Factor Structure and Reliability of A Servant Leader Humility Scale

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Abstract
Humility is a core trait of servant leaders, enabling them to better understand the needs of their workplaces, make optimum decisions, readily accept and use feedback, and effortlessly ask for assistance when the need arises. While several instruments exist for measuring leader humility, their coverage of the humility domain differ. They also seem to conflate (and even confound) the construct with similar but distinct ideas like modesty and honesty. As a contribution towards addressing these issues, the researchers explored the factor structure and reliability of the humility scale from Page and Wong's (2000) Servant Leadership Profile (SLP). Principal component analysis (PCA) and confirmatory factor analysis (CFA) were performed using JASP on a dataset generated from a sample of 181 academic staff drawn online from the 30 public universities in Saudi Arabia. Contrary to Page and Wong's (2000) unidimensional structure of the humility scale, the PCA results suggest a two-factor (humbleness factor and self-effacement factor) solution that explains 49% of the cumulative variance. The results from CFA analysis confirm the fit of the model structure (χ^2/df = 0.863, CFI = 1.000, TLI = 1.011, NFI = 0.954, RMSEA = 0.000, SRMR = 0.051, GFI = 0.974, MFI = 1.010) for the Servant Leader Humility Scale (SLHS). However, while results of reliability analyses indicate that the humbleness factor shows good psychometrics (ω = .833, CI = .795–.872; α = .810, CI = .759–.852), it is not so with the self-effacement factor (ω = .685, CI = .614–.756; α = .671, CI = .588–.741). Accordingly, we recommend that the humbleness factor should be given greater weight in the evaluation of servant leadership qualities.
Keywords: Servant Leader, Humility, Humbleness, Self-effacement, Factor Analysis

Introduction
In popular literature, humility may seem to be an incongruous trait with the power and prestige associated with leadership (Morris et al., 2016). On the face of it, it is more likely to be seen as a weakness rather than a virtue that help a leader perform their onerous function. However, the terms often used to describe leadership in higher education (e.g.,

leading by example, helping others, connecting with people and tolerating ambiguity) suggest their roots in humility (Kelemen et al., 2022). Humility is so important as a personality trait that a group of psychologists added it to the famous Big Five personality theory, first propounded by Fiske (1949), as the sixth personality construct and came up with the HEXACO (Honesty-humility, Emotionality, eXtraversion, Agreeableness, Conscientiousness, and Openness to experience) personality framework (Ashton *et al.*, 2004; Lee and Ashton, 2004). Saucier (2009) did similar work, adding an honesty-propriety factor to the big five. Ashton *et al.* (2004) describe the honesty-humility factor as one "emphasising trustworthiness, modesty, lack of greed, and lack of slyness. This factor is interpretable as Honesty-Humility, or perhaps as Morality, Sincerity, or Integrity" (p. 363). Since then, the term has been investigated in several contexts, but all were kneeling towards the construct's ethicality, morality, and religious orientations.

Even in the secular context of the corporate world, humility is often treated as something other-worldly and transcendental. For instance, Wang *et al* (2017) remark that "humility involves submitting to something greater than oneself," suggesting a higher moral calling beyond the worldly. The tendency to see humility from moral or religious lenses may not be unconnected with leaders' general disposition to focus first on the needs of the led and to make many sacrifices towards that meeting their followers' needs at times at significant personal cost (Sousa and Van Dierendonck, 2021; Wolfteich et al., 2021). With some exceptions (e.g., Bharanitharan et al., 2021; Qin et al., 2021; Xu et al., 2022), humility is viewed as a positive influence and a desirable character trait in leaders. Indeed, humility is an unalienable facet of a particular model of leadership, i.e., servant leadership (Krumrei-Mancuso, 2018).

Using what they call the three distinguishing features of servant leadership (motive, mode, and mindset), Eva et al (2019) systematically reviewed 285 cognate studies spanning 20 years (1998–2018) and defined servant leadership as a follower centred leadership model (i.e., the motive) concerned with the satisfaction of followers' needs and interests on an individual basis (i.e., the mode) without attenuating the importance of other organisational interests (i.e., the mindset). The essence of the servant leadership model is best appreciated in contradistinction to other leadership models where the leader's ambitions and institutional agenda forms the driving motives for leading. Humbleness in leaders is possible where the person possesses the innate disposition defining servant leaders (Verdorfer, 2016). Thus, we see humility as the pivot of servant leadership. However, measuring leader humility seems to be an ongoing issue among scholars.

Several measures exist for evaluating how humble leaders are. Some are just factors in larger constructs, such as the humility scales in the servant leadership self-reports reported in Dennis and Bocarnea (2005), Ekinci (2015), Hale and Fields (2013), Page and Wong (2000), Reid *et al.* (2014), and Sousa and Van Dierendonck (2015). Similarly, humility scales are developed or evaluated in connection with the HEXACO personality framework (e.g., Ashton and Lee, 2008; Biderman et al., 2019; Gill and Berezina, 2019; Thielmann et al., 2017). Other scales were developed with specificities in mind, such as measures of relational humility (Watkins, 2020), intellectual humility (Haggard *et al.*, 2018), dispositional humility (Sasagawa and Amieux, 2019), and cultural humility (Foronda *et al.*, 2021). Nevertheless, other scales (e.g., Davis *et al.*, 2017; Rowatt et al., 2006) assess humility as a generic construct.

Given the availability of several scales on humility, one may well ask (to use McElroy-Heltzel *et al.*'s (2019) phraseology): Is there any need for further scale development on the humility construct? Swain and Murray (2020) observe that apart from the differences in coverage of the humility domain, the extant measures also operationalise the construct mainly regarding what it is not rather than what it is. Further, the HEXACO-based humility scales seem to conflate humility with modesty or merge it with honesty even though these constructs are theoretically distinct (Kruse *et al.*, 2017). Again, some measures see humility as a construct not invariant but dependent on time and locational differences (Chancellor and Lyubomirsky, 2013). It was against the background of these shortcomings of the extant measures of humility that Swain and Murray (2020) concluded by encouraging researchers to "continue to explore and refine their methods of assessing humility" (p. 208). Accordingly, the objective of this study is to explore the structure and reliability of the humility scale of Page and Wong's (2000) Servant Leadership Profile (SLP) in a sample of academic staff selected from the public universities of Saudi Arabia.

Background Literature
Humility in Servant Leadership and Its Measures
Researchers have defined humility in various ways. Some see it as the absence of some obnoxious traits like arrogance, pride, self-centredness or haughtiness (Coppola, 2021). Some synonymously associate it with concepts like modesty and honesty, but it is unlike these (Burton, 2021). A third category of the researchers see humility as an innate disposition regarding how a person simultaneously see themselves and see others, placing things in perspective, neither overrating nor underrating themselves vis-a-vis others but keeping a balanced view and comporting themselves in a "socially innocuous and conceptually pleasing" (Gerson, 2006, p. 182) manner. This characteristic of social innocuousness is epitomised in the story of the servant Leo who, while overtly a servant to the travelling group, was, in reality, the leading spirit behind the corporate existence of the group, which fell apart with the disappearance of Leo (Greenleaf, 2008). Leo's humility kept him, as it were, below the radar of the social group's social hierarchy even while he dominated it structurally.

Humility is a potent power that comes to leaders through service to their constituencies (Sousa and van Dierendonck, 2017). Thus, van Dierendonck and Nuijten (2011) describe humility as a "very important conceptual element of servant leadership" (p. 254). In the context of the university system, academic staff can exert the significant and lasting impact and influence attributed to servant leaders if they genuinely provide service to students, parents, colleagues, the school, and the community at large (Nichols, 2011). However, this service spirit is predicated on a person's innate humility, a disposition to maintain a balanced perspective about all things. Humility is the essence of servant leadership. Nevertheless, can it be measured with any accuracy and reliability? There are several measures for evaluating humility in servant leaders. Beginning with Page and Wong (2000), most of the extant servant leadership measures have featured a humility scale, some using different nomenclatures such as service, altruism, and subordination (see Table 1). In this study, we explored the psychometrics of the humility dimension of Page and Wong's (2000) SLP.

Table 1. Examples of the Humility Scale in Some Measures of Servant Leadership

SN	Measures	Scale Names	Items	Sources
1.	Servant Leadership Profile (SLP)	Humility	10	Page and Wong (2000)
2.	Servant Leadership Instrument (SLI)	Service	5	Dennis and Winston (2003)
3.	Servant Leadership Assessment Instrument (SLAI)	Humility	5	Dennis and Bocarnea (2005)
4.	Executive Servant Leadership Scale (ESLS)	Altruism	3	Reed et al. (2011)
5.	Servant Leadership Behaviour Scale (SLBS)	Voluntary Subordination	7	Sendjaya and Cooper (2011)
6.	Servant Leadership Scale (SLS)	Humility	6	Hale and Fields (2013)
7.	Level 5 Leadership Scale (L5LS)	Personal Humility	5	Reid et al. (2014)
8.	School Principals Servant Leadership Behaviours Scale (SPSLBS)	Humility	3	Ekinci (2015)
9.	Short Shared Servant Leadership Measure (SSSLM)	Humility	4	Sousa and Van Dierendonck (2015)

Humility among Knowledge Workers

Teachers in Saudi Arabia have been studied as knowledge workers who collaborate with peers across the world to produce patented knowledge (Fallatah, 2021). Humility (Garner et al., 2021), even while being politically sensitive (Salisu and Awang, 2019), is a critical factor facilitating effective collaborations among culturally diverse teams made up of teachers. This comes naturally to teachers in general as humility is a virtue in teaching (Hare, 1992), and teachers use it with equal effectiveness in their many roles, including leadership roles. While their self-esteem as teachers and leaders in higher education could be strengthened through appropriate recognition of their efforts (Price and Weatherby, 2018), it is their humility and satisfaction in what they do that informed their commitment to the students, the profession and their respective workplaces (Willis, 2021). Indeed, the intellectual variant of the humility construct is associated with general knowledge and the tendency to assess one's knowledge accurately (Krumrei-Mancuso et al., 2020). However, given that studies have attested to the high masculinity character of Saudi Arabian national and work cultures (Ayyash et al., 2022) and how it shapes work practices, including servant leadership (Shafai, 2021) and technology adoption (Khan and Qudrat-Ullah, 2021), it is interesting to investigate how leaders in Saudi higher educational institutions measure on the humility criteria.

A sample of 181 academic staff who provided data for this study was drawn from universities of Saudi Arabia. Saudi Arabia is a culturally homogenous country, and the public and private interactions Saudis are deeply grounded in their culture and traditions (Nevo, 1998), which influences their practices and worldviews including the notion of what humility is. Wolfteich et al. (2021), in a study of 273 leaders, reported that their conception of humility includes the notions of virtue, accurate self-view, as well as humility in relation to others people. It is, therefore, reasonable to expect a high level of convergence in the humility profile

of sampled leaders from a fairly homogenous, such as Saudi Arabia (Thompson, 2019), especially in the ranks of the Kingdom's university academic staff. The relevant question therefore is: how does the academic staff from Saudi universities respond to the SLHS?

Research Methodology

The study started with a principal component analysis (PCA) of the humility scale of Page and Wong's (2000) SLP. The resultant structure from the PCA was then confirmed using confirmatory factor analysis. Finally, the reliability statistics for the factors were computed using the classical single-test reliability analysis. All computations were carried out in JASP. JASP is a statistical package that offers standard analysis procedures, including descriptive and factor analyses (Bergh *et al.*, 2021).

Participants and Survey Administration

Participants were academic staff selected from the 30 government universities in Saudi Arabia. Two ways were utilised in recruiting participants. First, the first author (a Saudi citizen from the academia) used his contacts and distributed 300 questionnaires (Google form link) to Saudi Academics on his WhatsApp contacts list. The Google form was designed based on the forced answering option. However, to pre-empt the common problem of high non-response associated with the forced answering option (Sischka *et al.*, 2020), the questionnaire contains only the ten items of the humility factor of Page and Wong's (2000) SLP. Three hundred received the survey Google form link via WhatsApp; 46.67% responded.

Secondly, the researcher extracted the emails of corresponding authors with affiliation to universities in Saudi Arabia from the Scopus database. The query (AFFILCOUNTRY("Saudi Arabia") AND SUBAREA(ARTS OR BUSI OR DECI OR ECON OR PSYC OR SOCI) AND PUBYEAR > 2015 AND PUBYEAR < 2021 AND (LIMIT-TO (AFFILCOUNTRY,"Saudi Arabia"))) in the Scopus database yielded 11,704 documents authored by 160 scholars. Mindful of the ethical requirement of informed consent in online sourcing of survey respondents (Roberts and Allen, 2015), the researchers extracted the balance of 41 respondents from the 160 scholars. Thus, the study used data collected from a sample of 181 respondents.

Measure

The Page and Wong's (2000) SLP is a 99-item self-report questionnaire that covers a vast domain of the servant leadership construct across twelve dimensions: integrity (8 items), humility (10 items), servanthood (11 items), caring for others (8 items), empowering others (5 items), developing others (7 items), visioning (8 items), goal setting (6 items), leading (10 items), modelling (6 items), team-building (11 items), and shared decision-making (8 items). The items were evaluated using a 7-point Likert-type rating scale ranging from 1 = Strongly disagree to 7 = Strongly agree. Page and Wong (2000) reported a pre-test result in which the SLP performed with a Cronbach's $\alpha = 0.937$. However, the humility scale showed an $\alpha = 0.656$. A sample of two items from the scale include: "I learn from subordinates whom I serve," and "I readily confess my limitations and weaknesses" (Page and Wong, 2000, p. 105).

It is noteworthy that the twelve dimensions of Page and Wong's (2000) SLP cover a domain far beyond what the general literature on savant leadership typically assumes. Indeed, the factor structure of the SLP established in Dennis and Winston (2003) admits only

three dimensions: namely, empowerment, service (covering some of the humility items), and vision.

Results and Discussion
Descriptive Statistics

There were no missing data as we used the forced answering option available on Google form (Kmetty and Stefkovics, 2021). The data thus collected were screened for outliers by the z-score approach (Chikodili *et al.*, 2021) using Microsoft Excel©. A single outlier was detected and deleted from the sample dataset.
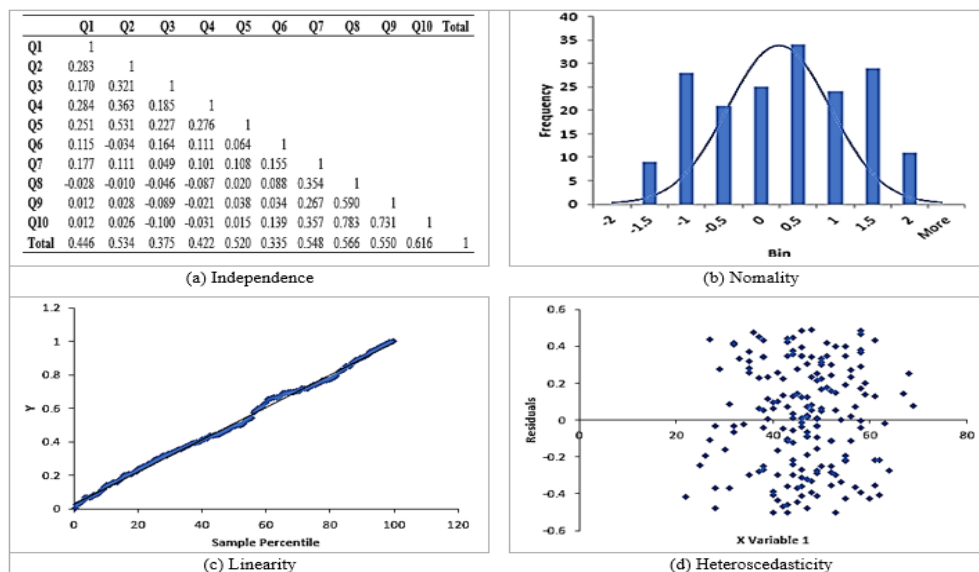

Figure 1. Assumption Checks

The cleaned dataset was then analysed for additivity, normality, linearity, and heteroscedasticity in Microsoft Excel©. The additivity test (Figure 1a) confirmed that no two of the ten indicators of the humility scale were perfectly correlated, suggesting that they are independent of each other. The dataset also met the linearity assumption, as shown in Figure 1c. Figure 1d indicates that the residuals were relatively evenly spread in the dataset, suggesting good homoscedasticity and homogeneity. However, the histogram (Figure 1b) suggest some slight non-normality in the dataset. Overall, the assumption checks carried out suggest that the dataset is good.

However, Looney (1995) suggests that it is better to use aggregates of more than one test in testing for normality. Thus, the results of the assumption checks were further complemented with further results (for kurtosis and skewness) processed in JASP to be doubly sure about the normality of the dataset, which is an important requirement for running EFA (Watkins, 2018). Additionally, González-Estrada and Cosmes (2019) recommend running the Shapiro-Wilk test because of its superior sensitivity to normality in datasets. The descriptive statistics from JASP in Table 2 show the skewness and kurtosis of the dataset and the Shapiro-Wilk test results. Skewness kurtosis statistics suggest a slightly non-normal distribution. Similarly, the conventional alpha (0.05) is greater than the p-value of the Shapiro-Wilk test (<0.001) for all items, suggesting that the dataset may be non-normal. The slight non-normality of the study data is not problematic when considered against the typical skewness (-2.49 and 2.33) and kurtosis (-1.92 and 7.41) Blanca *et al.* (2013) found in actual data samples.

Table 2. Descriptive Statistics, Skewness, Kurtosis, and Shapiro-Wilk Test

| Item | Mean | | | Skewness | | Kurtosis | | Shapiro -Wilk | P-value |
	Stat.	SE	SD	Stat.	SE	Stat.	SE		(S-W)
Q1	4.702	0.130	1.754	-0.497	0.181	-0.872	0.359	0.907	< .001
Q2	4.696	0.138	1.862	-0.279	0.181	-1.194	0.359	0.898	< .001
Q3	4.757	0.140	1.882	-0.528	0.181	-0.734	0.359	0.899	< .001
Q4	5.320	0.127	1.708	-0.902	0.181	-0.076	0.359	0.856	< .001
Q5	5.144	0.147	1.978	-0.733	0.181	-0.781	0.359	0.836	< .001
Q6	4.912	0.111	1.499	-0.858	0.181	0.143	0.359	0.891	< .001
Q7	4.464	0.139	1.875	-0.178	0.181	-1.275	0.359	0.906	< .001
Q8	4.210	0.148	1.994	-0.073	0.181	-1.301	0.359	0.911	< .001
Q9	3.939	0.145	1.956	0.054	0.181	-1.172	0.359	0.924	< .001
Q10	4.155	0.141	1.900	-0.062	0.181	-1.074	0.359	0.927	< .001

Note. n = 181; Minimum = 1; Maximum = 7; SD = Standard Deviation; Stat. = Statistic

Principal Component Analysis

Jackson (1991) recommends PCA for factor structure of datasets. Accordingly, a PCA was computed for Page and Wong's (2000) 10-item humility dimension of the SLP using JASP. In computing the PCA, the researchers applied the minimum residual estimation method (Comrey, 1962) and calculated the eigenvalues using the oblimin technique of oblique rotation (Crawford, 1975), with a cut-off point of .40 (the default in JASP) and Kaiser's (1958) criterion of eigenvalues > 1. The eigenvalues were plotted to form a scree plot (Cattell, 1966). The oblique rotation method was selected rather than the orthogonal rotation because personality-related traits are invariably correlated and oblique within the factor space and cannot be orthogonal (Lee and Ashton, 2007). Oblique rotation allows highly correlated factors to merge into one, thereby creating a simpler factor structure (Zhang and Preacher, 2015). Based on the component loadings in Table 3 and analysis of the scree plot in Figure 2, two components were extracted (χ^2 = 77.648; df = 2.99; p < .001) with a cumulative variance of 49% and acceptable component loadings (ranging between 0.531 and 0.927).

Table 3. Component Loadings

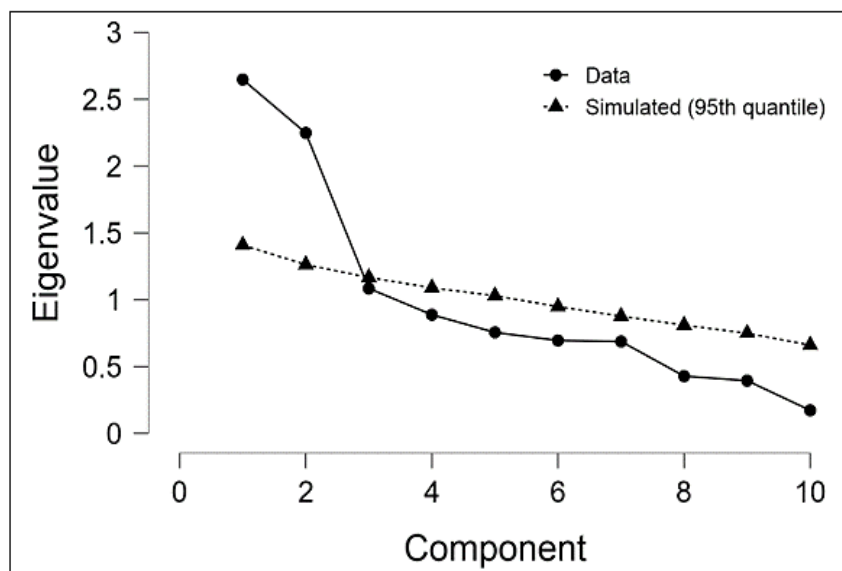| Items/ Component Characteristics	Component Loadings		Uniqueness
	RC1	RC2	
Q1	0.029	0.587	0.654
Q2	0.007	0.770	0.407
Q3	-0.112	0.544	0.691
Q4	-0.056	0.636	0.593
Q5	0.033	0.710	0.496
Q6	0.173	0.215	0.924
Q7	0.531	0.265	0.649
Q8	0.874	-0.039	0.235
Q9	0.827	-0.011	0.315
Q10	0.927	-0.010	0.140
Eigenvalue	2.648	2.248	
Proportion variance	0.265	0.225	
Cumulative variance	0.265	0.490	

Figure 2. PCA Scree Plot

The first component consists of four indicators with an eigenvalue of 2.648 and explains 27% of the variance. The second component consists of five indicators with an eigenvalue of 2.248 and explains 23% of the variance. The 6th indicator (coded Q6), with a uniqueness score of 0.924, failed to load on either factor, indicating it is largely unrelated to the SLHS. Willingness to serve, ready admittance of shortcomings, celebrating others', not self-accomplishments, and acknowledgement of their dependence on others to accomplish things (respectively captured by the 7th to 10th indicators), aligns with scholars' description of the servant leader as an essentially humble person (LaBouff *et al.*, 2012; Wright *et al.*, 2018). Thus, the researcher labelled the first component as Humbleness. The five indicators that comprised the second component captured that servant leadership quality that shows them as downplaying their accomplishment without erasing the fact but makes them "socially innocuous and conceptually pleasing" (Gerson, 2006, p. 182). We labelled this factor Self-

effacement. The two-factor model of SLHS thus generated was subjected to confirmatory factor analysis (CFA) to verify the factor structure of the nine indicators measuring the SLHS.

Confirmatory Factor Analysis

The researchers performed a CFA to test whether the data collected from the sample of 181 academic staff from Saudi universities fitted the two-factor solution suggested by the results of the PCA. We used the following fit indices: chi-squared test (χ^2/df), root mean square error of approximation (RMSEA), standardised root mean square residual (SRMSR), comparative fit index (CFI), Tucker-Lewis index (TLI), the goodness of fit index (GFI), McDonald fit index (MFI), and normed fit index (NFI). The researchers used the threshold of acceptance for the various computed indices in interpreting them. Thus, these cut-off thresholds were used in the interpretation: $\chi^2/df \geq 2$ (Tabachnick and Fidell, 2014); TLI ≥ 0.95 (Shi *et al.*, 2019); GFI ≥ 0.95 (Miles and Shevlin, 2007); NFI > 0.90 (Bentler and Bonett, 1980); RMSEA ≤ 0.07 (Steiger, 2007); CFI ≥ 0.95, MFI ≥ 0.90 and SRMR < 0.08 (Hu and Bentler, 1999). All the fit indices are available in JASP.

The 9-item two-factor model of the SLHS was assessed based on the preceding parameters of CFA. The CFA results indicate an overall good model fit (χ^2/df = 0.863, CFI = 1.000, TLI = 1.011, NFI = 0.954, RMSEA = 0.000, SRMR = 0.051, GFI = 0.974, MFI = 1.010). Table 4, showing parameter estimates of the test, indicates that item factor loadings are > 0.7, except for item Q1, which returned an estimate of 0.685. The item z-values ranged between 5.063 and 16.568 (for the humbleness factor) and 4.727 and 9.671 (for the self-effacement factor), suggesting that the model is significant at p<0.001 level. The model is visualised in Figure 3.

Table 4. Parameter Estimates of CFA

Factors	Indicator	Estimate	SE	z-value	p	95% CI Lower	Upper
Factor 1 (Humbleness)	Q7	0.700	0.137	5.063	< .001	0.427	0.966
	Q8	1.599	0.128	12.523	< .001	1.349	1.850
	Q9	1.460	0.128	11.393	< .001	1.209	1.711
	Q10	1.846	0.111	16.568	< .001	1.627	2.064
Factor 2 (Self-Effacement)	Q1	0.685	0.145	4.738	< .001	0.402	0.969
	Q2	1.483	0.153	9.671	< .001	1.182	1.783
	Q3	0.733	0.155	4.727	< .001	0.429	1.038
	Q4	0.792	0.139	5.692	< .001	0.520	1.065
	Q5	1.279	0.160	7.993	< .001	0.965	1.592

While the model depicted in Figure 3 seems to be backed by excellent fit statistics and parameter estimates (Table 4), it is important to inquire whether it is a well-fitting model and may suffer disadvantages associated with such models. One such concern is that an over-fitted model may indicate the existence of possible equivalent or non-equivalent models (MacCallum *et al.*, 1993). In other words, there may be other similar or dissimilar models that could fit the same data equally well. Two models could be identified as equivalent when they "reproduce the same set of covariance matrices even when their parameters vary" (Henley *et al.*, 2006, p. 518). Tomarken and Waller (2003) also recommend that researchers could

"acknowledge the presence of plausible equivalent models" or "evaluate lower-order model components" (p. 596), among others, as ways to identify equivalent models.

Following Henley *et al.*'s (2006) suggestion, the researchers produced and examined the covariance matrices for the two-factor solution and a unidimensional solution (see Table 5 and Table 6, respectively). The matrices are not the same; hence the two models are not equivalent. Further, based on Tomarken and Waller's (2003), the researchers re-run the PCA where they manually constrained JASP to produce a unidimensional solution using the oblimin technique of oblique rotation. The result eliminated the self-effacement indicators, returning the four humbleness items with slightly different item factor loadings as a unidimensional construct ($\chi2$=192.404, df=35, p< .001; cumulative variance=27%). It is not an equivalent model, so no CFA was carried out. To exhaust possibilities, the researchers also then run the 9-item of the SLHS dual-factor model through the CFA procedure but as a unidimensional construct. With the exception of SRMR, all the other fit indices computed in this study rejected the unidimensional model of the SLHS (χ^2/df = 5.582, CFI = 0.727, TLI = 0.636, NFI = 0.692, RMSEA = 0.159, SRMR = 0.050, GFI = 0.810, MFI = 0.711). Thus, the good model fit of our initial solution is not diminished by the possibility of model equivalence problem due to being a well-fitted solution.
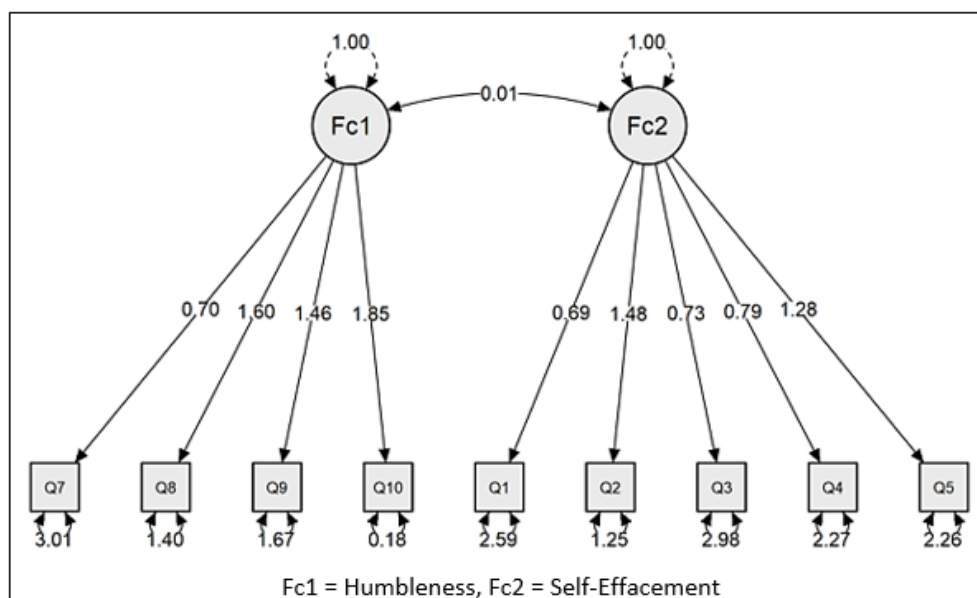

Figure 3. Model Plot with Parameter Estimates.

Table 5. Residual Covariance Matrix (Initial Two-Factor Solution)

Q7	Q8	Q9	Q10	Q1	Q2	Q3	Q4	Q5
< .001								
0.204	< .001							
< .001	< .001	< .001						
< .001	< .001	0.006	< .001					
0.577	< .001	0.036	0.033	< .001				
0.378	< .001	0.090	0.074	< .001	< .001			
0.170	< .001	< .001	< .001	0.055	0.032	< .001		
0.317	< .001	< .001	< .001	0.304	< .001	0.010	< .001	

| 0.392 | 0.068 | 0.135 | 0.041 | < .001 | 0.048 | < .001 | < .001 | < .001 |

Table 6. Residual Covariance Matrix (Unidimensional Solution)

Q7	Q8	Q9	Q10	Q1	Q2	Q3	Q4	Q5
< .001								
0.207	< .001							
< .001	< .001	< .001						
< .001	< .001	0.005	< .001					
0.566	< .001	0.013	0.003	< .001				
0.352	< .001	0.036	0.007	0.919	< .001			
0.301	0.122	< .001	< .001	0.561	1.128	< .001		
0.363	< .001	0.019	0.012	0.848	1.150	0.581	< .001	
0.371	0.020	0.092	< .001	0.865	1.942	0.848	0.929	< .001

Reliability Analysis

An instrument's reliability score is a measure of its replicability and generalisability. These are important characteristics a scale should possess to be of any use to the research community. Thus, support for the two-factor model of the SLHS requires (a) acceptable reliability for each factor (i.e., $\alpha \geq 0.70$) (Nunnally and Bernstein, 1994). The reliability results of the SLHS given in Table 7 suggest that the items making up the humbleness factor are internally consistent, as indicated by the factor's McDonald's omega ($\omega = 0.833$) and Cronbach's alpha ($\alpha = 0.810$). However, the average inter-item correlations (CI 0.431–0.592) marginally exceeds Clark and Watson's (1995) recommended threshold of 0.15–0.50. But while the average inter-item correlations for the self-effacement factor falls within this threshold, the internal consistency reliability statistic is mediocre or poor ($\omega = 0.685$; $\alpha = 0.671$), to use Kaiser's (1974) or Westland's (2019) interpretations, respectively. Curiously, the performance of the self-effacement factor reflects that of the humility factor reported in Page and Wong's (2000) pre-test results.

Table 7. Single-Test Reliability Analysis for ω and α.

Factors	Estimates	McDonald's ω	Cronbach's α	AIC
Factor 1 (Humbleness)	Point estimate	0.833	0.810	0.514
	95% CI lower bound	0.795	0.759	0.431
	95% CI upper bound	0.872	0.852	0.592
Factor 2 (Self-Effacement)	Point estimate	0.685	0.671	0.289
	95% CI lower bound	0.614	0.588	0.223
	95% CI upper bound	0.756	0.741	0.357

It should be borne in mind that the commonly used reliability metrics such as Cronbach's α tend to underestimate an instrument's reliability where the commonalities of each item are not the same (Hancock and An, 2020). Therefore, the reliability metrics of the self-effacement factor should be appreciated against the widely recognised shortcomings of the Cronbach's α (as well as McDonald's ω) as a scale reliability metric (Cho, 2021). Indeed, it was argued that the theoretical context of the target construct is critical in the determination of its reliability and that "the average interitem correlation (which is a straightforward measure of internal consistency) is a much more useful index than coefficient alpha per se

(which is not)" (Clark and Watson, 1995, p. 316). Accordingly, the self-effacement factor is deemed reliable because it is theoretically a crucial element in servant leadership theory and because its average inter-item correlation reported in this study is acceptable.

Conclusion and Recommendation for Further Research

In this study, the researchers explored the factor structure and internal consistency reliability of the SLHS in a sample of 181 academic staff from Saudi Arabian universities. The SLHS showed excellent psychometrics with the potential of a reliable tool for assessing the humility in people from similar climes. As a people brought up under the guidance of the Arab cultural norms that holds humility as a cardinal virtue, the Saudi academics are expected to exhibit a high-level humility. The excellent model fit of the humbleness factor in the SLHS evaluated supports this expectation, even as they prove to be less self-effacing. Thus, the SLHS has the potential to gauge the humility trait across different population types. The most significant contribution of this study is the confirmation of the two-factor structure and consistency reliabilities of the SLHS that could be employed in assessing the humility dispositions of teachers/university academics for various purposes, including recruitment and promotion assessments into a leadership position. However, the cross-cultural invariance of the scale must first be established for this potential to be fully realised.

References

Ashton, M. C., and Lee, K. (2008). The Prediction of Honesty–Humility-Related Criteria by the Hexaco and Five-Factor Models of Personality. *Journal of Research in Personality, 42*(5), 1216-1228. doi:https://doi.org/10.1016/j.jrp.2008.03.006

Ashton, M. C., Lee, K., Perugini, M., Szarota, P., de Vries, R. E., Di Blas, L., Boies, K., and 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*(2), 356-366. doi:https://doi.org/10.1037/0022-3514.86.2.356

Ayyash, M. M., Herzallah, F. A. T., and Al-Sharafi, M. A. (2022). Arab Cultural Dimensions Model for E-Government Services Adoption in Public Sector Organisations: An Empirical Examination. *Electronic Government, an International Journal, 18*(1), 9-44. doi:https://doi.org/10.1504/eg.2022.119608

Bentler, P. M., and Bonett, D. G. (1980). Significance Tests and Goodness of Fit in the Analysis of Covariance Structures. *Psychological Bulletin, 88*(3), 588-606. doi:https://doi.org/10.1037/0033-2909.88.3.588

Bergh, D. V. D., Clyde, M. A., Gupta, A., de Jong, T., Gronau, Q. F., Marsman, M., Ly, A., and Wagenmakers, E. J. (2021). A Tutorial on Bayesian Multi-Model Linear Regression with Bas and JASP. *Behavior Research Methods, 53*(6), 2351-2371. doi:https://doi.org/10.3758/s13428-021-01552-2

Bharanitharan, D. K., Lowe, K. B., Bahmannia, S., Chen, Z. X. and Cui, L. (2021). Seeing Is Not Believing: Leader Humility, Hypocrisy, and Their Impact on Followers' Behaviors. *The Leadership Quarterly, 32*(2), 1-17. doi:https://doi.org/10.1016/j.leaqua.2020.101440

Biderman, M. D., McAbee, S. T., Hendy, N. T., and Chen, Z. J. (2019). Validity of Evaluative Factors from Big Five and Hexaco Questionnaires. *Journal of Research in Personality, 80*, 84-96. doi:https://doi.org/10.1016/j.jrp.2019.04.010

Blanca, M. J., Arnau, J., López-Montiel, D., Bono, R. and Bendayan, R. (2013). Skewness and Kurtosis in Real Data Samples. *Methodology, 9*(2), 78-84. doi:https://doi.org/10.1027/1614-2241/a000057

Burton, N. (2021). *Heaven and Hell: The Psychology of the Emotions*: Acheron Press.

Cattell, R. B. (1966). The Scree Test for the Number of Factors. *Multivariate Behavioral Research, 1*(2), 245-276. doi:https://doi.org/10.1207/s15327906mbr0102_10

Chancellor, J., and Lyubomirsky, S. (2013). Humble Beginnings: Current Trends, State Perspectives, and Hallmarks of Humility. *Social and Personality Psychology Compass, 7*(11), 819-833. doi:https://doi.org/10.1111/spc3.12069

Chikodili, N. B., Abdulmalik, M. D., Abisoye, O. A., and Bashir, S. A. (2021). Outlier Detection in Multivariate Time Series Data Using a Fusion of K-Medoid, Standardized Euclidean Distance and Z-Score. In S. Misra and B. Muhammad-Bello (Eds.), *Information and Communication Technology and Applications* (pp. 259-271). Cham, Switzerland: Springer Nature Switzerland AG. doi:https://doi.org/10.1007/978-3-030-69143-1_21.

Cho, E. (2021). Neither Cronbach's Alpha nor Mcdonald's Omega: A Commentary on Sijtsma and Pfadt. *Psychometrika, 86*(4), 877-886. doi:10.1007/s11336-021-09801-1

Clark, L. A., and Watson, D. (1995). Constructing Validity: Basic Issues in Objective Scale Development. *Psychological Assessment, 7*(3), 309-319. doi:https://doi.org/10.1037/1040-3590.7.3.309

Comrey, A. L. (1962). The Minimum Residual Method of Factor Analysis. *Psychological Reports, 11*(1), 15-18. doi:https://doi.org/10.2466/pr0.1962.11.1.15

Coppola, W. J. (2021). Students' Social Perceptions of Humility and Arrogance among Band Directors. *Journal of Research in Music Education, 69*(3), 284-302. doi:https://doi.org/10.1177/0022429420981675

Crawford, C. (1975). A Comparison of the Direct Oblimin and Primary Parsimony Methods of Oblique Rotation. *British Journal of Mathematical and Statistical Psychology, 28*(2), 201-213. doi:https://doi.org/10.1111/j.2044-8317.1975.tb00563.x

Davis, D. E., McElroy, S., Choe, E., Westbrook, C. J., DeBlaere, C., Van Tongeren, D. R., Hook, J., Sandage, S. J., and Placeres, V. (2017). Development of the Experiences of Humility Scale. *Journal of Psychology and Theology, 45*(1), 3-16. doi:https://doi.org/10.1177/009164711704500101

Dennis, R. and Winston, B. E. (2003). A Factor Analysis of Page and Wong's Servant Leadership Instrument. *Leadership & Organization Development Journal, 24*(8), 455-459. doi:https://doi.org/10.1108/01437730310505885

Dennis, R. S., and Bocarnea, M. (2005). Development of the Servant Leadership Assessment Instrument. *Leadership & Organization Development Journal, 26*(8), 600-615. doi:https://doi.org/10.1108/01437730510633692

Ekinci, A. (2015). Development of the School Principals' Servant Leadership Behaviors Scale and Evaluation of Servant Leadership Behaviors According to Teachers' Views. *Education and Science, 40*(179), 341-360. doi:https://doi.org/10.15390/eb.2015.2152

Eva, N., Robin, M., Sendjaya, S., van Dierendonck, D., and Liden, R. C. (2019). Servant Leadership: A Systematic Review and Call for Future Research. *The Leadership Quarterly, 30*(1), 111-132. doi:https://doi.org/10.1016/j.leaqua.2018.07.004

Fallatah, M. I. (2021). Innovating in the Desert: A Network Perspective on Knowledge Creation in Developing Countries. *Journal of the Knowledge Economy, 12*(3), 1533-1551. doi:https://doi.org/10.1007/s13132-021-00755-4

Fiske, D. W. (1949). Consistency of the Factorial Structures of Personality Ratings from Different Sour Sources. *Journal of Abnormal Psychology, 44*(3), 329-344. doi:https://doi.org/10.1037/h0057198

Foronda, C., Porter, A., and Phitwong, A. (2021). Psychometric Testing of an Instrument to Measure Cultural Humility. *Journal of Transcultural Nursing, 32*(4), 399-404. doi:https://doi.org/10.1177/1043659620950420

Garner, S. L., Koch, H., George, C. E., Hitchcock, J., Norman, G., Green, G., Young, P., and Mahid, Z. (2021). Cross Cultural Team Collaboration: Integrating Cultural Humility in Mhealth Development and Research. *Informatics for Health and Social Care, 46*(4), 345-354. doi:https://doi.org/10.1080/17538157.2021.1895168

Gerson, S. (2006). In Praise of Modest Men: Self-Display and Self-Effacement in Nineteenth-Century France. *French History, 20*(2), 182-203. doi:https://doi.org/10.1093/fh/cri060

Gill, C. M. H. D., and Berezina, E. (2019). Modeling Personality Structure Using Semantic Relationships: Is the Hexaco Honesty-Humility a Distinct Trait? *Psychology in Russia: State of the Art, 12*(1), 89-103. doi:https://doi.org/10.11621/pir.2019.0107

González-Estrada, E., and Cosmes, W. (2019). Shapiro–Wilk Test for Skew Normal Distributions Based on Data Transformations. *Journal of Statistical Computation and Simulation, 89*(17), 3258-3272. doi:10.1080/00949655.2019.1658763

Greenleaf, R. K. (2008). *The Servant as Leader* (Revised edition). Westfield, IN: Greenleaf Center for Servant Leadership.

Haggard, M., Rowatt, W. C., Leman, J. C., Meagher, B., Moore, C., Fergus, T., Whitcomb, D., Battaly, H., Baehr, J., and Howard-Snyder, D. (2018). Finding Middle Ground between Intellectual Arrogance and Intellectual Servility: Development and Assessment of the Limitations-Owning Intellectual Humility Scale. *Personality and Individual Differences, 124*, 184-193. doi:https://doi.org/10.1016/j.paid.2017.12.014

Hale, J. R., and Fields, D. (2013). A Cross-Cultural Measure of Servant Leadership Behaviors. In M. C. Bocarnea, R. A. Reynolds, and J. D. Baker (Eds.), *Online Instruments, Data Collection, and Electronic Measurements: Organizational Advancements* (pp. 152-163). Hershey, PA: Information Science Reference. doi:https://doi.org/10.4018/978-1-4666-2172-5.ch009.

Hancock, G. R., and An, J. (2020). A Closed-Form Alternative for Estimating Ω Reliability under Unidimensionality. *Measurement: Interdisciplinary Research and Perspectives, 18*(1), 1-14. doi:https://doi.org/10.1080/15366367.2019.1656049

Hare, W. (1992). Humility as a Virtue in Teaching. *Journal of Philosophy of Education, 26*(2), 227-236. doi:https://doi.org/10.1111/j.1467-9752.1992.tb00283.x

Henley, A. B., Shook, C. L., and Peterson, M. (2006). The Presence of Equivalent Models in Strategic Management Research Using Structural Equation Modeling. *Organizational Research Methods, 9*(4), 516-535. doi:https://doi.org/10.1177/1094428106290195

Hu, L. T., and Bentler, P. M. (1999). Cutoff Criteria for Fit Indexes in Covariance Structure Analysis: Conventional Criteria Versus New Alternatives. *Structural Equation Modeling: A Multidisciplinary Journal, 6*(1), 1-55.
    doi:https://doi.org/10.1080/10705519909540118

Jackson, J. E. (1991). *A User's Guide to Principal Components*. New York, NY: John Wiley & Sons, Inc.

Kaiser, H. F. (1958). The Varimax Criterion for Analytic Rotation in Factor Analysis. *Psychometrika, 23*(3), 187-200. doi:https://doi.org/10.1007/bf02289233

Kaiser, H. F. (1974). An Index of Factorial Simplicity. *Psychometrika, 39*(1), 31-36. doi:https://doi.org/10.1007/bf02291575

Kelemen, T. K., Matthews, S. H., Matthews, M. J., and Henry, S. E. (2022). Humble Leadership: A Review and Synthesis of Leader Expressed Humility. *Journal of Organizational Behavior, Early View*(Early View), 1-23. doi:https://doi.org/10.1002/job.2608

Khan, R. A., and Qudrat-Ullah, H. (2021). Technology Adoption in Saudi Arabia. In R. A. Khan and H. Qudrat-Ullah (Eds.), *Adoption of Lms in Higher Educational Institutions of the Middle East* (pp. 19-26). Cham, Switzerland: Springer Nature Switzerland AG. doi:https://doi.org/10.1007/978-3-030-50112-9_4.

Kmetty, Z., and Stefkovics, Á. (2021). Assessing the Effect of Questionnaire Design on Unit and Item-Nonresponse: Evidence from an Online Experiment. *International Journal of Social Research Methodology, latest article*(latest article), 1-14. doi:https://doi.org/10.1080/13645579.2021.1929714

Krumrei-Mancuso, E. J. (2018). Humility in Servant Leadership among Christian Student Leaders: A Longitudinal Pilot Study. *Journal of Psychology and Theology, 46*(4), 253-267. doi:https://doi.org/10.1177/0091647118807177

Krumrei-Mancuso, E. J., Haggard, M. C., LaBouff, J. P., and Rowatt, W. C. (2020). Links between Intellectual Humility and Acquiring Knowledge. *The Journal of Positive Psychology, 15*(2), 155-170. doi:https://doi.org/10.1080/17439760.2019.1579359

Kruse, E., Chancellor, J., and Lyubomirsky, S. (2017). State Humility: Measurement, Conceptual Validation, and Intrapersonal Processes. *Self and Identity, 16*(4), 399-438. doi:https://doi.org/10.1080/15298868.2016.1267662

LaBouff, J. P., Rowatt, W. C., Johnson, M. K., Tsang, J.-A., and Willerton, G. M. (2012). Humble Persons Are More Helpful Than Less Humble Persons: Evidence from Three Studies. *The Journal of Positive Psychology, 7*(1), 16-29. doi:https://doi.org/10.1080/17439760.2011.626787

Lee, K., and Ashton, M. C. (2004). Psychometric Properties of the Hexaco Personality Inventory. *Multivariate Behav Res, 39*(2), 329-358. doi:https://doi.org/10.1207/s15327906mbr3902_8

Lee, K., and Ashton, M. C. (2007). Factor Analysis in Personality Research. In R. W. Robins, R. C. Fraley, and R. F. Krueger (Eds.), *Handbook of Research Methods in Personality Psychology* (pp. 424-443). New York, NY: The Guilford Press.

Looney, S. W. (1995). How to Use Tests for Univariate Normality to Assess Multivariate Normality. *The American Statistician, 49*(1), 64-70. doi:https://doi.org/10.1080/00031305.1995.10476117

MacCallum, R. C., Wegener, D. T., Uchino, B. N., and Fabrigar, L. R. (1993). The Problem of Equivalent Models in Applications of Covariance Structure Analysis. *Psychological Bulletin, 114*(1), 185-199. doi:https://doi.org/10.1037/0033-2909.114.1.185

McElroy-Heltzel, S. E., Davis, D. E., DeBlaere, C., Worthington, E. L., and Hook, J. N. (2019). Embarrassment of Riches in the Measurement of Humility: A Critical Review of 22 Measures. *The Journal of Positive Psychology, 14*(3), 393-404. doi:https://doi.org/10.1080/17439760.2018.1460686

Miles, J., and Shevlin, M. (2007). A Time and a Place for Incremental Fit Indices. *Personality and Individual Differences, 42*(5), 869-874. doi:https://doi.org/10.1016/j.paid.2006.09.022

Morris, J. A., Brotheridge, C. M., and Urbanski, J. C. (2016). Bringing Humility to Leadership: Antecedents and Consequences of Leader Humility. *Human Relations, 58*(10), 1323-1350. doi:10.1177/0018726705059929

Nevo, J. (1998). Religion and National Identity in Saudi Arabia. *Middle Eastern Studies, 34*(3), 34-53. doi:https://doi.org/10.1080/00263209808701231

Nichols, J. D. (2011). *Teachers as Servant Leaders*. Lanham, Maryland: Rowman & Littlefield Publishers, Inc.

Nunnally, J. C., and Bernstein, I. H. (1994). *Psychometric Theory* (Third edition). New York, NY: McGraw-Hill, Inc.

Page, D., and Wong, P. T. P. (2000). Conceptual Framework for Measuring Servant-Leadership. In S. B.-S. K. Adjibolosoo (Ed.), *The Human Factor in Shaping the Course of History and Development* (pp. 69–110). Washington, DC: American University Press.

Price, H. E., and Weatherby, K. (2018). The Global Teaching Profession: How Treating Teachers as Knowledge Workers Improves the Esteem of the Teaching Profession. *School Effectiveness and School Improvement, 29*(1), 113-149.
doi:https://doi.org/10.1080/09243453.2017.1394882

Qin, X., Liu, X., Brown, J. A., Zheng, X., and Owens, B. P. (2021). Humility Harmonized? Exploring Whether and How Leader and Employee Humility (in)Congruence Influences Employee Citizenship and Deviance Behaviors. *Journal of Business Ethics, 170*(1), 147-165. doi:https://doi.org/10.1007/s10551-019-04250-4

Reed, L. L., Vidaver-Cohen, D., and Colwell, S. R. (2011). A New Scale to Measure Executive Servant Leadership: Development, Analysis, and Implications for Research. *Journal of Business Ethics, 101*(3), 415-434. doi:https://doi.org/10.1007/s10551-010-0729-1

Reid, W. A., Bud West, G. R., Winston, B. E., and Wood, J. A. (2014). An Instrument to Measure Level 5 Leadership. *Journal of Leadership Studies, 8*(1), 17-32.
doi:https://doi.org/10.1002/jls.21317

Roberts, L. D., and Allen, P. J. (2015). Exploring Ethical Issues Associated with Using Online Surveys in Educational Research. *Educational Research and Evaluation, 21*(2), 95-108.
doi:https://doi.org/10.1080/13803611.2015.1024421

Rowatt, W. C., Powers, C., Targhetta, V., Comer, J., Kennedy, S., and Labouff, J. (2006). Development and Initial Validation of an Implicit Measure of Humility Relative to Arrogance. *The Journal of Positive Psychology, 1*(4), 198-211.
doi:https://doi.org/10.1080/17439760600885671

Salisu, B., and Awang, S. R. (2019). Pretesting a Political Skill Scale in a Sample of Teacher-Leaders from Polytechnics in Northeast Nigeria. *Psychological Thought, 12*(2), 277-292. doi: https://doi.org/10.5964/psyct.v12i2.387

Sasagawa, M., and Amieux, P. S. (2019). Dispositional Humility of Clinicians in an Interprofessional Primary Care Environment: A Mixed Methods Study. *Journal of Multidisciplinary Healthcare, 12*, 925-934. doi:https://doi.org/10.2147/JMDH.S226631

Saucier, G. (2009). Recurrent Personality Dimensions in Inclusive Lexical Studies: Indications for a Big Six Structure. *Journal of Personality, 77*(5), 1577-1614.
doi:https://doi.org/10.1111/j.1467-6494.2009.00593.x

Sendjaya, S., and Cooper, B. (2011). Servant Leadership Behaviour Scale: A Hierarchical Model and Test of Construct Validity. *European Journal of Work and Organizational Psychology, 20*(3), 416-436. doi:https://doi.org/10.1080/13594321003590549

Shafai, A. A. (2021). Servant-Leadership in Higher Education in Saudi Arabia. In P. Mathew, J. Song, S. R. Ferch, and L. C. Spears (Eds.), *Global Servant-Leadership: Wisdom, Love and Legitimate Power in the Age of Chaos* (pp. 253-276). Lanham, Maryland: Lexington Books.

Shi, D., Lee, T., and Maydeu-Olivares, A. (2019). Understanding the Model Size Effect on SEM Fit Indices. *Educational and Psychological Measurement, 79*(2), 310-334. doi:https://doi.org/10.1177/0013164418783530

Sischka, P. E., Decieux, J. P., Mergener, A., Neufang, K. M., and Schmidt, A. F. (2020). The Impact of Forced Answering and Reactance on Answering Behavior in Online Surveys. *Social Science Computer Review, OnlineFirst*(OnlineFirst), 1-21. doi:https://doi.org/10.1177/0894439320907067

Sousa, M., and Van Dierendonck, D. (2015). Introducing a Short Measure of Shared Servant Leadership Impacting Team Performance through Team Behavioral Integration. *Frontiers in Psychology, 6*(2002), 1-12. doi:https://doi.org/10.3389/fpsyg.2015.02002

Sousa, M., and van Dierendonck, D. (2017). Servant Leadership and the Effect of the Interaction between Humility, Action, and Hierarchical Power on Follower Engagement. *Journal of Business Ethics, 141*(1), 13-25. doi:https://doi.org/10.1007/s10551-015-2725-y

Sousa, M., and van Dierendonck, D. (2021). Serving the Need of People: The Case for Servant Leadership against Populism. *Journal of Change Management, 21*(2), 222-241. doi:https://doi.org/10.1080/14697017.2021.1917494

Steiger, J. H. (2007). Understanding the Limitations of Global Fit Assessment in Structural Equation Modeling. *Personality and Individual Differences, 42*(5), 893-898. doi:https://doi.org/10.1016/j.paid.2006.09.017

Swain, J. E., and Murray, E. D. (2020). Assessing Leader Humility. *Journal of College and Character, 21*(3), 204-211. doi:https://doi.org/10.1080/2194587x.2020.1781657

Tabachnick, B. G., and Fidell, L. S. (2014). *Using Multivariate Statistics* (Sixth edition). Harlow, Essex, England: Pearson Educat ion Limited.

Thielmann, I., Hilbig, B. E., Zettler, I., and Moshagen, M. (2017). On Measuring the Sixth Basic Personality Dimension: A Comparison between Hexaco Honesty-Humility and Big Six Honesty-Propriety. *Assessment, 24*(8), 1024-1036. doi:https://doi.org/10.1177/1073191116638411

Thompson, M. C. (2019). *Being Young, Male and Saudi: Identity and Politics in a Globalized Kingdom*. Cambridge, United Kingdom: Cambridge University Press.

Tomarken, A. J., and Waller, N. G. (2003). Potential Problems with "Well Fitting" Models. *Journal of Abnormal Psychology, 112*(4), 578-598. doi:https://doi.org/10.1037/0021-843X.112.4.578

Van Dierendonck, D., and Nuijten, I. (2011). The Servant Leadership Survey: Development and Validation of a Multidimensional Measure. *Journal of Business and Psychology, 26*(3), 249-267. doi:https://doi.org/10.1007/s10869-010-9194-1

Verdorfer, A. P. (2016). Examining Mindfulness and Its Relations to Humility, Motivation to Lead, and Actual Servant Leadership Behaviors. *Mindfulness, 7*(4), 950-961. doi:https://doi.org/10.1007/s12671-016-0534-8

Wang, J., Zhang, Z., and Jia, M. (2017). Understanding How Leader Humility Enhances Employee Creativity: The Roles of Perspective Taking and Cognitive Reappraisal. *The Journal of Applied Behavioral Science, 53*(1), 5-31. doi:https://doi.org/10.1177/0021886316678907

Watkins, C. E. (2020). Relational Humility and Clinical Supervision: On Hypotheses, Method, and Measurement. *The Clinical Supervisor, 39*(2), 148-167. doi:https://doi.org/10.1080/07325223.2020.1744056

Watkins, M. W. (2018). Exploratory Factor Analysis: A Guide to Best Practice. *Journal of Black Psychology, 44*(3), 219-246. doi:https://doi.org/10.1177/0095798418771807

Westland, J. C. (2019). *Structural Equation Models: From Paths to Networks* (Second edition). Cham, Switzerland: Springer Nature Switzerland AG.

Willis, A. S. (2021). Teachers' Cultural, Social and Emotional Capabilities: How Teacher Compassion and Humility Is an Antecedent to Student Confidence. *Pedagogy, Culture & Society, latest article*(latest article), 1-18.
doi:https://doi.org/10.1080/14681366.2021.1884122

Wolfteich, C. E., Ruffing, E. G., Crabtree, S. A., Devor, N. G., and Sandage, S. J. (2021). Humility and Religious Leadership: A Qualitative Study of Theology and Practice. *Journal of Spirituality in Mental Health, 23*(3), 231-254.
doi:https://doi.org/10.1080/19349637.2019.1691967

Wright, J. C., Nadelhoffer, T., Ross, T. L., and Sinnott-Armstrong, W. (2018). Be It Ever So Humble: Proposing a Dual-Dimension Account and Measurement of Humility. *Self and Identity, 17*(1), 92-125. doi:http:///doi.org/10.1080/15298868.2017.1327454

Xu, J., Mao, J.-Y., and Zhang, Y. (2022). Bad Time to Be Humble! When and Why Leaders Should Not Be Humble. *Leadership & Organization Development Journal, 43*(1), 14-24.
doi:10.1108/lodj-06-2021-0254

Zhang, G., and Preacher, K. J. (2015). Factor Rotation and Standard Errors in Exploratory Factor Analysis. *Journal of Educational and Behavioral Statistics, 40*(6), 579-603.
doi:https://doi.org/10.3102/1076998615606098