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Transactional, Transformational, Transcendental Leadership: Motivation Effectiveness and Measurement of Transcendental Leadership

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ABSTRACT

Existent leadership theories, such transactional and transformational leadership, based on the assumption of stability and certainty, can't effectively motivate employee in the quickly changing environment. This paper suggests that transcendental leadership incorporates and extends existent leadership theories by providing the motives behind leaders' practices, altruistic love, meanings, and spiritual survival. Transcendental leadership with high internal locus of control extrinsically, intrinsically, and transcendently motivate employee and thus is more effective than transactional leadership and transformational leadership in motivating employee in the uncertain age. In addition, based on theories, this paper tests existing spiritual leadership scale and creates a new transcendental leadership scale.

Background of the paper

This 3TAD leadership paper comes from one part of my dissertation which uses cross-sectional survey data collected from 2230 individuals to test the whole theoretical model comprising three constructs and their relationships, spirituality in the workplace, transcendental leadership, and organizational citizenship behavior. My dissertation tries to answer four theoretical questions, 1) What is spirituality in the workplace? 2) How does spirituality relate to organizational citizenship behavior? 3) What is the underlying mechanism through which a leader motivates employees? 4) How does transcendental leadership influence the relationship between spirituality and organizational citizenship behavior? Three measurement models and one structural model are simultaneously tested through structural equation modeling. Structural equation model with latent interaction product term and latent quadratic term are used to test moderation effects. Structural equation model with bias-corrected bootstrap confidence intervals is used to test mediation and suppression effects.

The dissertation answers the above four questions through,

- 1) creating and validating a completely new measurement of spirituality in the workplace
- 2) providing theoretical underpinnings of spirituality as a completely new dispositional antecedent of organizational citizenship behavior
- 3) suggesting that a leader motivates employees by activating employees' different spirituality levels, the underlying mechanism through which a leader influences employees
- 4) proposing that transcendental leadership, the new leadership style which incorporates and extends transactional and transformational leadership, influences the relationship between spirituality and organizational citizenship behavior through mediating or moderating effects

This 3 TAD paper focus on the transcendental leadership. This paper first summarizes and criticizes existing leadership theories to build a theoretical foundation for transcendental leadership. Later, based on the theory of transcendental leadership, this paper tests existing spiritual leadership scale and creates a new transcendental leadership scale.

Introduction

The social bonds that help individuals define their meanings of existence through uniting individuals into civic communities beyond the immediate family have weakened, reflecting in the broader decrease in participation in civic organizations, neighborhood groups, labor organizations, and religious institutions (Putnam, 2001). This decline of civic engagement makes people who spend most of their life time working in industrial organizations turn to workplaces, which provide the only consistent link to other people, to search for social bonds and meanings (Ashmos&Duchon, 2000; Conger, 1994; Fairholm, G.W., 1997; Hicks, 2003; Mirvis, 1997). However, outsourcings, mergers, takeovers, layoffs in private sectors as well as downsizing, reengineering, and privatizations in public sectors make employees feel insecure about their jobs and uncertain about their careers and further induce a sense of meaningless. A crisis of meaning in the postmodern and post-industrial society needs to be addressed in order to effectively motivate employees. However, extant theories of leadership based on the assumptions of a stable environment, certainty, and cognitive rationality are unable to solve the crisis of meaning, as cautions made by Einstein's (1945) that " No problem can be solved from the same level of consciousness that created it" (cf. Parameshwar, 2005). Therefore, a new leadership theory is

necessary to help employees find the meanings from their insecure jobs and uncertain careers in the quickly changing environment in order to motivate employee and increase organizational effectiveness. Based on the transcendental epistemology and influenced by the spiritual paradigm of motivation, this paper suggests that transcendental leadership which incorporates and extends theories of transactional and transformational leadership is more effective in motivating employees in the uncertain age.

Transactional and transformational leadership

Transactional and transformational leadership are seen to be in a continuum rather than being mutually exclusive (Bass & Avolio, 1994; Yammarino, 1993). Bass (1985) viewed the transformational/transactional leadership as being comprised of complementary rather than polar constructs. The transformational leadership style is complementary to the transactional style and likely to be ineffective in the total absence of a transactional relationship between leaders and subordinates (Bass & Avolio, 1990; Goodwin, Wofford&Whittington, 2001). The difference is that transactional leaders use rewards as a control mechanism to carry out the exchange relationship explicitly established to externally motivate followers, whereas transformational leaders use rewards as a component of a system designed to increase followers' commitment and internally motivate followers (Goodwin, Wofford&Whittington,2001; Rafferty& Griffin, 2004).

Weakness of transformational leadership

Transformational and charismatic leadership have been criticized of leader-centered assumptions (unidirectional influence flowing from the leader to the follower) ; limited in the impact of follower characteristics on the charismatic leadership process; heroic bias; followers' over identification with the leader creates loyal and obedient followers; followers' primary self identity become service to the leader ; immature, indecisive followers with low self-esteem; followers' overdependence on the leader, passive followers and active leaders (Beyer,1999; Graham, 1991; Yukl, 1999); bases for charisma tend to be emotional, inherently irrational, thus risky; succession and institutionalization problems of charismatic leaders unethical charismatic leader (Howell&Avolio,1992); the dark side of charismatic leadership, for example, narcissism, totalitarian, exploitive, and self-aggrandizing charismatic leaders who abuse power and manipulate followers as tools for personal gain (Conger,1990; Conger & Kanungo, 1998; Sankowsky, 1995); personalized (charismatic) leader (leaders who primarily concerned with their own self-interests) (Bass&Steidlmeier,1999; Deluga,2001), and vision may project leader's self-interest or a sense of grandiosity regardless of long-term organizational effectiveness (Conger, 1999; House & Howell, 1992; Kark, Shamir& Chen, 2003; O'Connor, Mumford, Clifton, Gessner& Connelly,1995; Yukl, 1999). Personalized charismatic leaders use emotions to maintain psychological distance from followers, while simultaneously encourage followers' dependence, submission, and obedience (Shamir, 1991; Turner, 1993). Followers buying into this type of relationship are typically seeking to identify with the leader as a person rather than with the leader's ideas. Vision, "value congruence" created by the leader, induces subordinates to follow the leader's vision and values, which causes the danger that only "performance consistent with the vision will be rewarded " (Rafferty & Griffin, 2004) and emphasizes conformity rather than creativity, individuality, or innovation (Reave, 2005). Rafferty and Griffin (2004) suggested that "in the absence of encouragement and confidence building efforts, articulating a vision may have a neutral or even negative influence on employees" (p. 350).

Moreover, transformational leadership is criticized of lacking concerns for morality and ethics. For example, Bass and Steidlmeier (1999) criticized the pseudo transformational leadership and suggested that the authentic transformational leadership should be true to self and others and must be grounded in ethical values and moral foundations. Sankar (2003) suggested that a leader's character grounded on values such as integrity, trust, human dignity, that influence a leader's vision, ethics, and behaviors, rather than charisma, should be the critical measure of leadership excellence. Graham (1991) criticized the moral hazards or absence of moral safeguards of charismatic leadership and followers may not want to be "intellectually stimulated," and there is no justification given in Bass' model as to why people should be developed any further than they really want to be. Nothing in the transformational leadership model says leaders should serve followers for the good of followers. Although later ethic /moral-based leadership theories, such as stewardship and servant leadership who make self-sacrifice to serve followers and common good, claims to be follower-centered leadership theory and go beyond transformational leadership (value-based leadership theory) by adding moral or ethical dimension (Graham, 1991, 1995; Greenleaf, 1977; 1978; Kanungo & Mendonca, 1996; Russell, 2001; Russell & Stone, 2002; Smith, Montagnolo & Kuzmenko, 2004), it remains unclear whether self-interest, egoism, or altruism on part of the leader is absent or not (Avolio & Locke, 2002; Yukl, 1999). That is, the motives behind a leader's behaviors should play a fundamental role in the leadership process but is ignored in extant leadership theories.

Transcendental leadership

Leadership can be portrayed as a spiritual relational process in the postmodern spiritual workplace (Biberman & Whitty, 1997) and transcendental leadership can be viewed as a field of inquiry within the broader context of workplace spirituality (Fry, 2003). Transcendental leadership uses values, attitudes, and behaviors (altruistic love, hope/faith, vision) to intrinsically motivate followers, thus increase followers' senses of spiritual survival, i.e., calling (life has meaning, make a difference) and membership (interconnection, be understood, be appreciated), and the resulting positive organizational outcomes (Fry, 2003; Fry, Vitucci & Cedillo, 2005). Transcendental leadership taps into the fundamental needs of both leader and follower for spiritual survival and aims to improve the spiritual development of both the leader and followers (Cardona, 2000; Fry, 2003; Sanders, Hopkins & Geroy, 2003).

Without desire to manipulate others, transcendental leaders addresses the weakness of transformational/charismatic leadership by providing the motives behind a leader's practices, that is, altruistic love, a sense of wholeness, harmony and well-being produced through care, concern, appreciation of both self and others, and authentic selfless concern for people, and thus help followers feel powerful and enabled to make decisions, accomplish work, and lead on their own (Fairholm, G.W., 1996; Fry, 2003; Korac-Kakabadse, Louzmin & Kakabadse, 2002). In addition, transcendental leadership is a "visioning process", an "ethical process that reflects requirements for legitimacy for both leader influence and follower empowerment to facilitate value congruence" (Fry, 2003, 2005). Therefore, transcendental leadership is both follower-centered and leader-centered process.

Transactional, transformational, and transcendental leadership are located in a nested hierarchy with transcendental leadership motivating followers most effectively

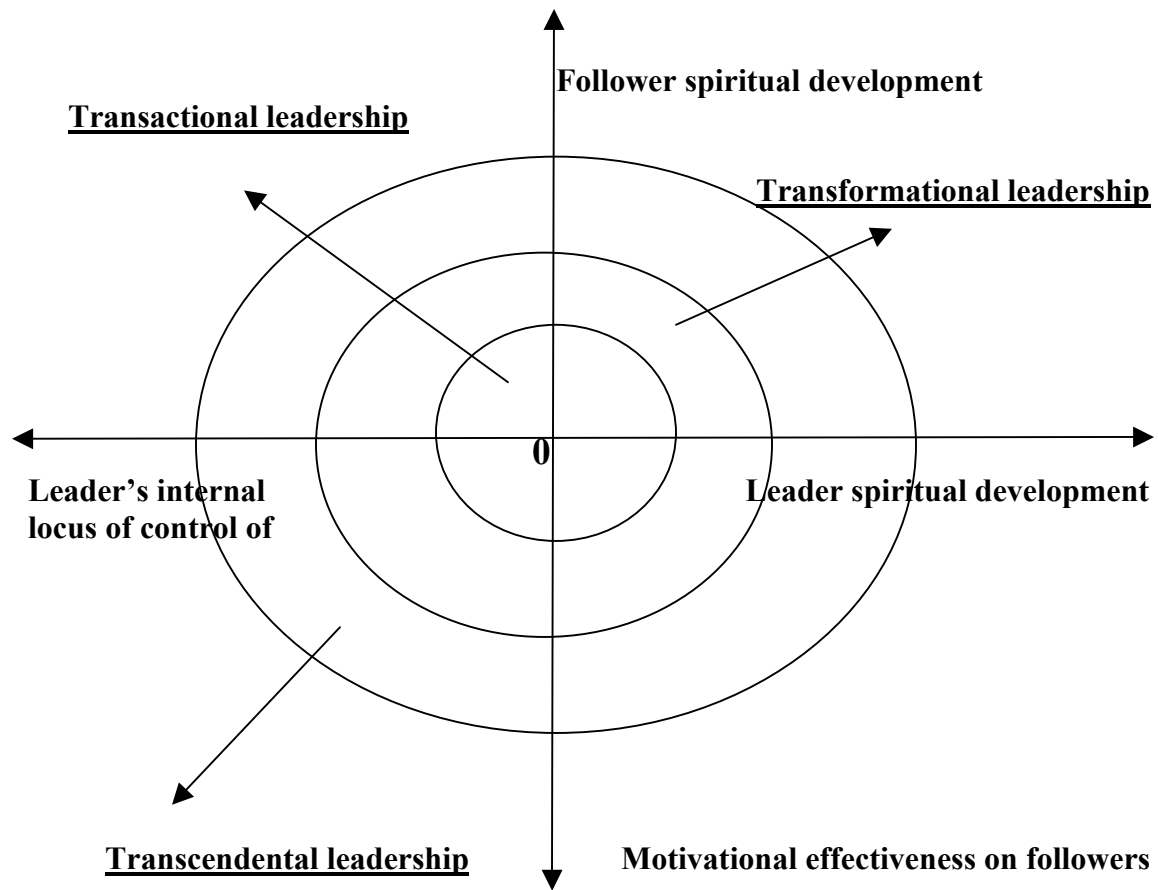
Transactional, transformational, and transcendental leadership are located in nested hierarchy, with the transcendental leadership incorporates and extends the former two (Cardona, 2000;

Sanders, Hopkins & Geroy, 2003). Fairholm (1998) suggested that transactional, transformational, and transcendental leadership can be ranked along a continuum from managerial control to spiritual holism. Fairholm (2004) proposed a Leadership Perspectives Model, suggesting Five Leadership Perspectives are located in a hierarchy from low to high are scientific management, excellence management, values leadership, trust cultural leadership and whole-soul (spiritual) leadership, with the higher level perspective encompassing and transcending lower level perspective. Transcendental leadership concerned about the whole person is a more holistic leadership that integrates the four essences of human existence, the body (physical), mind (logical/rational thought), heart (emotions, feelings), and spirit, whereas transactional and transformational leadership only address the former three, but no spirit (Fry, 2003).

Transactional leaders who use rewards to exchange for followers' compliance only develop followers' extrinsic motivations. Economic exchange can only externally motivate followers to the extent that specific behavior is directly rewarded and the amount of rewards is more than the cost of engaging in the behavior. Extrinsic contingent rewards are likely to decrease intrinsic motivation (Deci, Koestner & Ryan, 1999; Tang & Hall, 1995; Wiersma, 1992). Transformational leaders who motivate followers based on social exchange and use economic exchange to complement leadership practices develop followers' intrinsic and extrinsic motivations (Cardona, 2000). Moreover, transformational leadership using "soft" influence tactics, such as inspirational appeals and ingratiation, in addition to hard tactics, such as exchange and authority, is more effective in motivating followers than transactional leadership using only hard tactics (Charbonneau, 2004; Falbe & Yukl, 1992; Yukl & Falbe, 1990; Yukl & Tracey, 1992). Furthermore, augmentation hypothesis states that transformational leadership augments transactional leadership to predict higher follower OCB, employees performance, satisfaction, and perceived leader effectiveness beyond what could be accounted by the transactional leadership alone, but not vice versa (Bass, 1985; Bass & Avolio, 1990; Brown & Dodd, 1999; Bycio, Hackett & Allen, 1995; Hater & Bass, 1988; Koh, Steers & Terborg, 1995; Lowe, Kroeck & Sivasubramaniam, 1996; Sosik et al., 1997; Waldman, Bass & Einstein, 1987; Waldman, Bass, & Yammarino, 1990; Waldman, Ramirez, House & Puranam, 2001). Meta-analytical evidence supports the generalizable findings that transformational leadership is more effective, productive, innovative, and satisfying to followers than is transactional leadership (Lowe, Kroeck & Sivasubrahmaniam, 1996). In addition, transactional leadership externally motivate followers in such a way that followers engage in a specific behavior as means of obtaining recognitions and rewards to satisfy the lower needs in Maslow's (1954) need hierarchy. Transformational leadership motivate followers in such a way that induce followers to satisfy the higher level need of self-actualization in Maslow's (1954) need hierarchy. Therefore, transformational leadership is more effective in motivating followers than transactional leadership.

As a leader develops along the transactional-transformational-transcendental hierarchical continuum, the leader's spirituality in terms of consciousness, moral character, and faith become more developed. As the leader becomes more spiritually focused, he places greater importance on the immaterial as opposed to material and thus he tends to have higher internal locus of control (Sanders, Hopkins & Geroy, 2003). In the relationship between leadership style and internal locus of control, transactional leadership is either unrelated to internal locus of control or negatively related to internal locus of control whereas transformational leadership is positively related to internal locus of control (Howell & Avolio, 1993). Transcendental leadership has higher internal locus control than transformational leadership.

Transactional leaders with external locus of control (low internal locus of control) use more formal and coercive powers, particularly through the use of threat, because they do not expect that they will be able to influence others successfully. Transformational leaders and transcendental leaders with internal locus of control use more personally persuasive powers (e.g., respect, giving encouragement, and expertise) and are more considerate and less directive on their supervisory style than are transactional leaders (Mitchell, Smyser & Weed, 1975). Locus of control is highly related to perception of stress in the environment and the use of decision or coping behaviors. Externals tend to use emotion-centered coping behaviors, which are negatively related to organizational effectiveness. Internals tend to use problem-solving coping behaviors, which are strongly related to organizational effectiveness. Moreover, compared with externals, internals are more activity oriented and more likely to possess entrepreneurial qualities (Durand & Shea, 1974), have more knowledge about the world of work and are better able to deal with role ambiguity (Organ & Greene, 1974), are better able to adapt to the more personally demanding, fluctuating environment which may characterize future organizational settings (Mitchell, Smyser & Weed, 1975), and are more task-oriented and out-perform externals in stress situations (Anderson, 1977; Anderson, Hellriegel, & Slocum, 1977). Leaders with higher internal locus control are more effective than leadership with lower internal locus of control. For example, Anderson and Schmeier (1978) found that internal leaders out-perform external leaders; groups led by internal leaders performed significantly better than groups led by external leaders. Miller, Kets de Vries, & Toulouse, (1982) found that the more the internal locus control of the chief executive, the more the organization will engage in innovation, undertake risk projects, lead rather than imitate the moves of competitors (proactiveness), and the longer the planning horizons (futuraity). Strack and Fottler (2002) suggested that healthcare leaders who are more developed in terms of their actualized spirituality simultaneously implement the five practices of effective leaders: challenge the process, inspire a shared vision, enable others to act, model the way, and encourage the heart. In addition, transcendental leadership, who is concerned with and willing to sacrifice himself in the service of followers' well-beings, develops followers' extrinsic, intrinsic, and transcendental motivation (the motivation that transcend self-interest to do things for others), but not in a manipulative way as transformational leadership (Cardona, 2000; Fry, 2003). Therefore, transformational leaders who have higher internal locus of control than transactional leaders intrinsically and extrinsically motivate followers and thus are more effective than transactional leaders. Transcendental leaders, who have higher internal locus of control than transformational leaders and use altruistic love as the fundamental motive, develops followers' transcendental, intrinsic, and extrinsic motivations, but not in a manipulative way as transformational leadership, and thus are more effective than transformational leaders in motivating followers. The relationship among transactional, transformational and transcendental leadership can be shown in the following nested hierarchy.



The scale for transcendental leadership

Scale development

Items of Fry's spiritual leadership scale are used as survey questions in this study. Moreover, based on the above theoretical foundations, this study further designs new item questions especially for transcendental leadership. Exploratory factor analysis is first used to explore possible numbers of factors out of these survey questions. Later, to take measurement errors into account and simultaneously analyze multiple relationships among latent variables (factors) and indicators, confirmatory factor analysis through structural equation modeling, using Amos 6.0 (Analysis of Moment Structure), is used to test the theoretical construct, transcendental leadership, and the whole measurement model for transcendental leadership. The hypothesized three-factor CFA model of transcendental leadership is shown in figure 1.

Data collection

Survey data are collected from internet survey website, surveymonkey.com, from October 2006 to January 2007. Individualized survey solicitation emails are sent to executive members of Academy of Management. Executive members of AOM are invited to answer the survey online and are asked to further forward the survey solicitation emails to other individuals to invite them to answer the survey online. This survey receives 2452 responses. Problematic cases, such as response set, cases with over 50% missing responses, and so on, are deleted. Finally, 2232 responses are used for further analysis. Ordered-categorical data collected from 5 point Likert scale are treated as continuous data in this study. Assuming data are missing at random, missing data are imputed through EM Algorithm. Covariance matrix calculated based on raw data is analyzed in SEM model.

Model specification and identification

Figure 1 shows that there are totally 49 variables in the structural equation model. 23 variables are observed, endogenous variables, including v4, v8, v2, v5, v3, v6, v7, v1, v10, v9, v12, v11, v13, v15, v16, v17, v14, v23, v22, v21, v20, v19, and v18. 26 variables are unobserved, exogenous variables, including L1, e10, e9, e8, e7, e6, e5, e4, e3, e2, e1, L2, e17, e16, e15, e14, e13, e12, e11, L3, e23, e22, e21, e20, e19, and e18. "e" indicates measurement error. L1, L2, and L3 are latent variables, indicating three dimensions of the theoretical construct, transcendental leadership. To establish the scale of latent variables, the path coefficient of one indicator is set to 1.0. The number of distinct sample moments is 276. The number of distinct parameters to be estimate is 49. The degree of freedom is 227.

Data preparation and screening:

univariate normality, multivariate normality test, detection of outliers

Whether the data are normally distributed determines appropriate estimation methods used in SEM. Non-normality of observed data is more the norm than the exception in psychology, especially apparent at the item level for Likert-type data. Table 1 shows the result of univariate and multivariate normality test. Critical values that exceed +2.00 or that are smaller than -2.00 indicate statistically significant degrees of non-normality. A kurtosis coefficient of zero indicates shape corresponding to that of the univariate normal distribution. Deviation from normality is suggested by the relative magnitude of the coefficient values from zero. Variables with absolute

values of the kurtosis index greater than 10 indicate extreme kurtosis. Moreover, symmetrical distributions have a skewness coefficient of zero. Variables with absolute values of the skew index greater than 3.0 indicate extreme skewed. It is shown in table 1 that the data don't have univariate normality. In addition, the Mardia's coefficient of multivariate kurtosis and its associated critical ratio at the bottom of the table 1 is 170.553 (118.803). Very small multivariate kurtosis values (e.g., less than 1.00) are considered negligible while values ranging from one to ten often indicate moderate non-normality. Values that exceed ten indicate severe non-normality. Thus, as shown in table 1, the data don't have multivariate normality, either.

Cases with scores that are very different from the rest are outliers. A univariate outlier has an extreme score on a single variable. A multivariate outlier has extreme scores on two or more variables, or its pattern of scores is atypical. Deletion of cases that are outliers may contribute to multivariate normality (Kline, 2005). Cases with large distances from the mean vector may be outliers and may contribute to non-normality (Henson, 1999). Mahalanobis distance (d^2) statistic, which indicates the distance in standard deviation units between a set of scores (vector) for an individual case and the sample means for all variables (centroids). A value of d^2 with a relatively low p value in the appropriate chi-square distribution may lead to rejection of the null hypothesis that the case comes from the same population as the rest.

Amos identifies any case for which of the observed scores differs markedly from the centroid of scores for all 2232 cases. Mahalanobis d^2 values are used as the measure of distance and they are reported in decreasingly rank order. Table 2 shows the observations farthest from the centroid (Mahalanobis distance). Case 1012 is the furthest from the centroid with a Mahalanobis d^2 value of 113.335. The p1 column indicates that, assuming normality, the probability of d^2 (for case 1012) exceeding a value of 110.009 is < 0.000 . The p2 column, assuming normality, reveals that the probability is still < 0.000 that the largest d^2 value for any individual case would exceed 113.335. Although small numbers appearing in the first column p1 are to be expected, small numbers in the second column p2 indicate observations that are improbably far from the centroid under the hypothesis of normality. Case 903 has a Mahalanobis d^2 value of 110.165. Given case 1012 and case 903 have wide gaps in Mahalanobis d^2 values from all other cases, the case 1012 and case 903 are judged to outliers and thus are deleted from further analyses. Finally, 2230 cases are used in the SEM analysis.

Data summary and Data analysis

Covariance matrix summarizing the raw data shown in table 3 is submitted for SEM analysis. To correct for non-normality in the underlying database, overall model fit is assessed through Bollen-Stine bootstrap p-value rather than the usual maximum likelihood-based p-value. The estimates for parameters, regression (path) coefficients, variances, covariances, and so on, are computed through bootstrapping method.

Analysis Result

Global test of model fit (chi square goodness-of-fit statistic) and modification indices

The null hypothesis being tested is that the postulated model holds in the population. The Bollen-Stine bootstrap p-value for testing overall model fit is .000, with chi-square 5277.963 and degrees of freedom 227, suggesting that the hypothesized model is rejected. However, the chi square is highly sensitive to sample size. Given a sample size of 2230, it is not surprising that the probability value associated with the chi square statistic is less than .05. Indeed, evaluation of model fit should be more appropriately based on alternatively realistic indices of fit. The

goodness-of-fit indices for the initial model (figure 1) are shown in table 4 from which we can find that the overall model fit is not very satisfactory. Thus, modification indices are used to identify any areas of misfit in the model to search for a better model. Based on modification indices and theoretical justifications, the SEM model is modified as shown in figure 2. The goodness-of-fit indices for the modified model are shown in table 4 from which we find that the modified model had satisfactory fit.

Statistical significance of parameter estimates

After obtaining satisfactory overall model fit, we test the significance of individual parameters. The null hypothesis is that the parameter is equal to zero in the population from which the sample was drawn. Because the data are non normal, the estimates for parameters, regression (path) coefficients, variances, covariances, and so on, are computed through bootstrapping with percentile confidence intervals and bias-corrected confidence intervals. The result is shown in table 5. All the path coefficients between latent variables (the three dimensions of transcendental leadership) and corresponding indicators are significantly different from zero. The final three-factor CFA model with standardized estimates is shown in figure 3.

Conclusion

Transcendental leadership which transcends and extends existing leadership theories is more effective in motivating followers extrinsically, intrinsically, and transcendentally, compared to transactional leadership and transformational leadership. Moreover, based on theories, this paper further tests existing spiritual leadership scale and creates a new transcendental leadership scale.

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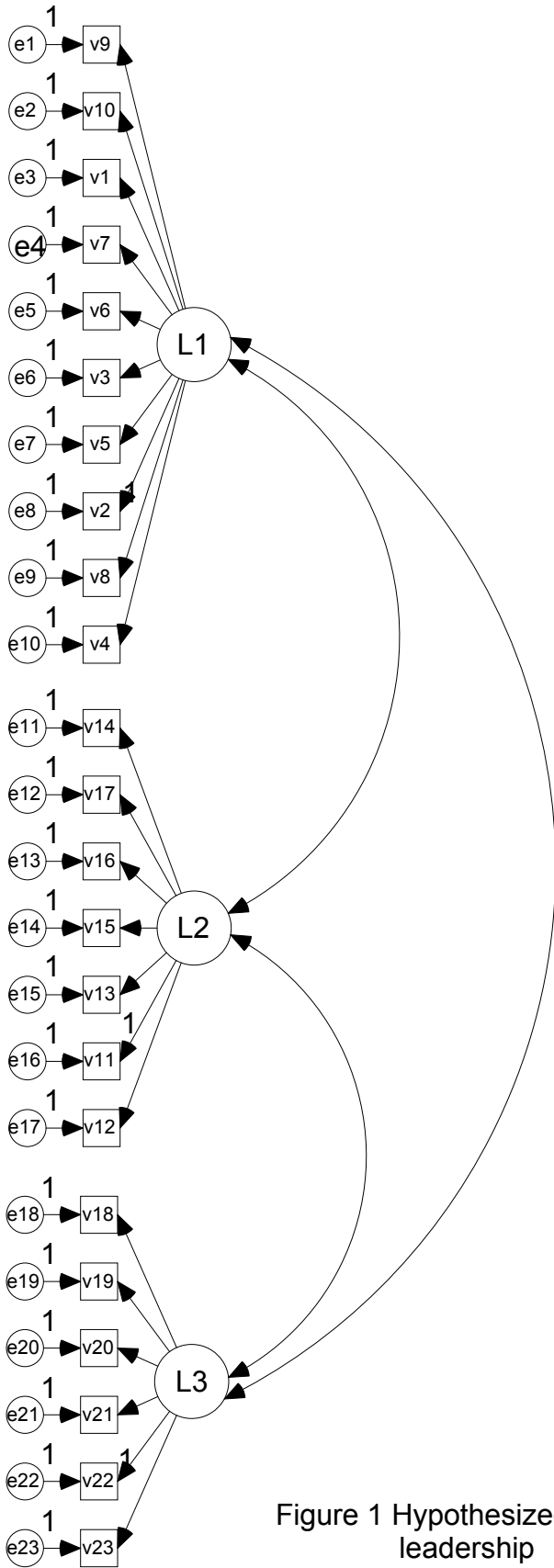


Figure 1 Hypothesized three-factor CFA model of transcendental leadership

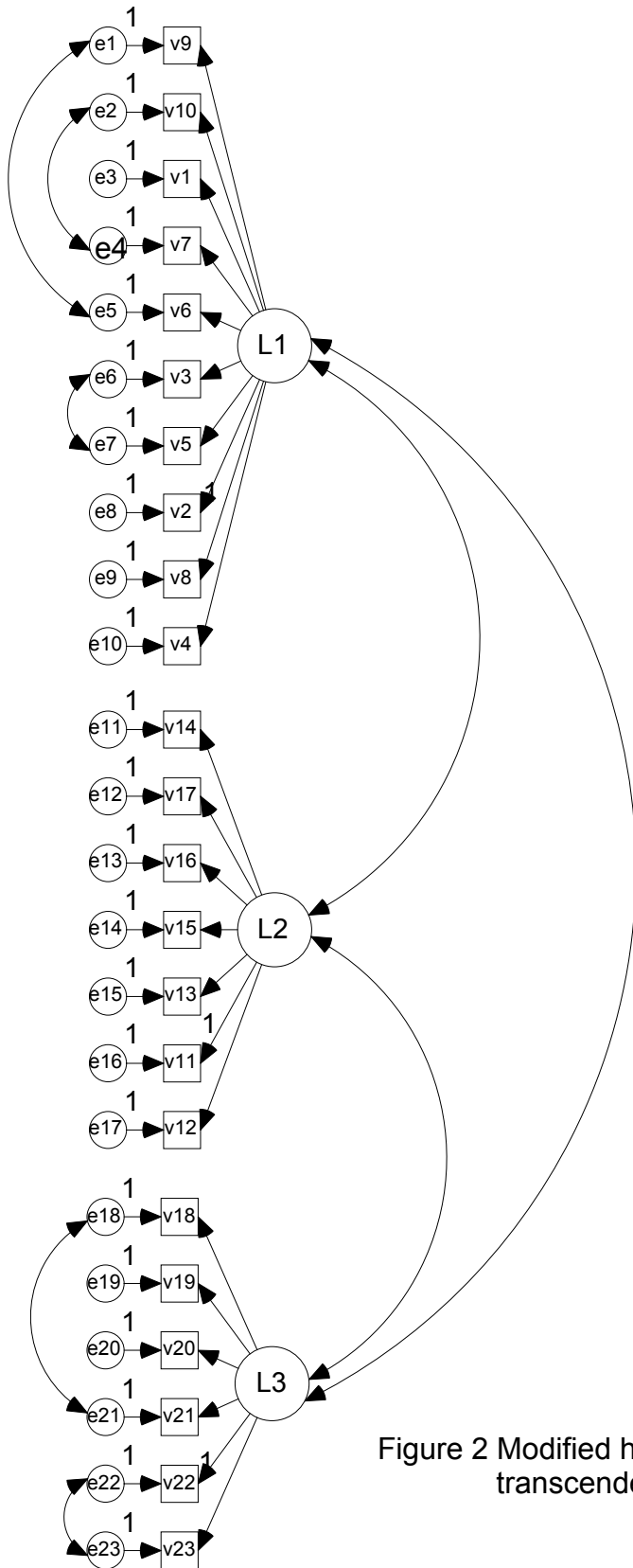


Figure 2 Modified hypothesized three-factor CFA model of transcendental leadership

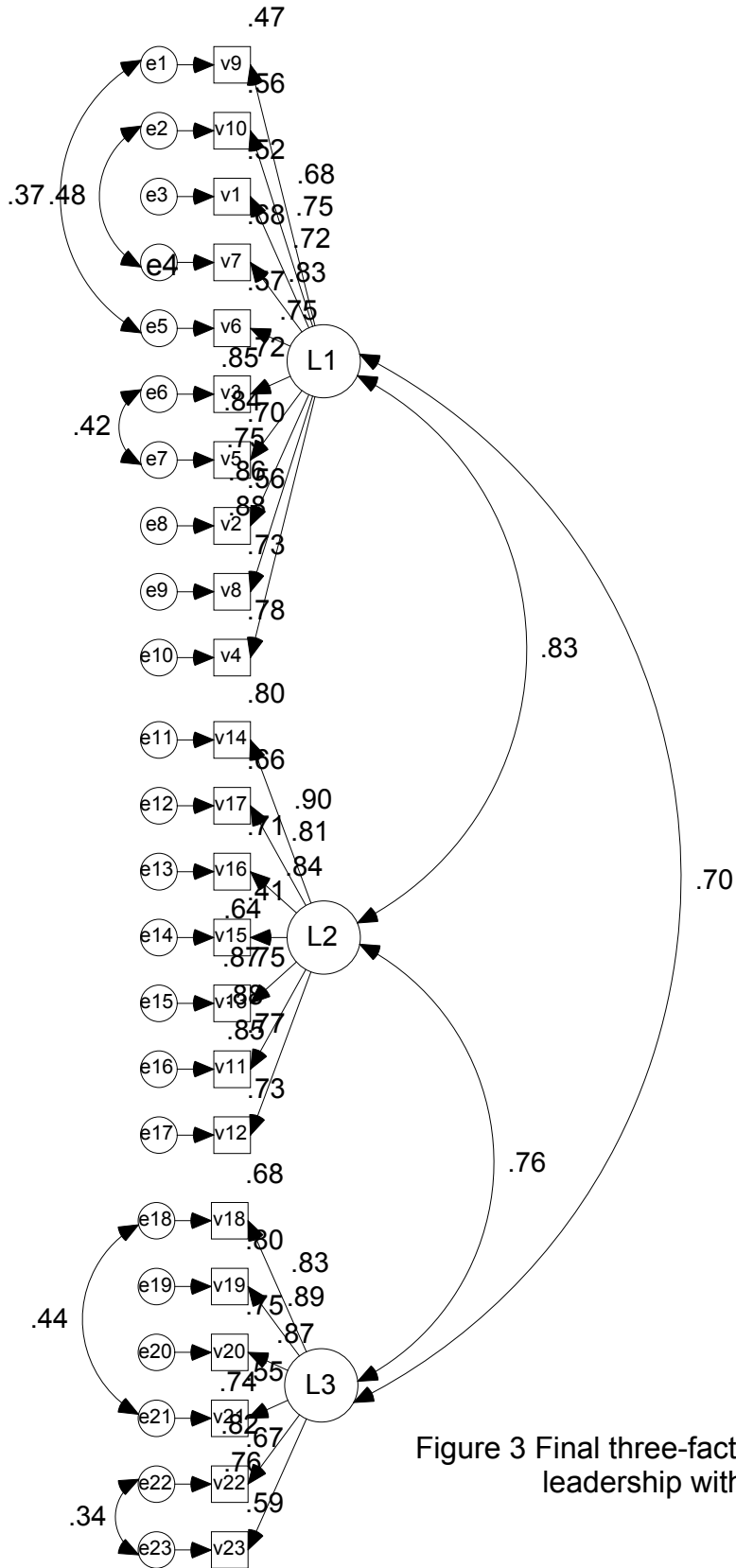


Figure 3 Final three-factor CFA model of transcendental leadership with standardized estimates

Table 1 univariate and multivariate normality test

Variable	skew	c.r.	kurtosis	c.r.
1. I understand and am committed to my organization's vision.	-.803	-15.49	.746	7.190
2. My work group has a vision statement that brings out the best in me.	-.219	-4.228	-.390	-3.758
3. My organization's vision inspires my best performance.	-.308	-5.931	-.482	-4.646
4. I have faith in my organization's vision for its employees	-.337	-6.502	-.416	-4.015
5. My organization's vision is clear and compelling to me.	-.444	-8.570	-.345	-3.330
6. I have faith in my organization and I am willing to do whatever it takes to insure that it accomplishes its mission.	-.522	-10.07	.165	1.588
7. I preserve and exert extra effort to help my organization succeed because I have faith in what it stands for.	-.600	-11.57	-.045	-.433
8. I always do my best in my work because I have faith in my organization and its leaders	-.330	-6.363	-.397	-3.825
9. I set challenging goals for my work because I have faith in my organization and want us to succeed.	-.725	-13.97	.408	3.937
10. I demonstrate my faith in my organization and its mission by doing everything I can to help us succeed.	-.670	-12.92	.239	2.309
11. My organization really cares about its people.	-.479	-9.244	-.418	-4.035
12. My organization is kind and considerate toward its workers, and when they are suffering, wants to do something about it.	-.458	-8.843	-.452	-4.354
13. The leaders in my organization 'walk the walk' as well as 'talk the talk'	-.302	-5.820	-.741	-7.146
14. My organization is trustworthy and loyal to its employees	-.432	-8.335	-.425	-4.101
15. My organization does not punish honest mistakes	-.604	-11.64	-.055	-.533
16. The leaders in my organization are honest and without false pride.	-.334	-6.436	-.634	-6.115
17. The leaders in my organization have the courage to stand up for their people	-.408	-7.860	-.477	-4.601
18. The leaders in my organization try to improve their own spiritual development	-.018	-.354	.407	3.928
19. The leaders in my organization care about employees' spiritual life.	.073	1.414	-.316	-3.046

Variable	skew	c.r.	kurtosis	c.r.
20. The leaders in my organization try to improve employees' spiritual development	.221	4.253	-.327	-3.151
21. The leaders in my organization care about their own spiritual life	-.014	-.274	.292	2.815
22. The leaders in my organization are willing to sacrifice themselves in the service of a higher purpose.	.025	.480	-.527	-5.079
23. The leaders in my organization are willing to sacrifice themselves in the service of a higher purpose.	-.161	-3.098	-.606	-5.841
Multivariate kurtosis ^a			170.553	118.803

^a Mardia's coefficient of multivariate kurtosis

Table 2 observations farthest from the centroid (Mahalanobis distance)

Observation number	Mahalanobis d-squared	p1	p2
1012	113.335	.000	.000
903	110.165	.000	.000
1212	93.281	.000	.000
2	92.326	.000	.000
2228	90.623	.000	.000
1066	89.733	.000	.000
1387	87.267	.000	.000
1677	87.140	.000	.000
100	85.648	.000	.000
1477	83.012	.000	.000
823	81.432	.000	.000
569	80.476	.000	.000
1119	79.771	.000	.000
500	79.728	.000	.000
1502	79.550	.000	.000
112	79.320	.000	.000
1616	78.704	.000	.000
447	76.905	.000	.000
1079	76.837	.000	.000
1811	75.175	.000	.000
54	74.634	.000	.000
250	74.382	.000	.000
857	73.906	.000	.000
2078	73.579	.000	.000
1072	73.486	.000	.000
15	73.353	.000	.000
1172	72.977	.000	.000
596	72.679	.000	.000
24	71.905	.000	.000
1581	71.810	.000	.000
1068	71.264	.000	.000
1689	71.049	.000	.000
261	70.285	.000	.000
2052	68.724	.000	.000
1349	68.350	.000	.000
472	67.607	.000	.000
1728	67.299	.000	.000
1245	66.900	.000	.000

Observation number	Mahalanobis d-squared	p1	p2
428	66.768	.000	.000

Table 3 data summary, covariance matrix

	18	19	20	21	22	23	14	17	16	15	13	11	12	9	10	1	7
18	.898																
19	.803	1.14															
20	.713	.908	1.111														
21	.697	.693	.635	.880													
22	.684	.824	.845	.630	1.17												
23	.632	.748	.782	.566	.883	1.15											
14	.488	.619	.559	.496	.698	.677	1.13										
17	.540	.657	.655	.509	.803	.763	.809	1.18									
16	.535	.635	.593	.562	.760	.699	.904	.841	1.21								
15	.383	.454	.454	.353	.540	.531	.596	.713	.592	1.013							
13	.624	.731	.669	.573	.849	.800	.929	.955	.987	.630	1.338						
11	.494	.636	.577	.501	.710	.698	.997	.794	.866	.572	.904	1.172					
12	.555	.689	.628	.515	.751	.729	.871	.823	.807	.610	.948	.879	1.163				
9	.277	.327	.326	.280	.362	.368	.467	.378	.414	.298	.412	.481	.408	.815			
10	.362	.420	.407	.345	.460	.471	.522	.458	.479	.336	.531	.532	.551	.585	.924		
1	.289	.331	.307	.284	.360	.376	.469	.386	.422	.279	.441	.473	.418	.483	.511	.741	
7	.430	.508	.472	.415	.553	.560	.624	.578	.574	.409	.632	.640	.630	.594	.773	.556	1.012
6	.331	.393	.380	.325	.440	.424	.549	.463	.504	.332	.522	.545	.501	.550	.562	.515	.598
3	.465	.567	.538	.447	.616	.620	.679	.631	.630	.440	.736	.700	.685	.548	.658	.564	.776
5	.477	.561	.533	.460	.608	.616	.694	.650	.644	.445	.743	.704	.683	.527	.637	.587	.768
2	.411	.511	.526	.396	.541	.546	.538	.549	.523	.382	.596	.551	.562	.435	.518	.445	.607
8	.501	.604	.589	.455	.673	.658	.711	.719	.693	.524	.779	.706	.722	.545	.641	.503	.726
4	.520	.636	.630	.486	.713	.701	.777	.749	.740	.518	.841	.781	.771	.498	.601	.531	.705

Table 4 goodness-of-fit statistics

	Initial model (figure 1)	Modified model (figure 2)
Chi square statistics	5277.963	3681.924
degree of freedom	227	222

p value	.000	.000
goodness-of-fit index		
GFI	.800	.859
AGFI	.757	.825
NFI	.893	.924
CFI	.897	.928
RFI	.880	.914
IFI	.897	.929
TLI	.885	.918

Table 5 measurement properties: characteristics of the latent variables

Construct and indicators	Standardized coefficient	Estimate S.E. ^a	Squared Multiple Correlations
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Leader 1			
v9 I set challenging goals for my work because I have faith in my organization and want us to succeed.	.683	.014**	.467
v10 I demonstrate my faith in my organization and its mission by doing everything I can to help us succeed.	.751	.013**	.564
v1 I understand and am committed to my organization's vision.	.724	.013**	.524
v7 I preserve and exert extra effort to help my organization succeed because I have faith in what it stands for.	.827	.010**	.683
v6 I have faith in my organization and I am willing to do whatever it takes to insure that it accomplishes its mission.	.754	.014**	.568
v3 My organization's vision inspires my best performance.	.847	.007**	.718
v5 My organization's vision is clear and compelling to me.	.837	.009**	.700
v2 My work group has a vision statement that brings out the best in me.	.747	.013**	.558
v8 I always do my best in my work because I have faith in my organization and its leaders.	.856	.008**	.732
v4 I have faith in my organization's vision for its employees.	.884	.007**	.782
Leader 2			
v14 My organization is trustworthy and loyal to its employees.	.897	.006**	.804
v17 The leaders in my organization have the courage to stand up for their people.	.814	.009**	.662
v16 The leaders in my organization are honest and without false pride.	.841	.008**	.707
v15 My organization does not punish honest mistakes.	.639	.016**	.408
v13 The leaders in my organization 'walk the walk' as well as 'talk the talk'.	.869	.007**	.755
v11 My organization really cares about its people.	.876	.008**	.768
v12 My organization is kind and considerate toward its workers, and when they are suffering, wants to do something about it.	.853	.008**	.728
Leader 3			
v18 The leaders in my organization try to improve their own spiritual development.	.828	.011**	.685
v19 The leaders in my organization care about employees' spiritual life.	.893	.007**	.797
v20 The leaders in my organization try to improve employees' spiritual development.	.869	.008**	.754

v21 The leaders in my organization care about their own spiritual life.	.745	.013**	.555
v22 The leaders in my organization are willing to sacrifice themselves in the service of a higher purpose.	.821	.011**	.675
v23 The leaders in my organization motivate employees to transcend their self-interest to do things for others.	.765	.012**	.585

a. For each construct, the dimensions of transcendental leadership, the coefficient of one indicator is set to 1.0 to establish the scale.

* $p < .001$