

EXAMINING MULTIFACTOR LEADERSHIP QUESTIONNAIRE CONSTRUCT: A VALIDATION STUDY IN THE PUBLIC HOSPITALS OF SINDH, PAKISTAN CONTEXT

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ABSTRACT

Present study examined the psychometric properties of the multiple leadership questionnaires (MLQ) in the health sector of Pakistan. Three hundred and fifteen medical doctors participated in the survey from all four regions of Sindh province. Using Smart-PLS 2.0 M3 software the data was analyzed. The results of the present study revealed that all the leadership styles including transformation, transactional and laissez-faire were highly relevant. The results of the study also demonstrated adequate level of internal consistency reliability, convergent validity and discriminant validity for each of the leadership styles. Based on the results, it is suggested that the MLQ instrument could be useful for measuring all the leadership styles in the health sector in Pakistan.

Keywords: *transformational, transactional, laissez-faire, leadership, Pakistan.*

1.0 INTRODUCTION

Considerable amount of literature is available on the numerous aspects of leadership (Bass & Stogdill, 1990). Although, several researchers have defined leadership differently (Mora & Țiclău, 2012; Mullins, 1998) but the essence of these definitions remains the same. It starts from understanding employees, communicating effectively, setting goals and objectives, ensuring to achieve those set goals and above all looking into employee motivation (Yukl, 2005; Northouse, 2010). The effective leadership leads to effective employee and organizational performance, increased employee motivation, and reduced turnovers (Emery & Barker, 2007; Clark et al., 2009; Eunyoung 2007). The role of leadership is also very critical in creating organizational climate therefore research on this stream is a never ending process (Bass 1990; Jensen, Vera & Crossan, 2009). The above literature grounds have suggested that the role of leadership (in any form) is essential say it is either communicating effectively or understanding employees or setting and meeting overall organizational goals. Hence, it can be infer that leadership is essential for creating organizational climate that enables employees to perform well. Empirical results from previous studies have forwarded conclusions suggesting that organizational climates vary from organization to organization and country to country therefore leadership challenges also vary from organization and country wise (Bass & Avolio, 1997). Therefore, it defines the need to further investigate the influence of leadership over organizations and their employees. Additionally, the popular literature widely appreciates three dominant leadership styles that include transactional, transformational and laissez-faire styles of leadership. However, there

remains a concern with regards to the, effectiveness of each of these leadership styles in varying organizational cultures.

Apart from the above reasons, there have also been controversies in the literature of leadership with regards to its effective measurement. Researchers have suggested different ways to measure the employee perception with regards to effective leadership styles (Ogbonna, & Harris, 2000; Vigoda-Gadot, 2007; Oreg, & Berson, 2011). In addition to these grounds, studies specifically focusing on measuring leadership styles with multifactor leadership questionnaire have also provided confusing results in terms of the number of items for effective measurement of leadership styles (Bass, 1995; Tejeda, Scandura and Piliyai, 2001; Barnett et al., 2001; Antonakis et al. 2003; Bass and Avolio 1995). Thus, in line with the above elaborations, the present study aimed at attempting the existing body of knowledge on the leadership styles literature by examining the psychometric properties of multifactor leadership questionnaire construct in the health sector of Sindh, Pakistan. In this connection, present study attempted to address the following research question: What are the psychometric properties of multifactor leadership questionnaire and its structure factor in the Pakistani context.

2.0 REVIEW OF THE LITERATURE

2.1 Transformational Leadership

While discussing the crucial nature of transformational leadership Williams et al., (2007) stated that this type of leadership would harvest trust, loyalty, admiration, and respect among their employees for leadership. This style of leadership offers several advantage to organizations including influences employee commitment (Dunn, Dastoor, & Sims, 2012; Joo, Jun-Yoon & Jeung, 2012); enhancing productivity (Eunyoung, 2007) enhancing employee morale Bass & Riggio, (2006). Notably, this type of leadership also encourages employees to surpass their expected performance (Andrews, Richard, Robinson, Celano, & Hallaron, 2012; Miia, et al., 2006).

This style of leadership has potential to institutionalize changes at the organizational level (Bass & Avolio, 1994). Hence, the literature on organizational management witnesses that this style of leadership is potentially important for businesses for robust performance.

2.2 Transactional Leadership

The transactional leadership provides clarities about rules and standards for protecting the status quo to their employees; they also correct errors of the employees and ensure close monitoring for gaining success (Bass & Avolio, 1995; Bass, 1985). The transactional leadership is said to have preventive-focused approach (Higgings, 1997); they prefer stability (Lieberman et al., 1999) avoid mistakes (Higgings et al., 2001) and look for short term gain (Förster, Liberman & Higgins, 2005). Conclusively, it can be asserted that this approach of leadership encourages followers for carrying out their respective tasks with a preventive approach; they also strive towards employee compliance (Bass & Avolio, 1997). Research also evidently expresses that this approach of leadership can build trust-based relationship between leader and follower due to its focus on expectation clarifications and rewards (Bass et al., 2003). They satisfy followers with the legitimacy of rewards, raises, and appreciations to their instant needs (Northouse, 2010; Boehnke et al., 2003). This leadership style provides exchange-relationship with its followers; hence

making a transaction effective (Bass & Avolio, 1990). Notable research states and appreciates the impact of transactional leadership style on organizational outcomes (Bass et al., 2003; Podsakoff et al., 1990). Hence it can be concluded that understanding transactional style of leadership is also of significance and thus, cannot be ignored in the current literature.

2.3 Laissez-faire Leadership

The leadership styles are identified with regards to their individual influence over their subordinates (Mullins, 1998; Rollinson, 2005). It is defined as having no-leadership in place (Mullins, 1998; Rollinson, 2005); was calling it the absence of leadership or its avoidance. It could therefore be drawn upon this that the Laissez-faire leaders are hesitant in decision making, reluctant in taking actions, and are found absent where and where needed. Notable researchers emphasize that this absence of any leadership style (transformational or transactional) should be approached differently (Bass, 1998 & Avolio, 1999).

Under this approach of leadership the group members are delegated the authority for making decisions at their own (Mondy & Premeaux, 1995). This style of leadership which “abdicates responsibilities avoid making decisions” (Luthans, Avolio, Walumbwa, & Li, 2005) is effective where subordinates are experts in their area of operation and/or are highly motivated specialists. “Behavioral style of leaders who generally give the group complete freedom, Provide necessary materials, participate only to answer questions, and avoided giving feedback” (Bartol, Martin & Kromkowski, 2003). Despite the limitations of the scope and definition of this leadership style; it has not been ignored in the literature of organizational management literature.

2.4 Multiple Leadership Questionnaires

Similarly to the conceptualization of leadership styles there has been great debate over measuring leadership effectively. Among the top ranked leadership measures is Multifactor Leadership Questionnaire (MLQ); it measures the operating transformational and transactional leadership theories (1985b). Refined and revised for several times; initially this instrument incorporated only mundane and charismatic leadership components (Tejeda, Scandura, & Piliyai, 2001). Later a three order domain that makes up of transformational, transactional and laissez-faire was incorporate by (Bass, 1985a). In addition to this, Kirkbride, (2006) announced “The Full Range Leadership Model” based on seven factors; these factors were quite similar to those introduced by (Bass, 1998 & Avolio, 1999). The MLQ has been used both as a uni-dimensional as well as multidimensional. In the original scale of MLQ 5X Bass and Avolio (1995) introduced 45-items. The past literature has witnessed great support to the use of MLQ for measuring leadership however according to Yukl, (1999) there exists criticism over the effectiveness of this scale for measuring leadership. Hence Yukl, (1999), and Tejeda et al., (2001) have suggested the further validation of the MLQ scale into different work settings. On the contrary, studies also suggest that the MLQ instrument provides robust results for measuring leadership (Antonakis et al., 2003).

It is also evident from the past research that measurement for leadership styles has been based, primarily on both i.e multidimensional as well as uni-dimensional approaches. The present study evaluated leadership styles on uni-dimensional grounds referring to the recommendations made by (Emery & Baker, 2007; Berson & Linton, 2005).

Drawing upon the research call for further investigation made by Yukl (2006); the present study attempted to address the construct validity of MLQ 5X short form under which 36 items were chosen out a total of 45 drawing upon the recommendations of notable research in the domain of leadership Antonakis *et al.* (2003) Boehnke *et al.* (2003) and recently used by Hasim & Mohamood 2012, 2011, Pahi and kamal, 2015a 2015b).

3.0 RESEARCH METHOD

3.1 Population and Data Collection Procedure

The data was collected from the doctors from public sector hospitals of Sindh province. The total population according to PMDC-data (www.pmdc.org.pk) was 70594. In order to determine the appropriate sample for the present study, the Krejcie and Morgan (1970) criteria was used. Following on this criterion, a total of 382 responses were required to draw generalizable results. Therefore, following recommendation drawn by Bartlet, Kotrilik (2001) a total number of 764 questionnaires were distributed; keeping in view the possibility of low response rate.

3.2 Sampling technique

The present study administered the MLQ scale validation using the sample from the government owned hospitals of Sindh, Pakistan and medical staff were selected as respondents for the present study. For this reason the respondents were the medical staff of these government owned hospitals. But unfortunately the health department of Sindh province and health ministry of Pakistan failed to provide the appropriate number of medical staff working in government owned hospitals. Due to this reason, the present study employed multi-stage cluster sampling technique. For this purpose, the present study followed the guidelines provided by Kothari, (2004) and Allen et al., (2002). Using this criteria first the population that was at country (Pakistan) level was divided into provinces; from which Sindh province was selected; this was followed by dividing the population of Sindh province into four major regional chunks (Karachi, Hyderabad, Larkana and Sukkur); the population of these four clusters is 75,000 hence data was collected from all these four segments of Sindh province (Kothari, 2004; Allen et al., 2002).

3.3 Instrument

The prime objective of the present study was to assess the psychometric properties of the multifactor leadership questionnaire. This deemed necessary due to the fact that past and present literature on measuring effectiveness of leadership styles has reported inconsistencies (Yukl (1999), Bass and Avolio 1995; Yukl; 2006). Moreover, the use of MLQ has also provided ambiguous results due to its several versions. Some notable authors in the area believe that long versions of MLQ are relatively more effective while others suggest the shorter versions (Bass, 1985; Boehnke et al, 2003; Antonakis et al, 2003). Therefore, the present study aimed at assessing the psychometric properties of MLQ (5x-short form) (Bass, 1985) with 36-items for their appropriateness in measuring leadership styles in the government owned hospitals in Sindh, Pakistan.

3.4 Demographic profile

The respondents profile is provided in Table 1. The male respondents (55.2%) in the survey were slightly more than female (44.8%) out of which 47.3% were single and 52.7% were married. The largest age category was middle aged with 61% in the total population. The majority of the

respondents 64.7% were having MBBS degree followed by FPCS and PhD. The largest serving group was with the experience (1-5) years (37.5%) followed by other service tenures.

Table 1: The Respondents Profile

		Frequency	Percentage
Gender	Male	175	55.2%
	Female	142	44.8
Marital status	Single	150	47.3
	Married	167	52.7
Age	20- 30Years	195	61.5
	30- 40years	85	26.8
	40-50ears	33	10.4
	50-60years	04	1.3
	Specialist doctors (PhD holders)	12	3.8
	FCPS	23	7.3
Services	Doctor MBBS	205	64.7
	Other educational degrees	77	24.3
	Less than one year	99	31.2
	1 to 5 years	199	37.5
	5 to 10 years	73	23
	10 to 15 years	18	5.7
	More than 15 years.	8	2.5

4.0 ANALYSIS & RESULTS

In order to determine the effectiveness of MLQ in the health sector of Pakistan; we adopted the use of PLS path modelling to analyze the data using Smart-PLS 2.0 (Ringle et al., 2005). This structural equation modelling technique is gaining popularity around the globe due to its user-friendly approach and other powerful mechanics. Beside its numerous other powerful functions, this approach is highly suggested as useful tool when the objective of the research is to test and validate the models (Hair et al., 2012; Henseler et al., 2009). Referring on the suggestions put-forward by Wold, (1975) the present study adopted Smart-PLS 2.0 for the data analysis. Looking into the nature of the analysis and objectives of the present study; the psychometric properties of the MLQ have been assessed using measurement model approach. In doing so, the individual item reliability, internal consistency reliability, convergent validity and discriminant validity of the measures were examined (Henseler, Ringle, & Sinkovics, 2009) and the results are subsequently presented and discussed in Table 2, Table 3 and following sub-sections.

Table 2: Results of the confirmatory factor analysis for MLQ

Code	Indicators	1	2	3
LFLS1	Avoids getting involved when important issues arise	0.919		
LFLS2	Is absent when needed	0.686		
LFLS3	Avoids making decisions	0.922		
LFLS4	Delays responding to urgent questions.	0.827		
TS1	Provides with assistants an exchange for my effort		0.902	
TS10	Wait for things go to wrong before taking action		0.839	
TS11	hospital believes in not making changes unless necessary		0.853	
TS12	Takes action only when problem become serious		0.858	
TS3	Clarifies my expectation when meeting perform expectation goal		0.698	
TS4	Expresses satisfaction when meeting performance		0.774	
TS5	Focuses attention on irregularities /mistake deviation from standards		0.879	
TS6	Gives all attention in dealing with mistake/ complains/ failure		0.843	
TS7	Keeps track of all mistakes		0.738	
TS8	Directs my attention towards failures to meet standards		0.806	
TS9	Do not fail interfere until the problem is serious		0.870	
TSL1	Instills pride in me for being associated with her/him			0.741
TSL11	Articulates a compelling vision			0.903
TSL12	Expresses confidence on goal achievement			0.631
TSL14	Seeking deferent perspective in problem solving			0.914
TSL16	Suggests new ways to completing my work			0.916
TSL17	Spends time on training and caching			0.825
TSL18	Treats me as individual rather than member of group			0.704
TSL19	Considers me as having different needs/ abilities / aspiration			0.759
TSL2	Goes beyond self-interest for the good of staff			0.919
TSL20	Helps me to develop my strength.			0.915
TSL4	Displays sense of power and confidence in me			0.818
TSL6	Specific importance of having a strong sense of purpose			0.690
TSL8	Emphasizes important of group's mission			0.891
TSL9	Talks optimistically about future			0.920
	Average Variance Extracted (AVE)	0.7126	0.6818	0.6899
	Composite Reliability (CR)	0.9073	0.9591	0.9685

4.1 Individual Item Reliability

Looking at the nature of the study, it was important to determine the reliability of each item in the MLQ scale. We assessed the individual item reliability by observing outer loadings (Hair et

al., 2014; Duarte & Raposo, 2010). Researchers have mutually agreed over .40 and .70 as rule of thumb to determine individual item reliability (Hair et al., 2014).

The standardized loadings for all the items related with laissez-faire was found greater than standard cut-off, hence no item from laissez-faire construct was deleted. However, due to lower loadings, one item was deleted from the transactional leadership construct. Finally, from transformational leadership construct, 14 items were retained from a total of 20 items; six items in this construct were deleted due to lower loadings. Details pertaining to deleted items are provided in Table A in the Appendix section. The overall retained loadings ranged between 0.631 to 0.968. This ensured that all the retained items have sufficiently met the criterion for individual item reliability.

4.2 Internal Consistency Reliability

The internal consistency reliability denotes to the degree to which every item in an individual scale (or sub scale) measures the same concept (Bijttebier et al., 2000). Past literatures have outlined two widely used methods to estimate internal consistency reliability i.e Cronbach's alpha coefficient and composite reliability (*refer* Peterson & Kim, 2013; Bacon et al., 1995; McCrae et al., 2011). We employed composite reliability coefficient for ascertaining internal consistency reliability of MLQ (Hair et al., 2011; Bagozzi & Yi, 1988).

According to Hair et al., (2011) a construct meets composite reliability criterion when it scores 0.7 or more. The composite reliability coefficients are provided in Table 2 which shows that all the constructs of the present study have ranged between 0.90 to 0.96. These coefficient scores suggest that all the variables of the present study have demonstrated sufficient internal consistency reliability (Hair et al., 2011).

4.3 Convergent Validity

The concept of convergent validity denotes to the degree by which items truly represent the intended latent constructs and correlate with other measures of the same latent construct (Hair et al., 2006). The convergent validity was ascertained on the basis of Average Variance Extracted (AVE) of the latent constructs. This was followed on the guidelines of Chin (1998), according to whom, the AVE loadings should be 0.5 or above for each of the latent construct. Table 2 outlines that the average variance extracted for the laissez-faire, transactional and transformational leadership styles were 0.71, 0.68 and 0.68 respectively. This further suggests that the current study has successfully demonstrated the convergent validity.

4.4 Discriminant Validity

Lastly, the current study attempted to assess discriminant validity of all the latent variables. The discriminant validity denotes to the degree to which a given latent variable is different from other latent variables (Duarte & Raposo, 2010). The discriminant validity was assessed drawing upon the guidelines of Fornell and Larcker, (1981), according to whom, the square root of average variance extracted should be above than the correlations among latent variables. The square-root of AVE (in the boldface values) and correlations among latent constructs are provided in Table 3.

Table 2: Discriminant Validity

Latent Variable Correlations	1	2	3
Laissez-faire	0.844		
Transactional	0.814	0.825	
Transformational	0.686	0.775	0.830

The boldface values provided in table 3 are square root of the average variance extracted. The AVE values suggest that all the latent constructs have successfully demonstrated sufficient level of discriminant validity; as all the values of square root of AVE were greater than the correlations. It is therefore, concluded that all the measures of the MLQ have met the discriminant validity requirements.

It was essential in determining the psychometric properties of MLQ to assess the individual item reliability, internal consistency reliability, convergent validity and discriminant validity. These assessments were recommended by (Henseler, Ringle, & Sinkovics, 2009) and the present study has successfully passed these assessment criterions.

5.0 DISCUSSION AND CONCLUSION

Bass and Avolio, (1995) introduced a refined version of multifactor leadership questionnaire to help researchers measure leadership within organizational settings. One of the claim of the MLQ development was its effective use for measuring leadership in organizations across the differing cultures; naming the MLQ measure as a central-global leadership measurement scale. However, the globally-claimed leadership measurement was mainly developed and tested in the developing countries with specific samples and limited focus on the varying industries. Although leadership is important factor that affects environment, process and performance of an organization. Hence, understanding how leadership-phenomena is being perceived by employees is critical. In doing so, past literature has presented numerous ways of exploring leadership dynamics and MLQ is one amongst these. The present study aimed at exploring the effectiveness of multifactor leadership questionnaire for its effective use in the health sector in Pakistan.

In doing so, the present study strived for empirical validation of the Multifactor Leadership Questionnaire (MLQ) developed by (Bass & Avolio, 1995) in the Pakistani health sector context, specially looking into the public hospitals of Sindh, Pakistan. All the constructs have met the criterion and suggest that these tools are appropriate in measuring leadership styles in the health sector in Pakistan. Additionally, the MLQ was prepared and tested in the developed countries context; hence it was important to look into the question that how does MLQ scores in the developing countries especially with regards to Pakistan. The results of the confirmatory factor analysis, reliability, and validity tests inform that all the MLQ is appropriate in measuring any or all the leadership styles consisting of transformational, transactional, and laissez-faire.

Although due to the limitations related to time and cost, the sample for the present study was limited to one province of the country therefore it could be potentially tested with a larger sample

in the same industry or an analysis is recommended using the multiple industry samples. Yet, it is highly advised to the future researchers and business consultants to evaluate leadership styles using MLQ in the Pakistan health sector.

Appendix

Table A1: Items deleted due to lower loadings:

TS	Transitional leadership
TS2	Discusses with specific terms who is responsible for achieving performance targets
TSL	Transformational leadership
TSL3	Have my respect
TSL5	Talks only on most important values and beliefs
TSL7	Considers moral & ethical consequences of decisions
TSL10	Is excited about what needs to be accomplished
TSL13	Raises critical assumption to question whether they appreciate or not
TSL15	Allows me look at problems different angles

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