants exceeded established cut-off values for possible cases of generalized anxiety (16.15%), depression (20.33%), or trauma (5.38%). As might be expected, scores on these indices were highly correlated (r's =.74 to .80), but were retained as separate variables in the analyses due to their clinical relevance as actionable outcomes, and "real-world" differences in how they these problems are construed, screened, and treated in daily practice.[1]

With respect to religious affiliation, most participants identified themselves as Christian (63.9% Protestant, 9.4% Catholic); some reported no religious affiliation (21.2%). Very few reported belonging to other faith traditions (2.2% Jewish, Muslim, Hindu, etc.), described themselves as agnostic (1.3%), or identified other spiritual beliefs (2.0%). On average, as anticipated, scores were relatively high for the positive relationship with God scale (M =6.13 on a 0-10 scale), and were at the low anchor of the response scale for both the anger at God (M =.27) and distance from God (M =.81) measures, though with considerable variability across individuals (range =0-10, 0-8, and 0-10 for each scale, respectively). On average, participants rated themselves as "quite a bit" religious (M =1.64 on a 0-3 scale).

3.2. Preliminary analyses

In preliminary bivariate analyses, each of the three mental health measures (i.e., generalized anxiety, depressive symptoms, and trauma symptoms) was significantly related to female gender (all p's ≤ .0006), lower income (all p's ≤.003), food insecurity (all p's =.0001), financial insecurity (all p's ≤.0004), reduced access to medical care (all p's ≤.0005), loss of income or employment (all p's ≤.007), more stringent sheltering at home (all p's ≤.002), and greater disruptions in daily life due to the pandemic (all p's ≤.0001; see Table 2). Greater anxiety and depressive symptoms were associated with perceived experience of COVID-19 symptoms (all p's ≤.005) and lack of daily structure (all p's ≤.002), and depressive symptoms were related to lower education (p =

Table 2

Bivariate associations of demographic and pandemic characteristics with psychological adjustment.

Characteristic	PHQ-9 Depression (log) *p*-value mean (SD) or *r*	GAD-7 Anxiety (log) *p*-value mean (SD) or *r*	PLC-5 Trauma (log) *p*-value mean (SD) or *r*
gender	.0006*	.0001*	.0001*
male	1.12 (.12)	1.10 (.11)	1.17 (.16)
female	1.17 (.15)	1.17 (.13)	1.24 (.21)
income (n =547)	.0001*	003*	.002*
$0-39,999	1.22 (.15)	1.19 (.15)	1.29 (.21)
≥$40,000	1.14 (.14)	1.14 (.13)	1.21 (.20)
ethnicity	.04	.17	.08
majority	1.19 (.15)	1.17 (.14)	1.26 (.23)
non-majority	1.15 (.14)	1.15 (.13)	1.22 (.19)
perceived COVID-19 symptoms	.005*	.0001*	.04
None	1.15 (.14)	1.14 (.13)	1.22 (.20)
mild, moderate, or severe	1.22 (.17)	1.23 (.14)	1.28 (.22)
perceived exposure	.27	.11	.15
no	1.16 (.14)	1.15 (.13)	1.22 (.20)
yes	1.18 (.14)	1.18 (.14)	1.27 (.22)
food insecurity	.0001*	.0001*	.0001*
no	1.14 (.13)	1.14 (.13)	1.20 (.19)
yes	1.25 (.16)	1.24 (.14)	1.35 (.21)
financial insecurity	.0001*	.0001*	.0004*
no	1.15 (.13)	1.14 (.13)	1.21 (.19)
yes	1.26 (.16)	1.23 (.15)	1.32 (.22)
reduced access medical care	.0002*	.0005*	.0003*
no	1.14 (.13)	1.14 (.13)	1.20 (.19)
yes	1.19 (.15)	1.18 (.14)	1.26 (.21)
loss of income/ employment	.006*	.017*	.007*
no	1.15 (.14)	1.14 (.13)	1.21 (.19)
yes	1.19 (.16)	1.18 (.14)	1.27 (.23)
daily structure	.001*	.002*	.07
limited	1.18 (.15)	1.17 (.15)	1.24 (.22)
more extensive	1.14 (.13)	1.14 (.12)	1.21 (.19)
sheltering at home	.001*	.001*	.002*
stringent	1.21 (.16)	1.19 (.14)	1.30 (.24)
relaxed	1.15 (.14)	1.14 (.13)	1.21 (.19)
illness/death loved one	.14	.10	.08
No	1.16 (.14)	1.15 (.13)	1.22 (.20)
Yes	1.19 (.16)	1.19 (.13)	1.28 (.21)
age (correlation)	.0001*	.0001*	.0001*
	-.23	-.30	-.19
education (years; correlation)	.002*	.04	.23
	-.13	-.09	-.05
disruptions in daily life (log)(correlation)	.0001*	.0001*	.0001*
	.34	.37	.41
lack of social distancing (correlation)	.22	.66	.05
	-.05	-.02	-.08

Note: *p*-values derived from t-tests for categorical variables or Pearson correlations for continuous variables;
*p < .017.

.002). These variables were controlled in the primary analyses. Mental health symptoms were not significantly related to perceived viral exposure, loss or illness of loved ones due to COVID-19, or absence of social distancing behaviors (all p's ≥.05).

3.3. Associations of religious variables with mental health symptoms

In bivariate analyses, each of the three relationship with God scales was significantly related to the mental health measures in the expected directions (all p's <.0167), with small-to-moderate effect sizes (all d's =.21-.53), with the exception of the association of the positive relationship with God scale with generalized anxiety, which showed a non-

significant trend (*p* =.039; see Table 3).

In the primary multiple regression analyses, two of the religious variables– positive relationships with God and distance from God– were related to each of the three outcomes, after adjusting for background demographic and pandemic-related factors (see Table 4). Higher levels of *generalized anxiety* were significantly associated with younger age (*β* =-.20, *p* <.0001), female gender (*β* =.13, *p* =.0004), prior mental health difficulties (*β* =.25, *p* <.0001), COVID-19 symptoms (*β* =.11, *p* =.002), greater disruption in daily activities due to the pandemic (*β* =.27, *p* <.0001), a less positive relationship God (*β* =-.11, *p* =.003), and a more distant relationship with God (*β* =.10, *p* =.014). Higher levels of *depressive symptoms* were related to younger age (*β* =-.12, *p* =.0008), lower income (*β* =-.13, *p* =.0008), prior mental health difficulties (*β* =.29, *p* <.0001), greater disruption in daily activities (*β* =.24, *p* <.0001), a less positive relationship God (*β* =-.11, *p* =.003), and a more distant relationship with God (*β* =.11, *p* =.009). Higher levels of *trauma symptoms* were associated with female gender (*β* =.10, *p* =.008), prior mental health difficulties (*β* =.18, *p* <.0001), greater disruption in daily activities (*β* =.33, *p* <.0001), a less positive relationship God (*β* =-.15, *p* =.0002), and a more distant relationship with God (*β* =.16, *p* =.0002). In contrast, the effect of anger toward God was not significant in the multivariate analyses (all *p*'s >.43).

3.4. Exploratory analyses

Results of exploratory analyses were consistent with findings from the primarily analyses. In the first set of sensitivity analyses, the multiple regression analyses were repeated after excluding individuals who indicated that they were "not at all" religious (N for analysis =426). The effects of positive relationship with God remained significant for all three outcomes (*β* =-.12, *p* =.003 for generalized anxiety; *β* =-.12, *p* =.006 for depressive symptoms, *β* =-.13, *p* =.002 for trauma symptoms), as did the effects for distant relationship with God (*β* =.12, *p* =.007 for generalized anxiety; *β* =-.15, *p* =.0002 for depressive symptoms, *β* =.12, *p* =.007; and *β* =.20, *p* <.0001 for trauma symptoms). Findings regarding anger toward God remained non-significant (all *p*'s >.29). In the second set of ancillary analyses, using the full sample, we also checked for potential moderator effects by including interactions between religiousness and each of the relationship with God scales in the

Table 3
Bivariate associations between relationships with God and psychological adjustment.

Outcome	Low mean (SD)	High mean (SD)	*p*-value[a]	effect size (d)
Positive relationship with God				
GAD-7 generalized anxiety (log)	1.16 (.13)	1.14 (.14)	.039	.17
PHQ-9 depression (log)	1.17 (.14)	1.14 (.14)	.016*	.21
PCL-5 trauma (log)	1.25 (.21)	1.20 (.19)	.011*	.22
Anger at God				
GAD-7 generalized anxiety (log)	1.14 (.13)	1.20 (.15)	.0009*	.38
PHQ-9 depression (log)	1.15 (.13)	1.21 (.16)	.0003*	.43
PCL-5 trauma (log)	1.20 (.18)	1.32 (.23)	.0001*	.53
Distance from God				
GAD-7 generalized anxiety (log)	1.14 (.13)	1.18 (.14)	.0001*	.36
PHQ-9 depression (log)	1.14 (.13)	1.19 (.15)	.0001*	.37
PCL-5 trauma (log)	1.19 (.18)	1.29 (.21)	.0001*	.52

Note: [a]*p*-value derived from t-test, *p < .017.

Table 4
Multiple regression predicting psychological adjustment from religious variables.

Predictors	B	R²	model
GAD-7 generalized anxiety (log)			F(15,529) =21.00, p<.0001, adj R²=.36
age	-.20*	.05	
gender	.13*	.02	
family income	-.08†	.01	
prior mental health diagnosis	.25*	.08	
loss of job/income	-.02	.00	
food insecurity	.07	.01	
financial insecurity	.03	.00	
self-reported COVID-19 symptoms	.11*	.02	
reduced access to medical care	-.00	.00	
daily structure	-.07	.02	
stringent sheltering at home	.03	.00	
disruption in daily life	.27*	.08	
positive relationship with God	-.11*	.02	
distance from God	.10*	.01	
anger at God	-.03	.00	
PHQ-9 depression (log)			F(16,528) =18.39, p<.0001, adj R²=.34
age	-.12*	.02	
gender	.05	.00	
education	-.03	.00	
family income	-.13*	.02	
prior mental health diagnosis	.29*	.10	
loss of income/employment	.00	.00	
food insecurity	.05	.00	
financial insecurity	.07	.01	
self-reported COVID-19 symptom	.06	.01	
reduced access to medical care	.01	.00	
stringent sheltering at home	.06	.00	
daily structure	-.06	.00	
disruption in daily life	.24*	.06	.
positive relationship with God	-.11*	.02	
distance from God	.11*	.01	
anger at God	-.02	.00	
PCL-5 trauma (log)			F(13,519) =19.85, p<.0001, adj R²=.32
age	-.07	.01	
gender	.10*	.01	
family income	-.06	.00	
prior mental health diagnosis	.18*	.04	
loss of job/income	.04	.00	
food insecurity	.08	.01	
financial insecurity	.03	.00	
reduced access to medical care	-.01	.00	
stringent sheltering at home	.06	.01	
disruption in daily life	.33*	.12	
positive relationship with God	-.15*	.03	
distance from God	.16*	.03	
anger at God	.03	.00	

Note: *p < .017

regression analyses predicting the mental health outcomes. The interaction terms were non-significant in each model (all *p*'s >.34). Finally, an additional sensitivity analysis was conducted using a modified version of the anger toward God scale, to further minimize any overlap with the distance from God scale. The modified anger toward God scale remained non-significant in each of the three multiple regression models (all *p*'s > .36), whereas the positive relationship with God and distant relationship with God scales remained significant in each model (all *p*'s < .016).

4. Discussion

The COVID-19 pandemic has had a sweeping impact on daily life for communities around the world, and an initial series of studies has pointed to heightened levels of mental health difficulties (Bäuerle et al., 2020; Choi et al., 2020; Forte et al., 2020; Gonzalez-Sanguino et al.,

2020; Liu et al. 2020; Qiu et al. 2020; Rossi et al., 2020; Smith et al., 2020; Tull et al., 2020). Thus far, relatively few investigations have examined psychosocial factors that might influence vulnerability to psychosocial morbidity in the general population (Germani et al., 2020; Gonzalez-Sanguino et al., 2020; Guo et al., 2020; Li et al., 2020; Liu et al. 2020; Mazza et al., 2020; Moccia et al., 2020; Tull et al., 2020), and very few have examined religious/spiritual factors (Gonzalez-Sanguino et al., 2020; Jaspal et al., 2020; Lucchetti et al., 2020; Pirutinsky et al., 2020). The current study evaluated both positive and negative dimensions of religiousness, as reflected in affirming, angry, and distant relationships with God, during an early period of reopening within the state. As expected, a more supportive relationship was tied to lower levels of generalized anxiety symptoms, depressive symptoms, and trauma symptoms in multivariate analyses. These associations were modest in magnitude, but were significant after accounting for the effects of a range of demographic and pandemic-related factors. Though correlational, results suggest that for some community residents, a positive relationship with God may be a helpful resource in coping with the far-reaching demands of a major health disaster.

A central finding concerns associations with disappointment with God's distance– an important experience that has received little scrutiny from health investigators. A sense that God does not protect us from trying circumstances was related to greater distress on all three mental health outcomes. This association remained significant after adjustment for the effects of other types of relationships with God, most notably anger at God. These novel results suggest that disappointment with God's distance during difficult moments is a meaningful dimension of religious struggle, meriting further attention in health research.

Anger toward God was associated with greater distress on each of our outcome measures in bivariate analyses. In multivariable analyses, however, these relationships were no longer significant, eclipsed by the effects of pandemic-related and demographic variables. Anger toward God has been tied to greater distress in previous studies conducted in various settings (e.g., Exline et al., 2011; Exline et al., 2013; Wood et al., 2010; see Exline et al., 2016 for mixed findings), and we had expected it to have independent concurrent effects in the current investigation. It is possible that items regarding disappointment with God's distance offered a more socially acceptable way to express spiritual struggle compared with expressions of anger (Exline et al., 2012), or that anger toward God might be more prominent after a more protracted period of time. However, many individuals (19.1%) endorsed some level of anger toward God, as has been the case in previous investigations (Exline et al., 2011; Exline et al., 2013; Wood et al., 2010). Further research would help clarify the effects of anger toward God during times of upheaval.

In this study, associations of mental health symptoms with positive or distant relationships with God were not limited to individuals who identified themselves as religious. Perceived connections with God, whether involving beneficence or struggle, may have some relevance even for people who do not construe themselves as particularly religious. Similar findings have emerged in previous research (Exline et al, 2011; Weber et al, 2012). Studies using in-depth qualitative approaches may be helpful in further exploring the meaning of these experiences among non-religious individuals, or among members of secular vs. more religious cultures.

4.1. Distance from God as an aspect of spiritual struggle

Spiritual struggle has become an area of growing research activity. Different types of unsettling religious experiences are often mixed together in widely used measures of spiritual struggle (e.g., Brief RCOPE, Pargament et al., 1998; Religious Comfort and Strain Scale, Exline et al., 2000; Attitudes Toward God Scale-9, Wood et al., 2010). These tools provide helpful information, but may obscure differences in more specific dimensions. It may be important to disaggregate over-lapping but distinct aspects of religious strain, allowing for more fine-grained understanding (Altemeyer and Hunsberger, 1997; Exline,

Grubbs, et al., 2014; Lehmann and Steele, 2020; Pargament et al., 2000). For example, struggles with God's distance during difficult moments are not the same as perceptions of divine punishment (Pargament et al., 2000) or cruelty (Exline, Grubbs, et al., 2014), or conflicts regarding doubt (Altemeyer and Hunsberger, 1997), anger (Wood et al., 2010), or lack of forgiveness (Strelan et al., 2009).[2]

Recently, investigators have begun to explore how spiritual struggle might be related to underlying religious beliefs about God's role in suffering (Exline et al., 2011; Wilt et al., 2016; Wilt et al., 2017). We would anticipate that disappointment with God's distance, and ensuing distress, would be most pronounced in situations that violate people's expectations concerning God's involvement in human suffering. For some individuals, tragic circumstances may rupture assumptions that faith or piety will garner God's unflagging protection. Disruption of this core belief might lead to jolting disappointment or disillusionment, and challenge broader perceptions of safety and meaning (Pargament, 1997; Park, 2005). Other beliefs about suffering perhaps may be less prone to perceived violation and ensuing disappointment, including for example assumptions that God simply does not intervene in human affairs, or that suffering is unavoidable but redemptive, or that maladies are part of God's benevolent plan. In future research, it may be valuable to explore not only the theodicies that people hold (Wilt et al., 2016;), but the dislodging of those theodicies during difficult circumstances, in order to better understand religious struggles such as disappointment with God's distance.

These results highlight several other areas that warrant additional research as well. Since spiritual struggles are dynamic rather than static, it would be helpful to assess changes over time in disappointment with God's distance. Religious and cultural traditions vary widely in the responses they encourage among adherents who are wrestling with aspects of their faith (Exline et al., 2012). Following an experience of painful disappointment, some individuals may lodge grievances against God (protest), some might move toward reconciliation (forgiveness of God), some might reevaluate how they seek God's presence (reappraisal), some might shift their understanding to accommodate greater complexity and ambiguity (revision of religious schemas) and others might withdraw from religious commitments (exit), with relative equanimity or with great pain. These divergent cognitive and behavioral coping responses may have differential effects on mental health outcomes. Other areas for further exploration might include efforts to consider the breadth of disappointment with God, differentiating situationally-specific experiences of disappointment from more global ones, and to evaluate its immediacy, distinguishing abstract wishes for greater engagement ("it would be nice if God were more present") from shattered expectations ("God was supposed to be more present").

4.2. Clinical implications

Religious and spiritual issues have received increased recognition in clinical settings, consistent with changes in practice standards (e.g., Joint Commission 2020) and heightened awareness regarding social-cultural determinants of health. Clinicians should be aware that levels of depressive, anxiety, and trauma symptoms may be elevated in response to the COVID-19 pandemic (Bäuerle et al., 2020; Liu et al., 2020; Rossi et al., 2020; Smith et al., 2020) and that for some individuals these reactions may be associated with religious factors. The recent increase in online religious services and activities may offer helpful resources for some patients. Recently, there also have been efforts to further develop focal interventions to assist individuals with spiritual distress (e.g., Dworsky et al., 2013; Murray-Swank and Murray-Swank, 2013), and these continue to evolve.

4.3. Study strenths and limitations

Findings shed new light on the potential importance of disappointment with God's distance. More broadly, this investigation is among the

few to examine the role of religious/spiritual variables in adaptation to the COVID-19 pandemic among community residents. It is also among the few studies to evaluate mental health symtpoms during a period of phased reopening (spring 2020) after the initial onset of the pandemic, when infection rates continued to rise, and to examine the experience of residents in a rural southern state. The large sample and careful consideration of pandemic-related risk factors are additional strengths of the investigation. The study has a number of important limitations as well. The cross-sectional design precludes causal interpretations; as noted, it would be helpful to explore how relationships between religious/spiritual factors and distress unfold over the subsequent course of the pandemic and the recovery. The response rate to the survey was modest (33%), though consistent with responses to web-based community surveys (Kaplowitz et al., 2004; Sinclair et al., 2012). Moreover, this sample of research volunteers, though diverse, is not representative of the population of Arkansas, nor is clear how findings would generalize to areas outside of the Bible-Belt region of the US. Additional research is needed to further illuminate the experience of younger individuals, men, those from ethnic minority groups, and those from non-Christian and non-theistic backgrounds.

5. Conclusions

Overall, the current investigation suggests that religious/spiritual factors are related to adjustment to the COVID-19 pandemic among community residents in a southern region of the US. In particular, perceptions of an affirming relationship with God were tied to reduced levels of generalized anxiety, depressive, and trauma symptoms, whereas disappointment at God's distance was associated with increased distress on these measures. Further research is needed to examine temporal relationships. Disappointment with God's distance during taxing life circumstances appears to be a meaningful dimension of religious/spiritual struggle meriting further empirical attention.

Notes

[1]Multiple regression models using a composite index of distress instead of the 3 separate mental health indices did not change the findings reported here.

[2]Nor is disappointment with God's distance the same as the related concept of attachment to God. The former construct focuses specifically on perceptions of God's lack of responsiveness during stressful situations, whereas the latter involves an individual's dispositional style of relating to God. That is, distance from God concerns a particular aspect of an individual's experience of God in a particular situation, rather than broader relational patterns represented by orthogonal dimensions of recurring anxiety and distancing behavior. Commonly used measures of attachment to God (e.g., Beck and McDonald, 2004; Rowatt and Kirkpatrick, 2002) emphasize characteristic insecurity, jealousy, anxiety, ambivalence, and withdrawal, none of which are essential features of the construct of disappointment with God's distance, which may be experienced by individuals with secure or insecure attachment to God.

Author contributions

Allen Sherman: Conceptualization, Methodology, Formal analysis, Investigation, Writing-original draft, Writing- review and editing, Project administration

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Declaration of Competing Interest

The authors report no conflicts of interest.

Data availability

The data that support this study are available from the corresponding author, ACS, upon request.

Ethics approval and Informed Consent

This protocol was approved by the Institutional Review Board of the University of Arkansas for Medical Sciences, with waiver of written documentation of consent and use of a written information form to inform participants about the study and their rights

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