ADAPTATION OF MULTIFACTOR LEADERSHIP QUESTIONNAIRE (MLQ FORM-5X) IN NIGERIA

CALLISTUS CHINWUBA UGWU
Department of Psychology,
Faculty of Management and Social Sciences,
Madonna University
Okija Campus,
Anambra State, Nigeria
callistuschinwuba@gmail.com,
+2348(0)38891267

&

J. O. OKOJIE
Institute of Public Administration & Extension Services,
University of Benin,
Benin City, Nigeria

Abstract
Africa in general and Nigeria in particular is suffering from leadership meltdown with the attendant consequences of underdevelopment in its entirety, poverty and soaring rates of unemployment and underemployment of her youths. In an effort to re-standardize and adapt the Multifactor Leadership Questionnaire (MLQ) (Form-5X) for Nigerian use, the study embarked on the construct revalidation of MLQ (Form 5X) scale, the principal instrument developed by Bass and Avolio (1997) to measure transformational leadership style capable of bringing the needed change and transformation in Nigeria. Review of literature revealed inconsistent research findings due mainly to psychometric properties of the MLQ. Data collected from a sample of three hundred and fifty commercial bank workers and employees of a production company (185 males and 165 females) in Enugu South-East of Nigeria with their age range of 23 to 51 years and the mean age of 34.52 years (S.D=9.32) were employed to investigate the underlying factor structure of the MLQ (Form 5X). Construct validity of the instrument was tested by means of confirmatory factor analyses testing the goodness of fit indices (chi-square, \(X^2/df\), GFI, AGFI and RMSEA), calculation of Cronbach alpha, and correlation of within and across construct. The results showed acceptable GFI, AGFI, and RMSEA index indicating that the data was a good fit to the hypothesized model. The coefficient alpha of reliability were generally significant and above the minimum target of 0.70 (Nunnally, 1978), and the correlation of the construct showed that the instrument was robust, reliable and valid for assessing the leadership style in Nigeria. The results as well as the implications were discussed and conclusion and suggestion for further studies were drawn.

Key words: multifactor leadership questionnaire (MLQ); transformational leadership; transactional leadership; laissez-faire leadership; Nigeria.

Introduction
Leadership is critical to the success of any organization, association, institution or nation. Organizations such as General Electric and Chrysler were turned around from the brink of collapse and bankruptcy to the world’s most successful and profitable organizations through the effective leadership of Jack Welch and Lee Iacocca (Robbins & Coulter, 2007). Great nations like the United States of America, Britain, France and China are some of the most prominent nations of the world today on the wings of effective leadership (Weihrick et al., 2008). Thus, leadership in organizations and nations makes the difference between the successful and unsuccessful ones.

In today’s contemporary Nigeria, effective leadership is a prime value, the most valuable “public good” but yet the most elusive (Ojo, 2012). In other words, quality and effective leadership has eluded Nigeria since independence. Careful examination of leadership situation in Nigeria shows that the quality of leadership is far below expectation. The yearnings of Nigeria to have a good political system and
economic stability have not been fulfilled by our political leaders since independence (Udofia, 2009). Nigeria is a country stupendously blessed with both material and human resources but regrettably has not been able to translate these immense resources as well as her potentials into visible socio-economic growth and development owing to corrupt and ineptitude leadership. Thus, Nigeria is lagging behind in terms of socio-economic and political development owning to the long absence of visionary and transformational leadership. A society without visionary and transformational leader will retrogress or at best remain stagnant. The crop of leaders that have attained leadership position since independence had in one way or the other lacked vision leading to the enthronement of maladministration and mismanagement of public resources with the attendant socio-economic and political setback and abject poverty steering the greater populace of the nation at the face. Observers of the development crisis in Nigeria agree that poor leadership has been the bane of socio-economic development. Achebe (1985) asserts that the trouble with Nigeria is simply and squarely a failure of leadership, and pointed out that there is nothing basically wrong with the Nigerian land or climate or water or air or anything else, but leadership. Gbadero (2009) laments that one problem militating against the development of Nigeria is leadership and quotes the former speaker of house of representative, Alhaji Amino Bello Masari as saying “our leaders have failed Nigerians, we the political leaders have failed to conduct ourselves in a manner befitting of the various offices we hold in trust for the attainment of peace, order and good governance.” Amah (2013) laments that Nigeria in particular and Africa in general is suffering from leadership meltdown. In Nigeria, leadership has been of all kinds that include the weak, unprincipled, selfish, autocratic, dictatorial and power drunk (Jemiriye, 2014). Thus, the lack of selfless, non-corrupt, committed, visionary and transparent and transformational leaders is the bane of socio-political and economic predicaments facing Nigeria today.

It is against this background that this study embarked on constructs validation of multifactor leadership questionnaire (MLQ) (Form 5X), the principal instrument that measures transformational and transactional leadership style with a view to adapting the instrument for Nigerian setting. This generation is confronted with the challenge of identifying, training, and raising a generation of leaders capable of transforming and securing the future of the youth and the nation.

Leadership is the process of influencing group to achieve goals, while a leader is someone who can influence others to achieve a desired goal (Cole, 2006; Robbin & Coulter, 2007; Weihrick et al., 2008). According to Alamu (2014), leadership has to do with organizing and adequately coordinating the resources of time, relationship, skills, expertise and finances to achieve goals for the common good of all.

Transformational and Transactional Leadership

The concept of transformational leadership was however introduced by James Macgregor Burns in 1978 for political settings in his descriptive research on political leaders, but its usage has spread into organizational psychology and management with further modifications by B. M. Bass and J. B. Avolio (Jung & Sosik, 2012).

Transformational leadership is all about leadership that create significant organizational change and act as change agents, foster higher level of intrinsic motivation, and loyalty among followers, introduce a new image or view of the future and create a commitment to this image among followers (Kinicki & Kreitner, 2008; Noorshahi & Yamani Dozi Sarkhabi, 2008). Robbins and Coulter (2007) assert that a transformational leader is a person who stimulates and inspires (transforms) followers to achieve extraordinary outcomes. These outcomes can occur because the leader transforms and motivates followers through idealized influence (earlier referred to as charisma), intellectual stimulation and individualized consideration.

On the other hand, transactional is a type of leadership that direct followers to achieve established goals by explaining role and task requirements (Armandi et al., 2008). This leadership style tends to emphasize extrinsic rewards such as monetary incentives and promotion (Jung et al., 2008), and achieve these outcomes through contingent reward and management-by-exception.

Multifactor Leadership Questionnaire (MLQ)

In an attempt to identify the behaviours underling the conceptualization of transformational and transactional leadership, Bass and Avolio (1997), developed a nine factors model (MLQ Form 5X) which consists of five transformational leadership dimensions (idealized influence attributed, idealized influence behaviour, inspirational motivation, intellectual stimulation, and individualized consideration); three transactional leadership dimensions (contingent reward, management-by-exception active, and management-by-exception passive); and laissez-faire leadership.
Idealized influence is described as the amount of faith, respect, and inspiration engendered by the leader. It is the degree to which leaders are perceived as an inspiring role model (Moss & Ritossa, 2007). Idealized influence consists of two forms: idealized influence attributed in which leaders are trusted and respected; and idealized influence behaviour in which leaders exhibit excellent behaviour and sacrifice their own needs to improve the objectives of their work group (Moss & Ritossa, 2007).

Inspirational motivation describes the behaviour of a leader who tries to express the importance of desired goals in simple ways, communicates high level of expectations and provides followers with work that is meaningful and challenging.

Individual consideration is the degree of attention and support given to individual followers. Such a leader spends more time teaching and coaching followers by treating the followers based on individual basis.

Intellectual stimulation explains the degree in which the leaders stimulate their followers’ endeavours to be innovative and creative (Limsila & Ogunlana, 2008), and consider old organizational problems with a new perspective (Moss & Ritossa, 2007).

Contingent reward is described as the degree to which the leader provides reinforcement in return for appropriate follower behaviour.

Management-by-exception is the degree to which subordinates hear from the leader only when failures or problems occur. Management-by-exception focuses on two levels known as management-by-exception passive, and management-by-exception active. The leader who relies heavily on management-by-exception (passive) intervenes with his/her group only when procedures and standards for accomplishing tasks are not met. In contrast, management-by-exception (active) leaders are characterized as monitors who detect mistakes beforehand (Muenjohn & Armstrong, 2008).

The last leadership behaviour is Laissez-faire or non-leadership that exhibits when leaders avoid clarifying expectations, addressing conflicts, and making decisions. Laissez-faire is believed to be the passive avoidant and ineffective type of leadership theory.

Statement of the Problems

Nigeria is a country richly blessed with abundant natural and human resources yet remains underdeveloped as most of her citizens are languishing in abject poverty and youth unemployment soaring at an alarming rate all due to ineptitude leadership, lack of visionary and transformational leadership. It is disheartening that Nigeria, the sixth largest exporter of crude oil and the seventh nation with the greatest natural resources, earning over 600 billion US dollars from oil since post independence, is among the world’s poorest countries, with 70% of her citizens living on less than a dollar per day (Umejesi, 2009). This is sad because at independence in 1960, Nigeria was lumped together with Brazil and India as former colonies which would within a little time join the front row of the world economy. Today while Brazil has overtaken its former colonizer Portugal and many European countries in GDP rating, most of the foreign multinationals in Nigeria have collapsed. Going by all the indices of development and performance, Nigeria has failed in terms of socio-economic development which is attributed to leadership ineptitude. According to Achebe (1985), the trouble with Nigeria is simply a failure of leadership. Gbadero (2009) laments that one problem militating against the development of Nigeria is leadership. Also, Amah (2013) laments that Nigeria in particular and Africa in general is suffering from a leadership meltdown. Leadership in Nigeria has been of all kinds that include the weak, unprincipled, selfish, corrupt, autocratic, dictatorial and power drunk (Jemiriye, 2012).

On the other hand, although the MLQ is the most widely used instrument to assess transformational and transactional leadership theory (Kirkbride, 2006) and “is considered as the best validated measure of transformational and transactional leadership” (Ozaralli, 2003, p. 338), the MLQ had been criticized in some areas for its conceptual framework (Muenjohn & Armstrong, 2008). Thus, there have not been satisfactory studies on the underlying factor structure of the MLQ. Noteworthy is the fact that the validation and most of the research conducted with the instrument were done in Western societies. One of the requirements for using foreign developed measure is re-validating such instrument to make it fit the new population the researcher intend to assess. Standardizing and adapting the instrument for Nigerian sample is necessary so as to boost the confidence of researchers in using the instrument for research tool in the area of leadership skill, assessment, training, and development needed bring about change and development in Nigeria. The bane of development in Nigeria is leadership characterized by corruption and lack of vision.
In sum, coupled with leadership problem in Nigeria leading to underdevelopment with the attendant high level of poverty and unemployment, research devoted to the underlying factor structure of the MLQ has not been quite satisfactory.

**Purpose of the study**

The purpose of the study was therefore to re-examine the underlying factor structure of the MLQ (Form 5X) by revalidating and re-standardizing the instrument in Nigeria with the aim of adapting it for Nigerian use. MLQ (Form 5X) is a full-range of multifactor leadership theory comprising of nine scales.

**Literature Review**

Literatures revealed unclear factor structure of the earlier version of MLQ. While some studies have identified two-factor structure viz: transformational leadership comprising of charismatic/idealized influence, individualized consideration, and intellectual stimulation; and transactional leadership comprising of contingent reward and management-by-exception, some others have argued for a five-factor structure where each of the factors under transformational and transactional leadership stand as individual factors (Bycio et al., 1995). Still others have argued for two-factor model represented by Passive leadership defined by management-by-exception, and Active leadership defined by the combination of transformational factors and contingent reward (Bycio et al, 1995).

Bass and Avolio (1997) developed the latest version of MLQ (Form 5X) basically to address the concerns with the earlier versions of the MLQ survey including problems with item wordings, and lack of divergent validity among certain leadership factors. The MLQ (Form 5X) consists of 45 items tapping nine conceptually distinct leadership factors and three leadership outcomes. Transformational leadership is characterized by five scales (idealized influence attributed and behaviour, inspirational motivation, individual consideration, and intellectual stimulation). Transactional leadership is made up of three scales (contingent reward, management-by-exception active and passive). Laissez-faire (non-leadership) was described as one scale.

Kirkbride (2006) argue that MLQ is the most widely used instrument to assess transformational leadership and “is considered as the best validated measure of transformational and transactional leadership” (Ozaralli, 2003, p.338) and at the same time criticized in some area for its conceptual framework (e.g. Charboneau, 2004; Yukl, 1998; Northouse, 1997). Tepper and Percy (1994) contend that the most immediate concern regarding the MLQ is its structural validity. For instance, Kelloway, Barling and Helleur (2000) established high correlations among the subcomponents of transformational leadership. Also, Yammarino and Dubinsky (1994) reported in their study very strong correlations among the five dimensions of transformational leadership and very high item loadings on a single transformational scale. Similarly, Tracey and Hinkin (1998) found that the dimensions of transformational leadership correlated highly among themselves. However, Den Hartog, Van muijen and Koopman (1997) reported conflicting results with the finding that the three-factor approach (transactional, transactional and laissez-faire) were distinct but at the level of subscale, management-by-exception passive and laissez-faire loaded on one factor.

Tepper and Percy (1994) conducted a study using two independent samples that examined the latent structure of MLQ making use of confirmatory factor analyses at the item and scale levels. The findings of the first study showed that the models were not particularly good fit to the data. The results of the second sample which dwelt on the convergent and divergent validity of the dimensions of idealized influence, inspirational motivation, and contingent reward showed that idealized influence and inspirational motivation scales merged to form a single latent construct making them to argue that both scales should be treated one dimension.

Carless (1998) conducted a study that assessed the divergent validity of transformational leadership behaviour as measured by the MLQ and reported that “the MLQ (Form-5X) does not measure separate transformational leadership behaviours, instead, it appears to assess a single, hierarchical construct of transformational leadership” (p.357).

So far, the review of literatures appear to suggest thus: (1) the five factor dimensions of transformational leadership correlates highly with each other making researchers to argue that the five factors might be best represented as a single transformational leadership scale (for instance, Yammarino & Dubinsky, 1994; Tracey & Hinkin, 1998; Carless, 1998); (2) the distinction between the idealized influence and inspirational motivation dimensions is not clear (e.g. Tepper & Percy, 1994), and (3) also, the distinction between management-by-exception (passive) dimension of contingent reward and laissez-
faire factor is not clear (Den Hartog et al., 1997). Thus, the underlying factor structure of the MLQ as revealed by literature is not clear thereby raising doubt about evaluating leadership behaviours as measured by the MLQ. There is therefore the need to further examine the underlying factor structure especially the latest version of the MLQ (Form 5X) as conceptualized by Bass and Avolio (1997).

At the same time, extant literatures (e.g. Olayiwola, 2013; Ochulor, 2011; Ojo, 2012; Amah, 2013) suggest that Nigeria is suffering from leadership meltdown and that corrupt and ineptitude leadership has been the bane of Nigerian underdevelopment.

Also, review of literature revealed unclear factor structure of the earlier version of MLQ thereby raising doubts about evaluating leadership behaviours as measured by the MLQ. Literature review have revealed unclear factor structure of the earlier to address the concerns of the survey including problems with item wordings, lack of divergent validity among certain leadership factors, and the incorporation of behaviours and attributions in the same scale. Therefore, there is the need to further examine the underlying factor structure of the MLQ (Form 5X) as conceptualized by Bass and Avolio (1997) using non Western samples since most of the studies were done in Western societies.

Hypotheses
i. The MLQ (Form 5x) scales will achieve significant internal consistency (coefficient alpha).
ii. The MLQ (Form 5X) scales will be significantly correlated.
iii. The MLQ (Form 5X) scales will be better represented by nine factors.

Method and procedure
Participants
Three hundred and fifty employees of commercial banks and a production company all in Enugu (185 males and 165 females) participated in the study. The participants were selected using convenient sampling technique. They were drawn from seven commercial banks (viz: First Bank, Zenith Bank, Fidelity Bank, Diamond Bank, Union Bank, United Bank of Africa, and Access Bank) and Innoson Plastic Industry all in Enugu South-East of Nigeria. The spread of the participants were as follows: First Bank PLC 30, Zenith Bank PLC 30, Fidelity Bank PLC 20, Diamond Bank PLC 18, Union Bank PLC 27, United Bank of Africa PLC 25, Access Bank PLC 25, and Innoson Plastic Industry 175. The participants’ ages ranged from 23-51 years with a mean age of 34.52 years (S.D =9.32). All the participants were full-time employees. Appropriate consent was sought from the management of the organizations and all the volunteered participants were administered with the MLQ (Form 5X) questionnaire.

Instruments
The measure used for data collection was “Multifactor Leadership Questionnaire” (MLQ-Form 5X) developed by Bass and Avolio (1997). The MLQ (Form-5X) contained 45 items tapping nine conceptually distinct leadership factors and three leadership outcomes. Five scales were identified as characterizing transformational leadership (idealized influence attributed, idealized influence behaviour, inspirational motivation, individual consideration, and intellectual stimulation). Three scales were defined as characterizing transactional leadership (contingent reward, management-by-exception active, and management-by-exception passive). One scale was described as non-leadership (laissez-faire). All the scales have four items each. The three leadership outcomes are willingness to put in extra effort, leadership effectiveness, and satisfaction with the leader, which were not used in this study. All items of the MLQ (Form-5X) used a five-point Likert response scale ranging from “Frequently if not always” to “Not at all”. Responses were scored as suggested by the instrument developers, ranging from 4 if “Frequently, if not always” was endorsed to 0 if “Not at all” was endorsed. Tejeda et al (2001) obtained the following psychometric properties for the instrument: the Cronbach alpha for the different subscales ranged from .87 for idealized influence attributed to .72 for laissez-faire leadership sale. The confirmatory factor analysis showed a reasonable fit indices (CFI=.95; NNFI=.92; and RMR=.04).

Procedure
The researcher took personal trips to the places of data collection and sought the consent of the management of the banks to conduct the research. The head of operations in each of the banks gave the approval to conduct the study and for the distributions of the questionnaire to the bank workers. The questionnaires were administered to only volunteered participants who filled consent form to participate in
the study. The questionnaires were however collected back during work hours. The participants were not given any time limit because of their usual tight schedules. However, the respondents responded to the questionnaires and returned to their operation managers within a space of 48 hours. The questionnaire had specific instructions on how to respond to the items. They were instructed to answer the items keeping in mind their immediate supervisors. In other words, respondents were asked to answer the questionnaire by rating the frequency with which their immediate supervisor or others considered as their leader display the behaviour listed in the items of the questionnaire. They were ensured of the confidentiality of their responses and requested to be honest in rating the questionnaire. The items of the questionnaire were presented in English and since all the participants were literate enough to clearly understand the items in the questionnaire there was no further interpretation given. There was no reward given to the participants for participating in the study. All the participants volunteered to participate in the study. The participants were administered the questionnaire with the help of research assistant. The questionnaire forms were later collected back and sorted out, and out of three hundred and seventy questionnaire forms distributed, three hundred and fifty (94.59%) were properly filled and used for analysis. Before the analysis, the instrument was well scored according to specifications by the authors of the instrument and well coded in the SPSS Excel spread sheet.

Design/Statistics

The study adopted cross sectional survey design and the statistics was conducted with SPSS 16.00 and LISREL 8.8 software (Joreskog & Sorbom, 2007, 1994) to obtain confirmatory factor analysis for the construct validity.  

Construct Validity

Construct validity of the instrument was conducted using Cronach’s coefficient alpha to assess the internal consistency of the instrument. Also convergent validity was conducted by examining the correlations of the instrument with existing measures of the same construct (De Vellis, 2011). Thus, the researcher expected that the transformational leadership subscales would be positively correlated since they measure the same construct.

Furthermore divergent validity was assessed by correlating the instrument with existing measures of different or opposite construct. Also, the researcher expected that the transformational and transactional leadership scales would negatively be correlated with laissez-faire leadership scale.

Confirmatory Factor Analyses (CFAs)

The analyses were conducted using LISREL 8.8 software (Joreskog & Sorbom, 2007) to evaluate the factor structure of the instrument. The CFA model assumes that there are two sources of variation in responses to observed indicators. In other words, observed indicators are assumed to be influenced by latent underlying factors and by unique measurement error (e.g. the influence of unmeasured variables). Unlike exploratory factor analyses (EFA), in CFA, one or more models are built and the prediction of the interrelationships between the latent and observed variables within the model is given before the analysis. In other words the researcher a priori defines acceptable fit as a comparative fit index. 

As suggested by Bollen (1989), the relative fit of a proposed model can be assessed by using different goodness of fit indices such as the non normed fit index (NNFI); the comparative fit index (CFI) (Bentler, 1990); the parsimonious fit index (PFI) (James, Mulaik, & Brett, 1982); the goodness of fit index (GFI) (Joreskog & Sorbom 1989, 2007); the adjusted goodness of fit index (AGFI) (Joreskog & Sorbom 1989, 2007); the root mean square error of approximation (RMSEA) (Joreskog & Sorbom, 1989, 2007) etc. For instance, the ratio of chi-square to the degrees of freedom (X²/df) (Hoelter, 1983) posits that as this ratio decreases and approaches zero, the fit of the model improves. Brown and Cudeck (1993) suggested that the RMSEA value of .05 or less indicated a close fit between data and the model. The values greater than 0.9 for GFI and greater than 0.8 for AGFI indicate a good fit of the model.

In theory, the MLQ (Form 5X) reflects a structure articulated by the developers (Bass & Avolio, 1997). Hence, the goal of the researcher was to see whether the hypothesized structure will be confirmed or not confirmed using maximum likelihood CFA. Based on the literature on CFA, the researcher a priori defined acceptable fit as a comparative fit index using the ratio of chi-square to the degrees of freedom (X²/DF; Byrne, 1989) value of 3.00 or less; a goodness of fit index (GFI; Joreskog & Sorbom, 1989) value greater than 0.9; adjusted goodness of fit index (AGFI; Joreskog & Sorbom, 1989) value greater than 0.8 and root mean square error of approximation (RMSEA; Cudeck, 1993) value of .05 or less or below .10.

Exploratory Factor Analysis (EFA)
The analysis allows the researcher to explore the data to determine the number or the nature of factors that accounted for the co-variation between variables if the researcher does not have a prior sufficient evidence to form a hypothesis about the number of factors underlying the data (Harrington, 2009). It is thought more of a theory generating procedure than a theory testing procedure (Stevens, 1996).

**Results and Discussion**

Table 1 shows the result of the exploratory factor analysis using maximum likelihood extraction and varimax rotation method of SPSS. The result showed that the factor structure was well defined with the entire factor loading being positive and significant as each item loading on the respective factor ranging from .43 and above.

**Table 1: Summary of the item - factor loading**

<table>
<thead>
<tr>
<th>Items</th>
<th>IIA</th>
<th>Items</th>
<th>IIB</th>
<th>Items</th>
<th>IM</th>
<th>Items</th>
<th>IS</th>
<th>Items</th>
<th>IC</th>
<th>Items</th>
<th>CR</th>
<th>Items</th>
<th>MBEA</th>
<th>Items</th>
<th>MBE</th>
<th>Items</th>
<th>LF</th>
</tr>
</thead>
<tbody>
<tr>
<td>MLQ 10</td>
<td>.60</td>
<td>MLQ 6</td>
<td>.59</td>
<td>MLQ 9</td>
<td>.55</td>
<td>MLQ 15</td>
<td>.48</td>
<td>MLQ 1</td>
<td>.65</td>
<td>MLQ 1</td>
<td>.60</td>
<td>MLQ 4</td>
<td>.48</td>
<td>MLQ 3</td>
<td>.54</td>
<td>MLQ 5</td>
<td>.49</td>
</tr>
<tr>
<td>MLQ 18</td>
<td>.63</td>
<td>MLQ 14</td>
<td>.63</td>
<td>MLQ 13</td>
<td>.58</td>
<td>MLQ 8</td>
<td>.50</td>
<td>MLQ 19</td>
<td>.56</td>
<td>MLQ 11</td>
<td>.68</td>
<td>MLQ 22</td>
<td>.43</td>
<td>MLQ 12</td>
<td>.60</td>
<td>MLQ 7</td>
<td>.64</td>
</tr>
<tr>
<td>MLQ 21</td>
<td>.65</td>
<td>MLQ 23</td>
<td>.58</td>
<td>MLQ 26</td>
<td>.60</td>
<td>MLQ 30</td>
<td>.62</td>
<td>MLQ 29</td>
<td>.50</td>
<td>MLQ 16</td>
<td>.56</td>
<td>MLQ 24</td>
<td>.52</td>
<td>MLQ 17</td>
<td>.58</td>
<td>MLQ 28</td>
<td>.53</td>
</tr>
<tr>
<td>MLQ 25</td>
<td>.50</td>
<td>MLQ 34</td>
<td>.65</td>
<td>MLQ 36</td>
<td>.56</td>
<td>MLQ 32</td>
<td>.56</td>
<td>MLQ 31</td>
<td>.62</td>
<td>MLQ 35</td>
<td>.54</td>
<td>MLQ 27</td>
<td>.58</td>
<td>MLQ 20</td>
<td>.56</td>
<td>MLQ 33</td>
<td>.48</td>
</tr>
</tbody>
</table>

**Note:** IIA= Idealized Influence (Attributed); IIB= Idealized Influence (Behaviour); IM = Inspirational Motivation; IS = Intellectual Stimulation; IC = Individualized Consideration; CR= Contingent Reward; MBEA = Management-by-Exception (Active); Management-by-Exception (Passive); LF = Laissez-Faire.

**Internal consistency**

Table 2 shows internal consistency (Cronbach’s alpha) for the scales and the subscales. The Cronbach’s alpha coefficient estimate for the scale and subscales was generally significant and reached the target reliability of at least 0.70 (Garson, 2005; Lewicki, & Hill, 2006; Schmitt, 1996; Nunnally, 1978). By the significant internal consistency reliabilities (coefficient alpha), the first hypothesis which postulated that the MLQ (Form-5X) scales will have a significant coefficient alpha is accepted. As can be observed in Table 2, the internal consistency analysis of the instrument utilizing Cronbach’s alpha achieved a statistical significant coefficient alpha thereby making the researcher to accept the first hypothesis. The significant internal consistency coefficient alpha established by this study is consistent with the findings of previous researchers (Tejeda et al, 2001; Bass & Avolio,1997; Den Hartog et al, 1999; Muenjohn & Armstrong, 2008) who all reported an acceptable Cronbach’s alpha(s) for the instrument. As can be observed from the result presented in Table 2, the instrument demonstrated a significant internal consistency at the scale and subscale levels. At the scale levels the study reported coefficient alpha(s) of .80, .76 and .74 for transformational, transactional, and laissez-faire leadership scales respectively. At the subscale levels, the study reported coefficient alpha(s) of .70, .72, .70, .75, .71, .69, .73, and .72 for idealized influence attributed, idealized influence behaviour, inspirational motivation, intellectual stimulation, individual consideration, contingent reward, management-by-exception active, and management-by-exception passive respectively. This implies that the study was in support of the first lower-order MLQ structure of transformational, transactional, and laissez-faire leadership as well as the second higher-order structure of MLQ suggested by Bycio et al (1995) using these items. The study also reported a significant composite coefficient alpha of .82 for the whole scale.
The result is essentially a lowly correlated to each other which are in support of convergent validity of the instrument thereby accepting the second hypothesis which stated that MLQ (Form-5X) scales will be significantly correlated. Also as can be seen in Table 3 transformational leadership scales are negatively and lowly correlated with management-by-exception passive and laissez-faire leadership scale thereby providing evidence for divergent validity of the instrument. Also, the contingent reward subscale part of transactional leadership scale is positively correlated to all the transformational leadership subscales.

Table 2: Internal consistency estimates (coefficient alpha) for the MLQ (5X) scales

<table>
<thead>
<tr>
<th>Factors</th>
<th>Transformational Leadership</th>
<th>Transactional Leadership</th>
<th>Laissez-faire</th>
</tr>
</thead>
<tbody>
<tr>
<td>α</td>
<td>.80</td>
<td>.76</td>
<td>.74</td>
</tr>
<tr>
<td>Subscales</td>
<td>IIA IIB IM IS IC CR MBEA MBEP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>α</td>
<td>.70 .72 .70 .74 .71 .70 .73 .72</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Composite α for MLQ (5X) = .82

Note: α = Cronbach’s coefficient alpha; IIA = Idealized Influence Attributed; IIB = Idealized Influence Behaviour; IM = Inspirational Motivation; IS = Intellectual Stimulation; IC = Individual Consideration; CR = Contingent Reward; MBEA = Management-by-Exception Active; and MBEP = Management-by-Exception Passive.

Table 3: Mean, SD and Zero order correlations of the study variables

<table>
<thead>
<tr>
<th>Scale</th>
<th>Mean</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. IIA</td>
<td>3.35</td>
<td>1.04</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. IIB</td>
<td>2.92</td>
<td>0.98</td>
<td>.76**</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. IM</td>
<td>2.92</td>
<td>1.06</td>
<td>.76**</td>
<td>.85**</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. IS</td>
<td>2.90</td>
<td>1.20</td>
<td>.77**</td>
<td>.80**</td>
<td>.81**</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. IC</td>
<td>2.91</td>
<td>1.22</td>
<td>.80**</td>
<td>.77**</td>
<td>.80**</td>
<td>.80**</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. CR</td>
<td>3.12</td>
<td>0.96</td>
<td>.61**</td>
<td>.65**</td>
<td>.60**</td>
<td>.70**</td>
<td>.67**</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. MBEA</td>
<td>2.80</td>
<td>1.02</td>
<td>-.45*</td>
<td>-.34*</td>
<td>-.40*</td>
<td>-.46*</td>
<td>-.41*</td>
<td>-.30*</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. MBEP</td>
<td>2.91</td>
<td>0.29</td>
<td>-.67**</td>
<td>-.60**</td>
<td>-.65**</td>
<td>-.66**</td>
<td>-.65**</td>
<td>-.51*</td>
<td>-.40*</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>9. LF</td>
<td>2.90</td>
<td>1.10</td>
<td>-.20*</td>
<td>-.31*</td>
<td>-.22*</td>
<td>-.32*</td>
<td>-.13*</td>
<td>-.19*</td>
<td>-.25*</td>
<td>-.10*</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Note: IIA = Idealized Influence (Attributed), IIB = Idealized Influence (Behaviour), IM = Inspirational Motivation, IS = Intellectual Stimulation, IC = Individualized Consideration, CR = Contingency Reward, MBEA = Management-by-Exception Active, MBEP = Management-by-Exception Passive; LF = Laissez-Fair, *p < .01; **p < .01 (two-tailed).

The findings in support of convergent validity of the instrument is consistent with the findings of different authors (Tejeda et al., 2001; Bycio et al, 1995; Carles, 1998; Den Hartog et al, 1997; Kellloway et al, 2000;) who all established similar result. The result is expected because transformational leadership subscales are similar constructs and for the scales to be valid i.e. measure what it purports to measure they should have positive significant correlations. It is also expected because laissez-faire leadership is described as no leadership at all where there is generally neither transaction nor agreements with followers.

Table 4 reports the finding of the CFA model which tested the ability of three and nine factor models to explain relationship among the 36 item scale of the MLQ (Form-5X). CFA was performed using LISREL 8.80 software (Joreskog & Sorbom, 2007). Based on the results of the analyses presented in Table 4, as the model progressed from a three factor model to a nine factor model the fit indices improved.
showing that the overall fit indices of the nine factor model was better than three factor model even though the three factor model achieved some reasonable fit. Particularly, the overall chi-square of the nine factor model was statistically significant ($X^2 = 542.15; \text{df} = 470; p < .01$); the ratio of the chi-square to the degree of freedom ($X^2/\text{df}$) was 1.12; the goodness of fit index (GFI) was .92; the adjusted goodness of fit index (AGFI) was .80; and the root mean square error of approximation (RMSEA) was .04. This indicates that a nine factor model when contrasted with three factor model achieved a better fit than a three factor model. Therefore hypothesis three which stated that the MLQ (Form-5X) scales will be better represented by nine factors was accepted. This implies that the MLQ (Form-5X) was better represented by nine factor model than three factor model even though three factor models still attained some reasonable fit.

The findings suggest that the nine factor model appeared to be the best theoretical construct representing the MLQ (Form 5X) version. Also the results further suggest that although such leadership factors as transformational and transactional were highly correlated, they can still be distinctly measured. This is seen when leadership factors were combined into three-factor model of transformational, transactional, and laissez-faire model, and the result of overall fit was lower than the nine-factor model (full leadership model). However, the three-factor model equally achieved some reasonable fit.

**Implications**

The results of the research have demonstrated that transformational and transactional leadership theory of 36-item version was internally consistent, empirically distinct from one another and better represented by nine factors. For assessment, training and development purposes, researchers should have confidence in using the instrument.

By measuring a wider and more detailed range of leadership factors, there are chances of tapping into the actual range of leadership styles that are exhibited across different culture and organizational settings.

Also, the results of the current research is a step in the right direction and potentially offer a more effective and comprehensive survey tool for assessment of leadership styles for research and development, which are beneficial to organizational researchers and practitioners.

Further, the 36-item version of the MLQ (Form 5X) appears to be a relatively reduced item representation of the instrument. This relatively reduced item version has advantage for leadership researchers because shorter measures are clearly preferred to longer ones for surveys, particularly when participants’ burden is taken into consideration.

In sum, the MLQ (Form 5X) developed by Bass and Avolio (1997), has proven successful in adequately capturing the full leadership factor constructs of transformational and transactional leadership theory. This therefore provides researchers with some level of confidence in using the MLQ (Form 5X) version to measure the nine leadership factors representing transformational, transactional, and laissez-faire leadership behaviours.

**Limitations**

The study is however not without some limitations. First, the samples used in this study lacked a broad range of raters and organizations which may or may not be representative of the population of the MLQ raters and leaders. Three hundred and fifty participants might have been small for proper generalization and extrapolation of the finding.

Another limitation of this study is that though this study have been able to differentiate the factors comprising the MLQ (Form 5X), using survey still poses a difficult challenge to achieve higher levels of divergent validity given the typical problems associated with any survey measure which is the problem of general impression and halo errors.

<table>
<thead>
<tr>
<th>Model</th>
<th>$X^2$</th>
<th>df</th>
<th>$X^2$/df</th>
<th>GFI</th>
<th>AGFI</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Three Factor Model</td>
<td>923.60</td>
<td>567</td>
<td>1.60</td>
<td>.87</td>
<td>.72</td>
<td>.06</td>
</tr>
<tr>
<td>Nine Factor Model</td>
<td>542.15</td>
<td>470</td>
<td>1.12</td>
<td>.92</td>
<td>.80</td>
<td>.04</td>
</tr>
</tbody>
</table>

Note: Models were significant at $p < .01$. 

Table 4: The overall fit measures among the two separate factor models
Suggestions for Further Studies

Thus, for the purpose of greater generalizability and extrapolation, enlarging the range of samples becomes imperative in future studies. By broadening the sample size, a better fit can be obtained while also enhancing the generalizability of the findings.

Apart from using survey methods which poses the problem of general impressions and halo errors, other methods such as interviews and observation should be considered when assessing the psychometric properties of measuring instrument.

Conclusion

The MLQ (Form 5X) using Nigerian sample has demonstrated significant internal consistency (Cranach’s coefficient alpha) in support of convergent validity as well as significant correlated scales in support of divergent validity of the instrument. Also the instrument has been successful in adequately capturing the full leadership factor constructs of transformational and transactional leadership theory. In conclusion, current research is a step in the right direction and potentially offers a more effective and comprehensive survey tool for assessment, training, and development of leadership styles, beneficial to organizational practitioners and for national development. The level of integration and interdependence needed for the 21st century organizations require proactive leadership that goes beyond the more traditional style to styles that are more intellectually stimulating, inspirational and charismatic. The challenge still remains how best to measure, assess, train and develop such exemplary leadership styles needed to transform organizations and nations for national development. Thus, the researcher expects that the adaptation of this instrument will stimulate interest not only for further studies or theorizing on leadership behaviour in Nigeria, but also serve as a tool for organizational practitioners and other stake holders for skills development in leadership.

REFERENCES


