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ORIGINAL PAPER

Perceptions of Accountability to God and Psychological Well-Being Among US Adults

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Abstract

This study examines whether accountability to God is positively associated with four measures of psychological well-being—happiness, mattering to others, dignity, and meaning—among US adults. It also tests the possibility that prayer moderates these associations. Data from the 2017 Values and Beliefs of the American Public Survey ($n = 1251$) were analyzed using multivariate regression. Findings provided support for an association between accountability to God and mattering to others, dignity, and meaning in fully controlled models, and for happiness when religious controls were excluded. They also showed that these relationships were stronger among those who prayed frequently compared with those who did not. Overall, these findings shed light on a new concept—accountability to God—including its association with psychological well-being.

Keywords Prayer · Virtue · Happiness · Dignity · Meaning

Introduction

Substantial evidence suggests that religious practices and beliefs are consequential for psychological well-being (PWB), with many studies reporting salutary associations (Chen et al., 2020; Koenig, 2018; Koenig et al., 2012; VanderWeele, 2017a, 2017b). Investigators have examined an array of religious constructs including denominational affiliation, service attendance, prayer and meditation, perceived intimacy with God, religious experiences, and social identities formed

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in religious settings, among others (AbdAleati et al., 2016; Chen et al., 2020; Dein et al., 2010; Ellison et al., 2009; Hallett et al., 2016; Kent, 2019; Keyes & Reitzes, 2007; Leman et al., 2018; Miller et al., 2014; Moreira-Almeida et al., 2006). To date, however, scholars have neglected a potentially important aspect of religious life: the extent to which people experience a sense of accountability to God or other transcendent guide for living (Evans, 2018, 2019).

As outlined by Evans (2018), people with a sense of "theistic accountability" see themselves as answerable to God, look to God as a guide for making decisions in life, welcome the responsibilities of their faith, and view accountability to God and their religious faith as gifts that help them lead happy and successful lives (Ano & Vasconcelles, 2005; Ellison & Taylor, 1996; Pargament, 1997). In this view, embracing accountability to God in a virtuous manner is distinct from mere conformity to the social norms of one's religious group. Rather, people who welcome accountability to God seek to discern God's will with wisdom in order to prosper and better understand their purpose in life. Many people develop this type of accountability through prayer and devotion, where they seek God's guidance and confess when they do not live in accordance with the expectations of their religious faith (Bradshaw et al., 2008; Ellison, Bradshaw, et al., 2014; Ellison, Schieman, et al., 2014; Masters & Spielmans, 2007). In essence, religious individuals (and those who broadly believe in a higher power) are often motivated to think and act in ways that they believe are right in light of their religious faith—i.e., with theistic or transcendent accountability.

Accountability to God as a virtue has not been explicitly acknowledged in the religion and health literature, but the potential value of this concept is implied in research showing that religious norms and expectations have consequences for PWB (Mannheimer & Hill, 2015). For example, religious norms such as honoring others, preventing and rectifying injustices in the world, and caring for one's body (through dietary practices and avoidance of substances) become norms precisely because an authoritative higher power is believed to have established them (Ellison et al., 2008; Levin, 2010; VanderWeele et al., 2017a, 2017b; Witvliet, 2020). Fundamental practices—like prayer and meditation—are also grounded in acknowledgment of a transcendent authority to whom one is accountable (Boda, 2006; Breslin & Lewis, 2008; Masters & Spielmans, 2007). Authority implies accountability, and religious practices and beliefs may shape PWB in part because behaving in accordance with strongly held beliefs is a correlate of well-being (Evans, 2018; Greenfield & Marks, 2007; Lee et al., 2017).

While preliminary evidence has been presented on potential links between accountability to God and PWB (Witvliet et al., 2019a), no peer-reviewed studies have been published to date. Therefore, this study aims to conceptually and empirically advance research in this area by developing a theoretical framework in which perceptions of accountability to God are likely to be associated with PWB. It also evaluates prayer as a moderator of this relationship, taking advantage of data from the 2017 Values and Beliefs of the American Public Survey (VBAPS), also known as the Baylor Religion Survey. Many of the measures in these data are not available in other national surveys, so the associations between accountability to God and diverse indicators of PWB will be examined for the

first time. The study will conclude with a discussion of the results and suggestions for future research.

Background

Accountability

Conceptualizations of accountability vary widely, with most placing emphasis on "holding others accountable" rather than on welcoming or embracing accountability to God or others (Evans, 2018, 2019; Witvliet et al., 2019a). For example, some scholars have defined accountability as a "perceived expectation that one's decisions or actions will be evaluated by a salient audience and that rewards or sanctions are believed to be contingent on this expected evaluation (Hall & Ferris, 2011: 134)." Inherent in accountability to others is the idea that individuals answer to some agent (or agents) with standing to evaluate them and provide feedback (Witvliet et al., 2019a, 2019b), as well as dispense rewards for appropriate behavior and punishments for inappropriate actions (Frink & Klimoski, 1998; Hall & Ferris, 2011; Lerner & Tetlock, 1999; Stenning, 1995). Humans are social creatures that form hierarchies and establish structured relationships through the use of power and reciprocity, so accountability is pervasive in the human experience (Hall et al., 2017), emerging in religious as well as civic, work, education, and family contexts.

Accountability is sometimes seen as involuntary, undesirable, and punitive, such as when someone is held accountable via judgment or punishment for an infraction (Royle & Hall, 2012; Stenning, 1995). However, accountability is also characterized by a voluntary willingness to fulfill one's responsibilities in relationships (Evans, 2018, 2019; Frink & Klimoski, 1998; Hall et al., 2017; Tetlock, 1985, 1992). When embraced, accountability views obligations to others (including God or a higher power) as desirable, beneficial, and important for personal growth and maturity. This idea might be confused with *responsibility* (i.e., being a responsible person), but responsibility can be construed as a purely individual property in managing one's own private affairs. In contrast, the view of accountability being developed here is necessarily relational in nature (Evans, 2019; Lerner & Tetlock, 1999; Royle & Hall, 2012; Witvliet et al., 2019a, 2019b).

Accountability as a Virtue

Evans (2018) recently introduced a framework for accountability as a virtue (i.e., good, moral, or righteous behavior) where he identified three types: *secular accountability*, *metaphysical accountability,* and *theistic accountability.* As he explained, the first two are rooted in non-religious and philosophical orientations that emphasize human obligations and duties in the workings of a just and harmonious society (Balderson & Sharpe, 2005; Engelhardt, 2011; Kurtz, 2010). *Theistic accountability*, the focus of this study, frames moral responsibility among religious individuals in relationship to God (Ogland & Bartkowski, 2014; Stroope, 2011). The Abrahamic

religions, in particular, generally hold that God created people with the intent that they would have close relationships with God, other people, and the world, and that these would involve accountability (Layman, 2014). Individuals from these faiths tend to see themselves as living before God, and believe that they are accountable for living in accordance with moral laws. Moreover, many see themselves (to at least some degree) in a relationship with God (Bonab et al., 2013; Bradshaw et al., 2010; Froese & Bader, 2010; Kirkpatrick, 2005), so accountability takes on a personal and relational dimension. The virtue, therefore, is a kind of welcoming or embracing of God's claim rather than a resistance to it. As Evans (2018) noted, the Hebrew Bible speaks of this when it says: "the fear of the Lord is the beginning of wisdom." This is not meant to inspire mere fear of God, as if that would be a good end worthy of pursuit. Rather, it suggests that wisdom is found when one is properly oriented toward God as a deserving object of accountability for how one lives.

Accountability to God as a virtue is characterized by answerability to God, welcoming the moral implications of faith on a voluntary basis, and embracing faith and religion as gifts and resources (Ano & Vasconcelles, 2005; Iannaccone, 1994; Pargament, 1997; Stark & Finke, 2000). God has the necessary authority as the author of one's life to receive prayer, confession, and sacrifice (Bradshaw et al., 2008; Ellison, Bradshaw, et al., 2014; Ellison, Schieman, et al., 2014; Masters & Spielmans, 2007), and God directs individuals toward various ends, behaviors, and aspirations that are viewed as worthy. The competence of God—who is perceived as omniscient, omnipresent, and omnipotent—is generally acknowledged, and perceived feedback from God through prayer, meditation, and the reading of sacred texts is both valued and desired (Kent & Pieper, 2019). God serves as a primary (though not uncontested) authority in the lives of many religious individuals, in part because God is understood as a loving parent figure (Bradshaw & Kent, 2018; Bradshaw et al., 2010; Luhrmann, 2012; Moltmann, 2010). Many believers also report experiencing a close, intimate relationship with God (often characterized as a secure attachment to God in the attachment theory literature), which is consistent with the relational nature of accountability as a virtue (Cicirelli, 2004; Ellison, Bradshaw, et al., 2014; Ellison, Schieman, et al., 2014; Leman et al., 2018; Silton et al., 2014; Stark, 2017; Witvliet et al., 2019a, 2019b).

Differentiating Accountability and Attachment

It is important to note that there are obvious similarities between the concepts of attachment to God (as developed from attachment theory more broadly) and accountability to God (which has roots in moral philosophy). There is a relational aspect to both concepts, which explains why these variables are likely to exhibit similar relationships with other variables. But, there are important differences as well. On the one hand, attachment concerns a feeling of presence (i.e., a closeness or distance from a perceived divine being). On the other hand, accountability necessarily entails a behavioral component about what is expected concerning certain actions. Attachment to God is also about proximity and is psychologically diffuse, whereas accountability is about expectation and is cognitively specific. Further, attachment

theory focuses on different styles of socio-emotional bonds (i.e., avoidant, anxious) that develop between individuals and God. These styles are part of the attachment system and are characterized by differing degrees of proximity-seeking, safe haven, and secure base behaviors that tend to arise during stressful times when help and support are needed (Bradshaw & Kent, 2018; Kirkpatrick, 2005). Accountability to God, in contrast, is better conceptualized as a virtue or a voluntary endorsement of a set of behavioral or moral standards than a socio-emotional bond linked with responses to distress (Evans, 2018, 2019).

The Current Study and Hypotheses

Study Goals

As previously discussed, a growing literature has linked multiple aspects of religious life with PWB (AbdAleati et al., 2016; Koenig et al., 2012). Accountability is often implicit, with studies assuming that religious commitments, beliefs, and practices are grounded in tacit acknowledgements of accountability to God and/or core religious beliefs (Greenfield & Marks, 2007; Iannaccone, 1994; Kent & Henderson, 2017; Masters & Spielmans, 2007; Whittington & Scher, 2010). Following this, the first goal of the current study will be to identify and examine a measure (using existing survey data) that aligns with perceived accountability to God as a virtue. To determine whether this indicator of accountability is associated with PWB, the second goal will be to examine its relationships with happiness, a sense of mattering to others, dignity, and meaning and purpose in life. Linking accountability to God with PWB will lend credibility to the argument that it is a beneficial virtue that promotes desirable outcomes.

Rationale: Hypothesis 1

Why should we expect perceptions of accountability to God to be associated with PWB? A primary reason is that humans are fundamentally social creatures (Flynn, 2008), so psychological health is bound up in positive and constructive relationships, not only with other people, but also with God. This is consistent with recent work by Peteet and colleagues (2021), who proposed that accountability to other people and to God are likely to play a vital, yet underexamined, role in mental health and mental health care. One reason for this expectation is that accountability to God ties directly into concepts such as self-regulation, empathy, morality, and social integration (Beckford & Richardson, 2007; Peteet et al., 2021; Zell & Baumeister, 2013). Long ago, Durkheim (2005) identified the deleterious effects of anomie (too little regulation and integration), and those who express accountability to God may be more willing to submit to social regulation and experience any corresponding benefits in well-being (McCullough & Willoughby, 2009). Further, Christian ecclesiology teaches that believers form a community of brothers and sisters with God at the

head, and integration via accountability is likely to be associated with a variety of benefits, including PWB.

Importantly, these relationships are often considered reciprocal, with humans being accountable to God, and God showing accountability to people by keeping covenant promises (Layman, 2014). This type of accountability may promote healthy forms of autonomy since it involves discernment, and is distinct from mere conformity or servility (see Peteet et al., 2021). In addition, for those involved in religions that view God as relational, PWB is likely to be associated with harmonious, rather than anxious or dismissive, relationships with God (Bradshaw et al., 2010; Kent et al., 2021; Leman et al., 2018). As noted above, there is already convincing empirical evidence that a perceived intimate relationship with a loving and supportive God is linked with several aspects of PWB. Virtuous accountability to God, then, may promote PWB as well since it entails trust, care, and reciprocity. Further, Kirkpatrick (2005) has argued that God is the ultimate attachment figure, and strong associations have been demonstrated with mental health (Ellison, Bradshaw, et al., 2014; Kent et al., 2018; Leman et al., 2018). Given the relationality inherent to both attachment and accountability to God, it is reasonable to anticipate that people who perceive greater accountability to God will also report better PWB. This leads to the first hypothesis:

H1 Accountability to God will be positively associated with PWB.

Rationale: Hypothesis 2

Crucially, however, prior empirical evidence suggests that one's level of engagement with God may moderate the proposed association (Bradshaw & Kent, 2018). Prayer, notably, is a key component of engaging in a relationship with God, so it is an important mechanism to examine here. Fundamentally, prayer is an attempt to initiate or cultivate a relationship with the divine, and it is viewed by many as a foundational expression of faith common to most global religions (Ladd & McIntosh, 2008; Ladd & Spilka, 2002). Prayer also demonstrates commitment to faith and may reinforce and strengthen belief systems (Mccullough, 1995). It is likely that individuals who seek greater virtuous accountability with God are also more likely to engage in frequent prayer because a close relationship with God is cultivated during prayer, where the supplicant seeks help for others and oneself, guidance, forgiveness, and restoration, while also expressing gratitude and praise (Ellison & Taylor, 1996; Whittington & Scher, 2010). Those who pray frequently may also be more likely to view their religious practices and beliefs as meaningful and worthwhile, and thus establish virtuous, accountable relationships with God.

Moreover, prayer has been linked with various indicators of psychological distress and well-being in diverse community and clinical samples (Ai et al., 2002; Francis & Kaldor, 2002; Fry, 2000; Musick et al., 1998; Nooney & Woodrum, 2002). It also appears to be associated with a greater sense of meaning and purpose in life (Ellison, 1991; Levin, 2004). However, it is likely that prayer works together with additional constructs such as relationship with

God (including accountability) to shape PWB. For example, one of the studies reviewed above suggests that secure attachment to God has stronger associations with PWB among those who pray frequently and that the highest levels of PWB are found among individuals who are both securely attached to God and pray frequently (Bradshaw & Kent, 2018). A similar process may be at work for accountability to God. Among those who pray frequently, accountability to God may have a strong association with PWB because the one who is accountable is actually engaging with the divine on a regular basis. However, this association may be weaker among those who do not frequently interact with God through prayer. This leads to the second hypothesis:

H2 The positive association between accountability to God and PWB will be stronger among those who pray frequently compared with those who do not.

Four Aspects of Psychological Well-Being

To test these hypotheses, this study focuses on four unique and diverse aspects of PWB: happiness, a sense of mattering to others, dignity, and meaning and purpose in life. Some previous research has been conducted on happiness, a sense of mattering to others (and self-esteem), and meaning, but not dignity (Bradshaw & Kent, 2018; Ellison, Bradshaw, et al., 2014; Ellison, Schieman, et al., 2014; Krause, 2003; Krause, 2008a, 2008b; Krause & Hayward, 2012; Lewis & Cruise, 2006; Park, 2005; Schieman et al., 2010; Stark & Maier, 2008). No research to date has analyzed the relationships between perceptions of accountability to God (as conceptualized here) and any of these indicators of PWB.

Based on the research reviewed above, there are several reasons to expect accountability to God to be associated with each of these measures. Happiness is strongly shaped by social contexts (Haller & Hadler, 2006) and is therefore likely to be associated with accountability to God, possibly through self-regulation, social integration, and self-image mechanisms. Accountability to God is expected to be associated with the perception that one matters to others in part because accountability may be seen as a moral good by the group, and is likely to be rewarded and reinforced in social contexts (especially religious ones) that promote positive images of the self (Elliott et al., 2004; Lewis & Taylor, 2009). Dignity may be associated with accountability to God through an appropriation of religious concepts of the self in relation to God, or by reinforcement of a sense of dignity through social interaction and integration (Jacobson et al., 2009). Meaning and purpose may be linked with accountability through a sense that one fits within a larger framework of what makes life meaningful, including relationships with others (Stavrova & Luhmann, 2016). God is a key source of meaning in many religious worldviews, so when one is accountable to God (i.e., conforms to God's notion of meaning), people are likely to find resonance and well-being, including meaning and purpose in life (Krause & Hayward, 2012; Park, 2005).

Data and Methods

Data

Data come from the 2017 Values and Beliefs of the American Public Survey (VBAPS), a pen-and-paper, simple stratified mail survey prioritizing 12 strata in the US population. Each stratum, based largely on age and race/ethnicity, was adjusted for non-response in addition to final post-stratification weighting based on the 2015 Current Population Survey (see Froese, 2017 for further information). Many of the measures employed here are not available in other national surveys, so this is a unique source of information on religion and PWB. A small number of missing cases on independent and control variables (roughly 11%) were imputed using Stata 15 (Acock, 2005). The results are based on five imputed datasets, but they were comparable when listwise deletion was employed and when additional imputed datasets were analyzed. Dependent variables were used in the imputation process, but imputed values on the dependent variables were deleted prior to estimating the regression models. The two questions used for the key independent variable included a skip pattern for those stating they do not believe in God, and thus 126 atheists with missing values were dropped from the analysis. Further, 124 cases on categorical variables that caused convergence problems during multiple imputation (marital status, urban/rural residence, education, denomination, and prayer) were dropped. The final sample consisted of 1,251 individuals.

Measures

Dependent Variables

Four measures of PWB were examined. Happiness was measured with a single item similar to those used in previous studies (Andrews & Withey, 2012; Stark & Maier, 2008): "In general, how happy are you with your life as a whole these days?" This variable was coded 1 = very happy and 0 = pretty happy or not too happy.

A sense of mattering to others was measured with a five-item mean index of the following questions (Sarı & Karaman, 2018; Schieman & Taylor, 2001): (a) "How much do you feel other people pay attention to you?" (b) "How much do you feel others would miss you if you went away?" (c) "How interested are people generally in what you say?" (d) "How much do other people depend on you?" and (e) "How important do you feel you are to other people?" Each question was coded 1 = not at all to 4 = a lot.

Dignity was measured with a mean index of the following three items, developed for this study ($\alpha = 0.711$): (a) "I feel that my life lacks dignity (reverse-coded)." (b) "I have dignity as a person." and (c) "People generally treat me with dignity." Each question was coded 1 = strongly disagree to 4 = strongly agree.

Meaning (and purpose) in life was measured with a mean index of the following three items (Heintzelman & King, 2014; Kobau et al., 2010): (a) "I have a good

sense of what makes my life meaningful." (b) "I have discovered a satisfying life purpose." and (c) "My life has no clear purpose (reverse-coded)." Each question was coded 1 = strongly disagree to 4 = strongly agree.

Key Predictor Variable

As a virtue that may foster psychological well-being, accountability to God involves being answerable to God, looking to God as a guide for making decisions in life, embracing the responsibilities of one's religious faith, and viewing God and religion as gifts that lead to happy and successful lives (Evans, 2018, 2019; Torrance, 2021). No searchable national datasets contained scales specifically designed to measure this newly developed concept, but the 2017 VBAPS contained two items that captured features thought to characterize individuals who welcome or embrace accountability to God in living their lives. These included: (a) the reverse-coded item "I decide what to do without relying on God." and (b) "I depend on God for help and guidance." These items were used to construct a two-item mean index ($\alpha = 0.788$). Each question was coded 1 = strongly disagree to 4 = strongly agree. A five-item measure that included the following items was also considered: (a) "I decide what to do without relying on God (reverse-coded)." (b) "I depend on God for help and guidance." (c) "When good or bad things happen to me, I see it as part of God's plan for me." (d) "God is directly involved in my affairs." and (e) "How often do you turn to your religion or your spiritual beliefs to help you deal with your daily problems?" This measure had high internal consistency ($\alpha = 0.868$), but it was determined that only the first two items truly captured accountability to God instead of alternative concepts such as God-mediated control and religious coping, so the last three were excluded. However, the findings were very similar for both measures.

Control Variables

To isolate the associations between accountability to God, prayer, and PWB, controls for demographic, socioeconomic, religious, and political variables were included in statistical models to ensure that they did not confound the key associations of interest. These included: age (in years), gender (female = 1), marital status (a series of dichotomous variables for never married, divorced/separated, widowed, and cohabiting compared with married), race/ethnicity (Hispanic, Black, and other race compared with white), urban/rural residence, political orientation (coded 1 = strong Republican to 7 = strong Democrat), education (less than high school, some college, college degree, and graduate degree compared with high school), income (1 = $10,000 or less to 7 = $150,000 or more), and self-rated health (1 = fair or poor and 0 = good or excellent). Three religion control variables were also included: denominational affiliation (no affiliation, Black Protestant, Jewish, Catholic, mainline Protestant, and other compared with evangelical Protestant) (Dougherty et al., 2007; Steensland et al., 2000), religious service attendance (0 = never to 7 = several times a week), and frequency of prayer (never, only on certain occasions, once a week or less, a few times a week, once a day, and several times a day). In the analyses below, prayer was collapsed into three dichotomous variables: never (the

reference group), moderate prayer (at least some but a few times a week or less), and frequent prayer (once a day or more). Prayer was used as both a control and a moderating variable.

Analytic Strategy

Descriptive statistics were initially calculated for all study variables. Bivariate correlations between the key independent and dependent variables were then estimated. A series of regression models were then fit to the data to examine the associations between accountability to God and PWB. Happiness was analyzed using binary logistic regression. Mattering to others, dignity, and meaning were analyzed using ordinary least squares (OLS) regression. To test for the moderating effects of prayer on the associations between accountability to God and PWB, interaction (cross-product) terms were constructed. Accountability to God was zero-centered prior to the construction of the interaction terms to reduce multicollinearity (Aiken & West, 1991). Prayer consisted of the three dichotomous variables described above.

Results

Table 1 shows descriptive statistics for all study variables. Levels of happiness, mattering to others, dignity, and meaning were all relatively high in the sample. The index tapping accountability to God had a mean of 2.963 on a 1–4 scale. The average age was 55 years, 59% of the sample was female, 71% was white, and a majority (53%) were married. Religious service attendance had a mean of 3.578 on a scale of 0–7, while about half of the sample reported praying at least once a day.

Table 2 shows bivariate correlations for key variables. The correlations between accountability to God, religious service attendance and frequent prayer (once a day or more) were 0.580 and 0.556, respectively. The strongest correlation between accountability to God and PWB was with meaning ($r=0.228$), followed by dignity ($r=0.155$), mattering to others ($r=0.129$), and happiness ($r=0.056$). All were significant at $p<0.05$ or less.

Table 3 shows the findings from the regression models. Model 1 shows that accountability to God was positively associated with all four outcomes when no controls were included. When controls for age, gender, marital status, urban/rural, political orientation, education, income, and self-rated health were included in Model 2, these associations remained significant. Model 3 shows the full model, which added controls for religious denomination, service attendance, and frequency of prayer to the previous model. Accountability to God had an independent association (net of all controls) with mattering to others, dignity, and meaning, but not the single-item indicator of happiness. Appendix 1 shows results for the full models including all control variables. Overall, these results provide broad support for H1.

To test H2, which predicted that these associations would vary across levels of prayer, interaction terms between accountability to God and prayer were introduced into the full models. As shown in Table 4, the findings provide support for

Table 1 Descriptive statistics

	Mean/percentage	SD	Min	Max
Very Happy	37.9			
Sense of Mattering to Others	3.284	0.551	1	4
Dignity	3.461	0.476	1	4
Meaning	3.259	0.560	1	4
Accountability to God	2.963	0.894	1	4
Age	55.134	16.754	17	98
Female	59.2			
Male	40.8			
Married	53.3			
Never Married	15.6			
Separated/Divorced	16.3			
Widowed	10.2			
Cohabiting	4.6			
White	70.6			
Hispanic	11.8			
Black	11.5			
Other Race	6.2			
City	24.9			
Suburban	31.7			
Town	30.9			
Rural	12.5			
Political Orientation	4.185	1.854	1	7
Less than High School	5.0			
High School	14.8			
Some College	32.5			
College Degree	27.6			
Graduate Degree	20.1			
Income	4.441	1.681	1	7
Fair or Poor Health	11.6			
Religious Service Attendance	3.578	2.490	0	7
Black Protestant	7.2			
Jewish	2.2			
Catholic	28.1			
Mainline Protestant	14.4			
Evangelical Protestant	30.5			
Other Denomination	7.8			
No Denomination	9.9			
Never Pray	9.3			
Pray Only on Certain Occasions	19.1			
Pray Once a Week or Less	6.6			
Pray A Few Times a Week	15.1			
Pray Once a Day	20.9			
Pray Several Times a Day	29.0			

$n = 1251$

Table 2 Bivariate correlations

	1	2	3	4	5	6	7
1	1.000						
2	0.580	1.000					
3	0.556	0.463	1.000				
4	0.056	0.110	0.096	1.000			
5	0.129	0.106	0.120	0.267	1.000		
6	0.155	0.115	0.106	0.279	0.382	1.000	
7	0.228	0.203	0.213	0.335	0.391	0.546	1.000

n = 1251

1 = Accountability to God; 2 = Religious Service Attendance; 3 = Frequent Prayer; 4 = Happiness; 5 = Sense of Mattering to Others; 6 = Dignity; and 7 = Meaning

All correlations are significant at $p < 0.05$ or less

Table 3 Parameter estimates from the regression of four psychological well-being outcomes on accountability to God and control variables

	Happiness (odds ratios)		
	Model 1	Model 2	Model 3
Accountability to God	1.163*	1.234**	1.065
	Sense of Mattering to Others (OLS parameter estimates)		
	Model 1	Model 2	Model 3
Accountability to God	0.087***	0.092***	0.068**
	Dignity (OLS parameter estimates)		
	Model 1	Model 2	Model 3
Accountability to God	0.084***	0.100***	0.089***
	Meaning (OLS parameter estimates)		
	Model 1	Model 2	Model 3
Accountability to God	0.144***	0.142***	0.097***

$n = 1251$

*$= p < 0.05$; **$= p < 0.01$; ***$= p < 0.001$

Model 1: No controls

Model 2: Controls for age, gender, marital status, race, urban/rural, political orientation, education, income, and self-rated health

Model 3: Controls for age, gender, marital status, race, urban/rural, political orientation, education, income, self-rated health, religious denomination, religious service attendance, and prayer

Appendix 1 shows the results for the full models including all control variables

this hypothesis for three of the four measures of PWB: mattering to others, dignity, and meaning. The original prayer variable had six categories, but detailed exploratory analyses revealed that it could be collapsed into a three-category variable representing never pray (the reference group), moderate prayer (at least some but a few times a week or less), and frequent prayer (once a day or more). Figure 1 shows graphical depictions of these findings. For Fig. 1a, accountability to God correlated

Table 4 Parameter estimates from the regression of four psychological well-being outcomes on accountability to God, prayer, control variables, and the interaction between accountability to God and prayer

	Happiness[1]	Sense of Mattering to Others[2]	Dignity[2]	Meaning[2]
Accountability to God	0.730	−0.108	−0.039	−0.017
Prayer (Ref = Never)				
Moderate Prayer[3]	1.055	0.205 +	0.126	0.147
Frequent Prayer[4]	1.443	0.272*	0.151	0.232 +
Accountability to God x Prayer (Ref = Never)				
Accountability to God x Moderate Prayer	1.387	0.162*	0.117 +	0.087
Accountability to God x Frequent Prayer	1.701	0.240***	0.175*	0.182*

$n = 1251$

$+ = p < 0.10$; $* = p < 0.05$; $** = p < 0.01$; $*** = p < 0.001$

All models include controls for age, gender, marital status, race, urban/rural, political orientation, education, income, self-rated health, religious denomination, and religious service attendance

1. Odds ratios from binary logistic regression

2. OLS regression coefficients

3. Frequency of prayer = only on certain occasions, once a week or less, or a few times as week

4. Frequency of prayer = once a day or more

directly with mattering to others among those who prayed frequently (i.e., at least once a day). The association was weaker for those who prayed some but less than daily, and the correlation actually appears to be negative for those who never prayed. (The latter finding should be interpreted with caution, however, because there were relatively few individuals in this category.) The findings for dignity and meaning showed a similar pattern (see Fig. 1b and c).

In addition to the main effects of accountability to God on PWB, as well as the interactions with prayer, the concept of accountability to God may also help us understand the positive associations between commonly examined aspects of religious life (e.g., service attendance and prayer) and PWB (Bradshaw & Kent, 2018; Ellison & Lee, 2010; Froese & Bader, 2007). The cross-sectional data used here are not ideal for examining this possibility, since multiple waves of data are required to adequately examine whether accountability to God mediates the associations between both religious service attendance/prayer and PWB. However, some exploratory findings appear to offer preliminary support for this possibility.

As shown in Table 5, religious service attendance was positively associated with all four measures of PWB net of controls for demographic characteristics, SES, self-rated health, and denomination. When accountability to God was added to the models, the associations were weaker for all four, and no longer significant for perceptions of mattering to others, dignity, and meaning. This suggests that accountability at least partially explains the effects of attendance on these outcomes. Analyses using the "paramed" procedure in Stata 15 (Emsley & Liu, 2013) indicated statistically significant total and indirect (through accountability to God) effects of service attendance on mattering to others, dignity, and meaning. There were no significant

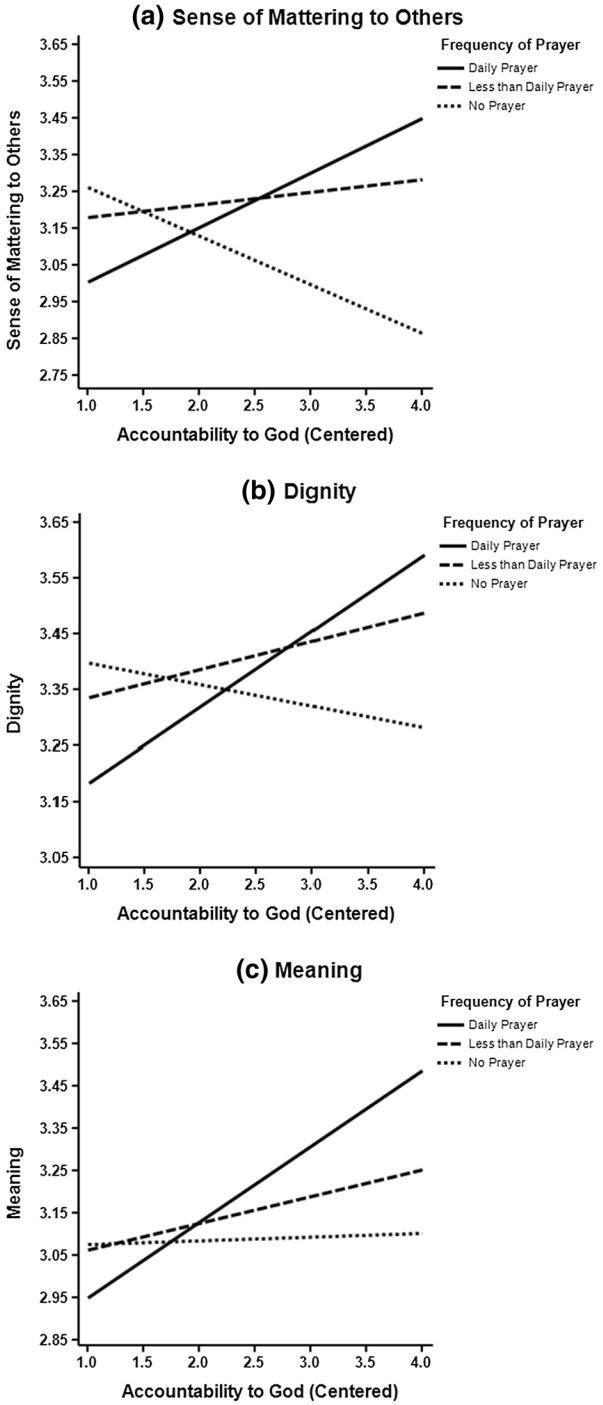

Fig. 1 Interactive effects of accountability to God and prayer on PWB

Table 5 Exploratory analyses of accountability to God as a mechanism linking religious service attendance and prayer with psychological well-being

	Happiness[1]	Sense of Mattering to Others[2]	Dignity[2]	Meaning[2]
Religious Service Attendance	1.087**	0.019**	0.017**	0.029***
Religious Service Attendance with Control for Accountability to God	1.072*	0.009	0.003	0.013
Prayer (Ref = Never)				
Moderate Prayer[3]	0.612 +	−0.003	0.009	0.044
Frequent Prayer[4]	1.138	0.139 *	0.128 **	0.225 ***
Prayer with Control for Accountability to God (Ref = Never)				
Moderate Prayer[3]	0.607 +	−0.038	−0.037	−0.043
Frequent Prayer[4]	1.090	0.055	0.028	0.086

$n = 1251$

* = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$

All models include controls for age, gender, marital status, race, urban/rural, political orientation, education, income, self-rated health, and religious denomination (attendance and prayer were entered into the models separately)

1. Odds ratios from binary logistic regression

2. OLS regression coefficients

3. Frequency of prayer = only on certain occasions, once a week or less, or a few times as week

4. Frequency of prayer = once a day or more

direct effects of attendance that were not explained by accountability to God. This process was weaker for happiness, which could mean that the social aspects of attendance matter more for this aspect of PWB.

The findings for prayer are also interesting. Compared with those who never pray, daily prayer was associated with higher levels of mattering to others, dignity, and meaning (but not happiness). When accountability to God was added to the models, the coefficients were reduced by a substantial amount and were no longer significant for all three, suggesting that the associations between prayer and PWB are at least partially explained by accountability to God. The exploratory findings using paramed indicated statistically significant total and indirect (through accountability to God) effects of prayer for all three outcomes. There were no significant direct or main effects of prayer that were not explained by accountability to God. It is important to note that these are simply exploratory, cross-sectional findings that should not be overstated. They do, however, suggest potentially fruitful avenues for future research using longitudinal designs that can adequately address issues of causal order, mediation, and direct/indirect effects.

Discussion

This paper builds on a model of *theistic accountability* developed by Evans (2018), where believers are answerable to God and make decisions about living their lives with reliance on God. Religious individuals routinely embrace the moral obligations of their faith on a voluntary basis, and many view God and religion as gifts and resources in their lives (Ano & Vasconcelles, 2005; Ellison & Taylor, 1996; Pargament, 1997). They give accounts of their behavior to God through prayer and confession, since God is granted the requisite authority for receiving them (Bradshaw et al., 2008; Ellison, Bradshaw, et al., 2014; Ellison, Schieman, et al., 2014; Masters & Spielmans, 2007). Many believers also report experiencing a close, personal relationship with God, which is consistent with the relational aspect of accountability as a virtue developed here (Cicirelli, 2004; Ellison, Bradshaw, et al., 2014; Silton et al., 2014). In essence, religious individuals and those who broadly believe in a higher power are often motivated to think and act in ways they believe are right in the eyes of God and their faith or beliefs—i.e., in an accountable manner.

This theistic accountability concept (Evans, 2018) was linked to an existing dataset with consideration of the existing literature documenting associations between religion/spirituality and PWB (AbdAleati et al., 2016; Koenig, 2009), as well as data linking accountability to other humans with desirable outcomes (Balderson & Sharpe, 2005; Hall et al., 2017; Peloza et al., 2013; Royle, 2017). It was hypothesized that an index comprised of two items broadly related to accountability to God would be positively associated with PWB. Using a national stratified sample of US adults who did not deny the existence of God or a higher power, this prediction was supported for a sense of mattering to others, dignity, and meaning, but not happiness. Of note, the results for happiness were significant when other religious items were not included in the models, suggesting that accountability matters, but that it is entangled with other aspects of religious life. It is also possible that the findings for happiness were weaker because it was measured with a single item with limited response categories that contains a lot of measurement error. Further, it may be that happiness varies more on a daily basis compared with the other outcomes, and may therefore be more strongly correlated with social and psychological factors that change quickly from day to day compared with relatively stable characteristics like accountability to God. It was further hypothesized that these findings would be stronger among individuals who prayed frequently since prayer is often associated with intimacy with the divine. This hypothesis received support for mattering to others, dignity, and meaning, but not happiness. Overall, these results add to a significant body of research linking religious beliefs and behaviors with PWB.

Why develop this construct of welcoming accountability to God as a virtue? A key reason centers on the possibility that this type of accountability may serve as an important, underexplored mechanism helping to explicate many of the links between religion and health. While religious systems and networks can impose external (and sometimes coercive) pressures on individuals to behave in particular ways, they also operate through individual yearnings, moral frames, and relational impulses (Evans, 2019). In other words, accountability in the religious realm may function, in part,

through the internalization of righteous obligations for behavior under the disciplining (and loving) hand of God (Layman, 2014). Not all people experience God in this way, but many do, and this may at least partially account for the positive associations between commonly examined aspects of religious life (e.g., service attendance, prayer, etc.) and PWB (Bradshaw & Kent, 2018; Ellison & Lee, 2010; Froese & Bader, 2007). The cross-sectional data used here are not ideal for examining this possibility, but exploratory findings offer preliminary support by showing that accountability to God at least partially explains the effects of both attendance and prayer on PWB. These initial findings should not be overstated, but they do suggest fruitful avenues for future research using longitudinal designs that can adequately address issues of causal order, mediation, and direct/indirect effects.

These findings contribute to our understanding of the mechanisms linking religious practices and beliefs with PWB in two additional ways as well. When denomination, attendance, and prayer were included in the models, the associations between accountability to God and PWB were attenuated, suggesting that accountability and these measures are at least somewhat interconnected, and likely work together to shape PWB. However, accountability also had a unique effect net of these variables for three of the four outcomes, indicating that it adds explanatory value above and beyond conventional indicators of religiosity. The moderating role of prayer is also important here. Accountability to God appears to matter less for well-being when it is not accompanied by relational engagement behaviors such as prayer, suggesting that religious virtues, beliefs, and behaviors interact in complex ways to shape PWB.

Study Strengths

This study has several strengths. First, it uses data from a large and recent national survey of US adults. Second, it examines four different aspects of PWB, including an analysis of dignity for the first time in a study on religion and health. Third, three of the measures of PWB analyzed here (happiness, mattering to others, and meaning/purpose) are consistent with at least some previous research on PWB (e.g., Bradshaw & Kent, 2018; Ellison, Bradshaw, et al., 2014; Krause, 2002), so comparisons can be made across studies. And fourth, the concept of accountability as a virtue offers promise not only for helping us understand the role of religion in shaping PWB, but also for other areas of study such as prosocial activity, deviant and criminal behavior, worker productivity, and family relations, among many other outcomes that have been linked with religious participation (Jang et al., 2018; Kent et al., 2016; Mahoney et al., 2003; Saroglou et al., 2005).

Study Limitations

Despite the strengths of this study, it also has several limitations. First, this is an exploratory, concept-building study of accountability to God as a virtue. Theoretical, conceptual, and measurement work on this topic is just beginning, so the measures employed here were not specifically designed with this idea in mind. For example, one of the

items ("I depend on God for help and guidance") also captures aspects of religious coping, but we believe there is a distinction. Most people are "voluntarily" accountable to God (i.e., the only reason they are accountable is because they buy into a belief system in which God is worthy of accountability). Any voluntary accountability is going to come with a concomitant posture of seeking guidance from the source of accountability, which the measure displays. In addition, religious coping items are almost always primed with a question stem asking about how one responds to stressful events. That question stem is absent here, meaning that the respondents were more likely to answer in the spirit of what we are seeking to measure: broad help and guidance. Without the stress question stem, "help" can be interpreted in many different ways, and coping is only one of them. Further, accountability to God is likely to be relevant and responsive across contexts, including those in which people recognize their dependence on God and their need.

A second limitation in this study is our use of a two-item measure to capture a complex construct like accountability to God. While we tested a five-item measure ($\alpha = 0.868$), we elected to report the two-item measure ($\alpha = 0.788$) since it more adequately conceptualized accountability to God. Using a two-item scale is not ideal, but alpha coefficients tend to underestimate reliability in two-item scales (Eisinga et al., 2013), and the results were comparable with both measures. In the future, we hope that a more robust multi-item measure of accountability to God will be developed.

Third, the data on US adults provide key information about this population, but the findings may not generalize to other countries that have unique religious contexts. It is also possible that accountability to God may vary in meaning and in association with PWB in different racial-ethnic populations, age-groups, and religious traditions (Bierman, 2006; Krause, 2008a, 2008b; VanderWeele et al., 2017a, 2017b).

Finally, the findings are cross-sectional, so future research using longitudinal designs will be needed to address issues of causal order. The implied causal order here, from religion to PWB, is plausible, but it is also possible that PWB shapes perceptions of accountability to God. The current data cannot be used to address this question.

Future Research and Clinical Implication

Future research should build on the theoretical and empirical models presented here, as well as develop and validate survey items specifically designed to measure accountability to God as a virtue. Additional measures of PWB should also be examined, including forgiveness of oneself and others, life satisfaction, optimism, and sense of mastery or personal control (Cohen et al., 2006; Ellison, Bradshaw, et al., 2014; Krause, 2004). Indicators of negative affect such as depression and anxiety should also be examined, along with physical health, health behaviors, and even mortality (Krause et al., 2017; Krause & Hayward, 2012; Nonnemaker et al., 2003; VanderWeele et al., 2017a, 2017b. Scholars might also examine how accountability works together with other aspects of religious life, such as denominational affiliation and service attendance to shape PWB, and as noted above, it is possible that accountability mediates many of the known associations between religion and health. Further, mechanisms that might link accountability to PWB should be

examined, such as motivating and engagement emotions like fear, guilt, and hope (Passyn & Sujan, 2006). Finally, the associations between accountability to God and PWB should also be examined using data where religious traditions such as Judaism and Islam are better represented than they are in the current survey (which is largely Christian), since their belief systems map nicely onto the ideas presented here.

The findings presented here (and research on this topic more broadly) may contribute to clinical practice as well. Health practitioners who endorse holistic approaches and are open to discussing religion and spirituality with their patients and clients may draw on the concept of accountability to promote healing and well-being among those they serve. This is consistent with mounting research on the use of religion as a coping mechanism for dealing with stressful conditions and as a source of meaning in life that enhances well-being (Ano & Vasconcelles, 2005; Koenig, 2018; Lee et al., 2017; Park, 2005). Further, recent research on the concept of felt accountability suggests that accountability can be internalized by individuals and that this may lead to desirable outcomes (Hall et al., 2017; Royle, 2017; Royle & Hall, 2012). This may be true of accountability to God as well, which means that developing or promoting this potential resource in individuals may result in increases in psychological well-being, especially if they embrace the accountability and view it as desirable and beneficial virtue (Evans, 2018, 2019).

Conclusion

To conclude, this study provided an initial foundation for a model in which individuals perceive themselves to be accountable to God in a virtuous manner. It then argued this virtue may serve as a resource that promotes PWB. Results provide tentative support for this possibility, but much work remains to be done. This topic offers the promise of bridging sociological, psychological, and philosophical research on religion and health in ways that shed light on human well-being and flourishing.

Appendix

See Table 6.

Table 6 Full models

	Happiness[1]	Sense of mattering to others[2]	Dignity[2]	Meaning[2]
Accountability to God	1.065	0.068**	0.089***	0.097***
Age	0.999	−0.001	0.002 +	0.002
Female (Ref = Male)	0.987	0.047	0.055*	−0.001
Marital Status (Ref = Married)				
Never Married	0.963	−0.156***	0.035	−0.177***
Separated/Divorced	0.557***	−0.082 +	−0.020	−0.067
Widowed	0.731	−0.150**	−0.058	−0.085
Cohabiting	0.828	0.099	0.052	0.023
Race/Ethnicity (Ref = White)				
Hispanic	0.897	−0.040	−0.038	−0.053
Black	0.509 +	0.085	0.110	0.126
Other Race	0.866	−0.085	−0.076	−0.054
Urban/Rural (Reference = Urban or City)				
Suburban	1.035	0.002	0.017	−0.062
Town	0.953	0.020	−0.022	−0.004
Rural	0.912	−0.078	−0.083 +	−0.107*
Political Orientations	0.892***	−0.003	0.018*	−0.007
Education (Ref = High School)				
Less than High School	1.805	−0.130	0.070	−0.040
Some College	1.598*	0.049	0.138***	0.124**
College Degree	1.787**	0.066	0.166***	0.137**
Graduate Degree	1.771*	0.039	0.187***	0.251***
Income	1.184***	0.026*	0.040***	0.023*
Fair or Poor Health (Ref = Good or Excellent)	0.275***	−0.252***	−0.215***	−0.263***
Religious Service Attendance	1.068 +	0.005	0.003	0.007
Denomination (Ref = Evangelical Protestant)				
Black Protestant	1.831	−0.017	−0.125	−0.112
Jewish	0.413 +	0.122	−0.055	0.001
Catholic	0.751	0.025	−0.010	−0.021
Mainline Protestant	1.090	0.046	0.026	0.004
Other Denomination	1.231	0.114 +	0.090 +	0.138*
No Denomination	0.894	0.010	−0.023	−0.038
Prayer (Ref = Never)				
Moderate Prayer	0.621 +	−0.041	−0.053	−0.004
Frequent Prayer	0.892	0.049	−0.010	0.102

$n = 1251$

$+ = p < 0.10$; $* = p < 0.05$; $** = p < 0.01$; $*** = p < 0.001$

1. Odds ratios from binary logistic regression

2. OLS regression coefficients

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Declarations

Conflict of interest There are no conflicts of interest. This research is in compliance with ethical standards for scholarly publishing and with the guidelines outlined by the Journal of Religion and Health.

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