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## Transcendent accountability: Construct and measurement of a virtue that connects religion, spirituality, and positive psychology

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### ABSTRACT

Welcoming accountability is a *responsive* and *responsible* virtue that can be shown in relation to people or to God, a higher power, or transcendent guide. Our interdisciplinary team defined transcendent accountability (TA) and developed a 10-item scale using classical and item response theory methods. Across diverse US samples (total  $N = 990$ ) the scale exhibited internal consistency, construct validity, incremental validity, known-groups validity, and test-retest reliability. TA showed positive correlations with religious and spiritual variables, transcendent virtues (gratitude to God, eschatological hope), human virtues (gratitude, accountability, forgiveness), relationality (agreeableness, empathy), responsibility (conscientiousness, self-regulation), values-congruent autonomy, meaning, and flourishing. It had inverse correlations with negative attitudes and symptoms (personality disorder, anxiety, depression), and weak associations with searching for meaning and social desirability. TA predicted unique variance in spiritual flourishing, meaning, and relational repair. Transcendent accountability is a valuable construct that complements gratitude to God (GTG) and advances positive psychology.

### ARTICLE HISTORY

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### KEYWORDS


Flourishing; gratitude to God; meaning in life; scale development; religion; spirituality; virtue

Welcoming accountability is an other-regarding and forward-looking virtue that involves being responsive to another beyond oneself for fulfilling one's responsibilities in light of relevant expectations, which promotes flourishing (Bradshaw et al., 2022; Evans, 2019, 2021; Peteet et al., 2022a; B. R. Johnson et al., 2021; Torrance, 2021; Witvliet et al., 2022b). In human relationships, accountable people receive and respond to the input of others with the practical standing to ask something of them, and they responsibly adapt to make improvements as needed to give others what they are due (Witvliet et al., 2022b). We propose that accountability as a virtue can also be shown in relation to the *transcendent* – to God, a higher power, the Sacred, the Divine, a spiritual reality, or another transcendent guide. Transcendent accountability (TA) likely has implications for attitudes and actions across an array of contexts including and beyond those identified for human accountability (Witvliet et al., 2022b), such as when doing the right thing in light of transcendent responsibilities may not be known by other people or comes at social cost to self.

### Understanding accountability as a relational virtue: accountability in relation to gratitude

To illuminate how accountability can be understood as a human and transcendent relational virtue, we address its relation to gratitude to people and to God (the focus of a special issue in this journal). Both accountability and gratitude can be shown toward both human and transcendent others. With gratitude, the other (human or transcendent) is construed as a benefactor with the standing to give benefits to a beneficiary who fittingly responds with thanksgiving attuned to the giver, gift, recipient, and situation. With accountability as a virtue, the other (human or transcendent) is construed as an accountor with the standing to have standards, according to which an accountee fittingly responds with an accounting attuned to the giver, request, recipient, and situation. Both gratitude and accountability require discernment about the standing, good goals, and appropriate approaches of gift-givers (gratitude) and guidance-givers (accountability). Relationally, gratitude and accountability are aided by capacities to value the other and their perspective in their gift-giving (gratitude) or their goal and guidance-giving (accountability).

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Self-regulatory capacities support modulation of attitudes and actions that facilitate receiving what is offered and responding with appreciation (gratitude) and with responsible improvements where needed (accountability). Thus, gratitude and accountability require both other-regarding and self-regulatory capacities to respond with practical wisdom and to flourish (see Peteet et al., 2022a; Root Luna et al., 2017; Witvliet & Peteet, 2022). Finally, we note that transcendent others are typically construed as agents with a capacity for judgment, yet people sometimes construe a transcendent giver or guide to be non-personal while they may speak about it with personal language (see Torrance, 2023 chapter 2). Although gratitude and welcoming accountability are distinct, we suggest that they are strongly related conceptually and will correlate strongly.

### ***Transcendent accountability (TA): an implicit and important virtue***

TA is an often-overlooked and important construct in many people's daily decisions and long-term goals. People with the virtue receive transcendent goals and standards as a worthy summons and guide to make improvements and corrections where needed – rather than reflexively rejecting or blindly conforming in response. They engage in discernment and aim to live in attunement with transcendent goals and standards beyond egoistic self-interests. TA may be evident as a general stance (e.g., to give God and others what they are due; caring for people and for the world; embodying virtues such as honesty, justice, gratitude), or as a specific response (e.g., pursuing reparative responses and forgiveness after wrongdoing). Recent theorizing has offered both theistic and metaphysical frameworks of TA as a virtue that promotes flourishing in people with religious, spiritual, and transcendent worldviews that hold goals and standards for living responsively and responsibly (Evans, 2021; Torrance, 2021, 2023).

Within the US, nationally-representative surveys have begun to highlight TA. For example, most respondents agreed or agreed strongly that they were accountable to God or a higher power for how they live their lives (60.7%; 2021 Values and Beliefs of the American Public Survey wave 6). Further, most saw themselves as accountable to a higher power for the impact they have on other people (71%), as well as for their impact on the natural environment (69%; Fetzer Institute Study of Spirituality in the US 2020; <https://spiritualitystudy.fetzer.org>; National Religion and Spirituality Survey 2020; Association of Religion Data Archives, 2020). Evidence has also linked a proxy index of TA to

psychological well-being, including perceptions of mattering to others, having dignity, and living with meaning and purpose (Bradshaw et al., 2022). These studies pointed to the value of developing a psychometrically sound measure of TA to advance understanding of this construct, which may function as an important, under-explored mechanism linking religion/spirituality (R/S) and positive psychology (e.g., forgiveness, hope, and gratitude to people and God) including human accountability (Witvliet et al., 2022b). While R/S systems can impose external pressures on individuals to behave in particular ways, R/S processes also operate through individual yearnings, moral frames, and relational inclinations (Evans, 2019). In other words, R/S may function, in part, through the internalization of TA for attitudes and actions of consequence.

### ***Welcoming transcendent accountability: construct and scale development***

The purpose of the current research was to (1) define the construct of welcoming accountability to God or one's transcendent guide and (2) develop a scale to measure TA. An interdisciplinary team of accountability researchers from psychology, sociology, psychiatry, philosophy, and theology delineated the construct. A priority was to develop a conceptualization and measure that would be both coherent within and relevant across a wide range of religious and metaphysical frameworks (Evans, 2021), while also resonating with a broad range of people who identify as having some transcendent guide for living their life.

### ***Transcendent accountability construct definition and features***

People with TA characteristically show two overarching aspects of responsivity and responsibility. They

(a) welcome living in ways that are *responsive* to their transcendent guide (i.e., God, higher power, transcendent ideals); and

(b) are willingly *responsible* for their attitudes, thoughts, emotions, and actions – working to improve how they live – in light of this transcendent guide for living.

The construct can be further delineated by nine features: 1) People with TA *seek to know divine/transcendent values and standards for how to live* (e.g., through prayer, meditation, study, and counsel). 2) They are not reluctantly responsive, but rather *willingly respond* to their divine/transcendent guide for living. 3) They are *transparent and honest* about their responses (attitudes, thoughts, emotions, and actions) in relation to God/the transcendent. 4) They *discern* and wisely question, resist, and/or report inappropriate representations of God/the transcendent. 5) They *want to be accountable to do well*

in working toward divine/transcendent goals. 6) They *care* deeply about God/the transcendent and divine/transcendent considerations of how they live. 7) they *value learning* how to improve and adjust their behavior to align with their transcendent guide for living. 8) They *accept their responsibility* to live in relation to God/the transcendent even when it is difficult. 9) They *flourish* and grow by being accountable to God/the transcendent, which aligns with expectations of a virtue. These features coalesce so that *TA involves being responsive to one's transcendent guide and responsible for how one lives in light of this relationship*.

### **Related psychological constructs**

Welcoming TA as a virtue has implications for flourishing – both in relation to God, or the transcendent, as well as other people with meaning and purpose (Evans, 2021). Accordingly, we theorized that TA would be likely to be associated with R/S measures including: greater commitment (Worthington et al., 2003), identification, and intrinsic (vs. extrinsic) religiosity (Gorsuch & McPherson, 1989); more positive trusting attitudes toward the transcendent (Wood et al., 2010); and a greater perceived presence of (compared to searching for) meaning in life (Steger et al., 2006) and flourishing spiritually (Abernethy & Kim, 2018). Because transcendent standards can include a summons to enact relational virtues with people, we anticipated that TA would have positive correlations with indicators of human accountability (Witvliet et al., 2022b), forgivingness (Berry et al., 2005), gratitude (McCullough et al., 2002), limitations-owning humility (Haggard et al., 2018), a values-reaffirming approach to self-forgiveness (Griffin et al., 2018), and the likelihood of relational repair responses after wrongdoing (Witvliet et al., 2022b). Recent work has highlighted the importance of autonomy to act in healthy congruence with one's values as important for ensuring accountability, which is distinct from servility or blind conformity (Peteet et al., 2022b; Weinstein et al., 2012). More broadly, we anticipated that TA would be associated with relational capacities to regard others and engage in perspective-taking (Davis, 1983), as well as self-regulation of one's impulses and actions (Carey et al., 2004). Similarly, we anticipated that personality features of agreeableness and conscientiousness would be associated with TA (John et al., 1991). Conversely, we predicted inverse associations between TA and psychological variables that involve difficulty in empathy and self-regulation, such as a temper (Grasmick et al., 1993), symptoms of personality disorders (Krueger et al., 2012), depression (Kroenke et al., 2009), and anxiety (Spitzer et al., 2006).

### **Current studies**

In order to develop a scale to assess TA, we tested samples recruited through Qualtrics™ Panels for US census representation on gender, race and ethnicity, age, education, and region. We used Qualtrics software to deliver Institutional Review Board-approved informed consent, measurement items, and a debriefing form. Respondents who endorsed having a transcendent guide for living their life received transcendent items.

Studies 1 and 2 used separate samples and employed exploratory and confirmatory factor analysis, as well as Item Response Theory (IRT) in tandem (see supplemental report <https://osf.io/nhf5y>). Study 2 also assessed initial construct validity associations of TA with religious, spiritual, personality, human accountability, relational repair, meaning, flourishing, and social desirability variables, as well as incremental validity and known-groups validity tests. Study 3 was a follow-up study of test-retest reliability that garnered construct validity evidence in relation to R/S, transcendent virtues, human relational virtues, self-regulation, empathy, autonomy, and mental health. The Open Science Framework (OSF) includes registrations of the TA Scale development project (see <https://doi.org/10.17605/OSF.IO/J2DES>) as well as materials and deidentified data sets reported here (<https://doi.org/10.17605/OSF.IO/A7T6H>).

### **Study 1**

We conducted an exploratory factor analysis (EFA) of 52 items, with multiple items tapping the TA construct aspects and features described above.

### **Method**

An interdisciplinary team developed materials. These items were evaluated by seven psychology experts, with a final round of evaluation by the interdisciplinary team. They assessed 55 and 58 items, respectively, using Qualtrics™ software to provide a rating of construct fit and quality from (1) *poor* to (5) *excellent item* plus open-ended feedback. Winnowing items below the midpoint yielded 52 items for Study 1.

Qualtrics screened out EFA responses for failed honesty or awareness checks, speeding, random responding, or straightlining (using the same rating across this and other scale items).

### **Participants**

Study 1 examined 377 adults (209 female, 167 male, 1 other) who named a transcendent guide for living their

**Table 1.** Transcendent Accountability exploratory and confirmatory factor analysis results: Factor loadings.

Item	EFA	CFA
(1) I value being accountable to God/the transcendent in living my life. (Overarching aspects <i>a</i> & <i>b</i> )	.879	.813
(2) I seek divine/transcendent guidance for my life (e.g., through prayer, meditation, study, or counsel). (Feature 1)	.827	.793
(3) I willingly live with accountability to God/the transcendent. (Feature 2)	.835	.848
(4) I try to be honest about my actions in light of divine/transcendent standards. (Feature 3)	.738	.780
(5) I consider whether advice is consistent with divine/transcendent standards before going along with it. (Feature 4)	.759	.784
(6) I am motivated to live according to divine/transcendent ideals. (Feature 5)	.847	.840
(7) I care about a divine/transcendent perspective on my actions. (Feature 6)	.883	.851
(8) I welcome correction that helps me live according to divine/transcendent standards. (Feature 7)	.808	.829
(9) When I mess up, I want to make things right by following divine/transcendent values. (Feature 8)	.840	.834
(10) I grow as a person by being accountable to God/the transcendent. (Feature 9)	.842	.858

Note. The transcendent accountability construct aspects and features corresponding to specific scale items are in parentheses.

life. Ages spanned 18 to 91 years ( $M = 47.28$ ,  $SD = 16.84$ ), education ranged from 8<sup>th</sup> grade or less through post-graduate studies, and regions of the US were represented. Self-selecting the identity that ‘most describes you,’ 62.6% of participants responded White ( $n = 236$ ), and 37.3% self-identified as follows: Hispanic, Latino, or Spanish origin (16.4%,  $n = 62$ ), Black or African American (13.8%,  $n = 52$ ), Asian or Asian American (4.2%,  $n = 16$ ), American Indian or Alaska Native (0.5%,  $n = 2$ ), Middle Eastern or North African (0.3%,  $n = 1$ ), Native Hawaiian or other Pacific Islander 0.5%, ( $n = 2$ ), or other (1.6%,  $n = 6$ ) with five writing in a multiethnic identity.

Respondents identified as religious and spiritual (55.2%,  $n = 208$ ), religious but not spiritual (9.5%,  $n = 36$ ), spiritual but not religious (25.5%,  $n = 96$ ), and neither religious nor spiritual (9.8%,  $n = 37$ ). Participants responded to ‘What religion/faith/tradition/worldview shapes your understanding of the transcendent?’ as follows: Christian-Protestant (33.7%,  $n = 127$ ), Christian-Catholic (30.5%,  $n = 115$ ), Agnosticism (3.4%,  $n = 13$ ), Christian-Orthodox (3.2%,  $n = 12$ ), Judaism (2.1%,  $n = 8$ ), Buddhism (1.6%,  $n = 6$ ), Islam (0.8%,  $n = 3$ ), Hinduism (0.5%,  $n = 2$ ), Atheism (0.5%,  $n = 2$ ), None (8.0%,  $n = 30$ ), and Other (15.6%,  $n = 59$ , of whom 36 wrote-in Christian affiliations). Participants selected names for their transcendent guide: God (79.8%,  $n = 301$ ), a Higher Power (18.3%,  $n = 69$ ), spiritual reality (6.1%,  $n = 23$ ), the Divine (3.7%,  $n = 14$ ), the Sacred (1.1%,  $n = 4$ ), Transcendent ideals (1.1%,  $n = 4$ ), or ‘another transcendent reality beyond what humans create’ (4.8%,  $n = 18$ ).

### Measurement

See the Appendix below, and view all 52 transcendent accountability items in the OSF Study 1 protocol.

### Results

A maximum likelihood (ML) exploratory factor analysis (EFA) was conducted on 52 items developed to measure TA. The EFA results showed that four eigenvalues were larger than one with a substantial drop

between the first (29.362) and second eigenvalues (3.490), suggesting that a single factor be extracted.<sup>1</sup> We also conducted a parallel analysis to see whether the eigenvalue for the retained factor was larger than the eigenvalue obtained utilizing random data under otherwise comparable conditions (DeVellis, 2017). Results from analyzing 50 random datasets, which contained 52 variables for a sample of 377 cases each, revealed that the eigenvalue for the first factor of the EFA (i.e., 29.362) was larger than the average (1.695) and 95<sup>th</sup> percentile of the 50 first eigenvalues (1.749) generated from the 50 datasets.<sup>2</sup> After estimating a single-factor model of 52 items, we first removed nine items with low factor loadings (below .500) and then selected 10 items with high loadings (over .700) that tapped all theorized construct features. The resulting 10-item single-factor TA Scale had excellent inter-item reliability (Cronbach’s  $\alpha = .955$ ), as in Table 1. Additionally, the stringent IRT approach of Rasch modeling (see supplemental IRT report <https://osf.io/nhf5y>) supported the 10-item scale, with no evidence of item bias by gender.

### Discussion

Study 1 yielded classical and IRT evidence of a reliable single-factor scale with 10 items that represented the construct definition with its overarching aspects and nine features. Thus, we conducted a second study with a separate and diverse US sample to confirm the scale’s psychometric properties and garner initial validity evidence for the scale.

### Study 2

Study 2 was designed and preregistered to confirm the single-factor structure of the TA Scale, and to assess initial evidence of construct validity, incremental validity, and known-groups validity. We reasoned that TA would

show positive associations with religious, spiritual, as well as transcendent and human virtue-oriented and flourishing measures, while also correlating positively with values-congruent autonomy. Specifically, we predicted that TA would positively correlate with religious commitment (Worthington et al., 2003), the extent to which respondents identify as spiritual or as religious, and their flourishing spiritually and in relation to God (Abernethy & Kim, 2018). Given the relationships of such variables to a sense of meaning in life, we anticipated a positive correlation with the perceived presence of meaning in life (stronger than with the search for meaning; Steger et al., 2006). We further anticipated alignment with other accountability measures including embracing accountability to other people and the likelihood of engaging in relational repair after wrongdoing (Witvliet et al., 2022b). As a virtue, we predicted TA would correlate positively with flourishing (Keyes, 2002). Finally, we anticipated that the scale would have a positive association with social desirability because the scale presents a range of admirable behaviors (Crowne & Marlowe, 1960), but that the correlation would be weak because TA involves honesty and accepting responsibility for one's mistakes.

We also predicted that the TA Scale would have predictive value beyond existing measures, showing incremental validity. Specifically, we hypothesized that after controlling for demographics, TA would predict (a) spiritual flourishing beyond religious commitment, (b) perceptions of the presence of meaning in one's life beyond human accountability scores, and (c) the likelihood of responding with relational repair beyond agreeableness and conscientiousness scores.

Finally, we predicted group differences in TA Scale scores. First, we predicted that scores would be higher in respondents who identified as members of a R/S community compared to those who did not. We reasoned that seeing oneself as a member in such a community likely involves encountering in the community a summons to TA for how one lives, transcendent teachings and practices, and social supports and sanctions that foster living with accountability. Second, we predicted respondents who identified as neither spiritual nor religious yet had a transcendent guide for living would score lower on TA than those who are religious-and-not-spiritual or who are spiritual-and-not-religious, with highest scores for those who are both spiritual and religious. Third, participants were prompted to 'Choose all the statements that describe you,' and we tested whether TA scores would be higher for respondents who selected (vs. omitted) 'I am accountable to God (the Divine, the Sacred, a Higher Power, a transcendent being) for how I live.'

## Method

This study was registered in the Open Science Framework (<https://doi.org/10.17605/OSF.IO/J2DES>) prior to data collection and analysis.

## Participants

Study 2 tested a separate sample of 613 adults (309 female, 297 male, 4 other, and 3 no response), ranging in age ( $M = 44.87$ ,  $SD = 16.60$ , 18 to 98 years), education (8<sup>th</sup> grade or less through postgraduate), and regions of the US. Selecting the identity that 'most describes you,' 65.3% responded White ( $n = 400$ ), and 34.7% responded as follows: Hispanic, Latino, or Spanish origin (14%,  $n = 86$ ), Black or African American (12.9%,  $n = 79$ ), Asian or Asian American (5.5%,  $n = 34$ ), American Indian or Alaska Native (1.3%,  $n = 8$ ), Middle Eastern or North African (0.3%,  $n = 2$ ), Native Hawaiian or other Pacific Islander (0.2%,  $n = 1$ ), and other (0.5%,  $n = 3$ ) writing in multiethnic identities.

Participants identified as religious and spiritual (56.9%,  $n = 349$ ), religious but not spiritual (9.8%,  $n = 60$ ), spiritual but not religious (23.5%,  $n = 144$ ), and neither religious nor spiritual (9.8%,  $n = 60$ ). Participants identified the following influences on their understanding of the transcendent: Christian-Protestant (33.8%,  $n = 207$ ), Christian-Catholic (30.3%,  $n = 186$ ), Christian-Orthodox (4.6%,  $n = 28$ ), Judaism (2.4%,  $n = 15$ ), Agnosticism (2.3%,  $n = 14$ ), Hinduism (1.8%,  $n = 11$ ), Islam (1.5%,  $n = 10$ ), Atheism (1.1%,  $n = 7$ ), Buddhism (1.0%,  $n = 6$ ), None (6.5%,  $n = 40$ ), and Other (14.5%,  $n = 89$ ; of these, 43 wrote-in Christian affiliations). Names for one's transcendent guide included: God (83.7%,  $n = 513$ ), a Higher Power (15.2%,  $n = 93$ ), spiritual reality (7.0%,  $n = 43$ ), the Divine (6.0%,  $n = 37$ ), the Sacred (2.8%,  $n = 17$ ), Transcendent ideals (2.3%,  $n = 14$ ), or 'another transcendent reality beyond what humans create' (5.1%,  $n = 31$ ).

## Measures

The study protocol is posted in OSF, with all materials and measures. Below are the scales we analyzed for this study, including Cronbach's alphas for the current sample.

**Transcendent Accountability Scale.** We used the 10-item TA Scale based on Study 1;  $\alpha = .95$ .

**Human Accountability Scale.** We assessed accountability to other people using the 11-item Accountability Scale (Witvliet et al., 2022b);  $\alpha = .86$ .

**Religious Commitment Inventory.** We used the 10-item Religious Commitment Inventory (Worthington et al., 2003);  $\alpha = .95$ .

**Extent Religious or Spiritual.** Participants used a click and drag slider to rate the extent to which they identified as 'Religious' or 'Spiritual,' from (0) *not at all* to (100) *completely*.

**Spiritual Transcendence Index.** We used Abernethy and Kim's (2018) 8-item transcendent flourishing measure, with four odd-numbered items focused on spirituality ( $\alpha = .94$ ) and four even-numbered items in relation to God ( $\alpha = .93$ ).

**Relational Repair.** To assess reparative behavior responses, we used a 6-item scale focused on the likelihood of enacting responses after realizing one has hurt others through action or inaction (Witvliet et al., 2022b;  $\alpha = .89$ ).

**Big Five Personality Inventory.** We assessed personality traits with the 44-item Big Five Inventory (John et al., 1991), for which we registered hypotheses related to Agreeableness ( $\alpha = .79$ ) and Conscientiousness ( $\alpha = .82$ ).

**Meaning in Life.** We used Steger et al.'s (2006) measure to assess perceived levels of meaning presence with 5 items ( $\alpha = .86$ ) and searching for meaning in life with 5 items ( $\alpha = .90$ ).

**Flourishing.** We assessed flourishing with Keyes' (2002) 14-item flourishing scale that tapped hedonic and eudaimonic well-being over the past month ( $\alpha = .94$ ).

**Social Desirability.** We assessed social desirability with Crowne and Marlowe's (1960) 13-item version of the *true* (1) or *false* (2) scale with items 3, 6, 10, 12, 13 (reversed), 15, 16 (reversed), 19, 21 (reversed), 26 (reversed), 28, 30, 33 (reversed);  $\alpha = .76$ .

## Results

A confirmatory factor analysis (CFA) in *Mplus* Version 8 (Muthén & Muthén, 2017) used ML estimation with robust standard errors. The results are presented in Table 1. The items all had high factor loadings (which ranged from .780 to .858) and excellent internal reliability ( $\alpha = .954$ ). The common factor model of 10 items had RMSEA (.056, 90% CI [.043, .069]) in the 'fair fit' range of .050 to .080 (MacCallum et al., 1996), CFI (.972) larger than .950, and SRMR (.023) smaller than .080 (Hu & Bentler, 1999); the chi-square statistic was significant ( $\chi^2 = 102.031$ ,  $d.f. = 35$ ,  $p = .000$ ) due in part to the large sample size.<sup>3</sup> In sum, the overall CFA results provided evidence that the 10 items measure the unidimensional construct of TA.

IRT modeling approaches also supported the scale (see supplement <https://osf.io/nhf5y>). Rasch modeling supported the model fit, unidimensionality, and reliability of the items, with no evidence of item bias by gender. A comparison of item difficulty estimates in Study 1 and Study 2 supported the stability of item structure across both representative samples. Graded response modeling showed an unconstrained model met all of the assumptions necessary for best practices. Items had high trait discrimination values and homogenous responding patterns.

### Construct validity correlations

The TA scale had the predicted correlational results, offering initial construct validity evidence (Table 2).

### Incremental validity hierarchical regressions

Hierarchical multiple regression analyses garnered predicted incremental validity evidence for the TA Scale (see Table 3 and Relational Repair<sup>a</sup> in Table 4).

**Table 2.** Transcendent Accountability Scale correlations with construct validity measures: Studies 2 and 3.

Study 2 <sup>a</sup>		Study 3 <sup>b</sup>		Study 3 <sup>b</sup>			
Relig. Commitment	.67 <sup>†</sup>	Attend Services	.42 <sup>†</sup>	Self-Regulation	.39 <sup>†</sup>	Temper	-.16*
Extent Spiritual	.47 <sup>†</sup>	Intrinsic Relig.	.68 <sup>†</sup>	Empathy	.25 <sup>†</sup>	Depression	-.28 <sup>†</sup>
Extent Religious	.53 <sup>†</sup>	Extrinsic Relig.	.35 <sup>†</sup>	Gratitude	.45 <sup>†</sup>	Anxiety	-.28 <sup>†</sup>
Flourishing (STI) – Spiritually	.81 <sup>†</sup>	Attitudes toward God – Positive	.76 <sup>†</sup>	Forgiveness		Personality Dis.	-.29 <sup>†</sup>
Relation to God	.82 <sup>†</sup>	Negative	-.43 <sup>†</sup>	Of Others	.32 <sup>†</sup>		
Meaning Presence	.43 <sup>†</sup>	Gratitude to God	.80 <sup>†</sup>	Forgiving Self			
Meaning Search	.19 <sup>†</sup>	Hope – Eschatological	.77 <sup>†</sup>	Values Reorientation	.31 <sup>†</sup>		
Social Desirability	.20 <sup>†</sup>			Esteem Restoration	.32 <sup>†</sup>		
Agreeableness	.30 <sup>†</sup>			Humility – Limits	.13 <sup>ns</sup>		
Conscientiousness	.26 <sup>†</sup>			Autonomy – Healthy Congruence	.34 <sup>†</sup>		
Accountability to People	.43 <sup>†</sup>			Accountability to People	.48 <sup>†</sup>		
Relational Repair	.35 <sup>†</sup>			Relational Repair	.32 <sup>†</sup>		
Flourishing	.37 <sup>†</sup>			Flourishing	.37 <sup>†</sup>		

Note. <sup>a</sup> Study 2 all variables  $n = 613$ , except Religious Commitment (RCI-10)  $n = 593$ , Flourishing  $n = 610$ . <sup>b</sup> Study 3 all variables  $n = 187$  except Empathy and Self-Regulation  $n = 180$ ; Gratitude, Forgiveness, Limitations-Owning Humility, Self-Forgiveness Values Reorientation and Esteem Restoration and Autonomy – Healthy Congruence, Flourishing, and Temper  $n = 172$ ; Relational Repair, Depression, Anxiety, and Personality Disorder symptoms  $n = 173$ . \* $p < .05$ , \*\* $p < .01$ , <sup>†</sup>  $p \leq .001$

**Table 3.** Hierarchical multiple regressions of (a) Perceived Spiritual Flourishing predicted by Demographics (Model 1), Religious Commitment Inventory scores (Model 2), and Transcendent Accountability (Model 3); (b) Perceived Presence of Meaning in Life predicted by Demographics (Model 1), Human Accountability scores (Model 2), and Transcendent Accountability (Model 3).

	Spiritual Flourishing				Presence of Meaning		
	Model 1	Model 2	Model 3		Model 1	Model 2	Model 3
Age	.08	.10 <sup>†</sup>	.03	Age	.11*	.10*	.07
Gender	.07	.13 <sup>†</sup>	.07**	Gender	.02	.001	-.01
Ethnicity	.07	.04	.05*	Ethnicity	.08	.07	.07
Education	.06	-.08**	-.05*	Education	.12**	.04	.05
Region	-.002	.01	.006	Region	-.08	-.06	-.05
Rel. Commitment	-	.76 <sup>†</sup>	.39 <sup>†</sup>	Human Accountability	-	.34 <sup>†</sup>	.20 <sup>†</sup>
Tr. Accountability	-	-	.54 <sup>†</sup>	Tr. Accountability	-	-	.33 <sup>†</sup>
Multiple <i>R</i>	.12	.76	.86	Multiple <i>R</i>	.20	.38	.48
<i>R</i> <sup>2</sup>	.02	.57	.73	<i>R</i> <sup>2</sup>	.04	.15	.23
<i>F</i>	1.80	131.23 <sup>†</sup>	225.77 <sup>†</sup>	<i>F</i>	4.77 <sup>†</sup>	17.37 <sup>†</sup>	26.30 <sup>†</sup>
<i>F</i> change	-	766.62 <sup>†</sup>	338.27 <sup>†</sup>	<i>F</i> change	-	77.36 <sup>†</sup>	68.23 <sup>†</sup>
<i>R</i> <sup>2</sup> change	-	.56	.16	<i>R</i> <sup>2</sup> change	-	.11	.09
<i>n</i>	591	591	591	<i>n</i>	610	610	610

Note. Perceived Spiritual Flourishing was assessed with the Spiritual Transcendence Index Spiritual subscale. Perceived Presence of Meaning in Life was assessed with the Meaning Life Presence subscale. Standardized coefficients are presented. \* $p < .05$ , \*\* $p < .01$ ,  $† p \leq .001$

### Known-groups validity

TA Scale scores were reliably higher for respondents who indicated 'I am a member of a religious/spiritual community' ( $n = 299$ ,  $M = 43.95$ ,  $SD = 6.78$ ) compared to 'I am not a member of a religious/spiritual community' ( $n = 313$ ,  $M = 37.96$ ,  $SD = 9.29$ ),  $F(1, 610) = 82.53$ ,  $p < .001$ . Participants who identified as 'both religious and spiritual' scored higher on TA ( $n = 349$ ,  $M = 44.04$ ,  $SD = 6.47$ ) compared to the statistically equivalent 'religious-only' ( $n = 60$ ,  $M = 39.43$ ,  $SD = 6.43$ ) and 'spiritual-only' groups ( $n = 144$ ,  $M = 38.35$ ,  $SD = 8.88$ ), with the lowest scores in the 'neither religious nor spiritual' group ( $n = 60$ ,  $M = 30.23$ ,  $SD = 10.55$ ),  $F(3, 609) = 66.06$ ,  $p < .001$ . Finally, TA scores were higher in participants who endorsed 'I am accountable to God (the Divine, the Sacred, a Higher Power, a transcendent being) for how I live' ( $n = 375$ ,  $M = 44.01$ ,  $SD = 6.04$ ) than in those who did not ( $n = 238$ ,  $M = 36.00$ ,  $SD = 9.89$ ),  $F(1,$

611) = 155.03,  $p < .001$ . For all group differences in scores, .95 CIs did not cross.

### Discussion

This study garnered CFA and IRT evidence of sound psychometric properties for the 10-item, single-factor TA Scale. Evidence supported its construct validity, incremental validity, and known-groups validity.

### Study 3

This study was designed as a follow-up to assess further evidence of construct validity while providing test-retest evidence. We predicted that TA would be positively correlated with R/S variables, showing reliable and positive associations for attending services and intrinsic religiosity (more than extrinsic religiosity; Gorsuch &

**Table 4.** Hierarchical multiple regressions of Relational Repair after Wrongdoing predicted by Demographics (Model 1), Agreeableness and Conscientiousness (Model 2<sup>a</sup>) or Empathy and Self-Regulation (Model 2<sup>b</sup>), and Transcendent Accountability (Model 3).

	Relational Repair <sup>a</sup>				Relational Repair <sup>b</sup>		
	Model 1	Model 2	Model 3		Model 1	Model 2	Model 3
Age	.02	-.13 <sup>†</sup>	-.13 <sup>†</sup>	Age	-.03	-.05	-.05
Gender	.10*	.03	.03	Gender	-.03	-.14*	-.13
Ethnicity	.002	-.003	-.005	Ethnicity	-.04	-.01	-.01
Education	.05	.03	.02	Education	-.04	-.10	-.10
Region	-.06	-.05	-.04	Region	.03	.03	.05
Agreeableness	-	.42 <sup>†</sup>	.38 <sup>†</sup>	Empathy	-	.52 <sup>†</sup>	.51 <sup>†</sup>
Conscientiousness	-	.12**	.09*	Self-Regulation	-	.21**	.16*
Tr. Accountability	-	-	.22 <sup>†</sup>	Tr. Accountability	-	-	.13*
Multiple <i>R</i>	.12	.50	.54	Multiple <i>R</i>	.07	.63	.64
<i>R</i> <sup>2</sup>	.01	.25	.29	<i>R</i> <sup>2</sup>	.01	.40	.41
<i>F</i>	1.65	28.26 <sup>†</sup>	30.64 <sup>†</sup>	<i>F</i>	0.16	15.60 <sup>†</sup>	14.41 <sup>†</sup>
<i>F</i> change	-	93.53 <sup>†</sup>	35.82 <sup>†</sup>	<i>F</i> change	-	53.92 <sup>†</sup>	4.05*
<i>R</i> <sup>2</sup> change	-	.23	.04	<i>R</i> <sup>2</sup> change	-	.39	.014
<i>n</i>	610	610	610	<i>n</i>	173	173	173

Note. <sup>a</sup> Study 2. <sup>b</sup> Study 3. Standardized coefficients are presented. \* $p < .05$ , \*\* $p < .01$ ,  $† p \leq .001$



McPherson, 1989), as well as positive transcendent attitudes that involve trust (and inverse associations with negative attitudes emphasizing anger and disappointment; Wood et al., 2010).

Given the role of virtues in R/S, we predicted positive correlations between TA and transcendent virtues including gratitude to God (Watkins et al., 2019) and hope in God (Witvliet et al., 2022a). We also anticipated positive associations with gratitude to other people (McCullough et al., 2002), as well as forgiveness of others (Berry et al., 2005) and a values-oriented approach to embracing forgiveness for oneself with esteem restoration after wrongdoing (Griffin et al., 2018). We also anticipated that TA would be associated with humility that owns one's limitations (Haggard et al., 2018). Further, we predicted that TA would have a modest positive correlation with values-oriented expressions of autonomy (Peteet et al., 2022b; Weinstein et al., 2012). Finally, as in Study 2, we predicted that TA would correlate positively with human accountability and with the likelihood of engaging in relational repair after wrongdoing (Witvliet et al., 2022b), and that the virtue would again correlate positively with flourishing (Keyes, 2002).

Welcoming one's accountability to a transcendent guide for how one lives can be construed as a R/S complement of welcoming accountability to other people for carrying out one's responsibilities. Research on welcoming human accountability (Witvliet et al., 2022b) found moderately strong positive correlations with empathy (Davis, 1983) and self-regulation (Carey et al., 2004). Accordingly, we predicted positive, yet more modest, correlations of TA with self-regulation as well as empathy given that other people are less central to the transcendent construct. Furthermore, we predicted that after controlling for demographics, TA would show incremental validity by going above and beyond empathy and self-regulation to predict variance in relational repair scores. This aligns with transcendent understandings in many R/S worldviews that people's accountability to God or a higher power also concerns responsibilities in human relationships.

Accountability has been theorized to be important in mental health (Peteet et al., 2022a). Similar to McCullough et al.'s (2002) findings for the relational virtue of gratitude and Witvliet et al.'s (2022b) findings for human accountability, we predicted modest inverse relationships of TA with anxiety (Spitzer et al., 2006) and depression (Kroenke et al., 2009). If TA is associated with self-regulation and empathic capacities that value others and their perspectives, we reasoned that TA scores would be inversely correlated with disordered personality indicators of antagonism, disinhibition, negative

affect, detachment, and psychoticism (Krueger et al., 2012), as well as having a temper (Grasmick et al., 1993).

### Method

This study was preregistered, and all materials and deidentified data are registered in OSF. Qualtrics Panels solicited participation from those who completed Study 2, to provide an approximate one-month retest.

### Participants

This study had 187 participants with both test and retest scores on the TA Scale. Age, education, and region were based on test time 1 responses; self-identified gender (80 male, 105 female, 2 other) and race or ethnicity were based on test time 2 responses. Participants were 19 to 97 years of age ( $M = 46.63$ ,  $SD = 16.48$ ), had educational attainment from 8<sup>th</sup> grade or less through postgraduate, and represented an array of US regions. Choosing the identity that 'most describes you,' 62.6% responded White ( $n = 117$ ), and 37.4% responded as follows: Black or African American (17.1%,  $n = 32$ ), Hispanic, Latino, or Spanish origin (13.4%,  $n = 25$ ), Asian or Asian American (4.8%,  $n = 9$ ), American Indian or Alaska Native (0.5%,  $n = 1$ ), Native Hawaiian or other Pacific Islander (0.5%,  $n = 1$ ), and other (1.1%,  $n = 2$  who wrote in multiethnic identities).

### Measures

Measures and Cronbach's alphas are reported for this sample. Three variables from Study 2 were Human Accountability ( $\alpha = .89$ ), Relational Repair ( $\alpha = .85$ ), and Flourishing ( $\alpha = .95$ ).

**Transcendent Accountability Scale.** The 10-item TA Scale again showed strong internal reliability,  $\alpha = .95$ .

**Intrinsic and Extrinsic Religiosity.** Using Gorsuch and McPherson's (1989) revised scales, we assessed internalized motivation to engage in faith activities with the 8-item Intrinsic Religiosity scale ( $\alpha = .76$ ) and instrumental motivation for religious engagement with the 6-item Extrinsic Religiosity scale ( $\alpha = .82$ ).

**Attitudes toward God Scale.** With Wood et al.'s (2010) scale, participants substituted the name they use for their transcendent guide. The positive subscale addressing trust in God/the transcendent as all-knowing, all-powerful, loving, and protecting ( $\alpha = .94$ ), and the negative subscale addressed anger and disappointment in God/the transcendent ( $\alpha = .89$ ).

**Gratitude to God.** We used Watkins et al.'s (2019) 10-item scale, adding to the instructions: *Where you read 'God,' please substitute the name you use for the transcendent guide for living your life so that you can answer the question.* Items tapped a range of benefits (e.g., life, family, blessings, simple pleasures, springtime, the goodness of other people), acknowledging a transcendent benefactor, and oneself as beneficiary. Responses were rated on a scale from (1) *I strongly disagree* to (9) *I strongly agree with the statement*, and the mean of all responses was computed ( $\alpha = .94$ ).

**Eschatological Hope.** We used Witvliet et al.'s (2022a) hope scale based on the first six items in the study protocol. These items assess ultimate hope with God as the source of hope for everlasting life with God gathered with people from every place and culture, where God's goodness overcomes evil and suffering, and God reconciles all things ( $\alpha = .93$ ).

**Empathic Concern and Perspective Taking.** Using a brief form of the Interpersonal Reactivity Index (Davis, 1983), we summed the 14 items comprising Empathic Concern and Perspective Taking ( $\alpha = .80$ ).

**Short Self-Regulation Questionnaire.** We used Carey et al.'s (2004) scale to measure self-regulation. The scale has 31 items, including items with reverse-scoring,  $\alpha = .93$ .

**Gratitude.** The 6-item Gratitude Questionnaire (GQ-6; McCullough et al., 2002), which has two reverse-scored items, measured dispositional gratitude to others for benefits,  $\alpha = .78$ .

**Forgivingness.** The 10-item Trait Forgivingness Scale (Berry et al., 2005), with reverse-scored items assessed the disposition to be forgiving toward others for wrongdoing,  $\alpha = .80$ .

**Values-Oriented Self-Forgiveness.** We used an adapted version of Griffin et al.'s (2018) measure of the tendency to respond to oneself after wrongdoing with a 5-item scale of affirming one's values ( $\alpha = .84$ ) and restoring one's esteem ( $\alpha = .87$ ).

**Limitations-Owning Humility.** This 4-item subscale (Haggard et al., 2018) assessed the disposition to acknowledge one's limitations and capacity to make mistakes,  $\alpha = .66$ .

**Autonomy – Authorship/Self-Congruence.** This 5-item subscale from the Index of Autonomous Functioning

(Weinstein et al., 2012) assessed the tendency to decide and determine how one will act in healthy alignment or congruence with one's values and identity,  $\alpha = .90$ .

**Anxiety.** To assess anxiety symptom levels, we used the Generalized Anxiety Disorder 7-item scale (GAD-7; Spitzer et al., 2006), a clinical screening tool for the past two weeks,  $\alpha = .94$ .

**Depression.** To measure depression symptoms, we used the Patient Health Questionnaire 8-item scale (PHQ-8; Kroenke et al., 2009) a brief clinical tool for the past two weeks,  $\alpha = .93$ .

**Personality Disorder Inventory.** We assessed the personality domains of negative affect, detachment, antagonism, disinhibition, and psychoticism by computing an overall score for the 25-item Personality Inventory for DSM-5 Brief Form–Adult (Krueger et al., 2012),  $\alpha = .94$ .

**Temper.** We measured the tendency to show anger toward others with four items from Grasmick et al.'s (1993) scale of low self-control based on psychometric assessment (Piquero & Rosay, 1998),  $\alpha = .85$ .

## Results

### Construct validity correlations

Correlational evidence supported construct validity of the TA Scale consistent with stated predictions (see Table 2).

### Incremental validity

TA went beyond demographics, empathy, and self-regulation in accounting for additional variance in scores for relational repair responses (see Relational Repair<sup>b</sup> in Table 4).

### Known-groups validity

Given the strong relation between TA and gratitude to God (GTG), we conducted a post-hoc group difference analysis with GTG in parallel to TA. Participants who endorsed being accountable to God (or a transcendent being) for how they live ( $n = 122$ ) again scored higher on TA ( $M = 43.95$ ,  $SD = 5.92$ ) and also on GTG ( $M = 7.83$ ,  $SD = 1.23$ ); those who did not endorse being accountable to God for how they live ( $n = 65$ ) scored lower on TA ( $M = 36.86$ ,  $SD = 8.88$ ) and GTG ( $M = 6.31$ ,  $SD = 1.96$ ); between-group  $F_s(1, 185) = 42.46$  (TA),  $42.17$  (GTG),  $ps < .001$ ; .95 CIs did not cross.

### Test-retest reliability

A total of 187 participants from Study 2 completed Study 3 (median gap = 38 days). Intraclass correlation coefficient (ICC) estimates and their 95% confidence intervals were calculated using SPSS based on a single-measure, absolute-agreement, 2-way random-effects model. The single measures ICC of .776 (95% CI .711 to .827,  $F [186, 186] 7.887, p < .001$ ) suggested good test-retest reliability or stability of the scale (Koo & Li, 2016), as predicted.<sup>4</sup>

### Discussion

Study 3 found good test-retest evidence indicating stability of participant responses on the TA Scale. The correlations further supported the scale's construct validity, showing predicted associations with R/S behaviors and attitudes, transcendent virtues of gratitude to God and eschatological hope, interhuman virtues, values-congruent autonomy, and flourishing. Unlike welcoming accountability to other people, TA did not correlate with limitations-owning humility (Haggard et al., 2018; Witvliet et al., 2022b), suggesting the value of alternative humility measures. Inverse associations of TA occurred for negative transcendent attitudes, a temper, and symptoms of depression, anxiety, and personality disorders. Further, when people could choose all options that applied, those who endorsed being accountable to God or a transcendent being for how they live scored higher on the TA scale and the Gratitude to God scale. We anticipate that transcendent indebtedness will play a role in transcendent gratitude and accountability (Nelson et al., 2022). Hierarchical regression results supported incremental validity of the TA Scale beyond demographics as well as empathy and self-regulation in predicting the likelihood of engaging in relationally reparative actions after wrongdoing.

### General discussion

Accountability is a relationally responsive and responsible virtue that is meaningfully connected to R/S (Evans, 2021; Torrance, 2023), as well as positive psychology and flourishing (Bradshaw et al., 2022; Peteet et al., 2022a; Witvliet et al., 2022b). Like gratitude, accountability can be exhibited in relation to other people and to God or the transcendent. Depending on people's understanding of their transcendent guide for living, they may – for example, – welcome their accountability to a personal God, higher power, a divinity, the sacred, a spiritual reality, transcendent ideals, or another transcendent reality beyond what humans create. In expressing the virtue, people account for their attitudes and actions,

making responsible improvements and corrections in light of transcendent goals and standards.

This research on TA complements construct and scale development work in human accountability (Witvliet et al., 2022b). We conducted classical exploratory and confirmatory factor analysis and IRT approaches in tandem with separate diverse samples. This yielded a psychometrically sound single-factor 10-item TA scale, which showed good test-retest reliability suggestive of TA as a disposition that could be modified over time.

Construct validity evidence across studies pointed to the value of TA in relation to R/S variables, with especially strong associations with intrinsic religiosity, positive attitudes toward God, and virtues of hope in God and gratitude to God. Consistent with theorizing about self-regulation as a key mechanism undergirding virtues in general (Root Luna et al., 2017), and empathy as key for relational virtues, both self-regulation and empathy (as well as conscientiousness and agreeableness) were directly correlated with welcoming TA. By contrast, temper and symptom variables that are associated with difficulties in self-regulation and empathy had modest inverse correlations with TA. We also found positive correlations of TA with human relational virtue measures – gratitude, forgivingness, accountability, relational repair – as well as self-forgiveness that restores esteem through responses that align with one's values (Griffin et al., 2018). Further, consistent with theorizing (Peteet et al., 2022a; Peteet et al., 2022b), TA correlated positively with autonomy to act in healthy congruence with one's values. Similar to human accountability, TA showed a positive correlation with flourishing (Witvliet et al., 2022b).

Incremental validity evidence further supported the value of the TA scale. In hierarchical regressions controlling for demographics, TA predicted spiritual flourishing (beyond religious commitment), perceived presence of meaning (beyond human accountability), and relational repair responses after realizing one's responsibility for wrongdoing (beyond agreeableness and conscientiousness in Study 2; beyond empathy and self-regulation in Study 3).

The TA scale also showed known-groups validity, with higher scores in respondents who identified as members (vs. non-members) of a R/S community. TA was also reliably highest in respondents who were both religious and spiritual, moderate for religious-only and spiritual-only, and reliably lowest in respondents identifying as neither religious nor spiritual. Finally, respondents who did (vs. did not) endorse accountability to God or a transcendent being for how they live scored higher in TA and in the post-hoc analysis of gratitude to God.

TA and gratitude to God (GTG) are distinct, yet have a strong theoretical and empirical relationship. Notably, respondents who endorsed 'I am accountable to God (the Divine, the Sacred, a Higher Power, a transcendent being) for how I live' scored reliably higher in TA and in GTG. Evans (2021) theorized that the virtue of accountability is enhanced when people receive legitimate expectations and guidance as a boon, not a burden, and this aids people in fulfilling their moral obligations and in flourishing. Receptivity to goals and guidance as growth-producing gifts that warrant an appropriate response to the giver may aid TA and GTG.

### **Limitations and future directions**

The current studies tested diverse samples of participants across the US. Accordingly, we encourage research with sufficiently powered samples to study the TA construct and its measurement across cultures globally, testing intersections with R/S worldviews and moral foundations (Haidt, 2012). Understandings of the transcendent (e.g., as an agent with a mind or an abstract ideal; as benevolent, limitless, mystical, ineffable and/or authoritarian – see K. A. Johnson et al., 2019; as a partner in a covenantal relationship) likely matter for how people engage TA and whether they view God or the transcendent as accountable to people. We encourage multiple methods to illumine TA development across the lifespan and its implications – including longitudinal designs and neuroscience methods in individuals and groups with varying cultural norms.

We further commend research on accountability in specialized populations and contexts with important implications. Research has begun to examine the role of TA in civic and political engagement, and reduced aggression in people who are incarcerated (Jang et al., 2021; B. R. Johnson et al., 2021). Future work could assess the inter-relationship of transcendent and human accountability in Twelve Step programs; integrative mental and physical health care and chaplaincy; community and family relations; diversity, equity, and inclusion practices; ethics in professions and philanthropies; organizational culture and productivity; worship, work, and leisure in relation to calling and edge-work (Bradshaw et al., 2022; Hall et al., 2017; Kent et al., 2016; Lyng, 1990; Mahoney et al., 2003; Witvliet & Peteet, 2022). It may be that human accountability associations with virtues (e.g., honesty, integrity) are amplified by the presence of sufficient TA – especially when no one else is looking (e.g., cheating) or when virtuous behavior risks substantial cost to self (e.g., taking a stand of integrity that is denounced by one's group).

### **Conclusion**

We offer the TA virtue construct and scale to complement human accountability and expand positive psychology research and applications. Similar to gratitude, accountability is a relational and responsible virtue with value in relation both to other people (Witvliet et al., 2022b) and the transcendent (Bradshaw et al., 2022). We view accountability as ripe for inclusion in research on R/S and positive psychology across domains that impact flourishing.

### **Notes**

1. The Cattell scree test plot indicated a third eigenvalue (1.068) could be an 'elbow,' so we also extracted two factors as an alternative. However, we chose the one-factor model over the two-factor one because the latter was likely a methodological artifact as items that connoted negativity toward being accountable to others (e.g., rejection, avoidance, etc.) were all loaded on a second factor.
2. A commonly used 'reasonably large' number of random datasets for parallel analysis is 50, and using the 95<sup>th</sup> percentile of randomly generated eigenvalues is a more conservative test than using the average because the former is analogous to setting a Type I error rate ( $\alpha$ ) to .05, whereas the latter would be like setting the rate to .50 (Hayton et al., 2004).
3. Examining retrospectively their fit to the first data used for EFA, we found the 10-item scale ( $\chi^2 = 25.746$ ,  $d.f. = 35$ ,  $p = .872$ ; RMSEA = .000, 90% CI [.000, .019]; CFI = 1.000; SRMR = .014) had a good fit to data.
4. An additional study with 147 participants who completed a test and retest two weeks (median of 14 days) later. This replicated the initial results. Specifically, the single measures ICC of .830 (95% CI .772 to .874,  $F[146, 146] 10.756$ ,  $p < .001$ ) confirmed good test-retest reliability of the scale.

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### **Disclosure statement**

No potential conflict of interest was reported by the authors.

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## Declaration

The authors report there are no competing interests to declare.

## Supplemental online material

The IRT report 'Transcendent Accountability Scale Item Response Theory Supplement OSF.pdf' is directly available at <https://osf.io/nhf5y>.

## Data availability

Open science materials and deidentified data are available in the Open Science Framework (OSF) registration of 'Transcendent Accountability Scale Development Data and Materials' (<https://doi.org/10.17605/OSF.IO/A7T6H>); select 'Files,' 'Archive of OSF Storage,' and folders. The materials and deidentified data are also linked to the overall project registration for 'Human and Transcendent Accountability Scale Development' (<https://doi.org/10.17605/OSF.IO/J2DES>); select 'Resources' and 'Supplements.'

## Data availability statement

The deidentified data described in this article are openly available in the Open Science Framework at <https://doi.org/10.17605/OSF.IO/A7T6H>.

## Open Scholarship



This article has earned the Center for Open Science badges for Open Data, Open Materials and Preregistered. The data and materials are openly accessible at <https://doi.org/10.17605/OSF.IO/A7T6H> within the registration of 'Transcendent Accountability Scale Development

Data and Materials' under 'Files.' Additionally, these deidentified data sets and materials are accessible within the overall registration of 'Human and Transcendent Accountability Scale Development' under 'Resources' and 'Supplements' for Transcendent Accountability (<https://doi.org/10.17605/OSF.IO/J2DES>).

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## Appendix

### Transcendent Accountability Scale

Think about **how you usually respond to the transcendent guide for living your life (i.e., God, the Divine, the Sacred, your Higher Power, transcendent ideals, another transcendent reality).**

In the following questions, when you read 'God/the transcendent' or references to the 'divine/transcendent,' **please substitute the names you use so that you can answer the question.**

Please select a response to indicate how much you honestly disagree or agree with each statement based on **how you typically are in real life.**

1	2	3	4	5
Disagree strongly	Disagree somewhat	Neither agree nor disagree	Agree somewhat	Agree strongly

- (1) \_\_\_ I value being accountable to God/the transcendent in living my life.
- (2) \_\_\_ I seek divine/transcendent guidance for my life (e.g., through prayer, meditation, study, or counsel).
- (3) \_\_\_ I willingly live with accountability to God/the transcendent.
- (4) \_\_\_ I try to be honest about my actions in light of divine/transcendent standards.
- (5) \_\_\_ I consider whether advice is consistent with divine/transcendent standards before going along with it.
- (6) \_\_\_ I am motivated to live according to divine/transcendent ideals.
- (7) \_\_\_ I care about a divine/transcendent perspective on my actions.
- (8) \_\_\_ I welcome correction that helps me live according to divine/transcendent standards.
- (9) \_\_\_ When I mess up, I want to make things right by following divine/transcendent values.
- (10) \_\_\_ I grow as a person by being accountable to God/the transcendent.