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**From LBDQXII to LBDQ50: Preferred leader behavior  
measurement across cultures**

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## Abstract

- **Purpose:** To refine and validate the most widely used leader behavior measurement instrument, LBDQXII, into a more parsimonious instrument for assessing cognitive templates of preferred leader behavior across cultures.
- **Design/methodology/approach:** The 100-item LBDQXII survey was administered to 6451 participants from 14 countries; these data were used to refine the survey.
- **Findings:** The shorter survey instrument is a valid and reliable tool for assessing preferred leader behavior. Four periods in the LBDQXII 'evolution' are identified in the literature: emergence, expansion, stagnation and revival.
- **Research limitations/implications:** The new version of the LBDQXII can be used to collect data across cultures, contributing to both global management development and scholarly studies.
- **Practical implications** The LBDQXII has been frequently used in organizational leadership assessments. A shorter valid and reliable version will facilitate application and analysis. This project corresponds to calls by both study participants and research collaborators to shorten the instrument into a measurement tool that is reliable and valid across cultures and languages, that can be administered by both private and public organizations.
- **Social implications:** Leadership processes are in all aspects of life, and can be better understood and improved within and across cultures using the shorter version.
- **Originality/value:** The availability of the LBDQ50 will allow practitioners and researchers to advance understanding of preferred leadership behavior as a predictor of organizational effectiveness. Most such instruments are overly-long, which hinders data collection opportunities and outcomes. This newly developed instrument can lead to better response rates and easier applicability in organizational settings.
- **Article classification:** Research Paper

**Keywords:** Survey Development, Preferred Leader Behavior across Cultures

## Introduction

An increasing body of evidence speaks of the importance of understanding culturally influenced leader behavior preferences (Littrell, Warner-Söderholm, Minelgaite, Ahmadi, Dalati, Bertsch, and Kuskova, 2018; Mustafa and Lines, 2016;). Hofstede (2001), House, Hanges, Javidan, Dorfman and Gupta (2004) and Littrell (2013) are among the seminal researchers who have found strong connections between leadership dimensions and cultural norms and values. The findings of many empirical studies, i.e. Dorfman, Javidan, Hanges, Dastmalchian, and House (2012), and Littrell et al, (2018), indicate that members of a society develop a cognitive template of preferred leader behaviors and that leaders hence tend to behave in a manner that is consistent with expectations of their respective societies in order to be more effective (House, Sully-de Luque, Dorfman, Javidan, and Hanges, 2013; Littrell et al., 2018; p. 244). The most widely use instrument is the Leader Behavior Description Questionnaire XII (Northouse, 2013), which measure preferred leader behavior using 12 dimensions, and, per Littrell et al. (2018) can effectively describe desired leader behavior in particular cultures.

The reliability and validity of the LBDQXII has been well researched during its development and well-documented in the literature (Northouse, 2013; Schriesheim, Cogliser and Neider, 1995). Yet, even though the value of the use of the LBDQXII in organizational learning in developing effective leadership is evident, the use of the instrument in today's research has become problematic, in part due to its length. The 100-item length of the LBDQXII gives rise to dangers of *survey fatigue* and *over-surveying*, and hence possible transient measurement errors in large-scale random sampling (e.g. Donnellan, Oswald, Baird and Lucas, 2006; Schmidt, Le and Ilies, 2003).

The challenge of *survey fatigue* and the impression of being *over-surveyed* (Rogelberg and Stanton, 2007; Stanton, Sinar, Balzer and Smith, 2002) are seen when respondents in

business organizations register careless completion of surveys, non-response or missing responses. These are growing problems in management research today. Research suggests that with overly-long surveys, such as the 100-item LBDQXII, respondents may respond carelessly due to frustration with the length of the survey and may then refuse to take part in management research in the future (Donnellan et al., 2006). Calls have been made for a more concise and focused LBDQ XII measurement instrument (also see Van Dick, Lemoine, Steffens, Kerschreiter, Akfirat, Avanzi and González, 2018). The complex, multivariate nature of modern organizational and leadership research is also challenged by a faster digitalized work pace and heightened performance expectations at work. Hence, there are pressing demands to make shortened, psychometrically sound measures available for both scholars and practitioners.

This study adds to the management and consultancy literature by developing and validating a more parsimonious survey instrument from the original LBDQXII in order to measure preferred leader behavior from studies of employed business people across 14 cultures.

In this paper we first review and synthesize the extant literature underlying the LBDQXII model and related culture and leadership issues. Second, we detail our LBDQXII scale reduction work, reducing the LBDQII from 100 to 50 items. Third, we suggest implications for application of the shorter survey in assessing culturally endorsed effective leadership behavior.

## **Literature Review**

### *Culture and leadership*

Dorfman, Hibino, Lee, Tate, and Bautista (1997) propose that the phenomenon of leadership is universal across cultures, but that the way in which it is operationalized is culturally

specific, supported by Hofstede (2001) and Littrell et al. (2018). Project GLOBE (House et al., 2004), provides compelling evidence that business people within cultural groups agree in their beliefs about leadership such that there are statistically significant differences between preferred leader behavior templates in societal cultures. In the same vein, Bass (1990) indicated that most people of the same culture hold a common set of beliefs about attributes of a leader that are culturally contingent. O'Connell, Lord and O'Connell (1990) also posited that culture plays a strong role in influencing the content of leader behavior perceived as desirable by followers in that culture. We build upon this logic with data from 14 countries. For those new to culturally endorsed leader-follower research, we recommend further reading of the seminal studies by Project GLOBE (House et al., 2004) and Hofstede (2001); the results from these research threads warrant complete reading. We have chosen to apply concepts from Hofstede (2001) in our later discussion of construct validity between the LBDQ and Hofstede's framework for two reasons. Firstly, among others, our consortium has collected additional VSM08 data from the societies in our LBDQ study, so the two samples are well matched. Furthermore, the data is freely available, so we can carry out the appropriate statistical tests for convergent and discriminant validity of the LBDQ50 survey versus VSM08 data from our results.

We employ Hofstede's 7-dimensional model of societal cultural values, based on the Values Survey Model 2008 (Hofstede, Hofstede, Minkov and Vinken, 2008). This model includes the dimensions: Individualism/Collectivism, Power Distance, Uncertainty Avoidance, Masculinity/Femininity, Long-Term/Short-Term Orientation, Indulgence/Restraint, and Monumentalism. Researchers can obtain the VSM 08 English original text, the VSM08 Manual, and 22 non-English translations on request from the authors.

*Status of the LBDQXII today*

*Relevance.* The LBDQXII is derived from the LBDQ developed at Ohio State University. The instrument requires responses to items describing the behavior of a person in a leadership or supervisory position of a working group or unit in which the subject is a member (Stogdill, 1963). The LBDQXII consists of 100 items which define 12 dimensions describing preferred leader behavior (see Table 1).

-----Table 1 about here -----

**Table 1.** Preferred Leader Behaviour *Source: Summarized from Stogdill (1963)*

### *Validity and reliability*

The LBDQXII has a long history of application, development and testing, resulting in a large number of studies of the instrument (Glyn and DeJordy, 2010; Littrell et al, 2018; Northouse, 2013; Schriesheim and Bird, 1979; Schriesheim et al., 1995), confirming its validity and reliability in different organizational contexts (Boatwright, Lopez, Sauer, Van Der Wege and Huber, 2010).

An extensive meta-analysis of the LBDQXII, carried out by Judge, Piccolo and Iles (2004), triggered a revival of the instrument, as leadership researchers sought to find alternative measurements for leader-centric studies which had become a tradition (Chang and Lin, 2018). Following the prescriptions of Cronbach and Meehl (1955), Littrell et al. (2018) reviewed the construct, content, and criterion validity literature relating to the LBDQXII across cultures, finding some diverse effects attributable to culture.

### *Evolution of the LBDQ to the LBDQXII*

The evolution of the LBDQXII instrument can be summarized by four time and research trend periods depicted in Figure 1 below: The first period took place when leadership trait theory was not giving satisfactory results and the need to look at explicit leader behavior in more

complex ways was identified. This led to extensive research work in developing the LBDQ from 1800 leader characteristics to question development and sorting of 150 questions, then assigning these to leader behavior with two subscales: Consideration and Initiation of Structure (Hemphill and Coons, 1950). This resulted in the creation of the “Ideal LBDQ” with 40 items to measure these two subscales (Hemphill, Siegel, and Westie, 1952).

The two-factor (Consideration and Initiation of Structure) model was soon challenged as too limiting. Stogdill (1963) called for the development of additional factors adequately describing the complexities of leader behavior. Additional instruments were developed, based on the LBDQ, including the LBDQXII, with 12 dimensions, resulting in growing popularity of the LBDQXII.

The third phase, which we identify with the term, stagnation, can be characterized by diverse criticism. Nevertheless, it should be noted that during this period, which gave rise to alternative leadership theories, (e.g. transformational – transactional leadership), new studies still utilized the two-factor leadership paradigm and the LBDQXII.

The fourth phase was triggered by the meta-analysis of Judge et al. (2004), reviving interest in and application of the LBDQXII. Furthermore, recent paradigms in the leadership field, namely follower-centric leadership, servant leadership and leader-member exchange, brought attention to the LBDQXII, as this instrument enabled researchers to investigate follower-centric attitudes towards leaders. However, the revival phase of LBDQXII faced a major barrier – its lengthy set of 100 items.

In summary, as depicted below, the evolution of the LBDQXII focused on follower-centric measures and extensive research in identifying appropriate dimensions of preferred leader behavior across different types of organizations, cultures, and situations since the 1960s.

----- Figure 1 about here-----



**Figure 1.** Evolution of LBDQXII

Source: created by authors, based on Bass, 1990, p. 511-534

**Method**

The LBDQXII item-reduction project was conducted by an international research consortium, organized by the consortium director (third author in this article) in cooperation with country collaborators who collected national data. Researchers used systematic random sampling techniques to distribute the surveys to samples of employed business people of the same nationality as the respondent country.

*Survey item reduction procedure*

Clearly, in a time of globalization, theories of leader behavior need to be applicable across cultures; hence we employed data from 14 countries representing all inhabited continents in order to validate a shorter-version of the LBDQXII. Little guidance exists on how to reduce the length of a multi-item scale. The most common techniques include similar steps to those used in building and validating new models and measures, namely maximizing internal and external consistency and validity (Davila and Crawford, 2018; Mehrabani and Mohamad, 2015). In addition, the seminal study by Stanton et al. (2002) extends this method when reducing a scale by adding a third category for evaluating item removal for scale reduction, namely *judgmental item qualities*.

Such *judgmental procedures* refer to those issues that require subjective judgement and/or those that are difficult to assess in isolation from the context in which the scale is administered. This step is reminiscent of the Q-sorting step of the pool of items at an early stage of survey development. The expert panel has the knowledge to understand the cultural and multi-language settings of the survey and also the in-depth knowledge of the theories

underpinning the items. They, at every stage, balance the trade-off of removing/keeping items that may only have moderate validating and reliability results, yet are essential to maintain the structure of the construct being measured. In our LBDQXII item reduction techniques we applied all three stages recommended by the literature: 1) validity and 2) reliability tests and 3) judgmental logic recommended by Stanton et al (2002) to apply insights of the expert team in judging all items.

It is always a trade-off to refine/reduce a survey instrument while meeting all three criteria of validity, reliability and judgmental logic and not changing the actual findings in the data. Hence, we also validated the shortened scale by correlating mean score results in the 50-item scale with results in the 100-item scale within a test-retest logic. Data was initially collected from 20 countries; raw data from countries which did not meet the stringent requirements for adequate sample size, back-to-back survey translation quality and appropriate respondent population were dropped from the final dataset. Data from 14 countries, N= 6451, remained and were employed in the reliability and validity tests described below. Sample descriptives are provided in Table 2.

----- Table 2 about here-----

### **Table 2. Sample characteristics**

The data were analysed in the three primary stages as recommended by the literature (Mehrabani and Mohamad, 2015). First, to test for reliability, Cronbach Alpha tests were conducted. Second, factor analysis tests were carried out for goodness-of-fit. Third, applying an iterative process, judgmental logic was applied at each stage. All 100 items were worked through manually to confirm “deletion sorting” with judgement logic which matched Cronbach Alpha results for best fit in a reduced scale: In first of three stages in sorting input, the four members of the expert country collaborators used Q-sorting logic applying the four

criteria below. Findings were evaluated at the second stage by three expert panel members. Logic applied to deletions of items matched one or more of the following logic judgements for item purification.

- (i) Items which were repeat questions in the same construct
- (ii) Items which were culturally challenging to translate i.e. LBDQXI item 28: “Needles the group”: this is difficult to translate across languages and cultures.
- (iii) Items which have different meanings in a given society or culture i.e. “a leader who encourages overtime’. In Scandinavia, with all overtime paid, this would mean “encourage you to earn more while assisting the company”. In many other western societies i.e. USA / UK, this could mean ‘encourages you to work long hours for the same basic pay’, hence may have negative affect.
- (iv) Items which are not at the core of the construct, i.e. “publicises the activities of the group”. This is not seen as at the core of the factor ‘Representation’, as it has a focus on public relations activities.

Table 3 below summarises Cronbach Alpha and factor mean scores within the validity and reliability *‘test-re-test’* logic by comparing results for LBDQXII analyses vs. results from the reduced 50 item dataset.

----- Table 3 about here-----

### **Table 3. LBDQXII and LBDQ50 - Comparison of total scores and validity results**

The 50 items in the scale were subjected to the same principal component factor analyses as the 100-item scale, using SPSS, v25. For the assessment of model fit of the LBDQ50, both absolute and comparative fit indices were used with AMOS structural equation modelling: Confirmatory Factor Analysis. Following Meharabani and Mohamad (2015), absolute fit indices to assess the predicted correlations/covariances of the model equal

to their observed counterparts were carried out using RMSEA, GFI, CFI and CMIN/DF.

Common interpretation in the literature confirms that RMSEA values below 0.10, CFI and GFI values above 0.90 and CMIN/DF values below 3 (Jøreskog and Sörbom, 1993) indicate a good fit to the data. See Figures 2 to 13 below for summaries of goodness-of-fit indices for each of the 12 dimensions. The full set of survey items in the 50-item field survey can be found at <http://crossculturalcentre.homestead.com/LeadershipResearch.html>.

For the complete 100 item survey also see:

<http://crossculturalcentre.homestead.com/LeadershipResearch.html> .

----- Figure 2 about here-----

**Figure 2: Measurement model for F1 Representation**

**Goodness-of-Fit**

CFI = 0.992

GFI = 0.997

RMSEA =0.050

CMIN/DF = 15.01, P (.000)

----- Figure 3 about here-----

**Figure 3: Measurement model for F2 Demand Reconciliation**

**Goodness-of-Fit**

CFI = 1.000

GFI = 1.000

RMSEA =0.570

CMIN/DF = 0.000, P (.000)

----- Figure 4 about here-----

**Figure 4: Measurement model for F3 Tolerance of Uncertainty**

**Goodness-of-Fit**

CFI = 0.636

GFI = 0.964

RMSEA = 0.112

CMIN/DF = 70.366, P (.000)

----- Figure 5 about here-----

**Figure 5:** Measurement model for F4 Persuasiveness**Goodness-of-Fit**

CFI = 0.954

GFI = 0.981

RMSEA = 0.134

CMIN/DF = 100.626, P (.000)

----- Figure 6 about here-----

**Figure 6:** Measurement model for F5 Initiation of Structure**Goodness-of-Fit**

CFI = 0.999

GFI = 0.999

RMSEA = 0.022

CMIN/DF = 3.774, P (.000)

----- Figure 7 about here-----

**Figure 7:** Measurement model for F6 Tolerance of Freedom**Goodness-of-Fit**

CFI = 0.990

GFI = 0.997

RMSEA = 0.057

CMIN/DF = 18.87, P (.000)

----- Figure 8 about here-----

**Figure 8: Measurement model for F7 Role Assumption**

**Goodness-of-Fit**

CFI = 1.000

GFI = 1.000

RMSEA =0.005

CMIN/DF = 1.14, P (.000)

----- Figure 9 about here-----

**Figure 9: Measurement model for F8 Consideration**

**Goodness-of-Fit**

CFI = 0.990

GFI = 0.997

RMSEA =0.056

CMIN/DF = 18.50, P (.000)

----- Figure 10 about here-----

**Figure 10: Measurement model for F9 Production Emphasis**

**Goodness-of-Fit**

CFI = 0.965

GFI = 0.993

RMSEA =0.057

CMIN/DF = 19.31, P (.000)

----- Figure 11 about here-----

**Figure 11: Measurement model for F10 Predictive Accuracy**

**Goodness-of-Fit**

CFI = 0.990

GFI = 0.993

RMSEA =0.080

CMIN/DF = 36.474, P (.000)

----- Figure 12 about here-----

**Figure 12: Measurement model for F11 Integration**

**Goodness-of-Fit**

CFI = 1.000

GFI = 1.000

RMSEA =0.472

CMIN/DF = 0.000, P (.000)

----- Figure 13 about here-----

**Figure 13: Measurement model for F12 Superior Orientation**

**Goodness-of-Fit**

CFI = 0.992

GFI = 0.997

RMSEA =0.50

CMIN/DF = 15.0, P (.000)

**Findings**

For both the 100-item dataset and the 50-item dataset, inspection of the correlation matrixes revealed the presence of coefficients of 0.3 and above. Moreover, a Harman 1 factor analysis carried out on the LBDQ50 data indicates that this dataset does not deviate from the common method bias issue, as only 24% of variance is explained by a single factor. In initial confirmatory factor analyses with the 100-item survey, factors 1,3,4,5,6,8,9 and 11 showed more coherent item-factor loadings. In the factor analyses for the 50- item scale, a higher number of factors: (factors 1,2,4,5,7,8, 9, 10, 11 and 12), showed coherent item-factor loadings. The Kaiser-Meyer-Okin values were 96, exceeding the recommended value of 0.6 (Kaiser, 1970). Bartlett's tests of Sphericity (Nunnally and Bernstein, 1967) reached statistical significance, supporting the factorability of the correlation matrixes. Findings from Structural Equations modelling with AMOS showed the goodness-of-fit indicated with RMSEA in our analyses with most variables have a good fit above the recommended level of less than 0.10; in addition, most goodness-of fit values with GFI and CFI meet criteria with levels above 0.95. One possible explanation for why tests did not all produce acceptable results for all variables, especially in CMIN/DF tests, can be that the sample size is quite large, Andersen (1984: 156); these fit indexes are sensitive to sample size.

While dimension-to-dimension relationships are not a primary focus of this study, in order to show criterion-related validity, the 12 LBDQXII dimensions were correlated to the data from the respondents' cultural scores on the Hofstede 7D dimensions. Significant correlations were shown between four of the LBDQ dimensions and five of Hofstede's dimensions as follows: LBDQXII dimension 2: *Demand Reconciliation* and scores on Hofstede's dimension of *Monumentalism*. Also, between dimension 3: *Tolerance of Uncertainty* and Hofstede scores for *Individualism*, *Uncertainty Avoidance*, *Indulgence and Monumentalism*. Also, between dimension7: *Role Assumption* and Hofstede scores for *Power Distance*, *Indulgence and Monumentalism*. Furthermore, to support criterion validity,



significant correlations were identified between dimension 9, *Consideration* and Hofstede's *Monumentalism*.

## Discussion

The results indicate that the 50-item short version of the LBDQXII is psychometrically acceptable. Indeed, for 5 of the 12 factors, there was an improved Cronbach Alpha with the 50-item scale compared to the 100-item scale. Comparative mean scores and comparative standard deviation scores indicate no significant differences between the 50-item scale means compared to the 100-item scale (Table 2). We are confident of acceptable internal consistencies and comparable patterns of convergent, discriminant and criterion-related validity. Even more importantly, the mean factor score results of the LBDQXII 50-item instrument are comparable with those from the 100-item instrument with our data from 14 countries, and  $N=6451$ , indicate that valid country comparison scores are also found in the shorter version. A valuable and novel finding with this '*test-re-test approach*' of running mean scores on the data, first with the 100 items, then with the 50 items, is that we see that we maintain very similar patterns of country comparisons and comparable scores in all 12 factors.

In summary, a practical shorter measure of the 12 factors of preferred leader behavior across cultures is developed and validated in this study. And as the role played by global managers in their immediate environment is culturally contingent, this underscores the need for managers to better understand the culturally specific follower-centric leadership profile in each society they work in. Individuals and organizations have different ways of achieving effective leadership, and the general conception of a leader whose effectiveness derives from his or her ability to engage in culturally sensitive leadership is clear.

On a methodological level, we contribute to the discussion of what statistical and judgmental logic procedures are needed when developing and validating shorter-item instruments in management research. We synthesized the validity, reliability and judgmental

logic of Stanton et al. (2002) to protect against the danger of changing the underlying meaning of the 12-factor LBDQXII constructs when making a shorter scale. We followed the reliability approach of Donnellan et al., (2006) with a 20-item instrument to measure the five big personality traits.

Smith, McCarthy and Anderson (2000) caution that many well-intended researchers commit several 'sins' in the process of developing shorter scales, such as not comparing reliability, validity and measurement results of the shorter measure to the original measure. We followed their advice and offer here clear guidelines regarding how to best compare psychometric properties of reduced scales to their 'parent scales'. Our theoretical contribution has been the mapping and synthesizing of the extant literature on the LBDQXII.

Results of the LBDQXII scale reduction project provide support for the quality and utility of the short version instrument to be used as the next generation of the LBDQXII instrument. Bass and Stogdill (1990) emphasized the need to maintain clarity regarding which instrument is used in empirical research when employing instruments like the LBDQXII, which originate from a different survey (LBDQ). Therefore, we suggest that a shortened, 50-item version of LBDQXII could be titled LBDQ50, contributing to clarity of the future empirical data and marking a new milestone in LBDQXII evolution.

### **Limitations**

This study draws on data developed across cultures by an experienced research team studying and using the LBDQXII since 1996. While we are confident in the results of and interpretation of our analyses presented here, potential limitations of the study include:

1. Salient leader preference dimensions particular to certain kinds of cultures have been overlooked. Future investigations replicating the original Ohio State study in the USA are planned.

2. Additional research in Muslim-majority, Arabic-speaking countries is necessary, as well as studies of non-Arabic-speaking Muslim-majority countries.
3. Our data set is limited in Southeast Asia and South Asia; research needs to be extended there.

## Conclusions

We have addressed a continuous topic in management research, namely the pressing need for psychometrically sound yet shorter measurement scales to help us understand preferred leader behavior in global business. We detail a triangulation approach to scale reduction methodology, namely judgmental, validity, and reliability methods. This can offer insights into both practitioners and scholars regarding quality and optimal length of any survey tool, both in and beyond management. We suggest that supplementing traditional reliability and validity methods for scale rationalization with judgmental logic is a must.

Leadership is clearly a set of complex, inter-related behaviors, and for global leaders to excel, understanding cultural expectations of what is ‘a good leader’ for personnel and organizational management is a must. We believe that our study now offers ‘good fodder for theory development’ (Caiazza, Cannella, Phan and Simoni, 2018), both within scale validation and crafting the way forward for new Leadership Behavior Development studies.

In closing, we note that shortening the length of established, yet overly-long instruments such as the LBDQXII may lead to subtle improvements in the experience and motivation of those participating in management research, one outcome that could yield big dividends for higher reliability and validity of the results and findings which can help global businesses manage cultural diversity better. We learned that it is possible to make very

effective measures of leadership constructs with relatively few items. As such, we postulate that many other leadership instruments might be longer than necessary and therefore could be successfully shortened by taking an approach similar to ours - we invite other management scholars and consultants to take these steps.

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**Factor 1: Representation** measures to what degree the manager speaks as the representative of the group.

**Factor 2: Demand Reconciliation** reflects how well the manager reconciles conflicting demands and reduces disorder to system.

**Factor 3: Tolerance of Uncertainty** depicts to what extent the manager is able to tolerate uncertainty and postponement without anxiety or getting upset.

**Factor 4: Persuasiveness** measures to what extent the manager uses persuasion and argument effectively; exhibits strong convictions.

**Factor 5: Initiation of Structure** measures to what degree the manager clearly defines own role, and lets followers know what is expected.

**Factor 6: Tolerance of Freedom** reflects to what extent the manager allows followers scope for initiative, decision and action.

**Factor 7: Role Assumption** measures to what degree the manager actively exercises the leadership role rather than surrendering leadership to others.

**Factor 8: Consideration** depicts to what extent the manager regards the comfort, well-being, status and contributions of followers.

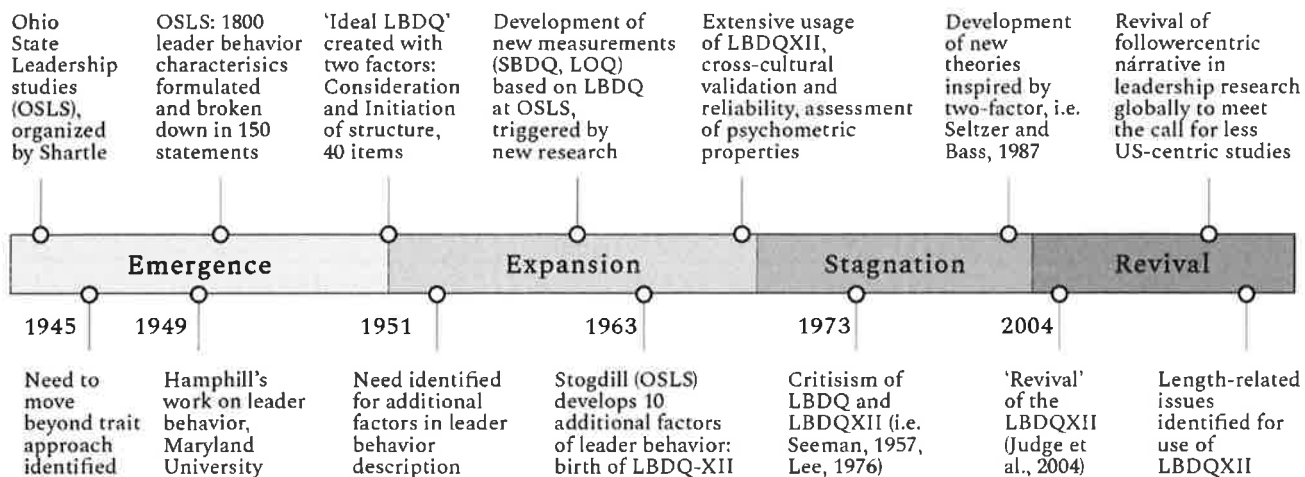
**Factor 9: Production Emphasis** measures to what degree the manager applies pressure for productive output.

**Factor 10: Predictive Accuracy** measures to what extent the manager exhibits foresight and ability to predict outcomes accurately.

**Factor 11: Integration** reflects to what degree the manager maintains a closely-knit organization; resolves inter-member conflicts.

**Factor 12: Superior Orientation** measures to what extent the manager maintains cordial relations with superiors; has influence with them; is striving for higher status.

**Table 1.** Preferred Leader Behaviour *Source: Summarized from Stogdill (1963)*



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Countries	N	Gender	Language used in data collection
China	713	58% Male 42% Female	Han zi
Ghana	306	52% Male 48% Female	English or Swahili
Iceland	166	72% Male 28% Female	Icelandic
Iran	1727	62% Male 38% Female	Persian
Japan	491	47% Male 53% Female	Japanese
Kenya	300	48% Male 52% Female	English Swahili
Lithuania	531	11% Male 89% Female	Lithuanian
New Zealand	221	75% Male 25% Female	English
Norway	801	51% Male 49% Female	Norwegian (Bokmål)
Russia	106	33% Male 67% Female	Russian
South Africa	231	70% Male 30% Female	English
South Korea	196	74% Male 26% Female	Korean
USA	362	71% Male 29% Female	English
Zambia	300	50% Male 50% Female	English or Swahili
Total	6451	55% Male 45% Female	

**Table 2:** Respondent sample descriptives from 14 countries from employed businesspeople at all levels, from workers to CEOs

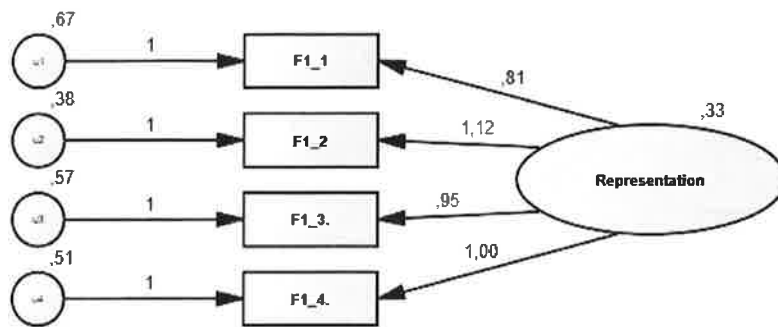
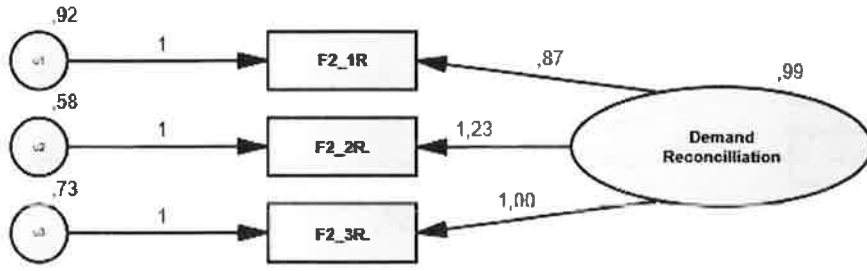
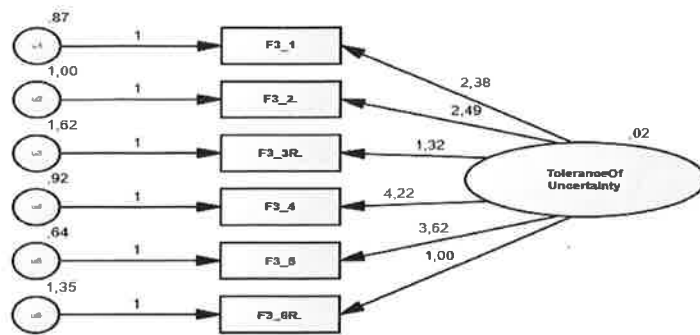
**Figure 2:** Measurement model for F1 Representation

Figure 3: Measurement model for F2 Demand Reconciliation

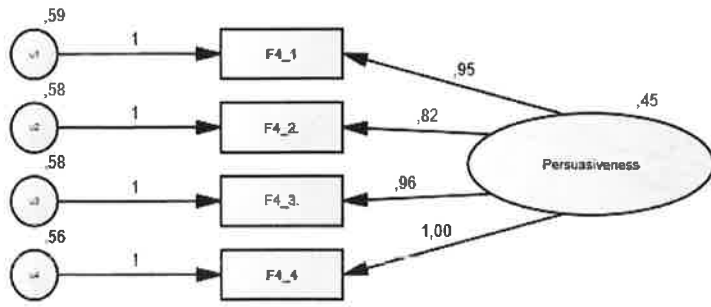


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**Figure 4:** Measurement model for F3 Tolerance of Uncertainty

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Figure 5: Measurement model for F4 Persuasiveness



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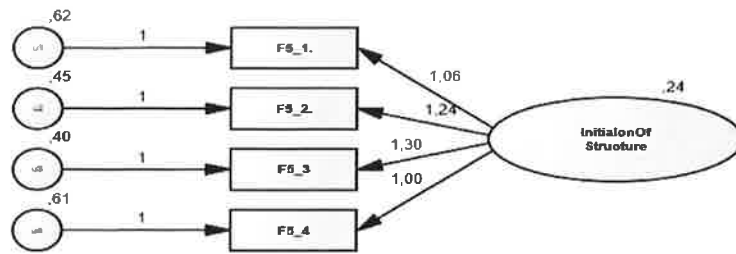
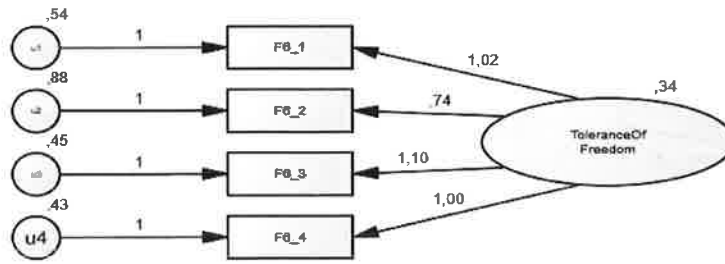
**Figure 6:** Measurement model for F5 Initiation of Structure

Figure 7: Measurement model for F6 Tolerance of Freedom



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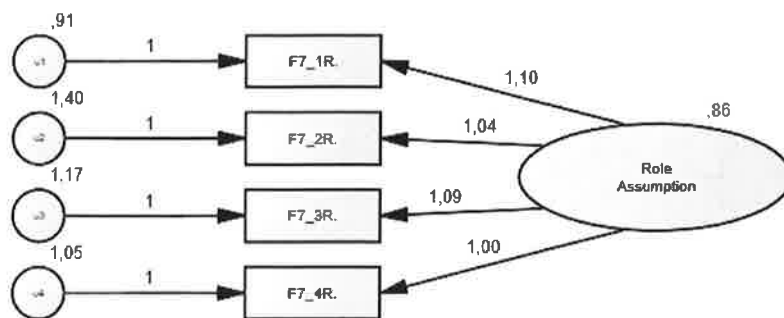
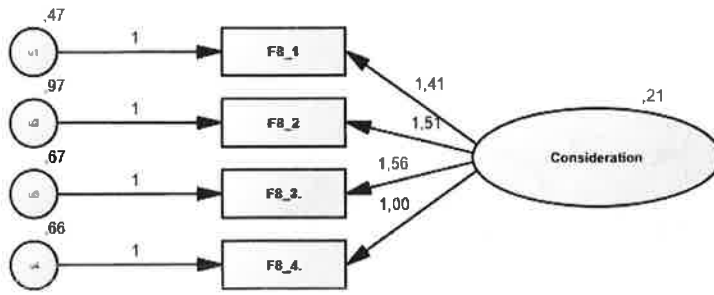
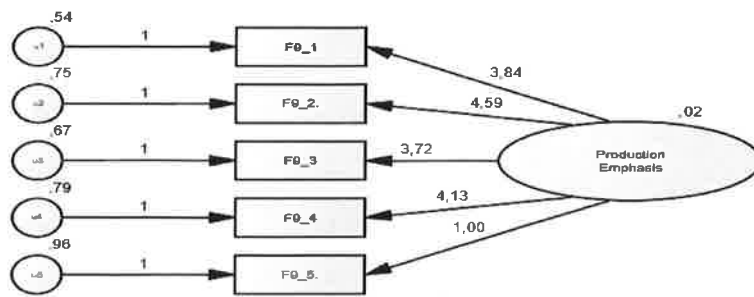
**Figure 8:** Measurement model for F7 Role Assumption

Figure 9: Measurement model for F8 Consideration

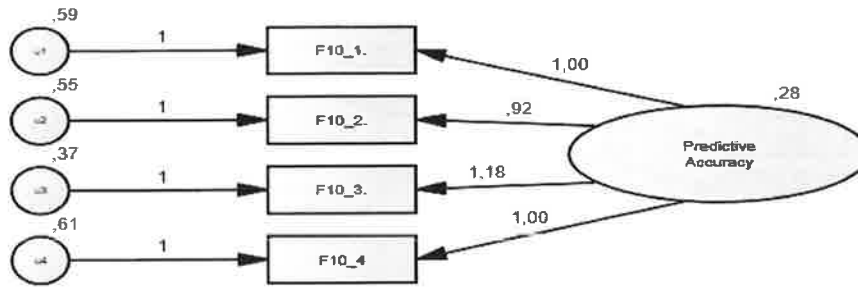


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**Figure 10:** Measurement model for F9 Production Emphasis

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Figure 11: Measurement model for F10 Predictive Accuracy



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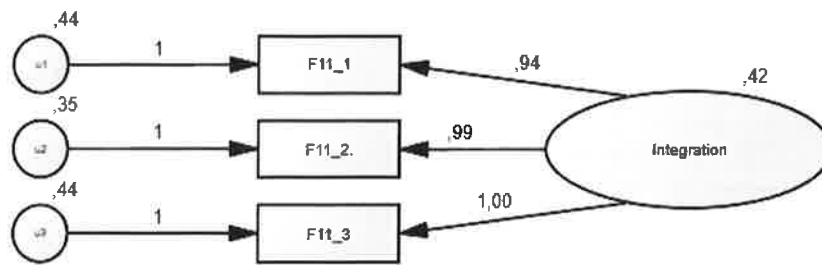
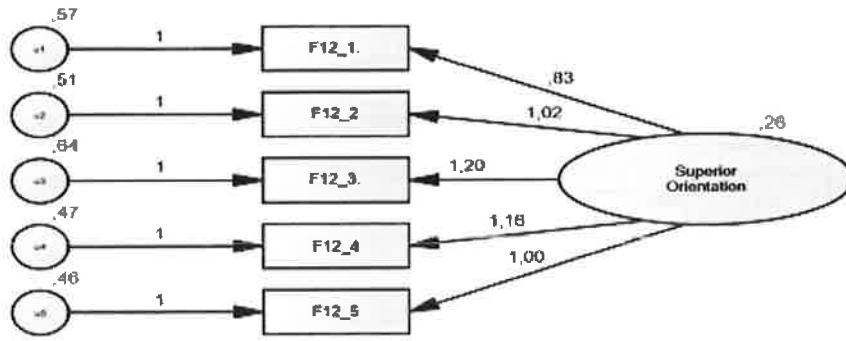
**Figure 12:** Measurement model for F11 Integration

Figure 13: Measurement model for F12 Superior Orientation



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<b>LBDQXII Factors:</b>		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	
<b>Total (100 items)</b>	<b>α</b>	0.70	0.71	0.59	0.79	0.81	0.74	0.74	0.66	0.66	0.72	0.83	0.74	
	<b>Mean</b>	3.94	3.74	3.39	3.86	3.98	3.67	3.52	3.67	3.58	3.82	4.19	3.84	
	<b>S.D</b>	0.64	0.82	0.53	0.62	0.58	0.57	0.69	0.59	0.53	0.64	0.72	0.55	
<b>Total with reduced items (50 items)</b>	<b>α</b>	0.69	0.79	0.42	0.72	0.71	0.77	0.79	0.68	0.70	0.69	0.74	0.73	
	<b>Mean</b>	3.98	3.53	3.47	3.83	4.04	3.86	3.48	3.86	3.75	3.82	4.19	3.88	
	<b>S.D</b>	0.68	1.14	0.56	0.69	0.68	0.66	1.04	0.80	0.66	0.64	0.73	0.68	
<b>Total difference between full and reduced scale</b>	<b>α</b>	-0.01	0.08	-0.17	-0.07	-0.09	-0.03	0.05	0.02	0.04	-0.03	-0.09	-0.01	<b>mean:</b>
	<b>Mean</b>	0.04	-0.21	0.07	-0.03	0.06	0.19	-0.03	0.19	0.17	0.00	0.00	0.04	0.04
	<b>S.D</b>	0.03	0.32	0.04	0.07	0.11	0.10	0.35	0.21	0.13	0.00	0.01	0.13	0.13

**Table 3.** LBDQXII and LBDQ50 - scale reliability and comparison of total scores.