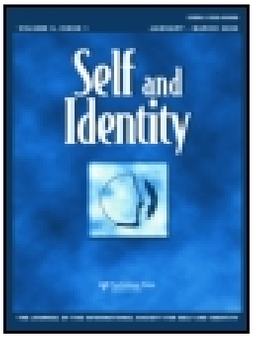

Self and Identity

ISSN: 1529-8868 (Print) 1529-8876 (Online) Journal homepage: http://www.tandfonline.com/loi/psai20

Be it ever so humble: Proposing a dual-dimension account and measurement of humility

Jennifer Cole Wright, Thomas Nadelhoffer, Lisa Thomson Ross & Walter Sinnott-Armstrong

To cite this article: Jennifer Cole Wright, Thomas Nadelhoffer, Lisa Thomson Ross & Walter Sinnott-Armstrong (2017): Be it ever so humble: Proposing a dual-dimension account and measurement of humility, Self and Identity, DOI: 10.1080/15298868.2017.1327454

To link to this article: http://dx.doi.org/10.1080/15298868.2017.1327454

Published online: 22 May 2017.

SELF AND IDENTITY, 2017
https://doi.org/10.1080/15298868.2017.1327454

Routledge
Taylor & Francis Group

Be it ever so humble: Proposing a dual-dimension account and measurement of humility

Jennifer Cole Wright[a§], Thomas Nadelhoffer[a], Lisa Thomson Ross[a] and Walter Sinnott-Armstrong[b]

[a]Department of Psychology, College of Charleston, Charleston, SC, USA; [b]Duke University, Durham, NC, USA

ABSTRACT

What does it mean to be humble? We argue that humility is an *epistemically* and *ethically aligned* state of awareness – the experience of ourselves as a small part of a larger universe and as one among a host of other morally relevant beings. So conceived, humility can be operationalized and measured along the dual dimensions of *low self-focus* and *high other-focus* and is distinct from other related constructs (e.g., modesty and open-mindedness). We discuss our newly developed scale (Study 1 and 2), and provide preliminary validation using self-report (Study 3) and behavioral measures (Study 4), showing that humility is related to people's general ethical orientation (e.g., empathy, universalism/benevolence, and civic responsibility), their well-being (e.g., sense of autonomy, life-purpose, and secure attachment), mature religious beliefs/practices, and reactions to disagreement – specifically, people high in humility sat closer and less angled away from their conversation partner with whom they disagreed. Together, this provides support for our new Dual-Dimension Humility Scale.

ARTICLE HISTORY
Received 31 May 2016
Accepted 1 May 2017
Published online 22 May 2017

KEYWORDS
Humility; low self-focus; high other-focus; virtue; dual dimensions

What is humility? While nearly all of the accounts of humility appear to reference a "shrinking" of the self – or, more specifically, the *value, esteem, care, and prioritization* given to it – there are also a number of striking differences. According to perhaps the most historically prominent and influential view of humility, to be humble involves what Aquinas calls "self-abasement to the lowest place" (II-II, Q. 161, Art. 1, ad. 2; see also Baxter, 1830; Horneck, 1651; Kempis, 1441/1940; Maimonides, 1972; St. Bernard of Clairvaux, 1942). The paradigmatic act of humility, according to this view, is kneeling prostrate before God, as it signifies the recognition of one's own lowliness and insignificance in relation to God's greatness.

This account also shows up in more secular settings. The *Oxford English Dictionary* (McArthur, 1998) defines humility as "the quality of being humble or of having a lowly opinion of oneself; meekness, lowliness, humbleness: the opposite of pride or haughtiness." And a number of researchers have adopted a self-abasement view of humility (see Klein, 1992; Knight & Nadel, 1986; Langston & Cantor, 1989; Weiss & Knight, 1980 – and see, most recently,

CONTACT Jennifer Cole Wright wrightjj1@cofc.edu
§ Department of Psychology, College of Charleston, Charleston, SC, USA

Weidman, Cheng, & Tracy, 2016), in which the humble person is someone "who accepts his lowly position as *due him*" (Taylor, 1985, p. 17, emphasis added).

Unsurprisingly, this way of conceptualizing humility has drawn substantial criticism (Sidgwick, 1874/2011; Spinoza, 1677/1955) and has led many to reject this "monkish virtue" entirely (Hume, 1777/1960; Nietzsche, 1886/1966). Others have attempted instead to salvage humility, re-casting it in a more favorable light by arguing that one need not be self-deprecating to be humble, but only "keep one's accomplishments, traits, abilities … in perspective, even if stimulated to exaggerate them" (Richards, 1988, p. 256; see also Snow, 1995). In other words, humility does not require us to hold ourselves in low regard, but rather to not be *enamored with* ourselves. Thus, while this account also involves a "reduction" of the self, it is a "decentering" rather than a "decreasing."

So conceived, humility likely involves "hypo-egoic" states – or a "quieting" of the self – that results in a shift of awareness *away* from oneself and *towards* other things (Leary & Terry, 2012), increased self-regulation (Leary, Adams, & Tate, 2006), a sense of being connected to something larger, and optimal functioning/well-being (Leary & Guadagno, 2011).

It is arguably something like this conception of humility that motivated Tangney (2000, 2009) to identify humility as an accurate assessment of one's talents and achievements, the ability to acknowledge one's mistakes, imperfections, gaps in knowledge, and limitations, along with openness to new ideas, contradictory information, advice, and an appreciation of the value of other people and things. And others have defined humility along similar *intrapersonal* lines – such as having a moderate or accurate view of oneself (Baumeister & Exline, 2002; Emmons, 1999; Rowatt et al., 2002; Sandage, Wiens, & Dahl, 2001) often accompanied by a relative lack of self-preoccupation (Templeton, 1997) or desire to distort information, or otherwise "self-enhance" or make oneself look and feel better (Peterson & Seligman, 2004), as well as an open-minded willingness to admit mistakes, seek new information, and learn new things (Hwang, 1982; Templeton, 1997).

Researchers have also defined humility in terms of related *interpersonal* qualities, such as the presence of empathy, gentleness, respect, and an appreciation for the equality, autonomy, and value of others (Halling, Kunz, & Rowe, 1994; Means, Wilson, Sturm, Bion, & Bach, 1990; Sandage, 1999; Tangney, 2000, 2009), gratitude (Emmons & Kneezel, 2005), a willingness to share credit for accomplishments (Exline & Geyer, 2004; Tangney, 2000, 2009; Vera & Rodriguez-Lopez, 2004), an openness to new or divergent ideas (Gantt, 1967; Harrell & Bond, 2006; Morris, Brotheridge, & Urbanski, 2005; Neuringer, 1991; Tangney, 2000, 2009; Templeton, 1995), and a willingness to surrender to God or some transcendent power (Emmons & Kneezel, 2005; Murray, 2001; Powers, Nam, Rowatt, & Hill, 2007). As Rowden (2009) put it, humility shifts us from the narrow preoccupation with self *or* other into the broader consideration of self *and* other.

This way of encountering others facilitates an appreciation of and compassion for their welfare (LaBouff, Rowatt, Johnson, Tsang, & Willerton, 2012). In summary, as Davis, Worthington, and Hook (2010) noted in their review of humility research, most contemporary researchers agree that humility involves "the ability to balance the needs of self and other well, derived from having an accurate view of self and of others" (p. 112).

While we strongly agree with this general positive approach to humility, one problem with defining humility merely in terms of its intrapersonal and interpersonal qualities is that it is not clear which of these qualities *constitute* humility and which are simply *related to* it – e.g., as a precursor, a parallel process, or a downstream consequence. Humble people may

indeed possess and express all of the above attributes and qualities, and they may even do so *because* they are humble, but that does not mean that those attributes and qualities *are* humility. Thus, while these approaches may highlight the psychological preconditions of humility – as well as the interpersonal and intrapersonal consequences of being humble – they may nonetheless fail to fully illuminate humility itself. A related worry is that simply identifying and measuring such qualities leaves unanswered the question of *why* humility would require, involve, or result in them. What is it about humility that it results in this shift in self and other-related capacities?

Defining the core of humility

Phenomenologically speaking, we experience ourselves as the psychological *centers* of our lives – lives that extend out of a remembered past and into an imagined future – and this self "centered-ness" creates a natural self-oriented distortion. We naturally experience the "gravitational pull" of our own desires, needs, interests, beliefs, goals, etc. more strongly than those of others. And we prioritize them not only because they are the ones with which we are most intimately, deeply, and continuously familiar, but also because they *emanate* from that center – they, and not others, are *ours* (Johnston, 2009).

Yet, such a fundamental self-prioritization is neither epistemically nor ethically justified. As Johnston (2009) writes:

> The central commandment of Christianity – to love one's neighbor, indeed even one's enemies, as oneself … requires that *one love the arbitrary other as oneself,* but it also requires that *one love oneself objectively; that is, as just the arbitrary other whose life one is nonetheless called upon to lead*. (p. 185, emphasis added)

We argue that humility, at its core, is the existential capacity being called upon in this passage. It is an epistemically and ethically aligned state of awareness in which we experience ourselves in relation to all else (everything and everyone) – allowing us to experience those relations objectively. And while, as a state of awareness, humility is something we can "come into and go out of" (i.e., we can be temporarily or momentarily humble), the *virtue* of humility requires these states of awareness to stabilize into a sort of "standing" or baseline phenomenological disposition, such that our mental lives and behaviors are continuously informed and influenced by it.

By "epistemically aligned," we mean that humility is the *experience of oneself*, at any given moment, within the context of one's full existence. This generates what other researchers have been referring to as the accurate assessment of self – one experiences oneself as a finite, fragile, and fallible being, a small part of something vast and infinite. This can be experienced spiritually, as a connection to God or a higher universal consciousness, and/or as an awareness of one's place in, and connection to, the natural world or the cosmos. And by "ethically aligned," we mean that humility is the *experience of "all else"* – e.g., the vast web of interconnected beings whose needs/interests are as morally relevant, as worthy of attention and concern as one's own.

In other words, to be aware of oneself in relation to all else involves (at minimum) an awareness of *oneself* and an awareness of "*all else*" – thus, it naturally lends itself to *both* a downward shift in one's awareness of oneself and an upward shift in one's awareness of that to which one stands in relation. Thus, states of humility generate not only an appropriate reduction in one's *self-focus/orientation* (i.e., one's sense of self-importance, specialness, value,

priority, etc.), but also a correspondingly heightened *other-focus/orientation* towards everything else – an appreciation for the vast and complex world of which one is a part and the myriad of living beings in it with you.

Behavioral manifestations of the former include (among other things) a lack of desire to self-aggrandize or self-promote and an openness to new and challenging information; a simplicity in self-presentation and/or life-style (i.e., modesty, open-mindedness, etc.). Behavioral manifestations of the latter include an increased prioritization of others' needs and interests, increased concern for their wellbeing (i.e., tolerance, civic-mindedness, etc.), both human and non-human. Accompanying this increased compassion is a greater appreciation for the value of others and a greater acceptance of their beliefs, values, and ideas, even when different from one's own.

This does not mean that humility requires us to achieve moral sainthood. Nor does it reduce the force or scope of one's own needs and interests – rather, it expands them. Others' wellbeing becomes entangled with our own. This is consistent with the "enlightened self-interest" discovered in moral exemplars, who weave together their "self-oriented" (agentic) and "other-oriented" (community) values (Frimer, Walker, Dunlop, Lee, & Riches, 2011). According to this research, highly moral individuals flourish personally by facilitating and contributing to the flourishing of others – they experience their own needs and interests as bound up with and woven into the needs and interests of others (Colby & Damon, 1992; Monroe, 2004, 2011). This, we argue, is the essence of humility.

Measuring humility

With our proposed account of humility in hand, we needed to identify a way to measure it empirically. As many have already noted, this involved a number of significant challenges (Davis, et al., 2010; Exline & Geyer, 2004; Lee & Ashton, 2004; Rowatt et al., 2002, 2006; Tangney, 2000, 2002).

The first challenge was to determine the *type of measurement*. Humility may be measured behaviorally. However, like other virtues, it is difficult to determine whether someone possesses the requisite cognitive, affective, and motivational states by measuring only externally observable behaviors. A person can behave *generously* (e.g., she might regularly donate to a charity simply because wants to impress someone) without actually being *generous*. Similarly, a person can behave humbly without actually being humble.

One useful alternative is to measure the relevant internal states through introspection (i.e., self-report). Unfortunately, there have been a number of concerns raised about the reliability and validity of self-report measures, such as worries about respondent "image management" and introspective ability (just to name a few; for an overview see Hoskin, 2012). For example, people have a tendency to self-enhance on valued traits (John & Robins, 1993, 1994). Such concerns may become even more complicated when it comes to humility (Davis, et al., 2010; Tangney, 2000), as researchers raise the (as yet, untested) worry that truly humble people might actually do the *opposite*, modestly underreporting their humility (Davis et al., 2011).

Consider the statement "I am very humble." The concerns raised above make it unclear how genuinely humble vs. non-humble people would respond to this – and without knowing how self-report scores differ as a function of the underlying disposition, it is hard to know what they measure. This problem has led at least one prominent researcher to conclude that

humility "may represent one of those relatively rare personality constructs that is simply unamenable to self-report methods" (Tangney, 2000, p. 78).

Given these worries, some researchers have developed alternative measurement strategies. For example, some rely on informant (3rd person) ratings of humility, such as the *Sacred Humility Scale* (Davis et al., 2010) and *Relational Humility Scale* (Davis et al., 2011; see also Hook, Davis, Owen, Worthington, & Utsey, 2013; Rowatt et al., 2006; Owens, Johnson, & Mitchell, 2013). Others rely on implicit association tests, such as *Humility IAT* and *Humility Differentials* (Rowatt et al., 2006; see also Powers et al., 2007). And still others have utilized participants' comparisons of self to others (Rowatt et al., 2002). While each of these approaches to measuring humility have value, they are not without their challenges. One worry, for example, about 3rd person ratings is that while people are likely to pick up on various *behavioral manifestations* of humility, this – as we've argued – is not the same thing as humility itself. This might be one of the reasons why measurements given by informants have been inconsistently related to self-reports (Davis, et al., 2010, 2011). And researchers have also raised concerns about the implicit measures, pointing to weak temporal stability and problems with convergent and divergent validity, making it unclear what is actually being measured (Davis, et al., 2010, 2011). Given these and other worries, we were reluctant to forgo the potential benefits of self-report entirely, so we decided to explore instead whether we could find a self-report approach that could mitigate (if not eliminate) the over vs. under-reporting worry.

The second challenge to address was the *type of humility*. Other measurement tools we identified were designed either to measure humility in a specific *context* – for example, management leadership in organizational settings (i.e., the *Expressed Humility Scale* [Owens et al., 2013] and the *Servant Leadership Survey* [van Dierendonck & Nuijten, 2011]) – and/or to measure a specific humility *sub-type*, such as cultural sensitivity in a counseling setting (i.e., the *Cultural Humility Scale* [Hook et al., 2013]). Our account of humility seemed more universal and general than scales such as these would allow for, so we narrowed our search down to those self-report scales of general humility we could find.

Evaluation existing general self-report scales

The two most prominent general humility self-report measures are the *Values in Action Inventory Modesty-Humility* subscale (VIA; Peterson & Seligman, 2004), and the *HEXACO Honesty-Humility* subscale (Lee & Ashton, 2004). Unfortunately, neither of these scales was appropriate for our purposes for a number of reasons. First, their characterization of humility was inconsistent with our own. They each collapsed humility in with other related – though arguably distinct – constructs, such as modesty (both scales), honesty, sincerity, greed-avoidance, and fairness (HEXACO only) and both included only a few items actually targeting *humility*.

The VIA's characterization of "virtues" has also been strongly criticized as being under-theorized and conceptualized, as well as largely unsupported by empirical research (Noftle, Schnitker, & Robins, 2011; see also Kristjansson, 2015).[1] And while the HEXACO scale was less conceptually problematic (cf. Block, 1995; Peterson & Seligman, 2004), we were nonetheless uneasy with measuring honesty-humility as a personality trait on par with the other Big 5 (i.e., extroversion, agreeableness, etc.).

In addition, both scales relied entirely on self-report questions that asked people about their humility *directly* – e.g., "I am always humble about the good things that happen to me," "People are drawn to me because I am humble," "I never brag about my accomplishments" (VIA) and "I am an ordinary person who is no better than others," "I wouldn't want people to treat me as though I were superior to them," "I want people to know that I am an important person of high status (R)" (HEXACO) – which made responses especially vulnerable to the over vs. under-reporting worry discussed above.

We also examined three other self-report measures for humility. The first two were Elliot's (2010) *Humility Scale* and Quiros' (2008) *Healthy Humility Inventory*. We had concerns about the Elliot scale, which conceptualized humility negatively, using items such as "The challenges ahead of me often cause me to feel overwhelmed," "I don't have my act together the way I'd like," and "Recently, I have felt ashamed of my arrogance." The Quiros scale was more in line with our view of humility, with items such as "I believe in something greater than myself," "I want to know my true self," "I have compassion for others," and "I desire to help others." Unfortunately, both scales were developed for doctoral dissertations and neither (to our knowledge) have been published.

The third self-report measure for humility we considered was the *Dispositional Humility Scale* found in Landrum (2011). Here, the concern was that humility was measured by asking people how much they liked individuals who have certain character traits related to humility, the assumption being that humble people will tend to like other humble people. Little justification for this approach was provided. In addition, because data on the validity of the scale was provided it was impossible to know whether these preliminary findings would hold up.

For these reasons, we decided to develop and validate our own scale, presented below.

Study 1: Exploratory factor analyses

Our goal was twofold: (1) to develop a scale to measured the two dimensions of humility, and (2) to employ statements that avoided the vulnerability associated with self-report measures of humility. To do this, we developed statements designed to gauge people's state of awareness of themselves in relation to the *"bigger picture"* (God/spirit, cosmos, nature – i.e., low self-focus) and to *others* (i.e., high other-focus), as well as to gauge people's attitudes about humility indirectly. All of the statements were worded to minimize the triggering of over vs. under-reporting and social desirability mechanisms (verified using the 13-statement Marlow-Crowne Social Desirability Scale; Ballard, 1992).

Method

Participants

We collected three separate rounds of data for exploratory factor analyses (EFA) to select the statements that best tapped into the underlying construct. In total, we recruited 1513 participants – 620 participants from Round 1, 450 from Round 2, and 443 from Round 3. Overall, the participants were 49% male; 83% White/Caucasian, 8% Black/African-American, 4% Asian/Pacific Islander, and 4% Hispanic/Latino; age range 18–80 years, $M = 43.6$, SD = 14.4) using Qualtrics' online panelist service.

While all participants responded appropriately to attention checks, we nonetheless evaluated their responses and any that displayed excessive response perseverance were removed. This was defined as displaying at least two of the following: a statement-response average >6 or <2 (scale: 1–7); a statement-response SD < 1.0; no statement responses crossing the midpoint of 4; statement-response minimum >3 or maximum <5; and/or a statement-response range <3. The point of this was to eliminate participants who were entering responses quickly, without carefully reading the questions – given the nature of the questions being asked (including some reversed), we should generally expect a degree of variance in their responses. Response evaluation resulted in the deletion of 23 participants.

Materials

Participants were presented with a randomized order of statements developed to serve as potential items for our humility scale and were asked to rate their agreement, using a 7-point Likert scale anchored with 1: Strongly Disagree and 7: Strongly Agree. They also answered demographic questions and a 13-statement version of the Marlow-Crowne Social Desirability Scale (Ballard, 1992). This scale was reliable across administration rounds (Cronbach alphas ranged from .72 to .83). Higher social desirability scores reflect the tendency to present oneself in an unrealistically favorable light – of particular concern here – so we eliminated any statements too strongly correlated (>.4) with social desirability.

In developing items for the scale, we initially wanted to cast our net as widely as possible, developing statements to span the full range of the two dimensions of humility. Therefore, our team, composed of two philosophers and three psychologists, developed a list of 210 statements that thoroughly canvassed the conceptual territory (URL link for complete list of statements will be inserted here – removed for blind review). The list included statements designed to capture high other-focus and low self-focus – for the latter, both religious and secular (cosmic) aspects.

Even though we had theoretical reasons to believe that humility was distinct from other related constructs, such as modesty and open-mindedness, we wanted to empirically verify this, especially since other measurements of humility include these sorts of items in their scales. Therefore, the list of items also included statements designed to measure open-mindedness, public and private modesty, as well as arrogance and intolerance (reversed score), and what we labeled moral "flexibility" (i.e., willingness to change one's moral views) vs. moral conviction. We expected that these items would separate themselves from the humility items, showing up as separate factors.

And, finally, we verified that the set of items included statements designed to gauge people's attitudes about humility, without asking them directly whether they possessed it (e.g., "humility is a virtue"). This provided us with another indirect measurement of humility, insofar as the degree to which they value humility is likely to be strongly related to their other humility scores.

Data analysis procedures

In order to make the factor analysis more manageable, we decided to begin by eliminating excess, unnecessary statements. We did this by producing correlation matrices for each of the (hypothetical) constructs mentioned above. First, this allowed us to eliminate those

statements not significantly correlated – suggesting weak (or no) relationships – with the other statements. Second, it allowed us to eliminate those statements that were too strongly correlated with the others (>.70), as this suggested statement duplication. In general, this meant we kept statements with correlations ranging between .40 and .60, thereby eliminating 73 statements and narrowing the statements used for our EFA rounds to 137. Finally, 8 statements were dropped for having high (>.40) correlations with social desirability, reducing the final set of statements for the first round of factor analysis from 210 to 129.

We used principal components for our fitting procedure and the Kaiser (1960) criterion of eigenvalues >1.0, along with scree plots analyses, for factor extraction. We chose orthogonal (Varimax) rotation because we viewed the humility dimensions of low self-focus and high other-focus as orthogonal (i.e., people could be high in one without being high in the other). And we wanted the rotation most likely to pull apart the variance between the statements and highlight the distinct nature of the underlying constructs (Tabachnick & Fidell, 2007). To confirm that Varimax was appropriate we conducted two additional orthogonal (Quartimax, Equamax) and two oblique (Oblimin, Promax) rotations on the final set of statements. The factors that emerged for each rotation were the same, and the component correlations for the oblique rotations were low to moderate, ranging between −.32 and .38, verifying the appropriateness of using the Varimax rotation.

Finally, following guidelines of Hair, Anderson, Tatham, & Black (1998), we retained statements with primary loadings above .50 (i.e., "substantial loadings") for the next level of analysis – all other statements were eliminated. Given our treatment of the underlying constructs as orthogonal, we were only interested in statements that uniquely tapped into only one factor. Therefore, statements with secondary loadings greater than .30 on another factor(s) were also eliminated – though we made an exception for statements with secondary loadings of no higher than .35, if the primary loading >.60. We introduced this exception because while we viewed these constructs as orthogonal, it seemed unreasonable to completely rule out a degree of conceptual and empirical overlap. Thus we did not want to eliminate otherwise potentially good item candidates from further analysis simply because there was a somewhat stronger than desired loading on a second factor, as long as the loading on the primary factor was sufficiently strong. We agreed to apply this exception to an item *prior* to examining its specific content (all items were assigned a number during analysis) in order to avoid the risk of favoring specific statements. As it happened, this exception was only made for three items, once for each round of factor analysis – all of which occurred only within the humility subscales. Two of these items were dropped before the scale was finalized and the third, which is included in the final scale, only displayed a secondary loading >.3 (.327) during the final round of EFA.

Results and discussion

None of the three EFA rounds displayed problems with sampling adequacy. Bartlett's test of sphericity was significant each time, $X^2(1485) = 5560.2–17{,}246.2$, $p < .001$, and the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was excellent (.87–.91, Pett, Lackey, & Sullivan, 2003).

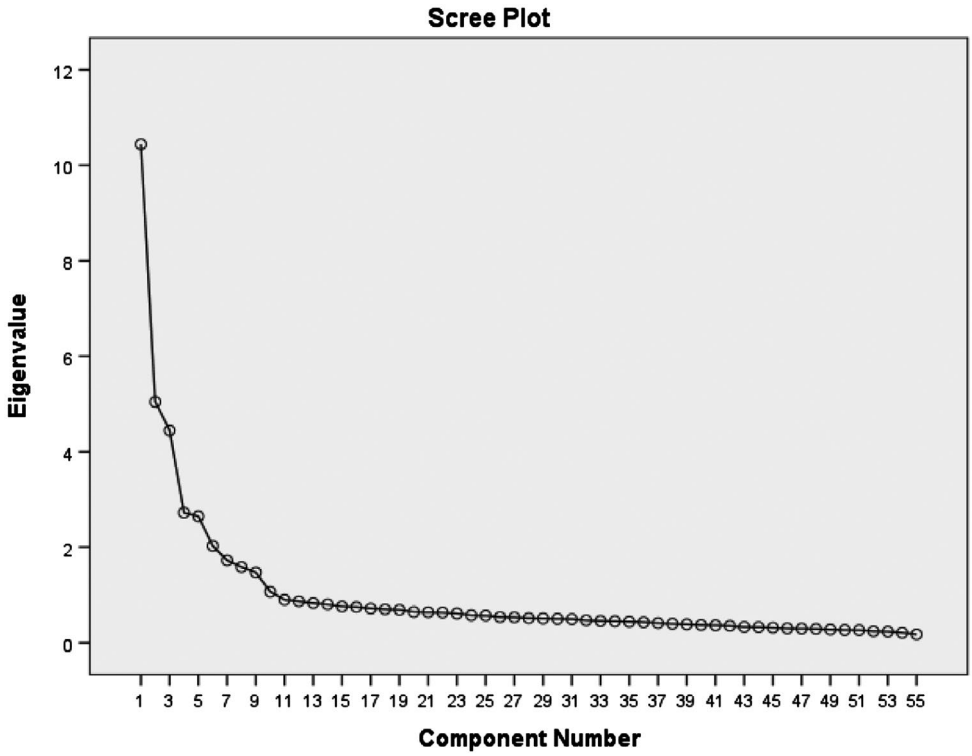

Figure 1. Round 1 scree plot.

Round 1

The first factor analysis was conducted on the full set of 129 items. These statements were analyzed and a determination was made about which to eliminate, based on the criteria established above. This process culminated in 52 statements loading on 10 factors with Eigen values between 10.44 and 1.07 (see Figure 1 for the scree plot).

Factor 1 included 7 statements related to the religious low self-focus (Cronbach's alpha = .91) and Factor 2 included 8 statements related to the cosmic low self-focus ($\alpha = .85$). Factor 3 included 7 statements related to moral flexibility ($\alpha = .86$), Factor 4 included 5 statements related to open-mindedness ($\alpha = .86$), Factor 5 included 6 statements related to the value of humility ($\alpha = .84$), Factor 6 included 5 statements related to something best labeled moral conviction ($\alpha = .79$), Factors 7 and 8 included 10 statements related to modesty (internal vs. public, 5 statements each, αs = .80), Factor 9 included 3 statements related to high other-focus ($\alpha = .78$), and Factor 10 included 4 statements related to intolerance ($\alpha = .85$). None of the 10 factors were strongly (>.40) correlated with social desirability (Factor 10 was the highest, $r = .192$).

Round 2

After a careful review of the final items from Round 1, we decided to add some new statements designed to refine statement wording and provide a more complete canvassing of

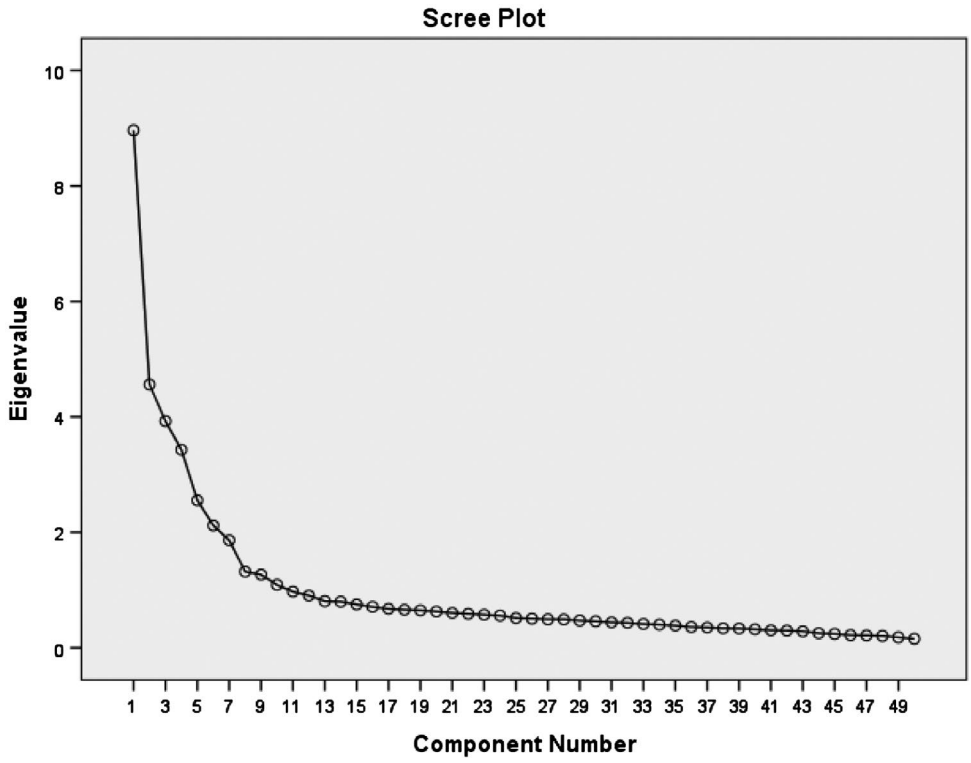

Figure 2. Round 2 scree plot.

the 10 factors identified by Round 1, bringing the total number to 95 statements. The strongest correlation with social desirability was $r = .25$, so no statements were eliminated. The same procedure as above was used, culminating in 50 statements loading on the same 10 factors (5 statements for each factor) with Eigen values between 8.96 and 1.09 (see Figure 2 for the scree plot).

Factor 1 included 5 statements related to the religious low self-focus ($\alpha = .92$), Factor 2 included 5 statements related to the cosmic low self-focus ($\alpha = .82$), Factors 3 and 4 included 5 statements each related to internal modesty ($\alpha = .90$) and public modesty ($\alpha = .85$), Factor 5 included 5 statements related to moral flexibility ($\alpha = .80$), Factor 6 included 5 statements related to the value of humility ($\alpha = .79$), Factor 7 included 5 statements related to high other-focus ($\alpha = .79$), Factor 8 included 5 statements related to moral conviction ($\alpha = .80$), Factor 9 included 5 statements related to open-mindedness ($\alpha = .79$), and Factor 10 included 5 statements related to intolerance ($\alpha = .79$). No factor was strongly (>.40) correlated with social desirability (Factor 7 was the highest, $r = .27$).

Thus far, the analyses support the idea that modesty, open-mindedness, etc. are distinct from the humility items, as they separate out into different factors. To further explore how strongly all of the humility items "hang together," separate from the other items, we conducted a series of forced factor analyses to see how statements loaded under restricted conditions. This revealed that those items that captured our account of humility – low self-focus (religious and cosmic low self-focus), high other-focus, and people's attitudes about humility (i.e., value of humility) – substantially loaded onto one factor, while the other

	Forced Factors									
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Religious low self-focus	1	1	1	1	1	1		2	2	1
Cosmic low self-focus	1	1	1	1	1	1		5	6	5
High other-focus	1	1	1	1	1	6		8	9	7
Value of Humility	1	1	1	1	1	1		7	8	10
Open-Mindedness			3	4	3	3			7	9
Internal Modesty	1	1	2	3	4	4		3	3	2
Public Modesty		1	2	3	5	5		6	5	3
Moral Flexibility				2	2	2				4
Intolerance								4	4	6
Moral Conviction	1	2	1					1	1	8

Figure 3. Forced factor analysis.
Note: The numbers in each cell represents the factor each subscale loaded onto.

constructs resisted doing so. Specifically, when required to assume a 1-factor through a 10-factor solution, all religious and cosmic low self-focus, value of humility, and high other-focus statements substantially loaded on a single factor through the 5-factor solution – for the 6-factor solution, the high other-focus statements broke off into their own factor (helping to support the theoretical distinction between low self-focus and high other-focus) and then after that, they all started breaking off into separate factors (Figure 3). This was consistent with our account, which places low self-focus and high other-focus at the "core" of humility.

Round 3

Based on this, we eliminated all the items from the non-humility related factors, leaving 20 statements related to this "core" (5 statements per factor, 4 factors). Upon closer examination of the cosmic low self-focus items (including those that had failed to substantially load during Round 2), we decided that two separate subscales may actually be warranted – the original cosmic low self-focus, which is the reduced self-focus that results from our connection to the larger cosmos as a whole (e.g., "I frequently think about how much bigger the universe is than our power to comprehend"), and something more like environmental low self-focus, which is the low self-focus that results from our connection to the natural world and to other living species (e.g., "I often feel in awe of the natural splendor of the world").

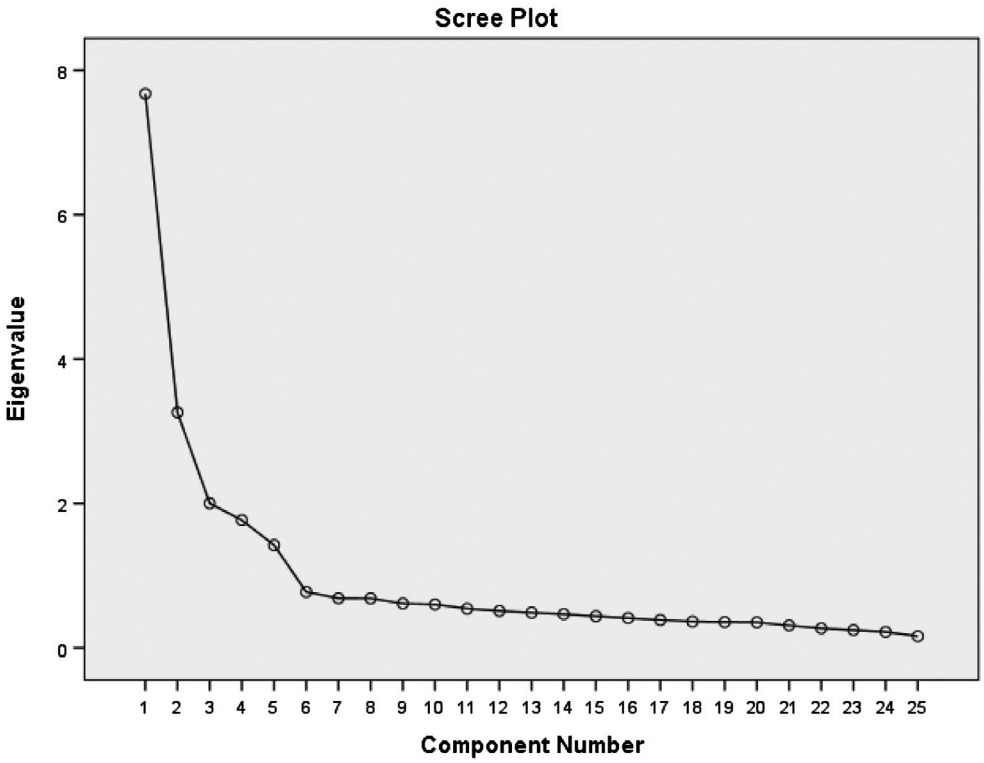

Figure 4. Round 3 scree plot.

Table 1. Final analysis factor correlations.

Correlations						
		RH	COS	ENV	VH	OF
RELIG (SELF FOCUS)	Pearson correlation	1	.271**	.106*	.501**	.310**
	Sig. (2-tailed)		.000	.027	.000	.000
	N	440	440	440	440	440
COSMIC (SF)	Pearson correlation	.271**	1	.388**	.434**	.373**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	440	440	440	440	440
ENVIRONMENTAL (SF)	Pearson correlation	.106*	.388**	1	.355**	.309**
	Sig. (2-tailed)	.027	.000		.000	.000
	N	440	440	440	440	440
VALUE OF HUMILITY	Pearson correlation	.501**	.434**	.355**	1	.463**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	440	440	440	440	440
OTHER FOCUS	Pearson correlation	.310**	.373**	.309**	.463**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	440	440	440	440	440

*Correlation is significant at the .05 level (2-tailed);
**Correlation is significant at the .01 level (2-tailed).

Because of this, we decided to break these two apart, adding new statements to flesh each of these out. We also added a few new statements to religious low self-focus to make sure we were fully capturing the construct, along with slightly changing the wording of two of the statements – specifically, varying the title being used to refer to God (e.g., Supreme

Being, Higher Power, Creator) to avoid factor loading based on wording. We also added statements for another element of other-focus that we felt had not received sufficient coverage – the notion of other credit (i.e., seeing others as being central to your success, e.g., "I wouldn't be where I am today without the help of other people"). In total, we added 56 new statements, bringing the total to 76. One statement was correlated with social desirability ($r = .44$), so it was eliminated – the next largest correlation was $r = .25$. Once again, the remaining statements were analyzed, a process which culminated in 38 statements loading on 5 factors – the original four, plus environmental low self-focus with Eigen values between 7.68 and 1.42 (see Figure 4 for the scree plot).

Factor 1 included 13 statements related to the religious low self-focus ($\alpha = .97$), Factor 2 included 7 statements related to the value of humility ($\alpha = .85$), Factor 3 included 6 statements related to environmental low self-focus ($\alpha = .85$), Factor 4 included 6 statements related to high other-focus ($\alpha = .85$), and Factor 5 included 6 statements related to the cosmic low self-focus ($\alpha = .83$).

To streamline the survey, we decided to cut those statements with the lowest factor loadings (and/or most statement similarity with other statements) in order to bring the final version of the scale down to 25 statements (five factors, five statements per factor). We conducted one last factor analysis with the remaining statements which supported the 25 statements (5 statements per factor, 5 factors). No factor strongly correlated with social desirability (Factor 1 was the highest at $r = .21$). Factor correlations were between r (440) = .27 and .50 (see Table 1).[2] Having settled on these 25 statements, we proceeded to collect a final round of data for a confirmatory factor analysis (CFA) to validate our scale. See Appendix A for the final set of items.

In case people might be interested in measuring just the two dimensions of humility, without the value of humility attitudinal subscale, we also conducted a factor analysis leaving the items for this subscale out. This resulted in a four-factor (five items each) solution with strong primary factor loadings (between .55 and .91) and no secondary loadings, supporting the use of the humility scale without this subscale.

Study 2: Confirmatory factor analysis

Method

CFA statistically examines how well a specified model "fits" the data (Pedhazur & Schmelkin, 1991). It assesses how adequately each observed variable represents latent variables via standardized regression weights. Researchers specify exact linkage patterns between observed variables and underlying factors a priori, based on theoretical knowledge and/or prior research and then test the goodness of this fit (Byrne, 1994). There are several measures available to assess the fit of a model. The Chi-square (X^2) test, the Goodness of Fit Index (GFI), and the Comparative Fit Index (CFI) all compare the similarity of the covariance matrix predicted by the model to the observed indicators' covariance matrix. Higher values (ideally above .90) for the GFI/CFI are desirable, as are non-significant X^2 values (Bentler, 1993) – though the X^2 statistic is considered too stringent for psychometric research (Hopwood & Donnelan, 2010; Paulhus & Carey, 2011; Raykov, 1998). The Root Mean Square Error of Approximation (RMSEA) and the Adjusted Goodness of Fit Index (AGFI) are also reported, which take into account model complexity. RMSEA values below .05 indicate good fit, between .05 and .08 fair fit, between .08 and .10 mediocre fit, and above .10 poor fit (Browne

& Cudeck, 1993; MacCallum, Browne, & Sugawara, 1996). In addition, AGFI values above .80 are reasonable (Cole, 1987; Pedhazur & Schmelkin, 1991). Finally, Bozdogan's (1987) Consistent AIC (CAIC) is reported. Lower CAIC values are desired when making cross-model comparisons (Bentler, 1993) and should be lower than those reported for the saturated model (an alternative indicating all possible relationships among variables) and independence model (a null model containing no relationships). We used AMOS4 to perform CFA (Arbuckle, 1999) that tested our five-factor/25-statement model, which specified 25 regressions (association between the 5 statements and the 5 latent variables), 5 covariances (i.e., curved arrows between each latent variables), and 25 variances (error terms for each observed variable) for a total of 55 parameters.

Participants

We exceeded the minimum criteria of 10 cases per parameter (Schreiber, Nora, Stage, Barlow, & King, 2006), collecting data from 600 participants with no missing data, using Qualtrics' panelist service. They were 50% male; 83% White/Caucasian, 10% Black/African-American, 3% Asian/Pacific Islander, 4% Hispanic/Latino; ages ranged from 18 to 80 ($M = 49.9$, SD = 13.5). Given that we had statements all connected to the same underlying construct, we decided against eliminating response perseverance, unless responses were identical (SD = 0) for all 25 statements. One participant was eliminated for this reason.

Materials and procedure

Participants were presented with statements from the final version of the Dual-Dimension Humility Scale and were asked to rate their agreement on the same 7-point Likert scale. No other statements were given.

Results and discussion

Observed variables were assigned to their latent factors and the path weights were estimated using the standard maximum-likelihood method for all models. The analysis of the five-factor model ($X^2 = 827.6$) yielded good fit estimates for four of the five indices – GFI (.90), CFI (.93), and AGFI (.87). The RMSEA was .06, indicating fair fit. Also the CAIC values were lower for our model than either the saturated or independent model (1271.4 vs. 2404.0 and 8105.4). The standardized regression weights were all strong, their ranges being: religious low self-focus .76 to .92, cosmic low self-focus .66 to .78, environmental low self-focus .57 to .82, value of humility .56 to .74, and high other-focus .69 to .79. We verified that the subscales resulting from the CFA were reliable using Cronbach alphas: religious low self-focus ($\alpha = .92$), cosmic low self-focus ($\alpha = .83$), environmental low self-focus ($\alpha = .83$), value of humility ($\alpha = .78$), and high other-focus ($\alpha = .86$). Overall, the regression weights and goodness of fit indices suggest that the model fit was reasonable and the reliability analyses suggested that the statements were acceptably cohesive (Figure 5).

We also tested the alternative four-factor model, dropping the value of humility attitudinal items (since conceptually, this is a separate component from the measurement of humility itself). This resulted in an improved model fit – specifically, $X^2 = 558.2$, GFI (.92), CFI (.94), and AGFI (.89) all increased and the RMSEA dropped to .058. The CAIC value dropped to 898.4,

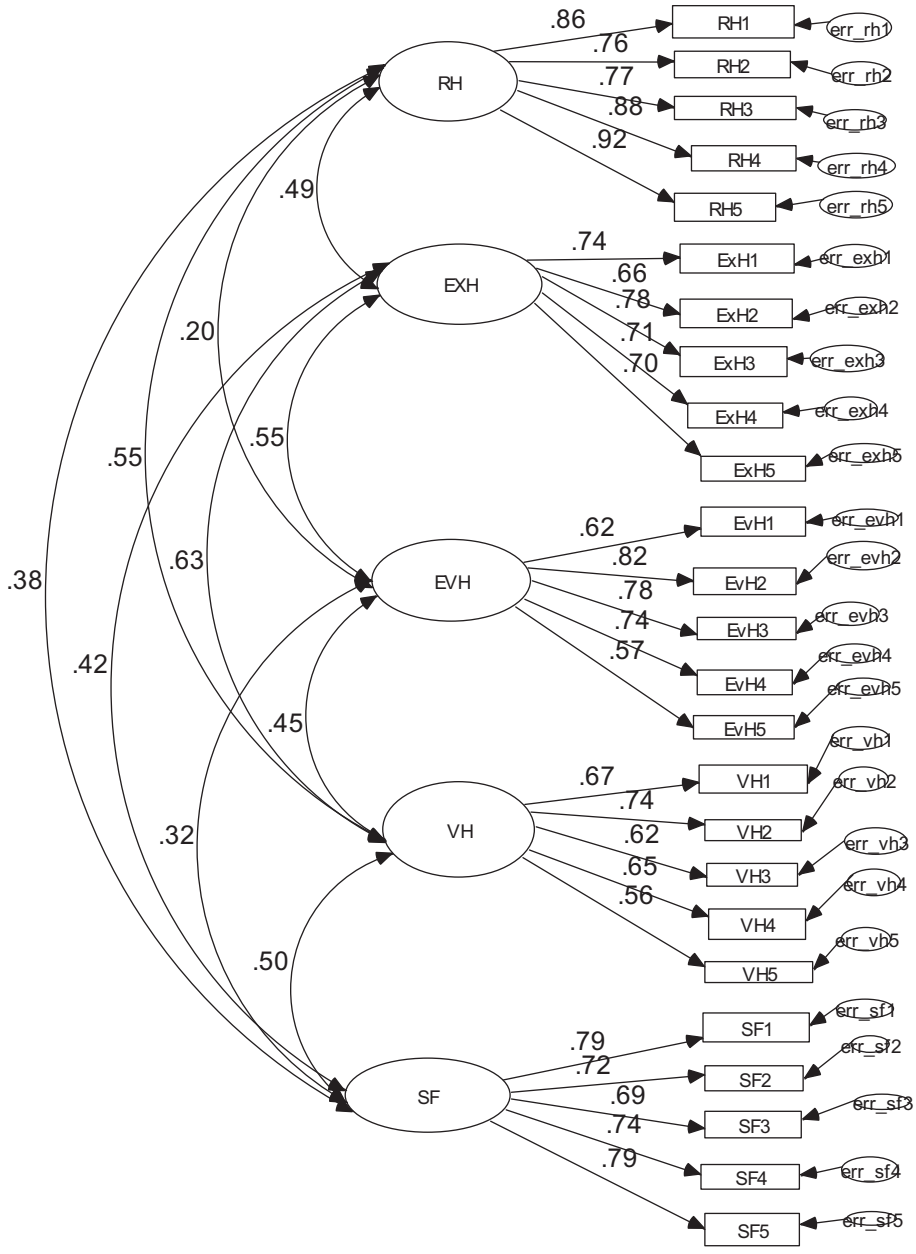

Figure 5. Original CFA model.

remaining below either the saturated or independent model. This further supports the administration of the humility scale without the value of humility subscale.

Study 3: Reliability and validity

Though a variety of studies vetting and utilizing our new scale are discussed elsewhere (*citations removed for review*), below we provide preliminary evidence in support of our newly

developed scale's reliability and validity. In particular, we examined our scale's relationship to existing humility scales. In addition, we predicted that participants' scores on our subscales should be positively correlated with: (1) their general ethical orientation – specifically, their capacity for "other-regard," (2) variables associated with psychological health (and negatively correlated with variables associated with psychological disorder/disease), and (3) variables associated with other mature religious beliefs, values, and practices.

While the first prediction follows naturally from our account of humility, the last two require a bit of explanation. With respect to the second prediction, humility has been found to correlate with a variety of healthy attitudes and behaviors. For example, individual differences in honesty–humility are negatively related to manipulativeness, dishonesty, infidelity, vengefulness, social dominance, and other antisocial behaviors (for an overview, see Ashton et al., 2004). Davis et al. (2011) found humility to be related to forgiveness and empathy while negatively related to avoidance and revenge. Landrum (2011) found humility to be correlated with the willingness to admit to mistakes, acknowledgment of gaps in knowledge, openness, flexibility, and compassion for others. Since humility leads to higher levels of cooperation, sharing, and a lack of self-preoccupation, it is also likely to foster closer ties with one's friends, family, and romantic partners (Friesen, 2001). And finally, Hook and Davis (2014) argue for a "humility-health" hypothesis, where humility is associated with enhanced self-regulation, which leads to downstream benefits for coping with mental and physical stressors.

And with respect to the third prediction, Jankowski and Sandage (2014) found that humility was related to people's level of "spiritual stability" – i.e., the security of their sense of connection and attachment to God – and Grubbs and Exline (2014) found it to be related to lower levels of "divine struggles" (e.g., anger and God and religious fear/guilt).

Method

Participants

We collected data through Amazon Mechanical Turk across six different rounds of data collection, conducted within a six-month period. In total, we had 644 participants fill out the surveys, with 20 discarded due to incomplete surveys, leaving 624 participants. Of these, 509 were unique (non-duplicates) participants: 48% female; 76% Caucasian, 8% African-American, 8% Asian-American, 5% Hispanic, and 3% other. Because each of set of surveys was posted online separately over the span of six months, this allowed people to participate in more than one round of data collection. We had 101 participants who filled out the surveys more than once, providing us with test–retest data.

Materials and procedure

We administered our humility survey, along with several other relevant surveys. Specifically, we administered HEXACO honesty-humility subscale (Lee & Ashton, 2004), the VIA's modesty-humility subscale (Peterson & Seligman, 2004), along with Elliott's (2010) and Quiros' (2008) humility surveys.

In addition, to assess the first prediction – that humility would be related to general ethical orientation, specifically, capacity for "other-regard" – we administered the following scales: the Humanitarian-Egalitarian Scale (Katz & Hass, 1988): a 10-item scale that measures

attitudes about the importance of equality and a sense of community (Cronbach's $\alpha = .91$); the Civic Responsibility Survey (Furco, Muller, & Ammon, 1998): a 24-item scale that measures attitudes about the importance of community and civic responsibility (Cronbach's $\alpha = .96$); the Schwartz Value Scale (Schwartz & Bilsky, 1987): a 40-item scale that measures self (agency) vs. other (community) value orientations (Cronbach's $\alpha = .92$; agency: $\alpha = .88$; community: $\alpha = .91$); the Empathy Quotient Scale (Lawrence, Shaw, Baker, Baron-Cohen, & David, 2004): a 15-item scale that measures cognitive, emotional, and social empathy (Cronbach's $\alpha = .82$; cognitive: $\alpha = .80$, emotional: $\alpha = .69$, and social: $\alpha = .68$); the Forgiveness Scale (Thompson & Synder, 2003): an 18-item scale that measures one's willingness to forgive transgressions (Cronbach's $\alpha = .91$); and the Moral Identity (Aquino & Reed, 2002): a 10-item scale that measures the importance of being a good person to one's self-identity (Cronbach's $\alpha = .68$).

To assess the second prediction – that humility would be related to variables associated with psychological health and wellbeing – we administered the following scales: the Gratitude and Resentment Test (Watkins, Woodward, Stone, & Kolts, 2003): a 16-item scale that measures dispositional gratitude (Cronbach's $\alpha = .88$); the Life-Regard Index (Debats, 1990): a 28-item scale measures one's sense of a meaningful life, both in terms of "framing" and whether it is experienced as meaningful and fulfilling (FR + $\alpha = .86$; FU + $\alpha = .89$; FR–$\alpha = .88$; FU–$\alpha = .88$); the Psychological Wellbeing (Ryff, 1989): an 18-item scale that measures one's sense of autonomy, mastery and competence, personal growth, purpose in life, self-acceptance, as well as positive relations with others (Cronbach's $\alpha = .86$); and the Adult Attachment Scale (Collins & Read, 1990): an 18-item scale that measures secure vs. insecure attachment styles in adults (insecure attachment: $\alpha = .86$; secure attachment: $\alpha = .74$).

Finally, to assess the third prediction – that humility would be related to variables associated with other mature religious beliefs, values, and practices – we administered the following scales: the Faith Maturity Scale (Benson, Donahue, & Erickson, 1993): a 12-item scale that measures one's relationship to god or the divine and one's commitment to service to others (Cronbach's $\alpha = .94$); and the Religiosity Scale (Allport & Ross, 1967): a 33-item scale measures people's extrinsic vs. intrinsic religiosity (Cronbach's $\alpha = .79$).

These were administered in several different rounds to minimize participant fatigue. We aimed for no more than 60 min, on average, to complete the battery. All rounds included our humility scale, a 13-item Social Desirability scale (Ballard, 1992), and demographic questions.

Results and discussion

Reliability: Internal consistency

Coefficient alphas

We calculated the Cronbach's (1951) coefficient alphas for each of the Humility Scale subscales. The alpha for the full scale was $\alpha = .92$, while the range of alphas for the sub-scale was αs = .95 (Religious Low Self-Focus) to .84 (Cosmic Low Self-Focus).

Inter-item correlations

We calculated the scales' inter-item correlations, which revealed that the within sub-scale inter-item correlations are, as would be expected, higher (range of *r*s = .62–.84) than the item correlations across subscales (range of *r*s = .09–.35).

Social desirability

Though the scale items were rigorously vetted for correlations with social desirability during the scale construction process, we nonetheless examined its correlation with each scale item (along with the sub-scale factors) once again and found no worrisome correlations, with the range being *r*s (501) = –.12 to .23.

Test–retest reliability

As mentioned above, 101 participants (50% female; 75% Caucasian, 8% African-American, 8% Asian-American, and 6% Hispanic) completed our humility scale more than once, giving us test–retest data with at least a two month-window in between. Time 1 and Time 2 scores on the humility scale were compared and there were no significant differences found for any of the sub-scales, *t*s (100) = –.81 to .11, *p*s = .42–.92.

Correlation coefficients between time 1 and time 2 scores ranged from the mid-60s (*r*s = .65–.67, *p*s < .001, for cosmic and environmental low self-focus and high other-focus) to the mid-80s ($r = .83$, $p < .001$, for religious low self-focus), with the exception of value of humility, which was lower ($r = .58$, $p < .001$). While .70 and higher is generally considered desirable for test–retest reliability, as Crocker and Algina (2006) note, it is difficult to establish clear standards for judging the minimum acceptable value for a test–retest reliability estimate because it depends entirely on the nature of the construct being measured. And, as we discussed in the Introduction, it seems likely that humility will function as much like a state – situationally induced and temporary – as a trait, which makes it difficult to know what amount of across time stability would be reasonable to expect. But it makes sense, conceptually speaking, that the experience of one's relation to God would be somewhat more stable across time than the experience of one's relation to the cosmos, natural world, and others – that the experience of those relations would be more situationally sensitive. And, as value of humility reflects people's general attitudes about humility, there is less reason to expect that these would remain stable over time. Given this, we view these coefficients as falling within an acceptable range, sufficient to warrant confidence in the scale's reliability.

That said, if it is the case that the reduction in stability is being driven by humility functioning as a state, rather than a trait, then we should expect people who are high in humility at time 1 to be more likely to also be high in humility at time 2. And indeed, when we split the group into high vs. low, we found that 75% of the participants that were high in humility at time 1 were also high in humility at time 2, whereas only 12% were low in humility at both times and 13% fluctuated from either low to high or high to low between time 1 and time 2 ($X^2 = 32.8$, $p < .001$).

Scale validity

Other humility scales

We compared our scale to several other existing scales and found strong correlations where expected. For example, Quiros' measure of spirituality was strongly correlated with religious low self-focus ($r = .79$), as was his measure of other focus with our measure of high other-focus ($r = .56$). Interestingly, his measure of accurate self-knowledge was correlated with our

Table 2. Correlations of our humility scale with other scales (*N*s = 158–180).

	Quiros health humility				HEXACO honesty-humility					Elliott humility scale	VIA Mod-Hum
	Self-knowledge	Other focus	Openness	Spirituality	Fairness	Greed avoidance	Modesty	Sincerity	HH avg		
Religious	.226**	.234**	–.102	**.795****	.297**	.034	–.056	.206**	.212**	–.027	.361**
Cosmic humility	**.413****	.289**	.121	.209**	.128*	.103	.073	.096	.144*	.22	.264*
Environmental	.392**	.362**	.108	.095	.156*	.155*	.051	.114	.170**	–.031	.387**
Value of humility	.301**	.420**	.054	.061	.293**	.080	.156*	.052	.218**	.104	**.625****
Other focus	.279**	**.564****	.100	.204**	.224**	.143*	.203**	.143*	.253**	.231**	**.604****
Humility average	.441**	**.511****	.051	.490**	.336**	.136*	.103	.198**	.296**	.076	**.611****

*Correlation is significant at the .05 level (2-tailed); **Correlation is significant at the .01 level (2-tailed).

measure of cosmic low self-focus ($r = .41$), supporting the idea that the experience of oneself in relation to "all else" is related to a decrease in self-oriented bias.

Not surprisingly – given its negative construal of humility – there was almost no correlation between our scale and the Eliot Humility Scale. There were some modest correlations with the HEXACO honesty-humility scale, most strongly with the fairness subscale ($r = .34$), and with the VIA modesty-humility scale – here, most strongly with our measure of high other-focus ($r = .60$), and value of humility ($r = .62$), which measured people's attitudes about humility more directly (see Table 2 for details). Given that these measures combined questions about humility and a variety of related constructs, it was difficult to what to expect, though we were not surprised to see low to no correlations with the HEXACO greed avoidance, sincerity, or modesty subscales. Similarly, the humility subscales were only moderately correlated with our own measure of internal and public modesty (range of *r*s between .09 and .39 – the strongest correlation being between value of humility and internal modesty).

Related constructs

We examined the relationship between our humility scale and several other related constructs. We made three specific predictions, discussed below. All of the correlations reported below were significant at $\alpha < .01$.

Prediction 1: Ethical orientation. *Participants' scores on our subscales should be positively correlated with their general ethical orientation – and, specifically, their capacity for "other-regard."*

Participants' humility subscales were all positively correlated with their sense of civic-responsibility, *r*s (159) = .22–.36 (Furco et al., 1998), their commitment to benevolence and the upholding of community values and tradition, *r*s (160) = .24–.69 (Schwartz & Bilsky, 1987), while all but their religious low self-focus were positively correlated with the strength of their humanitarian-egalitarian ideals, *r*s (161) = .27–.40 (Katz & Hass, 1988), their commitment to universalism, *r*s (160) = .39–.71 (Schwartz & Bilsky, 1987), and the strength of their moral identity, *r*s (156) = .24–.44 (Aquino & Reed, 2002).

Participants' environmental low self-focus and high other-focus were positively correlated with their emotional and cognitive empathy, *r*s (186) = .20–.51 (Lawrence et al., 2004), as well as their capacity for forgiveness, *r*s (155) = .20–.29 (Thompson & Synder, 2003).

Prediction 2: Indicators of psychological health and wellbeing. *Participants' scores on our subscales should be positively correlated with variables associated with psychological health – and negatively correlated with variables associated with psychological disorder/disease.*

Participants' humility subscales were all positively correlated with their positive life-regard – specifically, the manner in which they "framed" their lives, *r*s (156) = .19–.31 (Debats, 1990) – and their sense of life purpose *r*s (156) = .21–.36 (Ryff, 1989).

Their environmental low self-focus, value of humility – and, less so, their cosmic low self-focus – scores were positively correlated with their agentic values of self-direction and achievement (though not power, stimulation, or hedonism), *r*s (160) = .21–.48 (Schwartz & Bilsky, 1987), as well as their sense of autonomy, environmental mastery, personal growth, and positive relationships, the latter of which was also correlated with high other-focus, *r*s (156) = .21–.45 (Ryff, 1989). They were positively correlated with a greater appreciation for

Table 3. Incremental validity.

	Other humility scales*	Our scale	*R* change *p*-value
Humanitarian-egalitarian	.76	.77	.091
Civic responsibility	.43	.49	.008
Universalism & benevolence	.76	.81	.003
Community values/traditions	.78	.80	.034
Forgiveness	.46	.51	.078
Cognitive empathy	.46	.53	.038
Agency: self-direction & achievement	.32	.42	.041
Autonomy	.33	.38	.054
Secure attachment	.61	.64	.096
Life regard: life purpose	.50	.53	.074
Faith maturity: relationship to divine	.64	.67	.052
Faith maturity: service	.82	.85	.012
Intrinsic religiosity	.73	.78	.006

*Hexaco, VIA, Elliot's Humility, Health-Humility.

the simple pleasures of life and other people, *rs* (78) = .42–.60 (Thompson & Synder, 2003). They were also positively correlated with secure attachment and negatively correlated with anxious attachment, *rs* (155) = –.33 and .26, respectively (Collins & Read, 1990).

Prediction 3: Religiosity/spirituality. *Participants' religious low self-focus scores should be positively correlated with variables associated with other religious beliefs, values, and practices.* Specifically, their religious low self-focus was positively correlated with people's intrinsic (but not extrinsic) religiosity, *r* (150) = .58 (Allport & Ross, 1967), their level of faith maturity, both in terms of a relationship to the divine and a commitment to service, *rs* (155) = .62–.76 (Benson et al., 1993).

Incremental validity

To explore the incremental validity of our humility scale, we entered it into hierarchical regression equations with all four of the other humility surveys (HEXACO, VIA, Elliott, and Quiros), with our scale added in the final block. This showed that our scale explained a marginally significant amount of variance ($p < .1$) beyond these surveys for participants' humanitarian-egalitarian ideals, forgiveness, sense of life purpose, and secure attachment, as well as a significant amount of variance ($p < .05$) for all remaining scores that were tested, namely civic responsibility, commitment to universalism and benevolence and to the upholding of community values and tradition, cognitive empathy, agentic values of self-direction, achievement, and autonomy, as well as their faith maturity and intrinsic religiosity (see Table 3 for *R* values).

Study 4: Behavioral measure

While it was important to demonstrate our measure of humility's relationship to a variety of other variables, Study 3 was restricted in the sense that all variables were measured using self-report scales. Thus, we were interested in investigating whether our scale would predict people's actual behavior. Study 4 was designed to explore this.

There are a wide variety of behaviors that we should expect to be related to a person's humility, but one that we were particularly interested in was people's response to perceived disagreement. When having a conversation about an issue for which they feel strongly with

someone they know disagrees with them, would people's humility be related to differences in how they respond to that disagreement? We hypothesized that it would – specifically, that people's humility would predict the physical distance they would place between themselves and the other person with whom they were going to have a conversation, when given the option to choose their sitting location.

Following previous research on this issue (Skitka, Bauman, & Sargis, 2005; Wright, Cullum, & Schwab, 2008), we decided to measure this both in terms of: (1) how far from their conversation partner they set up their chair and (2) how directly they faced (vs. turned away from) their conversation partner. These studies had found that people's level of moral conviction about the issue being discussed predicted both the distance from which they sat and the degree to which they turned away from a disagreeing interlocutor (i.e., the stronger their moral conviction, the greater the distance and angle degree from their conversation partner). One interpretation of these findings is that moral disagreement is perceived as a greater threat to oneself than other forms of disagreement. According to our account of humility, it ought to function as a sort of buffer against that experience of threat, even for issues a person feels strongly about (Kesebir, 2014). After all, not only are people high in humility more open to new ideas and to being wrong, and less likely to perceive disagreement as a threat to themselves (their self-esteem, self-respect, etc.), but, they also experience more empathy and are more likely to be open to what the other person has to say. Elsewhere (*citations removed for review*), we found that humble writers tend to use higher levels of positive, "inclusive" language (e.g., we, us, are), whereas non-humble writers tend to use higher levels of negative, "exclusive" language (e.g., you, them, are not). Relatedly, we expected participants higher in humility to be more open to having a conversation with someone who disagreed with them, which would be unconsciously displayed in the physical placement of their bodies relative to their conversational partner. Therefore, humility ought to negatively correlate with both distance and angle – i.e., people high in humility ought to sit closer and face their conversation partner more directly.

Method

Participants

Two hundred and sixty-five undergraduate students from a southern university (79% female; 87% Caucasian, 3% Hispanic, 5% African-American, 3% Asian-American) filled out a set of surveys online, including our Dual-Dimension Humility Scale. As a part of these surveys, they were asked to rate how strongly "pro" or "con" they felt about 10 different issues: same sex marriage, legalizing marijuana, mandatory vegetarianism, abortion, universal health care, factory farming, death penalty, physician-assisted suicide, prenatal testing for Down's Syndrome, and legalizing prostitution. Participants who had reported that they felt very strongly (in either the pro or con direction) about at least two issues were invited to participate in a lab study. Sixty-four undergraduate participants (78% female; 80% Caucasian, 7% Hispanic, 7% African-American, 4% Asian-American) signed up to participate, 9 of whom failed to show up. The data below are on the remaining 55 students that successfully completed the lab study.

Materials and procedure

When participants arrived at the lab, they filled out an Informed Consent, explaining that they were participating in a study designed to study "how people talked with one another about important social issues." Sitting next to them was another participant and two confederates, who were pretending to be participants. Unbeknownst to the participant, they were each assigned to one of the following conditions:

Agree – Disagree condition: which meant the first conversation they had was with someone who agreed with them about one of their previously identified issues, then they were moved to a second room where they had a conversation with someone who disagreed with them about the other previously identified issue.

Disagree – Agree condition: which meant their conversations happened in the opposite order.

Once everyone had filled out the Informed Consent, the Research Assistants (RAs) pretended to "randomly" split the group into two conversation pairs, which always included one participant and one confederate. They then took each conversation pair to their respective lab rooms, making sure the confederate was always walking in front of the participant, so that they would walk into the room first. The RA explained as they walked that they were going to be having a conversation together about [insert here the issue they had been assigned to discuss] and that the survey they had filled out in order to qualify to participate in this study had identified them as strongly [agreeing/disagreeing] with each other about the issue.

The confederate entered the room first and grabbed one of the two folding chairs that were leaned up against the wall, setting it up in a specified location in the room (designed to give the participants maximum flexibility for setting up their chairs). The participant followed in directly after and set up his/her chair.

The RA then instructed them that they were supposed to have a two minute conversation about the identified issue, doing their best to articulate what they thought were the most important points in favor/against the issue. The conversation could begin once the RA left and would end once the RA returned to the room.

Prior to the beginning of the study, the confederates had read through "issue sheets" that had been developed, with the most common points made in favor/against the issue had been identified. This way, they could keep their side of the conversation fairly standardized – their objective being to either actively disagree or agree with their conversation partner.

After the two-minute conversation (which were video and audio taped for later analysis), the confederate and participant were invited to return to the hallway, leaving their chairs in place. Once the room was empty, two measures of participants' interpersonal behavior were calculated: their distance apart from and their degree of orientation toward their discussion partner. These measures were calculated by first measuring the distance in inches between (a) the front left leg of the participant's chair and the front right leg of the discussion partner's chair and (b) the front right leg of the participant's chair and the front left leg of the discussion partner's chair. Then the raw distance between the two chairs was computed by averaging these two measurements. The degree of orientation toward (i.e., how directly participants faced) the discussion partner was calculated by subtracting the larger of the two measurements from the smaller. Smaller numbers indicated a more direct orientation toward, whereas

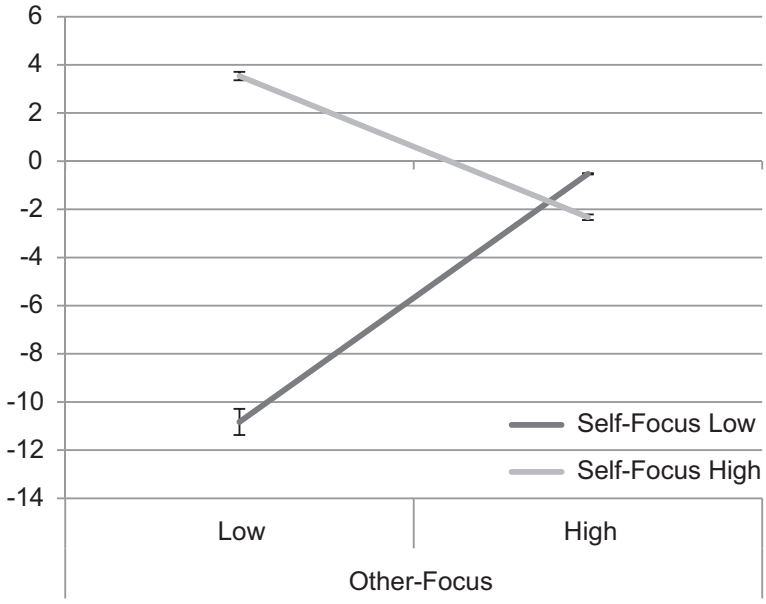

Figure 6. Regression model for difference in distance between disagree and agree condition.

larger numbers indicated a greater degree of turning away from, the discussion partner. Once these measurements were taken, the chairs were once again placed against the wall.

Once both participants and confederates were back in the hallway, the RAs pretended to "randomly" assign them to their next conversation partner (each participant getting assigned to the confederate they had not yet spoken with) and the process started all over, including the chair measurements at the end. Once the second conversation was over, everyone was thanked for their time and allowed to leave after a brief debriefing session. The Institutional Review Board approved this protocol.

Results and discussion

Correlations

First, we examined simple correlations. Participants' humility was negatively correlated with the distance they placed between themselves and their conversation partner in both the "disagree" and the "agree" condition (the latter being unexpected), but differently so. Specifically, their secular (cosmic and environmental) low self-focus was negatively correlated with the distance they placed between themselves and their conversation partners in both the disagree, r (55) = –.32, p = .019, and the agree conditions, r (55) = –.37, p = .005, while high other-focus was negatively correlated only with their distance in the agree condition, r (55) = –.30, p = .025. This makes sense, as we hypothesized that the low self-focus aspect of humility would be the most important for mitigating the experience of threat in the face of disagreement.

Secular low self-focus (LSF) was also marginally related to their sitting angle – i.e., the degree to which participants faced their conversation partners – but only in the disagree condition, r (55) = –.25, ps = .070. High other-focus was not related.

Regressions

Next, we used regression to examine whether low self-focus and high other-focus interacted to predict participants' behavior. We ran a hierarchical regression equation for each of our four dependent variables (disagree distance and angle, agree distance and angle). Into each regression equation we entered as the independent variables religious LSF, secular (cosmic and environmental) LSF, high other-focus entered into the first block, all two-way interaction variables entered as the second block, and a three-way interaction variable entered into the third block.

The regression equations for the two disagree condition variables revealed that secular LSF predicted the distance between conversation partners, $\beta_{\text{unstandardized}} = -6.0$, $p = .010$, and sitting angle, $\beta_{\text{unstandardized}} = -2.71$, $p = .038$. In both cases, humility (specifically secular LSF) predicted less of a negative response to disagreement – people sat closer and less angled away from their conversation partner.

The regression equations for the two agree condition variables revealed that secular LSF, $\beta_{\text{unstandardized}} = -2.2$, $p = .010$ predicted the distance between conversation partners, none of the variables were independently or collectively predictive of angle. Here again, humility (specifically secular LSF) predicted less distance from, but not less of an angle away from, the conversation partner.

Finally, we were interested in the degree to which humility predicted the difference in people's sitting behavior between the disagree and agree conditions – specifically, whether higher humility scores would predict *less* of a difference, since it would matter less (threat-wise) whether participants are talking to someone who agrees or disagrees with them. To examine this, we created two new dependent variables – difference variables that subtracted agree distance from disagree distance and agree angle from disagree angle. These were included in regression equations with the same independent variables. This revealed that secular LSF, $\beta_{\text{unstandardized}} = -2.82$, $p = .006$ and the interaction between secular LSF and high other-focus, $\beta_{\text{unstandardized}} = -.556$, $p = .010$ predicted the distance between conversation partners. If we graph this equation, it shows that the combination of both low self-focus and high other-focus (humility) predicted the *least* amount of change in distance between the two conditions (Figure 6). There were no significant predictors of the change in angle.

General discussion

The objective of this paper was to argue for what we think is the most promising account of humility and introduce a newly developed scale for its measurement, with preliminary evidence of its reliability and validation. The account we proposed is that humility is, at its core, an *epistemically* and *ethically aligned* experience of *oneself* in relation to *all else* (everything and everyone). We further proposed that this alignment should be operationalized and empirically measured along two distinct, though related, dimensions: low self-focus and high other-focus.

From our perspective, the cultivation of humility is critical for proper ethical functioning and moral maturity (Emmons & Kneezel, 2005; Morinis, 2008; Murray, 2001; Powers et al., 2007). Psychologically speaking, we are constituted in such a way as to be naturally self-oriented. We prioritize ourselves (our desires, needs, beliefs, goals, hopes, fears, well-being, etc.) – not only because they are the ones with which we're most familiar, but also because they

(and not others) are ours. Yet, this sets up a subjective way of experiencing the world that is ultimately untenable – we simply are not, from the outside, worth all the fuss and attention and "special treatment" we lavish upon ourselves. Humility functions as an important corrective. We cannot change our psychological constitution, and the fact that it creates for us one (and only one) life to be lived. Nonetheless, we can, returning to Johnston's (2009) earlier quote, come to love that life *objectively* – recognizing it as just one life among many, the one we were called upon to live – while at the same time loving all those lives we were not called upon to live as we do our own.

In other words, humility generates not only an appropriate reduction in our sense of self-importance, specialness, value, priority, etc., but also a correspondingly heightened appreciation for everything else – for the vast, complex world of which we are a part and all the living beings in it with us. Importantly, this shift of one's focus away from self does more than just shift one's focus to the needs and interests of others. That is, low self-focus is *more than* (and does not necessarily require) high other focus. It involves the reorientation of one's relationship to the outside world, highlighting the importance of keeping things in proper perspective, being mindful of one's fallibility and limitations, and of one's place in the larger scheme of things. This is entirely in line with what previous research has found – that humility is accompanied by an accurate assessment of oneself, including one's limitations and failings (Baumeister & Exline, 2002; Emmons, 1999; Rowatt et al., 2002; Sandage et al., 2001; Tangney, 2000, 2009) a lack of self-preoccupation (Templeton, 1997) and self-distortion (Peterson & Seligman, 2004), as well as a desire to learn new things (Hwang, 1982; Templeton, 1997) and an openness to new or divergent ideas (Gantt, 1976; Harrell & Bond, 2006; Morris et al., 2005; Neuringer, 1991; Tangney, 2000, 2009; Templeton, 1995).

Ultimately, though, humility cannot emerge through low self-focus alone – it requires a shift in other-focus as well. By being invested in the lives of others, rather than merely absorbed with satisfying our own selfish interests, we become grounded and embedded in the world. Indeed, looked at properly, humility doesn't reduce the force or scope of one's own needs and interests – it greatly expands them. Others' needs and interests become *bound up with* and *woven into* our own.

In line with this, we provided evidence that humility, as we are measuring it, is strongly related to other ethically relevant variables, such as empathy, strong valuing of "self-transcendent" values, such as universalism and benevolence, a connection to community and sense of civic responsibility, and a commitment to humanitarian-egalitarian ideals. These findings fit well with previous research, which has shown humility to be accompanied by higher levels of empathy, gentleness, respect, and an appreciation for the equality, autonomy, and value of others (Halling et al., 1994; Means et al., 1990; Sandage, 1999; Tangney, 2000, 2009) and compassion for their welfare (LaBouff et al., 2012), as well as more gratitude (Emmons & Kneezel, 2005) and an increased willingness to share credit for accomplishments and acknowledge the importance of other people's contributions (Exline & Geyer, 2004; Tangney, 2000, 2009; Vera & Rodriguez-Lopez, 2004). In addition, Hilbig, Moshagen, and Zettler (2015) found that people low in humility were more likely to commit moral transgressions – as well as less likely to admit it. And humility was found to be negatively correlated with manipulativeness, dishonesty, infidelity, vengefulness, social dominance, and other antisocial behaviors, while being positively related to integrity and a range of other morally relevant capacities (for an overview, see Ashton et al., 2004).

But arguably, humility has relevance for more than just our ethical capacities – it should have broad implications for overall psychological functioning as well. After all, in helping us to recognize and accept our limitations, and have a greater appreciation for the importance of others in the larger framework we co-inhabit, humility helps to remove the barriers between ourselves and optimal psychological functioning by generating "hypo-egoic" states (Leary & Guadagno, 2011; Leary & Terry, 2012). As such, humble people have little need for boasting or grandiose attitudes, both of which generate negative impressions in other people (e.g., Colvin, Block, & Funder, 1995; Godfrey, Jones, & Lord, 1986; Leary, Bednarski, Hammon, & Duncan, 1997), facilitating stronger connections between themselves and friends, family, and romantic partners (see Friesen, 2001). For example, people high in humility were found to be more cooperative, and more responsive to incentives for cooperation (Ashton & Lee, 2008; Hilbig & Zettler, 2009; Zettler, Hilbig, & Heydasch, 2013). Hook et al. (2013) found that cultural humility – characterized as respect and lack of superiority toward an individual's cultural background and experience – fostered a productive alliance between therapists and their clients (moreover, clients' perception of their therapists' cultural humility predicted their overall improvement in therapy). And Davis et al. (2013) found humility to be positively related to greater group status and acceptance, helping to form and repair relationships with strong social bonds. Romantic partners who perceived their partners as humble were more likely forgive them for a recent conflict or infraction (Davis et al., 2011) – and Ashton and Lee (2008) found that humility correlated with lower rates of infidelity. Similarly, we found at least preliminary evidence that humility is related to a host of indicators of psychological thriving and wellbeing. Specifically, it was related to participants' sense of autonomy and life-purpose, their enjoyment of simple pleasures, and their capacity to form secure relationships with others.

And finally, we provided evidence that humility is related to people's behaviors, specifically their responses to people who agree vs. disagree with them. Low self-focus in particular seemed to matter, here – which makes sense because it is the shift in one's self-orientation that should act as a self-regulatory buffer to threats to one's self-esteem and world view (Kesebir, 2014). But high other-focus also matters, working with low self-focus to predict the least amount of behavioral change (in terms of distance placed between oneself and one's conversational partner) between situations involving a partner that strongly agrees vs. disagrees with you. In short, this study supports the idea that humility facilitates more positive (or, at least, less negative) interactions between people who hold strongly different views – a finding that has important implications, particularly in an increasingly politically polarized society such as our own.

Concluding thoughts

All of this suggests that, when it comes to positive psychology – understanding how people develop to be healthy, happy, and morally decent human beings – humility is going to play a central role. Indeed, given the definition of humility that we have argued for, we think that it is likely that humility is not just one among a range of other important virtues, but is instead "foundational," or a "meta" virtue – i.e., a *pre-condition* for developing other virtues.

As we have argued elsewhere (*citation removed for review*), humility would seem to be necessary – though not sufficient – for the full development of all the other virtues (e.g., honesty, generosity, compassion, etc.) and for virtuous character more generally. Our

argument for this is, roughly speaking, that being virtuous (i.e., doing things in the right way at the right time for the right reasons) requires the *right sort of awareness of oneself* relative to all else. In other words, being virtuous requires the very sort of epistemic and ethical alignment that humility generates – a "decentering" of self that appropriately decreases the felt weight of our own needs and interests, while at the same time appropriately increasing the felt weight of the needs and interests of others. Of course, this supposition needs further theoretical and empirical support – but, for those of us interested in the development and expression of virtue and moral excellence, it warrants further inquiry.

Limitations and future directions

One of the most important limitations is that we created the scale with a predominantly white and entirely U.S. sample. Moving forward, it will be critical to examine how well it measures humility in other cultures, especially where their conception of humility differs from our own. Recently, we have begun collecting preliminary cross-cultural data in SE Asia (Cambodia, Vietnam, Laos, and Myanmar specifically) with this goal in mind.

Likewise, the behavioral study we conducted was with a U.S. sample of college students, so further work to generalize these findings will need to be done. Whether sex of confederate mattered needs to be investigated in a future study with a larger sample.

In addition, all the research reported here was correlational in nature. It will be important in future research to demonstrate that changes in humility correspond to changes in the variables of interest. To this end, our lab is currently working on developing an instrument to induce states of humility – with an eye towards a more long-term (and permanent) intervention to cultivate humility, especially in "at-risk" youth populations, down the road.

Notes

1. The VIA scale classifies modesty-humility as one of the "character strengths" that falls under the virtue of *temperance*, which is defined as the virtue that "protects against excess" and includes the strengths of modesty-humility as well as forgiveness, prudence, and self-regulation (Peterson & Seligman, 2004). Humility is, therefore, considered to be separate from those character strengths that "forge connections to the larger universe and provide meaning" (composing the virtue of *transcendence*) and those that "involve tending and befriending others" (composing the virtue of *humanity*). Yet, as should be clear, both of these "virtues" are relevant to our proposed account of humility. What is more, modesty-humility is considered to be separate from the character strengths that "entail the acquisition and use of knowledge" (composing the virtue of *wisdom/knowledge*), but if we consider again Tangney's (2000) features of humility – i.e., being both able and inclined to acknowledge one's mistakes, imperfections, gaps in knowledge, and limitations (often vis-a-vis a "higher power"); being open to new ideas, contradictory information, and advice – it seems unlikely that humility doesn't have at least some sort of role to play in this area as well. Indeed, rather than being only one of a host of "character strengths" associated with only one of several virtues, we think it would be more accurate to view humility as something like a meta-virtue or a "mother virtue." By this we mean that humility is a psychological orientation to oneself and the world that facilitates the development of other virtues, making the manifestation of those virtues (e.g., modesty, honesty, sincerity, as well as generosity, compassion, etc.) more likely – and the manifestation of related vices (e.g., greed, arrogance, hubris, selfishness, etc.) less likely.
2. At the encouragement of an anonymous reviewer, we conducted parallel analyses for all three EFA rounds. These analyses suggested a picture that diverged somewhat from the one we

have given here, though we ultimately end up in the same place at the end. Thus, overall, the factor structure for humility we have proposed here appears supported. Specifically, the parallel analysis for Round 1 suggested that a nine factor solution would have be better supported, so we dropped the Factor 10 items (intolerance) and conducted a new EFA for Round 1, resulting in a nine factor solution with Eigen values between 10.2 and 1.38. Next, a parallel analysis for Round 2 suggested a seven factor solution, which provided independent support for our removal of Factors 8–10 (moral conviction, open-mindedness and intolerance). We dropped these items and conducted a new EFA for Round 2, resulting in a seven factor solution with Eigen values between 7.77 and 1.26. We then conducted a new forced factor analysis, confirming that the items for low self-focus (religious and cosmic low self-focus), high other-focus, and people's attitudes about humility (value of humility) continued to load onto one factor together under restricted conditions, with the items for moral flexibility, internal modesty, and public modesty resisting. This supported moving forward into Round 3 with the same "core" factors. We then conducted a parallel analysis for Round 3, which fully supported our final five-factor solution.

Disclosure statement

No potential conflict of interest was reported by the authors.

Funding

This research was supported by The Fuller Theological Seminary/Thrive Center in concert with the John Templeton Foundation.

References

Allport, G. W., & Ross, J. M. (1967). Personal religious orientation and prejudice. *Journal of Personality and Social Psychology, 5*, 447–457.

Aquino, K., & Reed, A. I. (2002). The self-importance of moral identity. *Journal of Personality and Social Psychology, 83*, 1423–1440. doi:10.1037/0022-3514.83.6.1423

Arbuckle, J. L. (1999). *Amos 7.0 user's guide*. Chicago, IL: SPSS.

Ashton, M. C., & Lee, K. (2008). The HEXACO model of personality structure and the importance of the H factor. *Social and Personality Psychology Compass, 2*, 1952–1962. doi: 10.1111/j.1751-9004.2008.00134.x

Ashton, M. C., Lee, K., Perugini, M., Szarota, P., de Vries, R. E., Di Blas, L., … De Raad, B. (2004). A six-factor structure of personality-descriptive adjectives: Solutions from psycholexical studies in seven languages. *Journal of Personality and Social Psychology, 86*, 356–366.

Ballard, R. (1992). Short forms of the Marlowe-Crowne social desirability scale. *Psychological Reports, 71*, 1155–1160.

Baumeister, R. F., & Exline, J. J. (2002). Mystical self loss: A challenge for psychological theory. *International Journal for the Psychology of Religion, 12*, 15–20.

Baxter, R. (1830). Christian directory. In W. Orme (Ed.), *The practical works of the Reverand Richard Baxter*. London: James Duncan.

Benson, P. L., Donahue, M. J., & Erickson, J. A. (1993). The faith maturity scale: Conceptualization, measurement, and empirical validation. In M. L. Lynn & D. O. Moberg (Eds.), *Research in the social scientific study of religion* (Vol. 5, pp. 1–26). Greenwich, CT: JAI Press.

Bentler, P. M. (1993). *EQS structural equations program manual*. Los Angeles, CA: BMDP Statistical Software Inc.

Block, J. (1995). A contrarian view of the five-factor approach to personality description. *Psychological Bulletin, 117*, 187–215. doi:10.1037/0033-2909.117.2.187

Bozdogan, H. (1987). Model selection and Akaike's Information Criterion (AIC): The general theory and its analytical extensions. *Psychometrika, 52*, 345–370.

Browne, M. W., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen & J. S. Long (Eds.), *Testing structural equation models* (pp. 136–162). London: Sage.

Byrne, B. M. (1994). *Structural equation modeling with EQS and EQS/Windows: Basic concepts, applications and programming*. Thousand Oaks, CA: Sage.

Colby, A., & Damon, W. (1992). *Some do care: Contemporary lives of moral commitment*. New York, NY: Free Press.

Cole, D. A. (1987). Utility of confirmatory factor analysis in test validation research. *Journal of Consulting and Clinical Psychology, 55*, 584–594.

Collins, N. L., & Read, S. J. (1990). Adult attachment, working models, and relationship quality in dating couples. *Journal of Personality and Social Psychology, 58*, 644–663.

Colvin, C. R., Block, J., & Funder, D. C. (1995). Overly positive self-evaluations and personality: Negative implications for mental health. *Journal of Personality and Social Psychology, 68*, 1152–1162. doi: 10.1037/0022-3514.68.6.1152

Crocker, L., & Algina, J. (2006). *Introduction to classical and modern test theory* (1st ed.). New York, NY: Wadsworth Publishing.

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika, 16*, 297–334.

Davis, D. E., Hook, J. N., Worthington, E. J., Van Tongeren, D. R., Gartner, A. L., & Jennings, D. I. (2010). Relational spirituality and forgiveness: Development of the Spiritual Humility Scale (SHS). *Journal of Psychology and Theology, 38*, 91–100.

Davis, D. E., Hook, J. N., Worthington, E. J., Van Tongeren, D. R., Gartner, A. L., Jennings, D. J., & Emmons, R. A. (2011). Relational Humility: Conceptualizing and Measuring Humility as a Personality Judgment. *Journal of Personality Assessment, 93*, 225–234.

Davis, D. E., Worthington, E. J., & Hook, J. N. (2010). Humility: Review of measurement strategies and conceptualization as personality judgment. *The Journal of Positive Psychology, 5*, 243–252.

Davis, D. E., Worthington, E. L., Hook, J. N., Emmons, R. A., Hill, P. C., Bollinger, R. A., & Van Tongeren, D. R. (2013). Humility and the development and repair of social bonds: Two longitudinal studies. *Self & Identity, 12*, 58–77. doi:10.1080/15298868.2011.63650

Debats, D. L. (1990). The life regard index: Reliability and validity. *Psychological Reports, 67*, 27–34.

van Dierendonck, D., & Nuijten, I. (2011). The servant leadership survey: Development and validation of a multidimensional measure. *Journal of Business and Psychology, 26*, 249–267. doi: 10.1007/s10869-010-9194-1

Elliott, J. C. (2010). *Humility: Development and analysis of a scale* (PhD diss.). University of Tennessee, Knoxville, TN.

Emmons, R. A. (1999). Religion in the psychology of personality: An introduction. *Journal of Personality, 67*, 873–888.

Emmons, R. A., & Kneezel, T. T. (2005). Giving thanks: Spiritual and religious correlates of gratitude. *Journal of Psychology and Christianity, 24*, 140–148.

Exline, J. J., & Geyer, A. L. (2004). Perceptions of humility: A preliminary study. *Self & Identity, 3*, 95–114.

Friesen, M. D. (2001). *The role of humility in marital communication: An introduction and brief overview*. Unpublished manuscript, University of Canterbury, New Zealand.

Frimer, J. A., Walker, L. J., Dunlop, W., Lee, B., & Riches, S. (2011). The integration of agency and communion in moral personality: Evidence of enlightened self-interest. *Journal of Personality and Social Psychology, 101*, 149–163.

Furco, A., Muller, P., & Ammon, M. S. (1998). *Civic responsibility survey*. Berkeley, CA: Service Learning Research & Development Center, University of California.

Gantt, W. H. (1967). On humility in science. *Conditional reflex, 2*, 179–183.

Godfrey, D. K., Jones, E. E., & Lord, C. G. (1986). Self-promotion is not ingratiating. *Journal of Personality and Social Psychology, 50*, 106–115. doi:10.1037/0022-3514.50.1.106

Grubbs, J. B., & Exline, J. J. (2014). Humbling yourself before God: Humility as a reliable predictor of lower divine struggle. *Journal of Psychology & Theology, 42*, 41–49.

Hair, J. F., Jr, Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). *Multivariate data analysis with readings* (5th ed.). Englewood Cliffs, NJ: Prentice Hall.

Halling, S., Kunz, G., & Rowe, J. O. (1994). The contributions of dialogal psychology to phenomenological research. *Journal of Humanistic Psychology, 34*, 109–131. doi:10.1177/00221678940341007

Harrell, S. P., & Bond, M. A. (2006). Listening to diversity stories: Principles for practice in community research and action. *American Journal of Community Psychology, 37*, 365–376. doi:10.1007/s10464-006-9042-7

Hilbig, B. E., Moshagen, M., & Zettler, I. (2015). Truth will out: Linking personality, morality, and honesty through indirect questioning. *Social Psychological and Personality Science, 6*, 140–147. doi:10.1177/1948550614553640

Hilbig, B. E., & Zettler, I. (2009). Pillars of cooperation: Honesty-humility, social value orientations, and economic behavior. *Journal of Research in Personality, 43*, 516–519. doi:10.1016/j.jrp.2009.01.003

Hook, J. N., & Davis, D. E. (2014). Humility, religion, and spirituality: Introduction to the special issue. *Journal of Psychology and Theology, 42*, 3–6.

Hook, J. N., Davis, D. E., Owen, J., Worthington, E. J., & Utsey, S. O. (2013). Cultural humility: Measuring openness to culturally diverse clients. *Journal of Counseling Psychology, 60*, 353–366. doi:10.1037/a0032595

Hopwood, C. J., & Donnelan, M. B. (2010). How should internal structure of personality inventories be evaluated? *Personality and Social Psychology Review, 14*, 244–254.

Horneck, A. (1651). *The happy ascetic*. London: Henry & George Mortlock.

Hoskin, R. (2012). *The dangers of self-report*. Retrieved April 17, 2017, from http://www.sciencebrainwaves.com/the-dangers-of-self-report

Hume, D. (1777/1960). *An enquiry concerning the principles of morals*. La Salle, IL: The Open Court Publishing Company.

Hwang, C. (1982). Studies in Chinese personality – A critical review. *Bulletin of Educational Psychology, 15*, 227–242.

Jankowski, P. J., & Sandage, S. J. (2014). Attachment to God and humility: Indirect effect and conditional effects models. *Journal of Psychology & Theology, 42*, 70–82.

John, O. P., & Robins, R. W. (1993). Determinants of interjudge agreement on personality traits: The big five domains, observability, evaluativeness, and the unique perspective of the self. *Journal of Personality, 61*, 521–551.

John, O. P., & Robins, R. W. (1994). Accuracy and bias in self-perception: Individual differences in self-enhancement and the role of narcissism. *Journal of Personality and Social Psychology, 66*, 206–219.

Johnston, M. (2009). *Saving God: Religions after idolatry*. Princeton, NJ: Princeton University Press.

Kaiser, H. F. (1960). The application of electronic computers to factor analysis. *Educational and Psychological Measurement, 20*, 141–151.

Katz, I., & Hass, R. G. (1988). Racial ambivalence and American value conflict: Correlational and priming studies of dual cognitive structures. *Journal of Personality and Social Psychology, 55*, 893–905. doi:10.1037/0022-3514.55.6.893

Kempis, T. A. (1441/1940). *Of the imitation of Christ*. (A. Croft & H. Bolton, Trans.). Milwaukee, WI: The Bruce Publishing Company.

Kesebir, P. (2014). A quiet ego quiets death anxiety: Humility as an existential anxiety buffer. *Journal of Personality & Social Psychology, 106*, 610–623. doi:10.1037/a0035814

Klein, D. C. (1992). Managing humiliation. *The Journal of Primary Prevention, 12*, 255–268.

Knight, P. A., & Nadel, J. I. (1986). Humility revisited: Self-esteem, information search, and policy consistency. *Organizational Behavior and Human Decision Processes, 38*, 196–206.

Kristjansson, K. (2015). *Aristotelian character education*. New York, NY: Routledge Press.

LaBouff, J. P., Rowatt, W. C., Johnson, M. K., Tsang, J., & Willerton, G. M. (2012). Humble persons are more helpful than less humble persons: Evidence from three studies. *The Journal of Positive Psychology, 7*, 16–29.

Landrum, R. E. (2011). Measuring dispositional humility: A first approximation. *Psychological Reports, 108*, 217–228.

Langston, C. A., & Cantor, N. (1989). Social anxiety and social constraint: When making friends is hard. *Journal of Personality and Social Psychology, 56*, 649–661.

Lawrence, E.J., Shaw, P., Baker, D., Baron-Cohen, S., & David, A. S. (2004). Measuring empathy: Reliability and validity of the Empathy Quotient. *Psychological Medicine, 34*, 911–920.

Leary, M. R., Adams, C. E., & Tate, E. B. (2006). Hypo-egoic self-regulation: Exercising self-control by diminishing the influence of the self. *Journal of Personality, 74*, 1803–1832.

Leary, M. R., Bednarski, R., Hammon, D., & Duncan, T. (1997). Blowhards, snobs, and narcissists: Interpersonal reactions to excessive egotism. In R. M. Kowalski & R. M. Kowalski (Eds.), *Aversive interpersonal behaviors* (pp. 111–131). New York, NY: Plenum Press.

Leary, M. R., & Guadagno, J. (2011). The role of hypo-egoic self-processes in optimal functioning and subjective well-being. In K. M. Sheldon, T. B. Kashdan, & M. F. Steger (Eds.), *Designing positive psychology: Taking stock and moving forward* (pp. 135–146). New York, NY: Oxford University Press.

Leary, M. R., & Terry, M. L. (2012). Hypo-egoic mindsets: Antecedents and implications of quieting the self. In M. R. Leary, M. R. Leary, & J. P. Tangney (Eds.), *Handbook of self and identity* (2nd ed., pp. 268–288). New York, NY: Guilford Press.

Lee, K., & Ashton, M. C. (2004). Psychometric properties of the HEXACO personality inventory. *Multivariate Behavioral Research, 39*, 329–358.

MacCallum, R. C., Browne, M. W., & Sugawara, H. M. (1996). Power analysis and determination of sample size for covariance structure modeling. *Psychological Methods, 1*, 130–149.

Maimonides (Moses Ben Maimom). (1972). *A Maimonides reader*. (I. Twersky, Ed.). New York, NY: Behrman House Inc.

McArthur, T. (1998). *Oxford English dictionary. Concise Oxford companion to the English language*. Retrieved January 09, 2015, from Encyclopedia.com http://www.encyclopedia.com/doc/1O29-oxfordenglishdictionary.html

Means, J. R., Wilson, G. L., Sturm, C., Biron, J. E., & Bach, P. J. (1990). Humility as a psychotherapeutic formulation. *Counselling Psychology Quarterly, 3*, 211–215. doi:10.1080/09515079008254249

Monroe, K. (2004). *The hand of compassion: Portraits of moral choice during the holocaust*. Princeton, NJ: Princeton University Press.

Monroe, K. (2011). *Ethics in an age of terror and genocide: Identity and moral choice*. Princeton, NJ: Princeton University Press.

Morinis, A. (2008). *Everyday holiness: The Jewish spiritual path of Mussar*. New York, NY: Trumperter Publishing.

Morris, J. A., Brotheridge, C. M., & Urbanski, J. C. (2005). Bringing humility to leadership: Antecedents and consequences of leader humility. *Human Relations, 58*, 1323–1350. doi:10.1177/0018726705059929

Murray, A. (2001). *Humility: The journey towards holiness*. Bloomington, MN: Bethany House Publishers.

Neuringer, A. (1991). Humble behaviorism. *The Behavior Analyst, 14*(1), 1–13.

Nietzsche, F. (1886/1966). *Beyond good and evil*. (W. Kaufmann, Trans.). New York, NY: Random House Inc.

Noftle, E. E., Schnitker, S. A., & Robins, R. W. (2011). Character and personality: Connections between positive psychology and personality psychology. In K. M. Sheldon, T. B. Kashdan, & M. F. Steger (Eds.), *Designing the future of positive psychology: Taking stock and moving forward* (pp. 207–227). New York, NY: Oxford University Press.

Owens, B. P., Johnson, M. D., & Mitchell, T. R. (2013). Expressed humility in organizations: Implications for performance, teams, and leadership. *Organization Science, 24*, 1517–1538. doi:10.1287/orsc.1120.0795

Paulhus, D., & Carey, J. (2011). The FAD–Plus: Measuring lay beliefs regarding free will and related constructs. *Journal of Personality and Assessment, 93*, 96–104.

Pedhazur, E. J., & Schmelkin, L. P. (1991). *Measurement, design and analysis: An integrated approach*. Hillsdale, NJ: Lawrence Erlbaum Associates, Publishers.

Peterson, C., & Seligman, M. P. (2004). *Character strengths and virtues: A handbook and classification*. Washington, DC; New York, NY: American Psychological Association.

Pett, M., Lackey, N., & Sullivan, J. (2003). *Making sense of factor analysis*. Thousand Oaks, CA: Sage.

Powers, C., Nam, R. K., Rowatt, W. C., & Hill, P. C. (2007). Associations between humility, spiritual transcendence, and forgiveness. *Research in the Social Scientific Study of Religion, 18*, 75–94.

Quiros, A. E. (2008). The development, construct validity, and clinical utility of the Healthy Humility Inventory. *Dissertation Abstracts International, 68*, 6331.

Raykov, T. (1998). On the use of confirmatory factor analysis in personality research. *Personality and Individual Differences, 24*, 291–293.

Richards, N. (1988). Is humility a virtue? *American Philosophical Quarterly, 25*, 253–259.

Rowatt, W. C., Ottenbreit, A., Nesselroade, K. J., & Cunningham, P. A. (2002). On being holier-than-thou or humbler-than-thee: A social-psychological perspective on religiousness and humility. *Journal for the Scientific Study of Religion, 41*, 227–237.

Rowatt, W. C., Powers, C., Targhetta, V., Comer, J., Kennedy, S., & Labouff, J. (2006). Development and initial validation of an implicit measure of humility relative to arrogance. *The Journal of Positive Psychology, 1*, 198–211.

Rowden, T. (2009). *Humility as catalyst of client change: A Delphi study*. Dissertation available online https://repositories.tdl.org/ttu-ir/handle/2346/10065

Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology, 57*, 1069–1081. doi:10.1037/0022-3514.57.6.1069

Sandage, S. J. (1999, January). An ego-humility model of forgiveness: A theory-driven empirical test of group interventions. *Dissertation Abstracts International, 59*, 3712.

Sandage, S. J., Wiens, T. W., & Dahl, C. M. (2001). Humility and attention: The contemplative psychology of Simone Weil. *Journal of Psychology and Christianity, 20*, 360–369.

Schreiber, J. B., Nora, A., Stage, F. K., Barlow, E. A., & King, J. (2006). Reporting structural equation modeling and confirmatory factor analysis results: A review. *The Journal of Educational Research, 99*, 323–338.

Schwartz, S. H., & Bilsky, W. (1987). Toward a universal psychological structure of human values. *Journal of Personality and Social Psychology, 53*, 550–562. doi:10.1037/0022-3514.53.3.550

Sidgwick, H. (1874/2011). *The method of ethics*. (J. Bennett, Ed.). Retrieved from www.earlymoderntexts.com

Skitka, L. J., Bauman, C. W., & Sargis, E. G. (2005). Moral conviction: Another contributor to attitude strength or something more? *Journal of Personality and Social Psychology, 88*, 895–917.

Snow, N. (1995). Humility. *The Journal of Value Inquiry, 29*, 203–216.

Spinoza, B. (1677/1955). *The ethics*. (R. H. M. Elwes, Trans.). New York, NY: Dover.

St. Bernard of Clairvaux. (1942). Sermon 42 on Canticle 6. In G. B. Burch (Trans.), *Introduction to Bernard's the steps of humility*. Cambridge: Harvard University Press.

Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics* (5th ed.). Boston, MA: Allyn & Bacon/Pearson Education.

Tangney, J. P. (2000). Humility: Theoretical perspectives, empirical findings and directions for future research. *Journal of Social and Clinical Psychology, 19*, 70–82.

Tangney, J. P. (2002). Humility. In C. R. Snyder & S. J. Lopez (Eds.), *Handbook of positive psychology* (pp. 411–419). New York, NY: Oxford University Press.

Tangney, J. P. (2009). Humility. In S. J. Lopez & C. R. Snyder (Eds.), *Oxford handbook of positive psychology* (2nd ed., pp. 483–490). New York, NY: Oxford University Press.

Taylor, G. (1985). *Pride, shame, and guilt*. Oxford: Clarendon Press.

Templeton, J. M. (1995). *The humble approach*. New York, NY: Continuum Publishing.

Templeton, J. M. (1997). *Worldwide laws of life: 200 eternal spiritual principles*. Philadelphia, PA: Templeton Press.

Thompson, L. Y., & Synder, C. R. (2003). Measuring forgiveness. In Shane J. Lopez & C. R. Snyder (Eds.), *Positive psychological assessment: A handbook of models and measures* (pp. 301–312). Washington, DC: American Psychological Association.

Vera, D., & Rodriguez-Lopez, A. (2004). Strategic virtues: Humility as a source of competitive advantage. *Organizational Dynamics, 33*, 393–408. doi:10.1016/j.orgdyn.2004.09.006

Watkins, P. C., Woodward, K., Stone, T., & Kolts, R. L. (2003). Gratitude and happiness: Development of a measure of gratitude, and relationship with subjective well-being. *Social Behavior and Personality: An International Journal, 31*, 431–451.

Weidman, A. C., Cheng, J. T., & Tracy, J. L. (2016). The psychological structure of humility. *Journal of Personality and Social Psychology*. doi:10.1037/pspp0000112

Weiss, H. M., & Knight, P. A. (1980). The utility of humility: Self-esteem, information search, and problem-solving efficiency. *Organizational Behavior & Human Performance, 25*, 216–223.

Wright, J., Cullum, J., & Schwab, N. (2008). The cognitive and affective dimensions of moral conviction: Implications for tolerance and interpersonal behaviors. *Personality and Social Psychology Bulletin, 34*, 1461–1476.

Zettler, I., Hilbig, B. E., & Heydasch, T. (2013). Two sides of one coin: Honesty–humility and situational factors mutually shape social dilemma decision making. *Journal of Research in Personality, 47*, 286–295. doi:10.1016/j.jrp.2013.01.012

Appendix A: Final scale statements

Religious Low Self-Focus

1. I often feel humble when I think of a Higher Power.
2. God requires us to be humble.
3. Ultimately, there is a Supreme Being who gets all of the credit and glory for our individual accomplishments.
4. My Creator works through me in all my good actions.
5. I accept my total dependence upon the grace of God.

Cosmic Low Self-Focus

6. I often find myself pondering my smallness in the face of the vastness of the universe.
7. I often think about the fragility of existence.
8. I frequently think about how much bigger the universe is than our power to comprehend.
9. When I look out at the stars at night, I am often deeply humbled.
10. I feel awe towards the mysteries and complexities of life.

Environmental Low Self-Focus

11. Humans have to learn to share the Earth with other species.
12. We should always try to be in harmony with Mother Nature.
13. I often feel in touch with Mother Nature.
14. It's important from time to time to commune with nature.
15. Caring for humanity requires us to care about the environment.

High Other-Focus

16. I often place the interests of others over my own interests.
17. My friends would say I focus more on others than I do myself.
18. I always find myself making sacrifices for others.
19. My actions are often aimed towards the wellbeing of others.
20. I care about the welfare others, at times more than my own welfare.

Valuing Humility (Indirect Measure of Humility)

21. Humility is a virtue.
22. I find humble people to be very admirable.
23. A good dose of humble pie is often necessary.
24. Teaching kids the value of humility is very important to their development.
25. It's important to always keep one's accomplishments in perspective.