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Servant leadership

Development and validation of a multidimensional measure in the Chinese hospitality industry

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Abstract

Purpose – The purpose of this paper is to develop and validate an instrument intended to measure servant leadership behavior in the Chinese hospitality industry.

Design/methodology/approach – After reviewing the literature, a scale of nine dimensions with 81 items was generated and then subjected to exploratory factor analysis (EFA) using a sample of 600 participants from a polytechnic college and hospitality industry, resulting in 6-factor-33-item solution. The derived measure was then shortened to 24 items by using item response theory (IRT). Drawing on the data from 440 respondents in the hospitality industry, this 6-factor-24 item measure was subsequently validated with confirmatory factor analysis (CFA) and the test of construct validity.

Findings – Difference in factors has been found between this instrument and western-developed scales. This study resulted in 6-dimension-24-items scale. These dimensions were named integrity, self-sacrifice, building community, empowering people, emotional healing and visioning. This servant leadership scale was demonstrated to have good internal consistency reliability and strong construct validity.

Originality/value – This is the first study that used IRT as a statistic tool to shorten a servant leadership scale and also this study provided additional support to cultural psychology theory.

Keywords Servant leadership, Measurement development, Chinese, Hospitality industry

Paper type Research paper

Introduction

For most organizations, success depends on effective and efficient leadership (Barrow, 1977). Leaders undoubtedly have a profound impact on their companies, employees, customers and other shareholders. However, with a prevalence of social chronic problems in the work place, such as abuse of power, unethical practices and violation of employee's psychological well-being and work-life balance, many organizations have suffered tremendous economic loss and social disgrace (Sendjaya *et al.*, 2008). Given today's challenging and complex climate, people are becoming increasingly aware that traditional autocratic modes of leadership no longer guarantee long term financial and social benefits for the organizations. Consequently, a call has been constantly made that the old leadership paradigms need to be replaced and emphasis should be shifted to a new mode of leadership which will enhance trust, encourage a strong moral compass, and social responsibility to secure success and profit in today's organizations (Van Dierendonck and Nuijten, 2011). This new approach to leadership requires those in managerial positions to involve their subordinates in decision making, encourage teamwork and community, display ethical and caring behavior and ultimately enhance the personal growth of employees (Spears, 1995). This emerging leadership philosophy is called servant leadership.

The term "servant leader" appears to be an oxymoron and is generally considered unachievable. But Jesus set an excellent example of being both a servant and a leader for

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all of us. He once called the disciples together and said to them, "[…] whoever wants to become great among you must be your servant, and whoever wants to be first must be your slave" (Matthew 20: 25-27, New International Version). The essence of this seemingly contradicted term is best captured and epitomized by Alpha Phi Alpha Fraternity, Inc. (AΦA) (The first African–American, intercollegiate fraternity founded on December 4, 1906). In a serene corner of the Cornell University campus is inscribed its motto "First of All, Servants of All, We Shall Transcend All." To date, there are multitude of organizations that value servant leadership. It is reported in the business world that companies on Fortune (2017) list, such as SAS, Wegmans Food Market, Marriott and many others, implement servant leadership principles in their business operations. The servant leadership paradigm particularly holds promise for guiding the hospitality industry focused directly on creating service excellence and providing "hospitality" (Brownell, 2010). Many famous hospitality businesses such as 7-Eleven, Chick-Fil-A, Darden Restaurants (Red Lobster, Olive Garden), YUM Brands (KFC, Pizza Hut, Long John Silver's and more) join this campaign and practice this new leadership style.

Not only does servant leadership show promise across industries, it is also suggested as a global leadership style for meeting the unique challenges facing our diverse cross-cultural communities (Irving, 2010). Particularly in China, in spite of her pyramidal structure, engrained autocratic culture, and mainstream dehumanized hierarchical leadership style in most organizations, there is strong empirical evidence showing Chinese people value, or desire, more human orientation than they are experiencing in practice (Hirschy *et al.*, 2014; House *et al.*, 2004). It can be argued human orientation is "consistent with Confucian principles of moderation and human heartedness" (Fu *et al.*, 2008, p. 892). Moreover, some people contend, given that the rampant misconduct and corruption has led to the interrogation and incarceration of numerous business leaders, servant leadership, with its emphasis on the benefits for the employees and society at large, should be urgently applied in Chinese industries in an attempt to avoid damaging business reputation and regain competitiveness. Nevertheless, despite the fact servant leadership as a new approach, often appears in Chinese media coverage and scholarly papers, there are still few empirical studies on this topic in the hospitality industry (Wu *et al.*, 2013), and much less valid instruments to select and evaluate servant leaders.

When conducting servant leadership studies in China, leadership researchers usually utilize western-developed instruments. However, there exist inherent limitations in transferring theories across cultures (Chhokar *et al.*, 2007). Scholars need to "fine-tune" leadership theories by investigating cultural variations as parameters of the theory (Triandis, 1993). Therefore, it is not always wise to apply scales in Chinese culture, since most of them have not been culturally-validated in China. Accordingly, the overall purpose of this study was to develop and validate a servant leadership scale to measure servant leadership behaviors in the Chinese hospitality industry. There are three objectives of this study. The first is to generate a list of items of servant leadership to measure servant leadership behavior in the Chinese context. The second is to extract and shorten the instrument using exploratory factor analysis (EFA) and item response theory (IRT). The last objective is to test the reliability, convergent validity and predictive validity by subjecting it to confirmatory factor analysis (CFA).

Literature review

Servant leadership

The term "servant leadership" was coined by Robert K. Greenleaf (1970) who referred to servant leaders as those who put the needs of others as their first priority. Servant leaders serve in a way where they prioritize the needs of their employees above their own, assist followers in recognizing their full potential and empower their followers to get the job done

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(Liden *et al.*, 2014). In Greenleaf's view, the ideal of servant leadership is to make those being touched by the efforts of a servant leader become healthier, stronger, more autonomous and more disposed to serve others themselves. Although servant leaders act primarily as stewards of their employees, they also work to serve the wider society by demonstrating their unlimited liability for a quite specific community-related group and by inspiring others to work together toward a common goal (Searle and Barbuto, 2011).

Greenleaf (1970) provided a conceptual examination of servant leadership yet elliptically discussed a few servant leader traits that would help people understand what qualities or traits a person should possess to be an effective servant leader. However, these traits looked unorganized, disconnected, and therefore are difficult to grasp. It was Jill W. Graham (1991) who first attempted to precisely define servant leadership and identified humility, relational power, autonomy, moral development of followers and emulation of leaders' service orientation as its salient characteristics. He went on to further distinguish the difference between transformational leadership and servant leadership by focusing on encouragement of intellectual and skill development and enhancement of moral reasoning capacity. Thereafter, Larry C. Spears (1995) articulated a set of ten characteristics of the servant leader based on the works of Greenleaf. He summarized as such: listening, empathy, healing, awareness, persuasion, conceptualization, foresight, stewardship, commitment to the growth of people and building community. These characteristics are essential to the development of servant leaders. Although not exhaustive, this work provided the closest representation of an articulated framework for what characterizes servant leadership and therefore help set the stage for systematic empirical research on this topic (Barbuto and Wheeler, 2006). Another categorization of the attributes of servant leadership was provided by Russell and Stone (2002) when they put forward a hypothetical construct model of servant leadership. They identified 20 distinguishable attributes associated with servant leadership from the literature and classified them into two categories: functional attributes and accompanying attributes.

Despite the fact some conceptual works appeared in the academic publications, empirical testing is still in its infancy (Brown and Bryant, 2015). Servant leadership has gained little attention of academic researchers until the early 2000s (Liden *et al.*, 2014). The empirical examination has been hindered by a lack of theoretical underpinnings and no suitable measure (Barbuto and Wheeler, 2006). It could be argued, as a viable construct, it still remains an elusive and under-developed phenomenon. For these reasons, Brown and Bryant (2015) made a call for the advancement of servant leadership theory through construct consensus, empirical evidence, and multilevel theoretical development. "More empirical research of servant leadership is needed at multiple levels of analysis in order to increase construct clarity" (Brown and Bryant, 2015, p. 18). As a first step, psychometrically sound and valid instruments are needed to measure the construct of servant leadership in different contexts and cultures.

Servant leadership measures

The early works of Greenleaf (1970) and Spears (1995) have laid a foundation for later scholars interested in the studies of servant leadership to develop instrument scales to measure servant leadership. Probably earliest empirical model in this regard was the Organizational Leadership Assessment (OLA) developed by Laub (1999), followed by the Revised Servant Leadership Profile (RSLP) (Wong and Page, 2003) and Servant Leadership Questionnaire (SLQ) (Barbuto and Wheeler, 2006). Subsequently, a number of researchers also attempted to create and validate measures for the same purpose (Green *et al.*, 2015; Liden *et al.*, 2008; Ling *et al.*, 2016; Sendjaya *et al.*, 2008; Sendjaya *et al.*, 2017; Sun and Wang, 2009; Van Dierendonck, 2011; Van Dierendonck and Nuijten, 2011).

Among all these above attempts, the most noticeable are measures developed by Liden *et al.* (2008) and Van Dierendonck and Nuijten (2011). Van Dierendonck (2011) commented

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these two measures are the only two of the then available measures to show a stable factor structure across multiple samples, cover (most of) the terrain described by the key servant leadership characteristics, and meet adequate psychometric standards. The former measure consisted of seven dimensions: emotional healing, creating value for the community, conceptual skills, empowering, helping subordinates grow and succeed, putting subordinates first and behaving ethically, while the latter had eight factors: empowerment, standing back, accountability, forgiveness, courage, authenticity, humility and stewardship. In the Barbuto and Wheeler's (2006) Servant Leadership Questionnaire (SLQ), there were only five factors: altruistic calling, emotional healing, wisdom, persuasive mapping and organizational stewardship.

Servant leadership studies conducted in China

A content analysis of servant leadership studies carried out recently by Yigit and Bozkurt (2017) revealed scholars in Chinese institutions published eight articles on servant leadership. Although they did not include the articles that used Chinese samples, yet were written by non-Chinese first authors, the number "8" obviously illustrates there is little attention paid to Chinese servant leadership research. Even though all are counted, the number should be not much. A search was conducted in a research university library database using servant leadership, China, and Chinese as keywords, yielding 16 articles, of which only five research papers were conducted in the Chinese hospitality industry. However, from the limited articles, it can be found most of the works indeed advance our understanding of the effects of servant leadership in Chinese culture.

Chinese scholars are slow to catch up with their western counterparts in conducting research on servant leadership. Until 2007, only a few scholars showed interest in this new leadership domain. The groundbreaking empirical study was conducted by Sun and Wang (2009) who first verified the construct of servant leadership and validated the SLQ measure developed by Barbuto and Wheeler (2006) and published their research report in a peer-reviewed English journal. They suggested SLQ could be used for servant leadership studies as an effective instrument in the Chinese context, although some items need to be revised. It should be noted the sample size in this study was relatively small and research respondents were mostly from for-profit organizations. Presumably, these were reasons why few researchers used Sun and Wang's (2009) scale, even though these servant leadership-related studies were conducted in China using a Chinese sample. Most scholars tended to choose western measures to study Chinese leadership behaviors. A case in point is Ehrhart's (2004) 14-item scale which was found to be largely utilized in the Chinese public sectors (Liu *et al.*, 2015; Miao *et al.*, 2014; Schwarz *et al.*, 2016; Zhou and Miao, 2014).

Different from those in the public sector, varied servant leadership instruments were used in the Chinese hospitality industry. For instance, Wu *et al.* (2013) used Ehrhart's (2004) scale to examine the link between servant leadership and hotel employees' customer-oriented organizational citizenship behavior (OCB), selecting 304 supervisor–follower pairs in 19 hotels in China. Their study provided evidence for arguments that servant leadership matters in the Chinese hospitality industry. Huang *et al.* (2016) also used Ehrhart's (2004) scale to examine the influence of chief executive officer (CEO) servant leadership on firm performance in the hospitality industry. They found CEO servant leadership positively influenced firm performance via the service climate in the hospitality industry in China. Zhao *et al.* (2016) employed a seven-item shortened Servant Leadership Measure (SL-7) to reveal the identification-based mechanisms through which servant leadership affects desired outcomes (OCB toward coworkers and turnover intention). On the contrary, Ling *et al.* (2016) developed their own measure of servant leadership and tested a trickle-down effect regarding how servant leadership flows from top-to middle-level leaders in nine Chinese, star-level hotels, resulting in front-line employees' service-oriented behaviors and service quality. One year

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later, Ling *et al.* (2017) adopted the same scale as developed by Ling *et al.* (2016) to compare the effectiveness of servant vs authentic leadership in hotels by examining relationships with group-level trust and individual-level work outcomes, and their influencing mechanisms through trust climate.

It is not always wise to apply western-developed servant leadership instrument scales in Chinese culture, since most of them have not been culturally validated in China. Only Barbuto and Wheeler's (2006) SLQ underwent a rigorous validation by Chinese scholars. However, the sample used in the validation study was comparatively small, the statistic power is questionable. Ling *et al.*'s (2016) servant leadership measures were claimed to be self-developed. However, in addition to validation issue, they used two scales, one for measuring top-level leaders, the other for the middle level, which caused more unnecessary confusions.

Method

Item construction

The guidelines recommended by Hinkin (1998) and DeVellis (2003) were largely followed to construct servant leadership instrument items for the Chinese hospitality industry. First, a large pool of instrument items was generated which would be candidates for eventual inclusion in the servant leadership scale. For this purpose, five hospitality experts, all of whom had more than five-years of hospitality industry management experience, individually reviewed the servant leadership scales, especially those used by Barbuto and Wheeler (2006), Liden *et al.* (2008), Sendjaya *et al.* (2008), Van Dierendonck and Nuijten (2011) and Ling *et al.* (2016). Based on both the literature and their hospitality management experiences, each of these experts then captured as many statements as possible that could best describe a servant leader in the Chinese hospitality industry, resulting in 136 potential items. Second, the panel then met to decide which items would best represent all facets of servant leadership in the Chinese hospitality setting to obtain face and content validities. Nine dimensions and 81 items were ultimately generated, of which 28 items were taken and adapted from Liden *et al.*'s (2008) scale, 18 items from Ling *et al.*'s (2016) instruments, 7 items from drawn from Barbuto and Wheeler's (2006) scale, 5 items from Van Dierendonck and Nuijten's (2011) instrument and the other 23 items were created by experts. Third, after further discussing and checking for cultural appropriateness and clarity with two Chinese scholars, 15 items were eliminated, resulting in 66 items that were considered to both best capture the traits of servant leadership and reflect Chinese culture, with the dimensions unchanged. The name and distribution for these nine dimensions are as follows: visioning, nine items; emotional healing, seven items; building community, eight items; empowering people, nine items; helping followers grow, seven items; self-sacrifice, nine items; integrity, seven items; role modeling, five items; humility, five items. Finally, this 9-dimension-66-item servant leadership scale was translated into Chinese and back-translation was performed for more accuracy and clarity.

Visioning is the process of development of a vision. Kotter (2012) defined vision as "a picture of the future" (Kotter, 2012, p. 68). Good leaders must "create a vision, articulate the vision and passionately own the vision" (Tichy and Charan, 1989, p. 113). Servant leadership begins with a clear and compelling vision to inspire enthusiasm, belief and commitment in those who follow (Dennis and Bocarnea, 2004). Visioning is essential to leadership in the Chinese hospitality sector.

Emotional healing is the process of helping make whole those who suffer from broken spirits and emotional hurts (Spears, 1995). Servant leaders exhibit empathy and compassion among those they lead. They create an emotionally healthy workforce and inculcate a sense of cohesiveness, collaboration and sustainable relationships in the workplace (Jit *et al.*, 2017). Servant leaders are particularly liked by Chinese workers who often experience emotional depression and exhaustion (Frenkel *et al.*, 2012).

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Servant leaders foster the development of community, and emphasize the importance of serving the community. "Building community is operationalized as an ability to instill a sense of community spirit in an organization" (Barbuto and Wheeler, 2006, pp. 308-309).

Empowering people refer to giving people the responsibility to make decisions about their own work (Northouse, 2015). Servant leaders encourage their employees to handle difficult situations and build confidence among the employees. They recognize, acknowledge and realize other's ability (Greenleaf, 1970).

Helping followers grow is described as being aware of employees' personal career goals and helping them achieve those goals. Servant leaders provide their followers with opportunities to develop new skills and assist them to self-actualize to reach their fullest potential (Northouse, 2015)

Self-sacrifice refers to leaders standing back in the background, giving credits to others and not chasing recognition or rewards for the things they do for others, and always enjoying others' success.

Integrity is described as being honest and fair, having strong moral principles, behaving ethically and creating an ethical work climate (Coetzer *et al.*, 2017). This dimension reflects the moral aspect of Chinese business leaders. A strong moral and righteous component is rooted in the traditional Chinese culture (Xiao and Wu, 2014).

Role Modeling means that leaders must function as a role model for the employees to follow. Role modeling by leaders can motivate followers and build a positive culture.

Humility refers to being modest with a self-awareness of one's own talent and achievement, recognizing one's own strengths and admitting one's own mistakes, and providing sufficient space for new learning opportunities (De Sousa and van Dierendonck, 2014). Humility is critical for leaders in Chinese companies as this type of leader values other people's achievements and learns from criticism and self-criticism.

Samples and procedures

Data were collected in two rounds from three groups of respondents: the Tourism and Hospitality Department (THD) of a polytechnic college, four high-star hotels, and a chain restaurant with 27 branches. The college and all of above hospitality organizations are in the Cantonese-speaking region of South China. The director of the THD and the general managers of the above hospitality companies were contacted and requested to give survey permissions approximately a month before the survey administration. Secretaries at the THD and staff at the Human Resource Department of these organizations helped researchers to distribute questionnaires and collect them when finished. During the first round, questionnaires were only distributed to those students who had prior internship experience in hotels and restaurants. For hotel respondents, only those at the front office, housekeeping department and food and beverage department participated in the survey. Participants were asked to rate the perceptions of servant leadership behaviors of their current or former supervisors. About 20 days later the second-round survey was conducted; employees at another two hotels in the front office, housekeeping, and food and beverage department in Guangzhou took part in this survey. For the restaurant chain, participants were all floor attendants. Respondents rated their perceptions of servant leadership of their supervisors, their trust in leaders, their customer-oriented OCB and their service quality. Participation in these surveys was completely voluntary; data confidentiality and anonymity were guaranteed. Except for the questionnaires at the college, all other completed questionnaires were mailed to the first researcher by their human resource managers, respectively.

In the first round, 740 questionnaires were distributed and 646 of them were returned. However, among the returned questionnaires, there were 46 which had either missing information or incomplete items, thus being discarded from the survey, resulting in

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600 valid questionnaires with a response rate of 81.1 percent. Male and female were almost evenly distributed and 64 percent of the participants were in the age range 18 to 24. In terms of education, 35.8 percent of the respondents had graduated from middle school, 26.5 percent had a high school diploma, while 35.5 percent of them held associate degree. With respect to monthly income, 41.3 percent earned RMB 2000–2999 per month. Most participants (32.5 percent) had two months to two years work experience in the hospitality industry.

In the second round, 500 questionnaires were delivered to the hotel and restaurant employees, of which 440 completed questionnaires were returned, yielding a response rate of 88 percent. Most participants were male (66.8 percent), 60.5 percent were in the age range 18 to 24. In terms of education, 62.3 percent of the respondents were middle school graduates, while 31.4 percent had a high school diploma. Only 6.3 percent of them held a college degree. With respect to monthly income, 43.9 percent were in the range of RMB 2000–2999 per month. Most participants (36.8 percent) worked in the hospitality industry for two months to two years. For both rounds of sampling, the vast majority of the participants were full-time employees.

Measures

All surveys were administrated in Chinese. Except for servant leadership, all other constructs were measured by using multi-item validated instruments in prior studies. As mentioned previously, back-translations were performed for all scales to guarantee their accuracy in meaning. All constructs were all measured using five-point Likert scales ranging from 1 = strongly disagree and 5 = strongly agree.

Servant leadership. In the first-round survey, servant leadership was measured adopting 11-factor-66-item scale adapted and developed by the researchers, while in the second round, this construct was measured by using the 6-factor-24-item scale extracted and shortened from EFA and IRT. Two sample items were: "My manager has a vision of the future" and "My manager encourages me to make important work decisions." The values of Cronbach's α were 0.973 and 0.972 for the two rounds of the study. Liden *et al.*'s (2008) SL-28 was also used in the second round to test the convergent validity of the 6-factor-24-item scale. Cronbach's α for SL-28 was 0.929.

Trust in leaders. Trust in leaders was measured using five-items selected from McAllister's (1995) scale. A sample item was "Other work associates of mine who must interact with my leader consider him/her to be trustworthy." Cronbach's α for this scale was 0.858

Customer-oriented OCB. Dimitriades's (2007) scale was utilized to measure employees' customer-oriented OCB. A sample item was "I make innovative suggestions to improve customer service." Cronbach's α for this scale was 0.823.

Employees' service quality. Employees' service quality was measured by five items used by Ling *et al.* (2016) as they took items from the Driver and Johnston's (2001) soft attributes of service quality. A sample item was "I am very concerned about the needs of the customer." Cronbach's α for this scale was 0.883.

Data analysis

EFA analysis was adopted to identify a set of latent factors underlying servant leadership construct using the first-round data. Principal component analysis was applied to examine the latent structure of the items. Oblique rotation was subsequently performed to extract common factors. Items that exhibited cross-loadings or low factor loadings were excluded. Then factors were subjected to IRT to be shortened to no more than four items. Drawing on the data from the second round, the derived servant leadership scale was subsequently validated with CFA to test its construct validity.

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Results

Exploratory factor analysis

A series of exploratory factor analyses were conducted to reduce the set of 66 items so the remaining items could best represent their respective proposed dimensions without high cross-loading. In the first round of the study, valid data were collected from 600 college students and employees. In the sample, the subject-to-variable ratio was 9.1:1. The minimum ratio for reaching a stable factor structure is 5:1 according to Ferguson and Cox (1993); the sample met this condition. Next, Kaiser–Meyer–Olkin (KMO) test and Bartlett's test of sphericity were conducted to check the appropriateness of the factor analysis application (Table I). The results showed the approximate χ^2 of Bartlett's test of sphericity was significant ($\chi^2 = 26{,}303.61$, df = 2,145, $p < 0.001$). The KMO sampling adequacy test statistic is 0.977, which is significantly higher than the threshold value of 0.5 indicating the data were appropriate for factor analysis.

An Oblimin rotation with Kaiser normalization was used to extract factors considering there might be inter-correlation among the factors. Items had to have a minimum factor loading of 0.40, and those who had cross-loading of more than 0.35 on two factors and whose difference between factor loading was less than 0.2 were discarded from the data. The emerging factors should have an eigenvalue of greater than 1. Several rounds of extractions resulted in a six-factor structure, as opposed to the 11 one as proposed (Table II). As can be seen from this table, the number of items was reduced from 66 to 33.

Through factor analysis, a half of the initial items were deleted. However, the 33 remaining items still made it a long instrument in measuring servant leadership. For example, factor 1 had 9 items. Prior studies demonstrated scale length can negatively affect response rate and impact participant engagement, therefore harming the efficiency of data collection (Crawford *et al.*, 2001; Wanous *et al.*, 1997). Thus, the length of this survey was further shortened by keeping only four items per factor. IRT was a perfect tool for this purpose because IRT can assess multiple psychometric features of individual scale item. The items in the above factors were respectively fitted using IRTPRO graded response models (GRM; Samejima, 1969). Table III listed the parameters of full GRM model for factor 1.

Four items were selected which had the highest value of discrimination parameters (α) because they provided the most test information. These four items were Item 3 ($\alpha = 2.42$), Item 5 ($\alpha = 2.64$), Item 6 ($\alpha = 2.52$) and Item 8 ($\alpha = 2.67$). In the same process, Item 42, 43, 44 and 45 were chosen for factor 2 (α values are 2.05, 2.28, 2.49 and 2.43, respectively) and Item 54, 55, 56 and 57 were selected for factor 5 (α values are 2.93, 3.21, 3.06 and 3.02, respectively). These 24 items were subjected to final EFA, resulting in the same, but more robust structure when setting the number of extracted factors to 6 (Table IV). Consistent with the dimensions proposed and past servant leadership scales, 6 factors were accordingly labeled: integrity, self-sacrifice, building community, empowering people, emotional healing and visioning.

Confirmatory factor analysis

CFA was conducted using the second-round sample ($n = 440$) to test the factor loading structure of the servant leadership scale. These analyses were run using Mplus 7. The results

Table I. KMO and Bartlett's test

Kaiser–Meyer–Olkin Measure of Sampling Adequacy	0.977
Bartlett's Test of Sphericity	
Approx. χ^2	26,303.610
df	2,145
Sig.	0.000

	Component					
	1	2	3	4	5	6
4 My manager uses intuition and foresight to see the unforeseeable	0.763					
1 My manager has great awareness of what is going on	0.723					
3 My manager has a vision of the future	0.707					
6 My manager is able to articulate a clear purpose and direction for my organization's future	0.673					
2 My manager seems to know what is going to happen	0.669					
5 My manager has a strong sense of mission	0.651					
8 My manager is able to effectively think through complex problems	0.556					
7 My manager can tell if something is going wrong	0.552					
9 My manager has a thorough understanding of our organization and its goals	0.540					
43 My manager sacrifices his/her own interests to meet my needs		0.796				
45 My manager does everything he/she can to serve us		0.748				
46 My manager does not seek recognition or rewards in serving others		0.696				
42 My manager puts my best interests ahead of his/her own		0.673				
44 My manager does what she/he can do to make my job easier		0.656				
47 My manager is willing to make personal sacrifices in serving others		0.620				
20 I am encouraged by my manager to volunteer in the community			0.842			
18 My manager is always interested in helping people in our community			0.680			
19 My manager is involved in community activities			0.673			
17 My manager emphasizes the importance of giving back to the community			0.458			
29 My manager encourages me to make important work decisions				0.829		
30 My manager gives me the freedom to handle difficult situations in the way that I feel is best				0.788		
27 My manager gives me the authority to make decisions about my job				0.755		
28 My manager enables me to solve problems myself instead of just telling me what to do				0.717		
54 My manager never abuses power for personal gains					0.699	
55 My manager never feathers his/her own nest					0.671	
53 My manager values honesty more than profits					0.669	
56 My manager is free from any misconduct of corruption					0.645	
52 My manager would not compromise ethical principles in order to achieve success					0.560	
57 My manager leads by example					0.546	
10 I would seek help from my manager if I had a personal problem						−0.695
11 My manager cares about my personal well-being						−0.643
12 My manager takes time to talk to me on a personal level						−0.538
14 My manager is one I would turn to if I had a personal trauma						−0.430

Notes: Extraction method: principal component analysis; rotation method: Oblimin with Kaiser normalization.
[a]Rotation converged in eight iterations

Table II. Pattern matrix[a]

supported the six-factor model of servant leadership. This six-factor model was compared to three models. One was a more parsimonious model in which all 24 items loaded on a single latent factor, while the other two models had two and five factors. Six-factor model produced significantly better fit than did the other models (see Table V). In a six-factor model, $\chi^2 = 515.905$, df = 237, $p < 001$; RMSEA = 0.052; CFI = 0.942; TLI = 0.933; SRMR = 0.053. In one-factor model, $\chi^2 = 1{,}775.604$, df = 252, $p < 001$; RMSEA = 0.117; CFI = 0.686; TLI = 0.656; SRMR = 0.085. The fit index for the two-factor model are $\chi^2 = 1{,}466.055$, df = 251, $p < 001$; RMSEA = 0.105; CFI = 0.749; TLI = 0.724; SRMR = 0.082.

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Reliability, convergent validity, and discriminant validity

In order to test the psychometric properties of the 6-factor-24-item scale of servant leadership, SL-28 scale developed by Liden *et al.* (2008) was also distributed to the second-round hospitality employees. Cronbach's α reliability of both scales were 0.924 and 0.929, respectively. The Pearson correction between the two scales in this sample was 0.963 ($p < 0.01$). This result clearly showed that the six-factor servant leadership scale had very strong convergent validity with the SL-28 scale. The reliabilities for the six derived

Table III. Graded model item parameter estimates, logit: $a\theta + c$

Item	Label	a	SE	c_1	SE	c_2	SE	c_3	SE	c_4	SE
1	VAR1	5 2.34	0.17	1 7.05	0.56	2 3.33	0.23	3 0.74	0.16	4 −2.38	0.19
2	VAR2	10 1.59	0.12	6 4.67	0.30	7 1.87	0.15	8 −0.33	0.12	9 −2.83	0.18
3	VAR3	15 2.42	0.18	11 7.20	0.58	12 3.96	0.27	13 0.90	0.17	14 −1.87	0.18
4	VAR4	20 2.10	0.16	16 6.65	0.53	17 3.00	0.21	18 0.13	0.14	19 −2.60	0.19
5	VAR5	25 2.64	0.20	21 6.78	0.48	22 4.10	0.29	23 0.85	0.18	24 −2.05	0.19
6	VAR6	30 2.52	0.20	26 7.35	0.59	27 3.74	0.27	28 0.56	0.17	29 −2.31	0.19
7	VAR7	35 2.15	0.17	31 7.33	0.68	32 3.29	0.23	33 0.40	0.15	34 −2.34	0.17
8	VAR8	40 2.67	0.22	36 7.35	0.57	37 3.72	0.29	38 0.85	0.18	39 −2.37	0.19
9	VAR9	45 2.39	0.18	41 6.52	0.47	42 3.71	0.26	43 0.46	0.16	44 −2.46	0.19

Table IV. Structure matrix[a]

	Component 1	2	3	4	5	6
55 My manager never feathers his/her own nest	0.902					
54 My manager never abuses power for personal gains	0.881					
56 My manager is free from any misconduct of corruption	0.872					
57 My manager leads by example	0.812					
43 My manager sacrifices his/her own interests to meet my needs		0.866				
45 My manager does everything he/she can to serve us		0.826				
42 My manager puts my best interests ahead of his/her own		0.797				
44 My manager does what she/he can do to make my job easier		0.759				
20 I am encouraged by my manager to volunteer in the community			0.810			
19 My manager is involved in community activities			0.813			
18 My manager is always interested in helping people in our community			0.810			
17 My manager emphasizes the importance of giving back to the community			0.679			
29 My manager encourages me to make important work decisions				0.853		
30 My manager gives me the freedom to handle difficult situations in the way that I feel is best				0.810		
27 My manager gives me the authority to make decisions about my job				0.802		
28 My manager enables me to solve problems myself instead of just telling me what to do				0.769		
10 I would seek help from my manager if I had a personal problem					0.819	
12 My manager takes time to talk to me on a personal level					0.774	
11 My manager cares about my personal well-being					0.781	
14 My manager is one I would turn to if I had a personal trauma					0.701	
3 My manager has a vision of the future						0.847
6 My manager is able to articulate a clear purpose and direction for my organization's future						0.842
5 My manager has a strong sense of mission						0.821
8 My manager is able to effectively think through complex problems						0.752

Notes: Extraction method: principal component analysis; rotation method: Oblimin with Kaiser normalization

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factors were 0.888, 0.793, 0.825, 0.818, 0.748 and 0.800, respectively. From Table IV, the average variance extracted (AVE) and composite reliability (CR) were computed (see Table VI).

It can be seen that all CR values were much greater than 0.70 and all AVE values were moderately larger than 0.50. According to the criterion of Fornell and Larcker (1981), this measurement model has good convergent validity.

Discriminant validity can be assessed by comparing the amount of the variance captured by the construct and the shared variance with other constructs (Fornell and Larcker, 1981). From Table VII, it was evident that the square root of the AVE for each factor (on the diagonal) is greater than the correction involving other factors (on the lower left). For example, square root of the AVE for the first factor: integrity was 0.867, which was much greater than any correlations between Integrity and any other factors. Therefore, discriminant validity for these six factors were established.

Criterion-related validity

Trust was found to be an integral part in constituting servant leadership (Farling *et al.*, 1999). Greenleaf (1970) believed that followers' trust in their leaders is an outcome of servant leadership. Later on, scholars empirically examined that servant leadership behavior

Model	χ^2 (df)	RMSEA	CFI	TLI	SRMR
One-factor model	1,775.604 (252)	0.117	0.686	0.656	0.085
Two-factor model	1,466.055 (251)	0.105	0.749	0.724	0.082
Five-factor model	393.875 (160)	0.058	0.944	0.934	0.054
Six-factor model	515.905 (237)	0.052	0.942	0.933	0.053

Table V. CFA results for the servant leadership scale

Factors	Items	Loadings	AVE	CR
Integrity	I55	0.902	0.752	0.924
	I54	0.881		
	I56	0.872		
	I57	0.812		
Self-sacrifice	I43	0.866	0.661	0.886
	I45	0.826		
	I42	0.797		
	I44	0.759		
Building community	I20	0.81	0.609	0.861
	I19	0.813		
	I18	0.81		
	I17	0.679		
Empowering people	I29	0.853	0.655	0.883
	I30	0.81		
	I27	0.802		
	I28	0.769		
Emotional healing	I10	0.819	0.593	0.853
	I12	0.774		
	I11	0.781		
	I14	0.701		
Visioning	I3	0.847	0.666	0.889
	I6	0.842		
	I5	0.821		
	I8	0.752		

Table VI. AVE and CR for each factor

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Table VII. Fornell–Larcker criterion

	Integrity	Self-sacrifice	Building community	Empowering people	Emotional healing	Visioning
Integrity	0.867					
Self-sacrifice	0.461	0.813				
Building community	0.379	0.399	0.78			
Empowering people	0.523	0.427	0.383	0.809		
Emotional healing	0.462	0.379	0.393	0.406	0.77	
Visioning	0.559	0.237	0.279	0.423	0.423	0.816

contributes to followers' trust in their leaders (Jaiswal and Dhar, 2017; Russell and Stone, 2002; Sendjaya and Pekerti, 2010). In particular, past literature suggested that servant leadership positively correlates with trust in leaders (Burton *et al.*, 2017; Chan and Mak, 2014; Jaiswal and Dhar, 2017; Ling *et al.*, 2017; Van Dierendonck, 2011).

OCB, as Barbuto and Wheeler (2006) and Van Dierendonck (2011) conceptually argued, is another outcome variable of servant leadership. This argument is supported by other theoretical work at all organizational levels (Ehrhart, 2004; Hu and Liden, 2011). Subsequent empirical studies, confirmed that servant leadership is positively related to customer-oriented OCB at the individual level (Ozyilmaz and Cicek, 2015; Wu *et al.*, 2013).

Servant leadership is also believed to be a predictor of employees' service quality. Koyuncu *et al.* (2014) examined the relationship of service employees' perceptions of servant leadership in Turkey's high star hotels, and revealed that servant leadership and service quality are highly related to each other. Ling *et al.* (2016) also found middle level servant leadership boosts followers' service quality when they examined the mediating effect of service-oriented behavior between these two constructs in Chinese hotels.

On the basis of the above theory and empirical literature, these three outcome constructs: trust in leaders, customer-oriented OCB, and employees' service quality were chosen to test the criterion-related validity of servant leadership instrument.

Table VIII shows the means, standard deviations, and correlations of all the variables in the study. As can be seen from this table, the six factors of servant leadership correlated strongly with each other, with the inter-correlation ranging from 0.377 to 0.633 ($p < 0.01$). Moreover, servant leadership as a construct and the factors all had significant correlations with three consequence constructs (trust in leaders, customer-oriented OCB, and employees' service quality), correlations ranging from 0.371 to 0.660 ($p < 0.01$). The correlations

Table VIII. Means, standard deviations and correlations of all the variables in the study

	M	SD	1	2	3	4	5	6	7	8	9
1. Servant leadership-24	3.743	0.597									
2. Visioning	4.031	0.685	0.759**								
3. Self-sacrifice	3.394	0.877	0.739**	0.377**							
4. Empowering people	3.665	0.817	0.778**	0.522**	0.547**						
5. Building community	3.510	0.790	0.754**	0.449**	0.500**	0.521**					
6. Integrity	4.064	0.845	0.754**	0.633**	0.414**	0.458**	0.428**				
7. Emotional healing	3.794	0.734	0.745**	0.532**	0.440**	0.461**	0.518**	0.473**			
8. Trust in leaders	3.895	0.720	0.698**	0.557**	0.431**	0.522**	0.486**	0.633**	0.541**		
9. Customer-OCB	3.899	0.635	0.557**	0.436**	0.410**	0.444**	0.407**	0.436**	0.391**	0.560**	
10. Service quality	4.020	0.687	0.581**	0.456**	0.404**	0.450**	0.456**	0.489**	0.371**	0.541**	0.624**

Notes: **Correlation is significant at the 0.01 level (Two-tailed)

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between servant leadership and three predictive constructs were 0.698, 0.557 and 0.581 ($p < 0.01$), respectively. The results provided support for the criterion-related validity of the six-factor servant leadership scale.

Discussion

A large body of literature was reviewed on the construct of servant leadership and based on this review, a list of items was created to measure the servant leadership behavior in the Chinese hospitality context. For this purpose, two rounds of samples were collected to extract and revise the instrument using EFA and IRT, resulting in a six-factor scale with each factor embracing four items. The factors were named integrity, self-sacrifice, building community, empowering people, emotional healing and visioning. The derived scale was subjected to CFA and validity testing. It was demonstrated that this servant leadership scale had good internal consistency reliability and strong construct validity.

Winston and Ryan (2008) asserted the idea that servant leadership is actually embedded in multiple worldwide cultural concepts, including Ubuntu and Harambee in Africa, Daoist and Confucianism in East Asian, Jewish in Mediterraneans and Hindus in India. In a sense, this study provides support to these authors' argument. Confucianism advocates humanity, benevolence, righteousness, harmony, altruism, compassion and true self-hood (Yuan, 2002). The virtue of benevolence means loving and caring for people, manifested in terms of paternalism, sympathy, forgivingness, friendliness and trust (Cheung and Chan, 2005). By the same token, righteousness involves a balanced understanding of a situation and creative insights. Leaders with righteousness can apply the virtues properly and appropriately in a situation with no loss of sight of the total good (Cheng, 1972), and thus showing integrity and behaving authentically. Moreover, righteous persons value social responsibility, care about social welfare, and help to build a community. Daoism, on the other hand, accentuates the importance of vision, insight and wisdom, community service, maintaining a low profile, leading by example and empowering people through ownership of the task to do the work (Han *et al.*, 2010; Johnson, 2000; Winston and Ryan, 2008). Given the tenets of servant leadership are in line with the Confucian and Daoist doctrines, which still exert great impact upon almost every aspect of Chinese people, there should be no surprise that such characteristics as humility, care, concern, benevolence, altruism and fairness are also required for Chinese managers in the hospitality industry to manifest and be perceived as a servant leader.

Considering the increasing prominence given to the characteristics of servant leadership by scholars, professionals and others, it is also safe to argue that factors such as integrity, self-sacrifice, building community, empowering people, emotional healing and visioning coalesced as a whole are essential for managers in the Chinese hospitality industry to practice and transcend as a servant leader so as to challenge self-centeredness and develop more servant-leaders. In a sense, all of these extracted factors were espoused by Greenleaf (1970) and subsequently delineated by Spears (1995). Integrity is embedded in the principles that guide the leaders to interact with others and make their daily decision. Honestly, one of the greatest strengths of servant leadership is its moral compass. In the study, this factor has the highest reliability compared to others, indicating the respondents' greatest consistency in responding to its items. Self-sacrifice requires the leaders to become those who put the followers first and focus more on the needs of individuals instead of themselves or the organization. Building community describes the extent to which the leaders consciously and genuinely care about the community and seek to identify some means to contribute to the community. Empowering people seems to be a skill that fosters a pro-active, self-confident attitude among employees and encourages others to solve problems at their own discretion. This dimension is highly loaded by its items in the EFA in the current study. Emotional healing means a leader shows concern for the person's well-being of the

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followers and empathizes with them to help them become whole. Visioning is a prime leadership talent that allows leaders to stretch beyond day-to-day operational thinking and to visualize the big picture of the organization, enabling them to use clear vision to arouse their followers' spirit.

In re-examining the dimensions of servant leadership revealed by factor analysis, it seems the six factors encapsulate most leadership qualities embedded in an effective servant leader. Ling *et al.* (2016) also developed instruments to measure servant leadership behaviors in the Chinese hotels. However, they used two scales to separately measure top level and middle-level managers. Although there are indeed some differences between the two levels of leaders in terms of leadership philosophy and behaviors, it could be argued that it is not necessary to distinguish two management levels to be measured using two different scales. Katz (1974) asserted all leaders need to possess the same technical skill, human relation skill and conceptual skill, and the leaders' skills only vary in relative importance at different levels of responsibility. The dissimilarities among leaders of different levels are not the attributes or the behaviors they exhibit before their subordinates. Rather, what differentiate them is the extent of the intrinsic qualities they demonstrate or behaviors that are perceived by their employees. Moreover, in the Ling *et al.* (2016) validation, there was no evidence to show that they tested the predictive validity of the two scales, thus the soundness and validity of their instruments are questionable.

Most of the dimensions in our study coveered with those outlined in the seven-factor instrument SL-28 by Liden *et al.* (2008). In addition, a large number of items mapped strongly onto those offered in SL-28 correspondingly, though their significance and magnitude might vary. However, three dimensions were missing from the proposed factors: modeling, humanity and most notably, helping follower grow and succeed. Looking back at the extracting process in the EFA, it was noticed that items in three formerly proposed factors (e.g. integrity, modeling and humanity) were loaded on a same dimension.

Most importantly, it is found that helping followers grow and succeed, which was one factor in Liden *et al.*'s (2008) instrument, was missing in our instrument. Helping followers grow and succeed is part of attribute of servant leadership: servant leaders genuinely concern for others' career growth and development by providing support and mentoring (Greenleaf, 1970; Spears, 1995). Laub (1999) and Wong and Page (2003) all highlighted it to measure the construct of servant leadership. It might be suggested there was an item translation issue at work or participants' interpretation of some items. However, there was little such translation or participants' interpretation issue for other items and dimensions in the scale. It was less possible the translated items and proposed factors did not correctly represent the meaning of original ones generated. Collecting and analyzing the data may bring with them a plethora of methodological concerns associated with this issue, which included the convenience sampling, bias effect and invariance test of data for different hospitality companies or branches. From this perspective, lack of this dimension would be most plausibly attributed to the process of the item generation. As previously mentioned, most of the items were transposed from past literature and combined into the same category without further considering Chinese local cultural values. This item treatment would probably produce "garbage in, garbage out" effect specifically on this proposed factor, leading to participants responding inconsistently. This can be manifested by Cronbach's α value of 0.689 for this specific dimension, which is considered to be questionable for its internal consistency (DeVellis, 2003). There is thus little surprise that this set of items failed to load on a single latent construct.

The most plausible reason is the Chinese culture. Despite Yau *et al.* (1999) remarked that Hofstede's classification of China as high-power distance is "either too succinct to be used in studies […] it lacks both face and content validation" (p. 100), it still has its value in providing a general idea of cultural structure and leader–follower relationship in the

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Chinese hospitality sector. In cultures with high power distance, such as China, employees are more likely to be dependent on managers and the privileges and status symbols are both expected and popular (Davis *et al.*, 1997). High power distance tends to facilitate self-protection behavior in leadership (Van Dierendonck, 2011). With a focus on inequality between managers and employees and leaders' power maintenance, it is less likely the leaders would put high value on helping them grow and succeed.

Conclusions and implications

This study developed and validated a servant leadership scale to measure servant leadership behaviors in the Chinese hospitality industry. First, on the basis of extant literature and extensive discussions, 9-dimension-66-item servant leadership scale was generated which both best captured the traits of servant leadership and reflected Chinese culture. This formulated instrument was then extracted and shortened the instrument using EFA and IRT, resulting in 6-dimension-24-items scale. These dimensions were named integrity, self-sacrifice, building community, empowering people, emotional healing and visioning. Lastly, the resulting scales were further tested for reliability, convergent validity, discriminant validity and predictive validity by subjecting it to CFA. This servant leadership scale was demonstrated to have good internal consistency reliability and strong construct validity.

This study has both theoretical and practical implications. At first, this study provided additional support to cultural psychology theory (Heine, 2015; Shweder and Levine, 1984). The results of the study demonstrated that although there might exist some similarities of dimensions in servant leadership, psychological and behavioral tendencies of servant leaders are always rooted and embodied in the Chinese culture. According to Heine (2015), identities and cultures interact and our emotions and behaviors are influenced and shaped by our individual cultures. Consequently, this study helps to remind leadership researchers of not blindly applying the western-developed measurements in other cultures. Second, there are currently only a few papers studying servant leadership using the Chinese sample, much less research that developed servant leadership measures. This psychologically sound and valid servant leadership instrument enriched the literature by verifying the servant leadership scale in the Chinese hospitality context. In addition, the test of the predictive validity revealed consequential associations between servant leadership and the consequence variables, showing that servant leadership is a strong determinant of trust in leaders, customer-OCB and service quality. Furthermore, this is the first study that used IRT as a tool to shorten a servant leadership scale. The application of IRT will undoubtedly add novel and valuable flavor to nourish the studies in the leadership field. This practice will motivate more leadership researchers to adopt more advanced statistical approaches to investigate the leadership phenomenon.

This study also has equally considerable practical implications. First, this scale can be practically used in China to measure servant leadership behaviors in the hospitality sector as it has been verified as psychologically sound and valid. Brownell (2010) explicitly contended servant leadership is particularly relevant to hospitality firms to distinguish themselves by their employee-centered and ethical practices and to maintain competitiveness. The scale provides an efficient guideline for hospitality firms' human resources policies to recruit, select and evaluate their managers in terms of servant leadership attributes and behaviors. Second, with the unabated growth of China's hospitality industry, a shortage of human resources in hospitality workforce is imminent and service-oriented managers are urgently needed (Qiu *et al.*, 2017). Hospitality education and training institutions play a paramount role in training such much-needed leaders. The items and dimensions of this servant leadership scale can function as useful resources for the hospitality institutions and hospitality organizations' own human resources

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department to develop their curriculum to cultivate the future servant leaders. Third, this study revealed the positive relationships between servant leadership and some important constructs. Obviously, this study will help to raise more awareness of the importance among the hospitality professionals that servant leadership mentality attaches to service culture, trust in leaders, OCB, and service quality, therefore fostering the adoption of servant leadership style in China's hospitality industry. Lastly, it has been revealed in this study that differences normally exist in servant leadership behaviors between western countries and China due to cultural traditions, business leaders, as organizational change agents, need to understand the complexities of different cultures to be more effective when they initiate and implement changes in their own hospitality organizations. This study should fill a gap in the servant leadership literature and encourage other researchers with language and cultural differences from western culture to further refine our instrument to fit other global cultures.

Limitations and future research

In discussing methodological challenges, it should also be acknowledged there were indeed some guidelines that informed the research methods and procedures. For example, it was made clear the purpose of this study was to develop a valid and thus applicable servant leadership measure in the Chinese hospitality industry. However, the use of currently available items in the literature might constrain the choice of methods in generating items. Future studies of the same kind may gain more benefits by utilizing other data collecting techniques such as focus groups, grounded study and other qualitative methods as called for by Brown and Bryant (2015) and Liden *et al.* (2014). Researchers would also benefit from using random sampling as it is an unbiased sampling technique. Alternatively, online surveys could be used for the same purpose, but offer the advantages of speed, efficiency and lower costs in data collection (Dillman *et al.*, 2008). Undoubtedly, generalizability of the scale is the second limitation of this study as this scale was developed for the hospitality sector and based in China. Thus, researcher should be cautious about applying it to other cultures or other industries. The third drawback is this study was only limited to the development and validation of a servant leadership scale. Research is needed to rigorously examine the antecedents and consequences of servant leadership and their interrelatedness. Interested researchers could delve deeper into this area using this scale, which might open the new ways to such conversations.

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