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Virtue in School Leadership: Conceptualization and Scale Development Grounded in Aristotelian and Confucian Typology

Koustab Ghosh[1]

Abstract Six cardinal leadership virtues based on Aristotelian and Confucian typology were advanced through this study by developing a measurement instrument and examining its predictive validity by studying the causal association with perceived leader happiness. Based on a sample of 183 school principals engaged in various types of schools, the results of both exploratory and confirmatory factor analyses generated satisfactory empirical outcomes by finding adequate support for the overall leadership virtue scale and the constituent subscale elements. The paper concluded with the theoretical and practical implications for this developed instrument of leadership virtue especially in the context of school education. The major contribution of the paper lies in developing a measurement scale of virtues for school leaders.

Keywords Virtue · Leadership · Scale · School education

Introduction

The increasing failures of regulatory and compliance mechanisms to prevent the corporate downfalls and far reaching moral implications of the society have turned the recent leadership researchers towards studying leader virtues (Whetstone 2003; Wright and Goodstein 2007; Bragues 2008; Lilius et al. 2008; Ali 2009; Quick and Wright 2011; Voegtlin 2011). Although in the domain of leadership literature virtue was not initially a high prerogative construct to be explored, but by now it has well made its mark as evidenced by the recent studies in this context. The conceptualization of virtue has been characterized by its nature of multidimensionality. Virtues have been treated as disposition / character trait (Fry 2003; Hanbury 2004; Dawson 2005; Flynn 2008; Hannah and Avolio 2011a, b); personal emotions (Moberg 1997; Solomon 1998); personality (Brown and

✉ Koustab Ghosh
  koustab.g@gmail.com; koustab.g@iimrohtak.ac.in

[1] Indian Institute of Management (IIM) Rohtak, M.D.U. Campus, Rohtak 124001 Haryana, India

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Trevino 2006); capabilities / competencies / skills (Bass and Steidlmeier 1999; Arjoon 2000; Coloma 2009); or personal values (House and Podsakoff 1994; Whetstone 2003; Murphy and Roberts 2008; Sama and Shoaf 2008). Therefore, virtue as a studied construct in the context of leadership has also been multi-faceted and multi-dimensional in measurements. Moreover, as all such attempts of conceptualization of virtue have been individual centric, it can be safely inferred that the starting point of virtuous disposition is an individual self. In this context, the contributions made by Seligman and Csikszentmihalyi (2000) on positive psychology is worth mentioning. They emphasized on hope, wisdom, creativity, future mindedness, courage, spirituality, responsibility, and perseverance as the emerging focal areas of positive psychology. In recent times, Hackett and Wang (2012) observed that a few fundamental issues related to leader virtues (what are leader virtues; how are such virtues acquired; how they are behaviourally expressed; and how they are manifested through leader behaviours) yet remained unresolved. At the same time it was acknowledged that exploring these issues was fundamentally important for advancing research, education and practice in the domain of leadership virtues. Hackett and Wang (2012) also expressed the concern that as several virtues have been associated either directly or indirectly with different leadership styles, an integrative review of the leadership literature from a virtue-based perspective was needed for smooth conceptualization and operationalization of measurement of this construct.

Six Cardinal Virtues

Hackett and Wang (2012) through their study identified six cardinal virtues deeply embedded in the moral philosophy and virtue ethics literature drawn from Aristotle and Confucius. Taking lead from their study, this present research extends an understanding of leadership virtue both from normative and instrumental perspectives for creating a positive leadership impact and ethical enactment in alignment with all affected constituencies. The main focus of the paper is the development of an empirical measurement scale of leadership virtue based on the six cardinal virtues (courage, temperance, justice, prudence, humanity, and truthfulness) identified by Hackett and Wang (2012) drawn from Aristotelian and Confucian thoughts on virtues. On the other hand, the exposure of the child to the school education and ambience as an early experience has a formative role to play in shaping his future orientation. In fact, the nature and quality of value orientations introduced at the school education depends a lot on the personified leadership agenda and behaviours exhibited by the school principals (Davies 2002; Greenfield 2004; Branson 2007; Mulford et al. 2007; Easley 2008; Murphy et al. 2009; Harris 2012). It has also been observed that the lack of comprehensive evaluation and generating a need for empirical examination of the virtuous leadership behaviour of school principals especially in Indian context has remained grossly under represented as an area of research. Therefore, by operationalizing the measurement of leadership virtue and testing it in the context of school leadership, this paper advances both the theory and research. It consolidates the conceptual and empirical groundwork to extend the existing domain of leadership virtue literature. This groundwork comprises a coherent and workable subset of leadership virtues narrowed down from a heterogeneous and large set, and is advanced by the leadership virtue scale subsequently developed in this study. The instrument has been tested for its psychometric properties, and its functional utility in predicting the relevant outcome of leader happiness (affective well-being component) as an observed variable.

Focus and Scope

The purpose of the present study is to develop a measurement instrument for leadership virtues in the context of school education. More specifically, a behavioural focused scale comprising six cardinal virtues (courage, temperance, justice, prudence, humanity, and truthfulness) was developed and tested using both exploratory and confirmatory factor analyses. The sequential steps that were followed in developing and testing the instrument were pilot study and construct validation, item generation and validation, determining validity and reliability of the instrument, examining psychometric properties of the scale, and establishing the predictive validity in relation to leader's affective well-being (happiness). The empirical findings from this study substantiated the point that the identified six cardinal virtues had a good fit with the dataset, and were successfully incorporated into the measurement instrument in developing a composite scale on leadership virtues. From the viewpoint of purely theoretical and scholastic consideration, the application of leadership virtue scale in the context of school principals established its significance and relevance in today's environment of high moral erosion. Moreover, this present study is among the first to develop a scale of leadership virtues based on Aristotelian and Confucian taxonomy of virtues and morality in the context of leadership disposition and leadership happiness for school principals as the moral agents and custodians of responsible future citizens of the nation.

Conceptual Development

Virtue Conceptualized on Aristotelian and Confucian Thoughts

The word "*virtue*" is derived from the Greek word "*arete*" that connotes to moral excellence (Bunnin and Yu 2004). The concept and components of virtue have been nurtured and well propagated in the virtue ethics literature. Although Aristotle originally professed for fifteen virtues (courage, temperance, justice, generosity, magnificence, magnanimity, mildness, truthfulness, wit, friendliness, prone to shame, proper indignation, prudence, wisdom, and namelessness (small honour); four of them namely courage, temperance, justice, and prudence are considered primal in the sense that all other virtues are closely aligned with them (Arjoon 2000; Bragues 2006). As observed by Irwin (1999); the Aristotelian literature interpreted virtue as the reflection of a state of human character, and was expressed through voluntary actions. Hackett and Wang (2012) further interpreted that although virtues might be there to some extent at birth, they can also be acquired later through cumulative effects of education, self-learning, and repetitive practice until they become habitual. Hence; education, learning, early influences, repetitive actions and practices, and situational impact act as propellers to the eventuality of demonstrative virtuous behaviour of an individual over a certain period of time.

Coming on the Confucian principles, "The Analects" (teachings of Confucius) and "The Mencius" (interpretation and expansion of Confucian thoughts) together professed more than fifty virtues (Chan 2008; Wong 2008). Among them the five virtues namely Ren (humanity), Yi (righteousness), Li (the rituals), Zhi (wisdom), and Xin (truthfulness) are considered cardinal as because all other virtues are embedded in them (Xing 1995; Huang 1997). Hackett and Wang (2012) compared the Confucian cardinal virtues with the Aristotelian cardinal virtues of courage, temperance, justice, and prudence; and found significant commonalities. The integrative review and meta summary done by Hackett and Wang

(2012) showed that the Aristotelian cardinal virtues of courage, temperance, justice and prudence coincided respectively with the Confucian cardinal virtues of Zhongyong (moderation), Yi (righteousness) and Zhi (wisdom), and a non-cardinal virtue of Yong (courage). Also, the Confucian cardinal virtues of Ren (humanity) and Xin (truthfulness) were in alignment with the Aristotelian non-cardinal virtues of friendliness and truthfulness respectively. Moreover, both the parallel thoughts interpreted virtue as a character trait expressed through voluntary actions. Further, a person could acquire virtues by education and self-learning, and repetitively practicing them until they were developed into a habit. Virtues were also identified as contextually embedded (i.e. with regard to specific situations). The recent comprehensive work by Angle and Slote (2013) reflected on Virtue Ethics and Confucianism with a great deal of comparisons on the likely individual attributes from both the School of Thoughts. Despite the divergences observed and reported by the scholars from time to time, a synthesized approach enabled to conclusively decipher that both Aristotle and Confucius were unanimous of the roles of virtues by promulgating that virtues enable leaders to perform their roles well. Based on such observations, Hackett and Wang (2012) found it reasonable to consolidate the Aristotelian and the Confucian virtues in order to identify and derive certain core virtues reflecting both the western and traditional Chinese perspectives of virtue ethics. This specific observation had motivated to undertake this present study by developing a measurement instrument of leadership virtues having drawn the cardinal virtues from both the Aristotelian (Western) and Confucian (Eastern) accounts of the virtues.

Leadership Virtue

Leadership virtue being conceived as a disposition or character trait of a leader provides the moral foundation and proximal relations to the leader's thoughts and actions (Hartman 1998; Ciulla 2004). Leadership virtues underlie the feelings and actions shielded with the moral armament, and based on the character of an individual; whereas skills, capabilities and competencies reflect expertise and abilities to act within a particular domain (Broadie and Rowe 2002). A virtuous action is voluntary and intrinsically motivated, and expressed through consistent behaviours (Hart 2001; Whetstone 2001). Over time, specific actions of the leader reflecting virtues would be equated to the expressed virtues, and thus unified with the leader's character in the long run (Bragues 2006; Hursthouse 2007). Leadership virtue is acquired through the habituation process of learning and continuous practice. Verplanken et al. (2005) suggested that a habit can be lost if a person stops exercising it for some time. A virtue is exemplified consistently as the situation calls, and once acquired, is sustained only through continuous practice. Leadership virtues can be fully understood by considering the context of the virtuous act, and appreciating the relevant merits and demerits of the situation (Whetstone 2001). The domain of leadership virtue rests on the fundamental premise that a virtuous act is judged solely on the character of the leader; and a virtuous act emanates only from a virtuous person (Taylor 2006). However, unless appropriate situations have been evoked the behavioural response of leadership virtues can never be accurately assessed and deciphered. Based on the these findings, Hackett and Wang (2012) suggested that virtue in the leadership perspective has been portrayed as a disposition: a character trait that a leader acquires and maintains primarily through learning and continuous practice, and an expression through voluntary actions undertaken in the relevant situations. This particular view of leadership virtue emphasized the aspect of contextual embeddedness with specific reference to the situation faced by the leader and the action undertaken (behaviour) as an effective response

to this situation. Also from the leadership virtue perspective discussed above, it can be taken forward that situational influence and actionability together extract and drive virtuous leadership behaviour of an individual leader, in question.

All the above views on leadership virtue offer a few unique observations. First, leadership virtues have their origin in individual leader's moral foundation, character, and value system that are eventually reflected through the leader's thoughts and actions. Second, the leader's virtuous behaviours show a pattern of consistency over a period of time, and is befitting with the image and reputation of the leader. Third, leaders also can acquire virtues through continual learning and application stimulated by the situational influences. Therefore, the leader's individual self, early exposure, formative experiences, learning and application opportunities, and situational impact, in totality, facilitate the acquisition and nurturance of leadership virtues. Having these observations on leadership virtue, the author also felt the need to review as how virtue as an element was related to the major leadership concepts evolved from over time. The summarized finding in this context is presented in the Table below (see Table 1).

Researchers like Mele (2005) and Hursthourse (2007) posited that the concept of virtue is sensitive to cultural or contextual differences, and they are interpreted differently from one culture to another. But at the same time it can be safely concluded that Aristotelian ethics and Confucian ethics have dominated the western and eastern societies respectively. Hence, Hackett and Wang (2012) postulated that virtue as an exploratory construct has to be conceptualized in a manner that appears to be pertinent to both cultures. To probe further in that direction, Hackett and Wang (2012) reviewed and analyzed a total of twenty two definitions of virtue offered throughout the leadership literature that supported leader virtue as a character trait and / or disposition is consistent with modern ethics research and practice. Their major contribution remained in identifying six virtues namely courage, temperance, justice, prudence, humanity, and truthfulness as cardinal leadership virtues that were culturally universal, interactive with each other, associative of effective leadership traits and leader's

Table 1 Virtues and related leadership concepts

Source	Leadership concepts
Burns (1978)	Moral leadership is founded in leader trustworthiness and attributed to mutual needs, aspirations, and values of leader-follower duo
Rost (1991); Brown et al. (2005)	Ethical leadership implies the demonstration of normatively appropriate code of conduct through personal action and interpersonal relationships without compromising integrity
Fry (2003), Reave (2005)	Spiritual leadership embodies human spirits such as integrity, humility, character, love, compassion, and tolerance to intrinsically motivate self and others
Greenleaf (2002)	Servant leadership contoured a selfless service orientation for the betterment of others deeply embedded in leader's humility and spiritual insights
Conger and Kanungo (1998)	Charismatic leadership is an attributed phenomenon made by followers from the observation of their leader's positive behaviour.
Burns (2004)	Transformational leadership aims at transforming the followers to a new level by realizing their self-worth and self-efficacy by the positive actions of the leader
Bennis and Nanus (2003)	Visionary leadership implies the acceptance and actualization of the leader's communicated vision by his followers

ethical behaviour. Moreover, the theoretical validation of these six cardinal virtues was also reinforced by finding the linkage of these virtues with seven effective leadership styles in the study forwarded by Hackett and Wang (2012). Such topological studies should be undertaken more in numbers so as to integrate the leadership virtue elements with popularly accepted leadership styles and behaviours.

Construct Development

The six leader cardinal virtues (courage, temperance, justice, prudence, humanity and truth-fulness) identified by Hackett and Wang (2012) based on the combined Aristotelian and Confucian virtues have been the drivers of this study. As per the Aristotelian typology, cardinal virtues are considered fundamental in the sense that all other virtues are closely tied to them (Arjoon 2000). Whereas, the Confucian doctrine held that cardinal virtues form the basis for all other virtues (Huang 1997). Through the relevant review of literature (Sarros and Santora 2001; Tuana 2003; Walker et al. 2007); Hackett and Wang (2012) established that all these six cardinal leader virtues were culturally universal. Moreover, all these six cardinal leader virtues are characterized by interactivity and interconnectivity in terms of demonstrative behavioural responses evoked by the situation (Hackett and Wang 2012). Finally, all these six cardinal leader virtues as leadership traits were also found to be related to seven leadership styles (moral, ethical, servant, spiritual, charismatic, transformational, and visionary leadership) by Hackett and Wang (2012).

Having confirmed the attributional pattern of these six cardinal leader virtues in the first phase, Hackett and Wang (2012) strongly suggested the development of a behaviourally-focused scale for assessing leadership virtues. Riggio et al. (2010) developed and provided psychometric support (including convergent and discriminant validity) for their Leadership Virtues Questionnaire (LVQ), which they developed to measure the four Aristotelian cardinal virtues (prudence, fortitude, temperance and justice). The six cardinal leader virtues identified by Hackett and Wang (2012) are better integrated and composite over the LVQ because the former was able to align both the western and eastern thoughts of virtue, and thus could arguably enhance the cross-cultural validity of the developed instrument. It should be remem-bered that the domain of virtue ethics rests on the fundamental premise that a virtuous act is judged solely on the character of a person; and a virtuous act emanates only from a virtuous person (Taylor 2006). Although the recent work by Alfano (2013) positioned that the virtues attributed to an individual are conditioned by self-fulfilling prophecies, and therefore can be argued as reinforcing by nature. However, a stimulating situation is required for the public display of virtues as an emanative response from the concerned individual. Hence, Hackett and Wang (2012) cautioned that the scale items measuring leader virtues should make reference to context in order to elicit the appropriate behavioural response on the six cardinal virtues as a proxy to the leadership traits.

The principal objective of this present study was to build a behavioural-focus scale of leadership virtue with multidimensional measures based on the six cardinal virtues forwarded by Hackett and Wang (2012). The measure was operationalized by composing six subscales, and then integrating them into the composite leadership virtue scale. *Courage* referred to the leaders' ability to execute the desired course of action despite facing the odds from various constituents. *Temperance* implied self-control or moderation on the part of individual leader for avoiding any damaging or harmful impact. *Justice* delineated to the fairness and equity of leader's decisions and actions undertaken from time to time. *Prudence* referred to the leader's

capability of taking a holistic view of the situation so that no stakeholder is affected unduly. *Humanity* could be interpreted as the benevolent and compassionate orientation of the leader for the overall betterment of others. *Truthfulness* explained the moral reflection and right code of conduct complied by the leader in executing the duties and responsibilities. The present study also examined the causal association of the newly developed leadership virtue scale with the leader happiness (personal affective well-being) as the outcome variable (see Fig. 1).

Steps in Scale Development

Pilot Study and Construct Validation

In developing and validating the scale measuring the six cardinal leader virtues, a process recommended by DeVellis (1991); and Walumbwa et al. (2008) was used in this study. In the first step, new and conceptually consistent theoretical definitions of the six cardinal leadership virtues were developed by the researcher. Both deductive and inductive approaches were adopted for item generation and assessment of leaders' demonstrative virtuous behaviour. Initial content specifications were developed based on (a) the six cardinal leadership virtues derived from Hackett and Wang (2012) supported by the extensive review of literature on virtue, (b) pilot interviews conducted with ten school principals on what constitutes leadership virtues and virtuous leadership behaviour, and (c) a series of academic discussions and meetings with field experts focusing on construct clarity and item validation.

After reviewing about 100 articles on leader virtues and virtuous leadership behaviour, pilot interviews were conducted with ten school principals in India. Out of these ten individuals, six
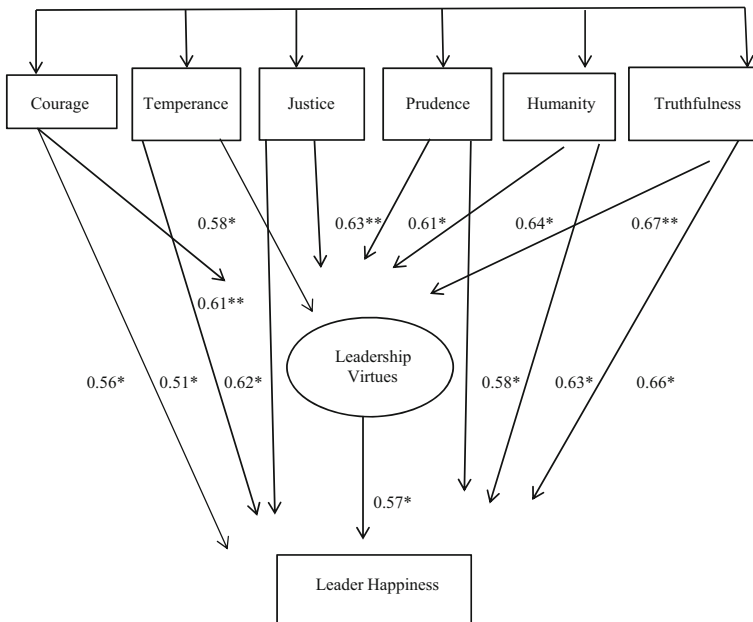
Fig. 1 Measurement model of leadership virtue, its subscales, and leader happiness (standardized version)

*$p < .05$, **$p < .01$, ***$p < .001$

principals were selected from three different private schools, and further the principals both from the junior and senior divisions of each school formed part of total six. Another four principals belonged to two different semi-government schools (partly aided by the state government); and further the principals both from the junior and senior divisions of each school formed part of total four. Theoretical sampling was used to identify the school principals who possessed significant experience and idealism in creating positive change in the reputation and performance of the respective schools. The principals were asked to describe the attributes that they regarded as the prime leadership virtues. The responses were then content analyzed. The emergent categories were closely aligned with the six cardinal leadership virtues described in this paper (resulting in 92.7 % similar themes in content analysis). This particular finding provided the adequacy for the research constructs, and supported the multidimensionality of the leadership virtue. Thus, based on comprehensive literature review, pilot interviews, and content analysis, the six subscales mentioned above were established as appropriate and constituting the leadership virtue construct that was further explored as a research variable leading to leader happiness.

Item Generation and Validation

In the next phase, a pool of 6–8 items were generated for each dimension based on the six cardinal leadership virtue construct incorporating structured item development strategies (DeVellis 1991; Walumbwa et al. 2008). Theoretically 38 sample items were derived in total, which were later refined to 21 items that best captured the proposed content areas and were considered the least ambiguous and most behavioural. Due care was taken in developing the items with clarity and congruence to the theoretical descriptions and prior work in leadership virtue research. The revised items were then tested for face validity by five subject experts. It was ensured that the items in each of the six subscales: (a) captured both leadership virtues and virtuous behaviours; (b) were theoretically consistent with identified and proposed leader's virtuous behaviours; (c) avoided measuring multiple virtuous attributes or behaviours in one item to reduce ambiguity and error. These items were then subjected to a subsequent content validity assessment by the researcher using procedures recommended by Schriesheim et al. (1993). Finally, construct coherence was checked through a consistency test of whether the core construct of leadership virtue demonstrated greater resilience than its six constituting subscales (Suddaby 2010). The final items that were retained for further analysis are listed in Table 4. Responses were made on a five point scale ranging from 1 (strongly disagree) to 5 (strongly agree). The developed leadership virtue scale was an additive index made up of the above mentioned six subscales. An additive index implied that the six cardinal leadership virtue dimensions were complementary to each other, and together added up to form the construct of leadership virtue. The psychometric properties of the proposed scale were assessed using standard methods described in the next section.

Methodology

Sample

The data for this study was obtained by adopting judgmental sampling method. Participants' group in the survey comprised school principals from three categories of schools like fully

government aided, partially government aided, and non-government aided autonomous schools. In all three categories, the medium of instruction was English. An initial pilot survey was conducted with ten school principals. Based on the feedback from the respondents, the survey items were revised to eliminate redundancies and doubtful interpretations. The revised survey instrument was sent out for data collection. The objective was to receive back at least 150 survey responses to be able to test the psychometric properties of the proposed scale. This was based on the observation made by Hinkin (1995) through the review of 277 measures in 75 articles, recommended a minimum sample size of 150 observations to obtain accurate solutions for new scale development procedures and exploratory factor analysis.

Judgmental sampling facilitated the exploratory nature of this study. Although the inherent limitation of non-probability sampling lies in the non-generalizability of the research findings; judgmental sampling provided flexibility and purpose to the researcher in selecting the respondents. Diversity was sought in terms of the type of school, divisions (primary or secondary), job experience of the respondent, and location of the school. To ensure fair geographical representation of sample respondents, the school principals were contacted from all four parts (north, south, east, and west) of India. In addition to activating the personal contacts of the researcher for generating adequate sample responses, the zone and city wise major databases of primary and secondary schools were also consulted for reaching out to target respondents. Participants were invited to respond to the survey through emails, social and professional networking sites (Facebook; Twitter; Linked in etc.), references, post and courier, and personal visits by the researcher in a few cases.

Participants were informed that their participation in this study was completely voluntary, and no monetary or other consideration was involved in the same. Strict confidentiality and anonymity of identities were maintained about the responses. Most of the surveys were completed online with an e-mail message sent to the respondents containing a link to the survey web page. Respondents entered their answers directly online. Paper-and-pencil surveys were also used for participants who could not access to the Internet or did not prefer completing electronic surveys. Responses from online surveys and paper-and-pencil surveys were analyzed to check for response bias, and that was not found. Incidence of non-response was low. The survey instrument was sent out to a total number of 400 school principals in India. Responses were obtained from 191 principals, out of which 183 were found complete in all respect for data analysis, and therefore yielding a response rate of 45.75 %.

Reliability and Validity of the Instrument

In addition to the computing of standard descriptive, the psychometric properties of the newly developed instrument were assessed using various procedures. Internal consistency (reliability) of each of the six subscales and the full scale were assessed by Cronbach's alpha. Then, the dimensionality and factor analytic structure of the scale were tested through exploratory and confirmatory factor analysis. This was done keeping in line with the fact that when the factor structure can be determined a priori from theory, using both confirmatory and exploratory factor analyses should be conducted (Kirkman and Shapiro 2001). Law et al. (1998) recommended that the dimensions of a latent model should be correlated to justify the summing of component dimensions into a single overall representation of those dimensions. Moreover, Walumbwa et al. (2008) suggested that there must be evidence of discriminant validity for the component dimensions, as each of the dimensions must make a unique contribution to the latent construct. An exploratory factor analysis and a second-order confirmatory factor analysis

(loading items on the six dimensions and the six dimensions on single leadership virtue construct) were performed. The convergent and discriminant validity of the leadership virtue items and the contribution of the six dimensions to the overall construct of leadership virtue were assessed accordingly (Table 2).

Results

The key demographic information for the survey respondents is reported here. Out of 183 valid response dataset, 101 were female and 82 were male. Thus gender parity was maintained for fair representation of gender in the study. Further, 109 belonged to the secondary section and 74 to the primary section; and within the same 114 respondents (57 in each category) belonged to either the primary or secondary section of the same school, and the rest 69 represented either the primary or secondary section of different schools. So far as the educational qualification was concerned, 151 had a master degree with 11 of them having a doctoral degree, and 32 had a bachelor degree whereas all of them had additionally gone through primary or secondary teacher's training certification programmes conducted and certified by the competent authority. In addition, 47 of the survey respondents have been working in the present school for more than 10 years, 64 have been for more than 7 years, 51 for more than 5 years, and 21 of them for more than 3 years in the present school. The sample represented range of ages from 42 to 58. The mean age of the respondents was found to be 51.2 years.

Psychometric Properties of the Scale

Descriptive statistics of the six sub-scales (courage, temperance, justice, prudence, humanity, truthfulness) as well as the full leadership virtue scale is reported in Table 3. The Cronbach's alpha values of the six subscales along with that of the outcome variable ranged from .833 to .916; which were far above the recommended threshold limit of .70 (Nunnally 1978). Thus, it provided evidence of internal consistency and reliability of the subscales. The Cronbach's alpha score for the full leadership virtue scale consisting of all 21 items was found to be .931; hence provided evidence for high internal consistency and reliability (Table 4).

An exploratory factor analysis (EFA) was performed on the scale items using principal-components to ascertain that the items were loaded on the common latent factors. The Kaiser–Meyer–Olkin measure of sampling adequacy (KMO) was found to be 0.842; much above the recommended value of 0.60. This indicated that the variables had measured a common factor. The result of Bartlett's test of Sphericity (λ^2 = 3683.801; df =760; p = .000) confirmed that the significant difference existed between the sample inter-correlation matrix and the population inter-correlation matrix. Moreover, none of them was an identity matrix. As the communalities were all above 0.50, it was accepted that each item shared common variance with other items; and the resultant insignificance of the items was lost in the exploratory factor analysis. In total, eight factors with eigenvalues greater than 1.0 emerged explaining 68.92 % of the total variance in the observed dataset. Both orthogonal (varimax, quartimax, and equamax), and oblique (oblimin) rotations were attempted. The results of exploratory factor analysis retained four dimensions namely courage, temperance, justice, and prudence as originally proposed by the author. The two other sub scales namely humanity (helping others, broader concern), and truthfulness (meeting commitment, openness) were each split into two dimensions.

Table 2 Pattern matrix of Oblimin rotated factor loadings from the factor analysis of scale items

Items	Factor 1: Courage	Factor 2: Temperance	Factor 3: Justice	Factor 4: Prudence	Factor 5: Helping Others	Factor 6: Broader Concern	Factor 7: Meeting Commit-ments	Factor 8: Openness
I always stand up for what is morally right.	**.81**	.27	.03	.19	-.09	.12	.36	.41
I try to achieve the goal despite all difficulties.	.72	.33	-.21	.51	.11	-.05	.57	-.17
I am prepared to face resistances for the desired change.	.77	.50	.47	.28	.34	.42	.13	.30
Self-imposed restrictions or controls are required for responsible behaviour to others.	-.06	**0.73**	.31	.56	-.10	-.23	.47	.07
Holding patience and tolerance help dealing with diverse group of people.	.14	**0.70**	.23	.48	.51	.04	-.19	.36
Damaging or harmful actions can be avoided by developing positive habits and life style.	.37	**0.78**	.28	.49	.53	.46	.17	.43
I ensure fair implementation of rules and policies across the organization.	.55	.24	**.84**	.41	.51	.40	.61	-.26
Any aggrieved party affected by a particular decision or action is allowed to appeal to the higher authority.	.12	.36	**.79**	-.09	.48	-.10	.42	.52
My decisions and actions are guided by broad ethical guidelines.	.60	.48	**.76**	-.36	.38	.29	.50	.44
I like to take a total view of the situation for making a fair decision.	.61	.46	.51	**.74**	-.18	.50	-.46	.44
Leaders must ensure moving ahead with all stakeholders together.	.39	.53	.12	**.79**	.44	.62	.48	.52
Leaders strive to achieve the balance between positive and negative outcomes of an action / decision.	.25	.39	.63	**.70**	-.09	.16	.07	-.38
I actively participate in charitable activities.	-.33	.12	.29	.45	**.82**	.68	.46	-.51
I encourage others to participate in charitable activities.	-.41	.17	.08	.37	**.72**	.61	.38	-.32
Whenever approached, I try to help people in my organization.	-.20	.38	.22	.34	**.77**	.57	.49	-.13
Adhering to universal values is important to achieve leadership credential.	.26	-.07	.18	.23	.27	**.81**	.56	.48
As a leader of this organization, I must care for my community and social responsibility.	.15	-.13	.21	.34	.46	**.79**	.59	.51
My actions are guided by high ethical standards.	.48	.39	.51	.41	.11	.03	**.80**	-.41
I try to keep promises and commitments made by me.	.43	.47	.28	.43	.25	.27	**.75**	-.39
I own up the responsibility for mistakes.	.52	.36	.61	.47	.38	.21	.49	**.77**
I encourage others to own up responsibilities for their mistakes.	.54	.45	.47	.53	.19	.26	.24	**.69**

Table 3 Total variance explained for the scale ($n = 183$)

Component	Initial eigenvalues			Extraction sums of squared loadings			Rotation sums of squared loadings (Total)
	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %	
1	13.67	29.15	29.15	13.67	29.15	29.15	8.68
2	8.12	13.07	42.22	8.12	13.07	42.22	8.37
3	4.86	7.21	49.43	4.86	7.21	49.43	5.76
4	3.57	4.62	54.05	3.57	4.62	54.05	5.83
5	2.19	4.41	58.46	2.19	4.41	58.46	3.13
6	1.81	3.48	61.94	1.81	3.48	61.94	3.73
7	1.26	2.78	64.72	1.26	2.78	64.72	3.01
8	1.16	2.69	67.41	1.16	2.69	67.41	3.58

Extraction method: Principal Component Analysis

The first factor *courage* had three items from the original subscale. It explained for 29.15 % of the total variance. The second factor *temperance* had also retained three items from the original subscale. The second factor explained for 13.07 % of the total variance. The third factor *justice* had all the three items drawn from the original subscale. It explained for 7.21 % of the total variance. The fourth factor *prudence* had three items from the proposed original subscale, and explained for 4.625 % of the total variance. The fifth factor *helping others* as a dimension of humanity subscale contained three items, and explained for 4.411 % of the total variance. Two items were loaded on the sixth factor labelled as *broader concern* as another dimension of humanity subscale that explained for 3.482 % of the total variance. The seventh factor termed as *meeting commitments* contained two items as a dimension of truthfulness subscale, and explained 2.787 % of the total variance. The last factor named as *openness* as the second dimension of truthfulness subscale had two items, and explained for 2.694 % of the total variance.

Table 4 Descriptive, correlation, and composite reliability analysis for the scale ($n = 183$)

Subscales	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Courage (1)	(0.881)						
Temperance (2)	0.215	(0.893)					
Justice (3)	0.523**	0.018	(0.916)				
Prudence (4)	0.115	0.238	0.412**	(0.833)			
Humanity (5)	0.078	0.183	0.571*	0.371	(0.876)		
Truthfulness (6)	0.611**	0.204	0.580*	0.054	0.404	(0.890)	
Leader Happiness (Overall AWB Scale)	0.112	0.603**	0.374	0.067	0.558**	0.482*	(0.853)
Mean	4.27	4.02	4.56	3.98	4.37	4.41	4.21
Std. deviation	0.326	0.578	0.366	0.673	0.310	0.296	0.351

$*p < .05$, $**p < .01$, $***p < .001$; figures in parentheses against each subscale represents Cronbach's alpha values

As suggested by Van Prooijen and Van Der Kloot (2001), and Shi et al. (2005); validity of the scale was further explored by conducting confirmatory factor analysis. The identified six factors (instead of nine factors from exploratory factor analysis) were used in confirmatory factor analysis because of the significant and continual decline in the Eigen values of the remaining factors. Structural equation model using AMOS was conducted to test the relationships between the six subscales of leadership virtue and the composite leadership virtue scale. Maximum likelihood confirmatory factor analysis was used for the estimation in order to assess the goodness of fit of a factor structure to the given data set. The six subscales were set as latent variables. This analysis revealed an adequate overall fit ($\lambda^2 = 1335.12$, $df = 660$, $p < .01$). The ratio of chi-square to the degrees of freedom is 2.02, which is below the maximum recommended value of 3.00. Hence, λ^2 / df ratio indicated the adequacy of this six-factor model to the overall fit to the observed dataset.

The overall fit of the CFA model to the data was assessed with various indices: the goodness-of-fit index (GFI) = .82; the Bentler and Bonett (1980) normed fit index (NFI) = .81; comparative fit index (CFI) = .89; and non-normed fit index (NNFI) = .92. These values indicated that the hypothesized factor structure fitted the data moderately well. The model was further evaluated by the root mean square error of approximation (RMSEA); where values less than .06 indicate a good fit, and values ranging from .06 to .08 indicate acceptable fit (Hu and Bentler 1999). This model has a relatively good fit with RMSEA = .061. The six-factor model above is superior to the one factor model (GFI = .70; NFI = .67; CFI = .76; NNFI = .69; RMSEA = .081). The chi-square difference between these two models was also found significant ($\lambda^2 = 5005.80$, $df = 2$, $p < .01$).

The convergent validity was supported in all six subscales. The lowest parameter estimate (λ) among the items was 0.71; and all the estimates were significant at the .05 level. Composite reliability scores (γ) for each subscale varied between .83 and .91; which were higher than the recommended value of .60 (Kaptein 2008). The variances extracted were also higher than the recommended value of .50 (Bagozzi and Yi 1988). These results supported convergent validity. Furthermore, the factor correlations (phi coefficients) ranged from .48 to .69. For all the items, the variance-extracted estimates were larger than .50; and they were also larger than the square of the phi matrix, supporting discriminant validity (Kaptein 2008).

Structural Equation Model 1

The first structural equation model tested the relationships between the composite leadership virtue scale and perceived leader happiness (personal affective well-being components). The five sub scales (comfort, pleasure, enthusiasm, vigour, and placidity) comprising the overall happiness scale was borrowed from Rego et al. (2009) in order to predict the impact of leadership virtues on perceived leader happiness. The significant model fit indices were found to be as follows: ($\lambda^2 = 1171.10$, $df = 690$, $p < .01$; RMSEA = .0807; Bentler-Bonnet NNFI = .823; Bentler-Bonnet NFI = .781; CFI = .832; $n = 183$). The ratio of chi-square to the degrees of freedom in this model was 1.69; which is below the recommended maximum value of 3.00. This suggested a moderately good fit. In addition, the overall fit of the model to the dataset was supported by additional indices like GFI (.713); NFI (.781); CFI (.832); and NNFI (.823). The root mean square error of approximation (RMSEA) took a value of .0807, thereby indicating an acceptable fit (Hu and Bentler 1999). Thus, the values of the standardized parameter estimates indicated that the expected relationship between leader virtues and perceived organizational happiness was significant and in the predicted direction (.57, $p < .05$).

Structural Equation Model 2

The second structural equation model examined the relationships among the six subscales of leadership virtues, and perceived leader happiness as the outcome. In this particular model, observed bivariate correlations exhibited spurious behaviours as the relationships disappeared when the joint effects of leadership virtue dimensions were simultaneously controlled. The significant model fit indices were found to be as follows: ($\lambda^2 = 1003.27$, $df = 676$, $p < .01$; RMSEA = .0812; Bentler-Bonnet NNFI = .839; Bentler-Bonnet NFI = .841; CFI = .876; $n = 183$). The ratio of chi-square to the degrees of freedom in this model was 1.48; which is below the recommended maximum value of 3.00. This suggested a moderately good fit. In addition, the overall fit of the model to the dataset was supported by additional indices like GFI (.794); NFI (.811); CFI (.858); and NNFI (.861). The root mean square error of approximation (RMSEA) took a value of .0812, thereby indicating an acceptable fit (Hu and Bentler 1999). Overall, the second model provided a better fit than the first one. Thus, the values of the standardized parameter estimates indicated that the expected relationship between six cardinal leadership virtues (subscales) and perceived leader happiness was significant and in the predicted direction. Courage (.56, $p < .05$); temperance (.51, $p < .05$); justice (.62, $p < .05$); prudence (.58, $p < .05$); humanity (.63, $p < .05$); and truthfulness (.66, $p < .05$) exhibited significant positive direct impacts on perceived leader happiness.

Discussion and Implications

The major contribution of this study lies in developing a measurement scale for leadership virtues. In addition, this study has also enriched the relevant literature and topical interest of the research community by the meaningful interpretation and development of measures for leadership virtues. The major theoretical contribution is the conceptualization of leadership virtues based on six observed constructs namely courage, temperance, justice, prudence, humanity, and truthfulness proposed by Hackett and Wang (2012). These six identified cardinal leadership virtues were originally borrowed from the Aristotelian and Confucian typology of virtue. The methodological contribution of this study was the development of a behavioural-focus instrument to measure leadership virtues. The validity and reliability of the measurement instrument was confirmed by employing various methods including Cronbach's alpha, exploratory, and confirmatory factor analyses. Finally, this study made specific empirical contribution by exploring perceived organizational happiness (personal affective well-being) as the potential outcome of leader virtues. Significant positive relationships were obtained between the six cardinal leadership virtues and individual leader happiness. Thus, the predictive validity of the measurement instrument was established with specific reference to leader happiness by using structural equation modelling. The empirical results indicated positive and significant relationships between leadership virtue indicators and individual leader happiness in the context of school education.

Taking originally from the Aristotelian literature, a number of previous studies had suggested that practicing virtues help people achieve happiness in their personal life (Irwin 1999; Hanbury, 1984; Flynn 2008; Hackett and Wang 2012). DeNeve and Cooper (1998) expressed that happiness is an affective (non-cognitive) evaluation of one's life situation, and represents the dominance of positive moods and emotions over its negative counterparts. Whetstone (2001) supported that virtue could help an individual develop self-understanding

and the moral capacities to live and work well in all situations. To substantiate, Bass and Steidlmeier (1999) suggested that practicing virtues can provide meaning to one's work and life. Therefore it can be argued that practicing virtues can enrich individuals in both their work and non-work spheres that can fulfill their personal need for holistic development. In sum, this should increase their affective happiness MacIntyre (1984); and enable people to attain personal goals intrinsically valuable to them (Arjoon 2000). The fulfilment of intrinsic goals can precipitate the achieving of external goals (earning profit, meeting business targets, making honour, fame, prestige, and material wealth). Although the practice of virtues satisfies an individual in a self-reinforcing manner; eventually it can help an individual attain both intrinsic and extrinsic goals as associated rewards, and thus increasing personal affective happiness. Future studies should explore more on this line of thought to generate concrete research outcomes for undertaking virtuous leadership development initiatives based on conclusive evidences.

Scholastic Implications

From a theoretical perspective, the main contribution of this study lies in threading together the Aristotelian (western) and Confucian (eastern) perspectives of virtue, converting it in the construct of leadership virtues, and finally measuring it by developing and testing a measurement instrument (scale). Both the construct as well as the scale were developed by taking and integrating inputs from interrelated research domains like virtue ethics, positive psychological capital, ethico-moral responsibilities, and positive leadership behaviour. This study has conceptualized six cardinal virtues (courage, temperance, justice, prudence, humanity, and truthfulness) in developing the behaviourally-focused scale of leadership virtue, and made attempts to uncover the influence of leader virtues on leader happiness as a placebo outcome. The development of an accurate, reliable, and credible scale measuring leadership virtue remains the major motivation as well as contribution of this paper. Subsequent future researches are expected to substantiate and explore leadership virtue with diverse samples and cultural contexts to enhance the generalizability of this instrument. This interdisciplinary research agenda between virtual ethics (philosophy) and leadership behaviour would open up new frontiers in the relatively unexplored areas of positive organizational behaviour, workplace spirituality, welfare leadership, and thus can help building an inventory of leadership virtues for positive organizational outcomes in future course of period.

Practical Implications

The crisis of confidence in the integrity and moral consciousness of leadership is a global concern in all spheres of activities. Branson (2007) insisted that given the strong moral expectations demanded of contemporary leaders, structured self-reflection can nurture a leader's moral consciousness as an essential step for developing moral leadership. Therefore, a strong need was felt to respond to this issue by taking stock of the fundamental leadership issue in terms of leader virtues, and examine it at the most rudimentary level of the child's early exposure namely school. The author of this paper strongly proposed that the positive and formative experiences of the child towards the integrative value system at his early school days would have a long lasting impact on his leadership orientation in the later part of life. The highly value oriented moral dispositions of the school principals in the form of leadership virtues have a lot to contribute and influence the principal actors and stakeholders involved

with school education. Easley (2008) and Murphy et al. (2009) found that the moral leadership of school principals was reflected through their dispositions as well as actions. Greenfield (2004) mentioned that the social relations of the school leader with others, the schools leader's actions and interpersonal orientations, his beliefs and values in totality determine the development of moral school leadership. In this direction, the present study proposed, developed, and tested a leadership virtue scale comprising six cardinal virtues namely courage, temperance, justice, prudence, humanity, and truthfulness. Further, the direct causal attribution of these six cardinal virtues as leadership virtues on the organizational happiness (affective well-being) also offers long term implications for stakeholder engagement perspective. This finding was consistent with the moral implications of school leadership delineated to respect for teachers as professional fellows, favourable interpersonal relationships with them, and focus on doing the right things (Easley 2008; Harris 2012).

Limitations and Future Research Scope

This present study suffers from a number of limitations. Although adequate care was taken to ensure diverse representation of schools from across India participated in the survey, generalizability and conclusivity were difficult to achieve in other different national contexts and culture. Further, the absence of one to one interviews and personal interactions with the survey respondents failed to capture the mental schema and insights of school leaders as to how and why cardinal leadership virtues are required for creating impactful energy and changes across the institution. The future research agenda should connect the study of leadership virtues with reference to specific outcome variables like workplace spirituality, ethical climate, moral rearmament, leader-member satisfaction, organizational citizenship behaviour etc. The moderating effect of relevant situational variables namely education level, gender, family background, early exposure to virtuous leaders, job position, and nature of responsibilities handled can also be studied in determining the relationship between leadership virtues and predicted outcomes. The satisfactory empirical support found in favour of this developed scale of leadership virtues embedded in the Aristotelian and Confucian lineage of moral philosophy offers future direction and scope for replication in the corporate and not-for-profit sector organizations. In sum, the six virtue dimensions together incorporated in the measurement instrument offer for the wholesomeness that needs to be captured in the scale of leadership virtues.

Conclusion

This current paper conceptualizes leader virtues directly drawing from the Aristotelian and Confucian postulations of virtues having cross references from contemporary ethics research. Also, virtue as an exploratory research construct is well grounded in the domain of leadership studies through the streams of morality, ethicality, spirituality, and transformation (Brown and Trevino 2006; Walker et al. 2007; De Hoogh and Den Hartog 2008; Fairholm and Fairholm 2009; Zhang and Ng 2009; Yukl 2010). The present study was highly influenced by the six cardinal leadership virtues identified by Hackett and Wang (2012) rooted in virtue ethics in the realm of the Western and Eastern moral philosophies. The coherent integration of these two worlds has enabled to generate a pragmatic instrument suitable for catering to the issue of leadership virtue conceptualization and measurement. Although, the basic findings and

validation of this newly developed scale is limited to the context of school leaders' (principals) virtue inventories, the instrument has potential and far reaching implications for leaders working across different spheres of activities as well.

The development and empirical validation of a behaviourally focused scale on leadership virtues based on Aristotelian and Confucian thoughts of virtue remains the major contribution of this study. School education as an early influencer always serves a reference point as to the formation of basic values and welfare orientation of the child or adolescent. These fundamental values and exposures pave the way for the formation of virtue qualities inside the child in a gradual unfolding manner. Therefore, the role modelship and influential figurehead imperatives of the school principal as an institutional head have immense impact on all the actors (teachers, students, staff members) and stakeholders (management, parents, society). This understanding is the prime strength and rationale behind choosing the school principals as survey respondents for empirically validating the scale developed by the author. Nonetheless, this does not delimit the opportunity to apply the scale in other commercial and non-commercial organizations for objectively measuring cardinal leadership virtues in domain specific contexts. Given the wide spread prowl of corruption, greed, and malpractices; it is high time for individuals holding leadership positions to revisit the moral conscience. The six cardinal virtues encapsulated in the developed scale if applied vigorously, has huge potential for positive transformation of self, others, organization, and society. It has to be understood that in view of the rapidly progressive development and increasingly complex level of leadership literature, leadership virtue as an area may appear to be a rudimentary choice of study by the author. But as explained before, the author of this paper is keen to address the widely felt concern for moral bankruptcy, and hence has made a conscious choice and constructive attempt by taking up this issue at the level of school education that exerts high influence in the formative stage of the child as responsible future citizenship behaviour.

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