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# Cross-Cultural Reliability and Validity of the LBDQ XII Explicit Leader Behavior Survey

Romie Frederick Littrell
Associate Professor of International Business
Auckland University of Technology
Private Bag 92006
Auckland 1020
New Zealand
Tel. (64) 9 – 917 – 9999 x5805
Fax (64) 9 – 917 – 9629
romielittrell@yahoo.com

## ABSTRACT

**Purpose:** However, the psychometric properties of the LBDQ XII have not been investigated in a cross-cultural context. Results of studies using the LBDQ XII in English and national languages in six counties are investigated and some problems with the reliability of the items defining the LBDQ factors are identified.

**Methodology/Approach:** Results of studies using the LBDQ XII in English and national languages in six counties are investigated and some problems with the reliability of the items defining the LBDQ factors are identified. Item and factor score data for the LBDQ XII were analyzed across samples from six national cultures, China, Germany, Romania, South Africa (with race as a further level of analysis), Uganda, and the UK . Additionally, response set bias was analysed for the six countries, leading to demonstrations of differences in this area of concern.

**Findings:** Results indicate that the items defining the factors are sensitive to cultural differences, and while this is a useful finding, the fact that the differences lead to poor item-factor reliabilities for most of the behaviour sets presents a considerable set of problems. Very high item-factor reliabilities were found for the UK sample, generally in the 0.8 and 0.9 ranges. Reverse scored items were found to dramatically lower reliability of surveys using them.

**Research limitations/implications:** The results indicate that significant differences found across cultures may be due to what has been termed “response bias”, which might in fact be a culture-specific behaviour characteristic**.** Confidence in the results can be called into question due to the large variations across sample sizes. Plans are presented for further investigation of differences in item-factor reliability across additional national cultures and for revision of the LBDQ XII.

**Practical implications:** Indications are that "response bias" needs to be considered as a significant factor to be investigated for studies in consumer behaviour, management and leadership behaviour, and other social science disciplines.

**Originality/value of paper:** The results confirm the findings of similar studies, and extend them to additional national cultures.

***Keywords: Leader Behaviour, LBDQ, reliability, validity, national culture, response bias, response sets***

## INTRODUCTION

The problems that may arise from response sets in cross-cultural research, particularly using questionnaires to collect data, have long been known. When Likert-type response categories are employed, consistent differences are found in utilization of the different anchor points on response scales (Smith, 2004a, 2004b).

Watkins and Cheung (1995) found evidence for five types of cultural variations in aspects of response format among high school students in Nigeria, Australia, China, Nepal, and the Philippines, namely, positivity bias, negativity bias, low standard deviation, inconsistency of related items, and consistency of unrelated items. (Marin, Gamba, and Marin (1992) found a tendency to use both extremes of a response scale was shown to be greater among Hispanic Americans than among Caucasian Americans, and Clark III (2000) found similar results comparing Mexican Hispanics and US Blacks. . Studies using bilingual respondents have indicated that ratings also vary with language of response. Hispanics showed more extreme responses when completing questionnaires in

Spanish as opposed to in English (Hui & Triandis, 1989).

### Cultural Relativity

Heine, Lehman, Peng, and Greenholz (2002) propose that response variations occur because respondents are only able to make judgments about themselves and those around them that are relative to the reference group contexts within their native culture. Hence, subjects from a highly collectivist culture may rate themselves as highly individualistic relative to those around them, even though subjects from a more individualistic culture would identify the same persons as more collectivistic

### Error or Data?

Smith (2004a) points out that since initial studies of response sets or response bias, the majority of cross-cultural researchers have approached the issues as a source of error in the making of cross-cultural comparisons and that ways must thus be found to discount it (e.g., Leung & Bond, 1989).

A technique often used by researchers using single-nation samples has been to employ reverse scored items for half of those on a survey. This is quite difficult in cross-cultural research, as translation of items requiring negation into some languages is confusing to respondents. Additionally, members of some cultures, particularly in

parts of Asia, are reluctant to enter disagreements (Segall, 1986). A critique of this concept can be found below.

Hofstede (1980) used within-subject standardization, reasoning that if one averages the agreements that a respondent records within the full range items. These deviation cores are sometimes standardised by divided by the standard deviation.

Smith (2004) points out that procedures of this type have been employed in many of the large scale, cross-national comparative studies that have been published in recent years (Au & Cheung, 2002; Ayçan et al., 2001; Chinese Culture Connection, 1987; Hofstede, 2001; Morris, Williams, Leung, et al., 1998; Schwartz, 1994; Smith, Peterson, Schwartz, et al., 2002).

Smith (2004a) and Poynor (2005) note that scores computed in this way are not statistically independent of one another, and the characteristics of the scores being self-reports, perhaps standardised by conversion to deviations from the subject's response mean, and further standardised by division by the subject's response standard deviation, tends to call into question the validity of the results of subsequent statistical analyses. Recent discussion has focused on ways in which these problems can best be overcome (Cheung & Rensvold, 2000; van de Vijver & Leung, 1997).

Implications from Smith (2004a) are that treating response sets or response bias as a source of error that must be corrected is not appropriate, but that we can consider response sets as an expression of the differing styles of communication that characterize specific national cultures. (The consideration of individual, group, and national levels of analysis are of concern her, but beyond the scope of this presentation; see: Fischer (2004); Johnson, T., Kulesa, P., Llc, I., Cho, Y.I., Shavitt, S. (2005), Rupp, A.A.; Zumbo, B.D. (2004), Van Herk, H., Poortinga, Y.H.; Verhallen, T.M.M. (2004); Watkins and Cheung (1995)).

## RESPONSE "BIAS" AND NATIONAL CULTURE

Systematic errors in response bias in research are errors introduced into a measurement by some factor that has persistent directional effects on the characteristic being measured, or the process of measurement (Brownell 1995, p.43; Patel, Harrison and McKinnon, 2002).

Baumgartner and Steenkamp (2001) provide further evidence of response styles as a source of contamination in questionnaire ratings. They threaten the validity of conclusions drawn from marketing research data. They investigated five forms of stylistic responding: acquiescence and dis-acquiescence response styles, extreme response style/response range, midpoint responding, and non-contingent responding. Using data from large, representative samples of consumers from 11 countries of the European Union, they found systematic effects of response styles on scale scores as a function of two scale characteristics, the proportion of reverse-scored items and the extent of deviation of the scale mean from the midpoint of the response scale. The correlations between scales can be biased upward or downward depending on the correlation between the response style components.

Social desirability response bias (SDRB) is an important systematic error that needs to be controlled in behavioural research, and in cross-cultural studies in

particular (Patel, Harrison, and McKinnon, 2002). The bias refers to the desire, at either a conscious or an unconscious level, to deny socially undesirable traits and behaviours and to admit to socially desirable ones (Watkins and Cheung 1995, p.490). This bias stems from an individual's need to be seen to be conforming to societal norms. This conveys the result that an individual's behaviour is more society oriented and less self-cantered than is actually the case (Cohen et al. 1995, p.41).

Smith, Peterson, and Schwartz (2002) believe SDRB to be a substantial problem in cross-cultural studies, as that SDRB is likely to vary by nation both as a consequence of norms about responding positively, and due to subtle differences in translation of response alternatives. Hence, comparison of raw means is likely to produce spurious differences. However, discussions with colleagues (Poynor, H., 2004, and Poynor, L. 2004) have led to the conclusion that the mean item score procedure preserves the original Likert scale raw scores of 1...5, and distorts the data in no way. There should be no concern about correcting between-culture variation at the level of scoring. When making statistical comparisons across cultures using means, the between and within groups variation is built into the decision statistic. If one chooses to standardize scores, deviation scores (x – mean of x) procedures would be inferior to standard scores for making group comparisons. A benefit of standard scores worth mentioning is the built in correction for strength of consistency in the divisor. However, as variance in response across cultures is a variable being investigated, there is more support for the use of means of raw item scoring analysis procedures.

## HOW TO MEASURE CULTURE?

Nakata and Sivakumar (2001) in a review of marketing and culture, recommend the cultural value dimensions approach as the most appropriate means for definitions of national cultures, for example, Kluckhohn and Strodbeck's (1973) cultural universals, and Hofstede's (1991, 1988, and now 2001) and Bond et al.'s (1987) indices. Implicit in this recommendation is the assumption that we can reliably identify sustainable dimensions of values or behaviours within culture and across cultures. This study investigates a dimensions approach to measuring preferred leader behaviour across cultures, specifically explicit leader behaviour, as operationalised by the Leader Behavior Description Questionnaire XII.

Various versions of the Leader Behavior Description Questionnaire (LBDQ) have been used in hundreds of research studies over the past fifty years (Judge, Piccolo, and Ilies (2004).. Since 1991, the LBDQ XII and the LBDQ have been used in several cross-national-culture studies. However, the psychometric properties of the LBDQ XII have not been investigated in a cross-cultural context. Results of studies using the LBDQ XII in English and national languages in six counties are investigated and some problems with the reliability of the items defining the LBDQ factors are identified.[1] Additionally, another chronic problem in cross-cultural research appeared, termed "response bias". "Bias" is an unfortunate choice of word for this concept, as it

[1] [1] An obvious requirement for a thorough analysis of the LBDQ XII is re-factoring, both confirmatory and exploratory. Sufficient data is only available in this set of samples for China and Uganda. Detailed analysis of the South African sample indicates significant differences between the sub-samples based upon race. Other sample sizes are too small. Analysis and reporting of the factor structure for China and Uganda are in preparation and will be reported in subsequent publications.

implies preferences or inclinations that inhibit impartial judgment, or an unfair act or policy stemming from prejudice. Cronbach (1946) identified such response marking patterns by subjects when responding to items on a research or assessment instrument as "response sets": "A response set is defined as *any tendency causing a person consistently to give different responses to test items than he would when the same content is presented in a different form"* (p. 476). Because test items are intended to measure knowledge, attitude, or opinions, such tendencies could affect the validity and reliability of the instrument.

Dorfman, Hibino, Lee, Tate, and Bautista (1997) believe that the phenomenon of leadership is widely considered to be universal across cultures, but that the way in which it is operationalised is usually viewed as culturally specific. Conflicting viewpoints exist in the leadership literature concerning the transferability of specific leader behaviours and processes across cultures. Triandis (1976) tells us the importance of cross-cultural research lies in defining functional relationships between variables that should be sensitive to cultural influences. I am interested in investigating the relationships between the two variables of national culture and preferences for particular sets of explicit leader behaviours. In 1996, while working as a Human Resource Manager in China, I was asked to design and implement a manager development program for a hotel complex in central China, where the national origins of the managers included Aboriginal Australia, Belgium, China, Hong Kong, Italy, Nepal, The Netherlands, Pakistan, The Philippines, Singapore, and the USA. When developing a leadership module, I found that at the time there was no recent leadership research available for Mainland China. However, there were a number of studies that had used the Leader Behavior Description Questionnaire XII (LBDQ XII) in Hong Kong (e.g., Selmer, 1997; Black and Porter, 1991) and cross-culturally with the USA (e.g., Black and Porter, 1991; Lucas, Messner, Ryan, and Sturm, 1992; Stogdill, 1963) as a reference point. I organized a project to translate the LBDQ XII to Chinese characters, and to administer the survey in the hotels in order to develop a theoretical base for an organizational leadership assessment and development program (Littrell, 2002a). Since that time collaborators have worked to translate the LBDQ XII to various languages, and to collect and analyze data in Germany, Romania, Uganda, South Africa, and the UK (Littrell 2002a, 2002b, 2004; Littrell and Baguma, 2004; Littrell and Valentin, forthcoming 2005; Schneider and Littrell, 2003; and Littrell and Nkomo, in preparation). The general finding is that patterns of preferred leader behaviours vary considerably across national cultures for most of the behaviour sets defined by the factors.

In an article in preparation (Littrell, in preparation, 2005), analysis of gender differences in preferred explicit leader behaviour defined by the LBDQ XII across six countries, China, Germany, Romania, South Africa, Uganda, and the UK, found that preferences for explicit behaviour sets of an "ideal leader" vary significantly across gender and national culture for most cultures.

In the process of the studies, some questions concerning the psychometric properties of the LBDQ XII have arisen, and they will be addressed in this paper.

## THE LEADER BEHAVIOR DESCRIPTION QUESTIONNAIRE

After World War II, in the USA, there was a period of almost thirty years during which leaders where studied either by observing their behaviour in laboratory

settings or by asking individuals in field settings to describe the behaviour of individuals in positions of authority, and relating these descriptions to various criteria of leader effectiveness. Three influential groups of investigators pursued the quest for explanations of leader effectiveness in this manner. These were Robert Bales and his associates at Harvard (Bales, 1954), members of the Ohio State Leadership Center (Stogdill and Coons, 1957), and members of the Institute for Social Research at the University of Michigan (Kahn and Katz, 1953; Likert, 1961; Mann, 1965).

Research conducted within this paradigm became known as the behavioural school of leadership. One of the major empirical contributions from the behavioural school was the identification of two broad classes of leader behaviours – **task-oriented** and **person-oriented** behaviours – that were identified by repeated factor analyses conducted by the Ohio State group, interviews by the Michigan group, and observation of emergent leaders in laboratories by the Harvard group. It should be noted that the Harvard group also identified a third dimension, **individual prominence**, which was somehow ignored in subsequent leadership literature. This dimension may have been neglected because of the social-liberal disapproval of individual prominence seeking found in some universities at the time.

A second major contribution of the behavioural paradigm was a more refined and detailed specification of task- and person-oriented behaviours. Unfortunately, there was no pattern of leader behaviour that was found to be consistently associated with subordinates' satisfaction or any criteria of supervisor or manager effectiveness.

**Assumptions and Limitations of the Leader Behaviour Paradigm**

The initial guiding assumption of the behavioural paradigm was that there are some universally effective leader behaviours, and these could be discovered by either observing leaders in action, usually in a laboratory setting, or by asking subordinates about the behaviour of their immediate superiors. Little thought was given to the specific role demands of leaders, the context in which they functioned, or differences in dispositions of leaders or followers. Failure to consider these factors was subsequently thought to be the reason for the researchers' inability to identify leader behaviours that had universal or near universal effectiveness.

In chapter 11, “Leader Behavior: *Consideration* and *Initiating Structure*”, Stogdill (1974, pp. 128-141) discussed the Ohio State Leadership Studies from 1945 through 1970. Several factor analytic studies produced two factors identified as *Consideration* and *Initiation of Structure in Interaction*.

Stogdill (1959, 1963, 1974 pp. 142-155) noted that it was not reasonable to believe that the two factors of *Initiating Structure* and *Consideration* were sufficient to account for all the observable variance in leader behaviour relating to group achievement and the variety of social roles. Stodgill’s theory suggested the following patterns of behaviour are involved in leadership, though not equally important in all situations (the order of the list and the numerals of the factors have no relevance).

1. *Representation* measures to what degree the leader speaks as the representative of the group.

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

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

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

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

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

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

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

9. *Production Emphasis* measures to what degree the leader applies pressure for productive output.

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

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

12. *Superior Orientation* measures to what extent the leader maintains cordial relations with superiors; has influence with them; is striving for higher status. (*Superior Orientation* is a behaviour set not included in many leadership surveys. It is discussed and analyzed in Kerr, Schriesheim, Murphy, and Stogdill (1974) and moderates between leader predictors and follower satisfaction. They found that the greater the perceived upward influence of the supervisor, the greater the positive relationships between the *Consideration* factor and subordinate satisfaction. This will be especially true for subordinates who are highly dependent upon their boss for such things as recognition, freedom, and physical and financial resources.

The LBDQ XII form is included as Appendix I.

Shashkin (1979) reviewed the LBDQ XII; he noted that the *Consideration* and *Initiating Structure* scales were developed using a factor analytic procedure. The *Tolerance of Freedom* and *Production Emphasis* scales were related to the Bowers and Seashore (1963) leadership dimensions of Interaction Facilitation and Goal Emphasis (Taylor and Bowers, 1972; Yunker and Hunt, 1976). The remaining eight scales were created by Stogdill. Shaskin indicates the LBDQ XII would be a good choice when investigating leadership climate in organizations, and when doing team building with moderate-sized or large groups, despite its length.

**Review of the Literature Relating to the LBDQ XII**

One conclusion that has often been drawn from an examination of the empirical data is that *Consideration* correlates more strongly with follower satisfaction and *Initiating Structure* correlates more strongly with performance or effectiveness. Both Bass (1990) and Yukl (1998), for example, noted that the clearest set of results regarding the validity of the two behaviours is the correlation of *Consideration* with satisfaction. This pattern of associations fits well with the conceptual nature of the constructs. As noted by Halpin (1957b), one would expect leaders high on *Initiating Structure* to be more effective at meeting role expectations, whereas one would expect followers to prefer (and thus be more satisfied by) leaders who are considerate. Considerate leaders are empathetic (Fleishman and Salter, 1963), and thus should be skilled at sensing and subsequently satisfying the needs of their followers. Because the orientation of structuring by leaders is toward the task (Bass, 1990), they should be more effective at producing performance outcomes. Support can be offered for the expectation that *Consideration* correlates more strongly with follower satisfaction, whereas *Initiating Structure* correlates more strongly with performance and leader effectiveness

In the literature, four measures of *Consideration* and *Initiating Structure* have been widely used: The Leader Behavior Description Questionnaire (LBDQ; Halpin, 1957a), the LBDQ, Form XII (LBDQ-XII; Stogdill, 1963), the Supervisory Behavior Description Questionnaire (SBDQ; Fleishman, 1989b), and the Leader Opinion Questionnaire (LOQ; Fleishman, 1989a). The LOQ is the most unique of these measures in that it asks leaders to indicate how often they believe they *should* (vs. actually *do*) engage in considerate and structuring behaviours. A common theme in the literature is that the specific measures correlate differently with outcomes (House and Aditya, 1997). Schriesheim and Kerr (1974) concluded that the LBDQ-XII is the best measure of *Consideration* and *Initiating Structure*. Fleishman (1995) disagreed, arguing that the SBDQ and LOQ were better measures. Irrespective of which measure is superior, in light of past research we expect validities to vary by measure.

The correlation between *Consideration* and *Initiating Structure* has been the subject of much debate. The concern with the independence of these dimensions can be traced to two sources. First, orthogonality of the dimensions was often claimed in the literature; orthogonality suggests that the dimensions are wholly independent. Second, perhaps the most popular practical application of the leader behaviour approach, the managerial grid (Blake and Mouton, 1964, 1985), is based on the assumption of orthogonality. Weissenberg and Kavanagh (1972) reviewed the literature on the relationship between measures of *Consideration* and *Structure* and concluded that the two dimensions “are not always empirically independent as stated and implied” (p. 127). Bass (1990) agreed, noting, “Initiation and *Consideration* should be independent, but such is not the case” (p. 515). Weissenberg and Kavanagh further argued that the relationship between *Consideration* and *Initiating Structure* varied depending on the measure used. Fleishman (1995) also noted that the *Consideration*–Structure correlation could be expected to vary by measure, with the LOQ and SBDQ displaying lower inter-correlations. Support exists for the conclusion that *Consideration* and *Initiating Structure* is positively related, however, the use of different measures will lead to spurious variability in this relationship across studies.

Judge, Piccolo, and Ilies (2004) attempted to identify all possible studies of the relationships between *Consideration*, *Initiating Structure*, and relevant organizational criteria. They searched the PsycINFO database (1887–2001) for studies (articles, book chapters, dissertations, and unpublished reports) that referenced the two general keyword categories in various combinations and expressions. Their search efforts resulted in the identification of 18 articles referenced in literature reviews or meta-analyses on relevant topics, and 1,180 abstracts identified by means of electronic searches (878 journal articles and 302 dissertations). In reviewing the abstracts, they eliminated studies that did not include primary data (such as qualitative studies or reviews) and studies that did not appear to measure leadership. Further, they eliminated studies that did not appear to measure a relevant criterion such as leader job performance or motivation. This triage yielded 165 articles and 36 doctoral dissertations, and examination of each study resulted in 130 studies met the criteria for inclusion in their analysis database (117 journal articles and 13 dissertations). These studies reported a total of 593 correlations computed from 457 independent samples.

The meta-analysis found that *Consideration* and *Initiating Structure* have significant main effects in assessing the criteria of leadership consisting of,

- Follower satisfaction (satisfaction with leader, satisfaction with job)
- Leader performance or effectiveness (leader job performance, group/organization performance, leader effectiveness).

The instrument used in the leadership studies did moderate the validity of both *Consideration* and *Initiating Structure*. Although Schriesheim and Kerr (1974) favoured the LBDQ-XII, and Fleishman (1995) preferred the LOQ or SBDQ, the original LBDQ and the LBDQ-XII have the highest validities averaged across *Consideration* and Structure. That is, for *Consideration*, the LOQ was less valid than the other three measures and, for *Initiating Structure*, the SBDQ was less valid than the other three. The measure of *Consideration* and *Initiating Structure* does matter. Overall, the pattern of correlations is more consistent than has been depicted in previous reviews (e.g., Yukl, 1998). In general, *Consideration* exhibited stronger relationships with the criteria than did *Initiating Structure*. This was especially true with respect to follower satisfaction (follower job satisfaction, follower satisfaction with the leader). *Initiating Structure* did have slightly stronger relations with group–organization performance.

The results of the meta-analysis indicate that followers prefer considerate leaders but will perform more effectively for structuring leaders. On the other hand, *Consideration* was found to be linked to leader job performance and group–organization performance, and *Initiating Structure* was linked to leader satisfaction. Both behaviours also were linked to follower motivation and leader effectiveness, with *Consideration* being somewhat more important.

Bass (1990) noted a limitation of past research is the inability to ascertain whether “leadership is a cause, a consequence, or a coincidence of group effectiveness, satisfaction, or other valued outcomes” (p. 542). This is a long-standing criticism of this literature (Korman, 1966), yet with few exceptions there has been little effort to study the causal relationship between *Consideration*, Structure, and

outcomes. Moreover, because the characteristics *understanding*, *caring*, and *concerned*, as well as *decisive*, *directive*, and *organized* are endorsed by individuals as attributes of leaders (Lord, Foti, and De Vader, 1984), it seems possible that implicit theories of leadership may explain the validities of *Consideration* and Structure. Specifically, individuals may attribute effective leadership by perceiving such leaders as considerate and structuring, irrespective of whether those behaviours actually led to effective leadership.

## USE OF THE LBDQ ACROSS CULTURES AND THE POTENTIAL EFFECT OF LANGUAGE ACCOMMODATION

Previous research on the effects of language typically has found that the language version of an instrument can influence individuals' responses (Bond and Yang, 1982; Harzing, and Maznevski, 2002; Ralston, Cunniff and Gustafson, 1995; Schermerhorn and Bond, 1991; Yang and Bond, 1980). Cultural accommodation proposes that individuals will respond in a manner that favours or accommodates the culture associated with the language of presentation. Specifically, bilingual individuals, when responding in their native language, will accommodate the culture (e.g., beliefs and values systems) associated with the native language. When responding in a secondary language, these same bilingual individuals will accommodate the culture associated with the secondary language. Culture independently influences thought either directly, through the socialization of the individual within a culture, or indirectly, as the individual learns the language of a culture, language being an evolved cultural pattern (Bandura, 1986).

A good discussion of the theoretical aspects of this concept is in Harzing and Maznevski (2002). They point out the issues involved in research using translated surveys. Familiarity with many languages and cultures indicates that accurate translation is fraught with problems, and perhaps impossible.

For example, in Uganda, with all subjects indicating Black racial group, data identifying first language spoken was collected. Significant differences in leader behaviour preferences were found for seven of the twelve LBDQ factors when comparing two sub-samples of speakers of English as a first language and speakers of the Bantoid group as a first language. English-speakers scored higher averages on all factors. Determining whether this indicates a demographic sub-culture difference or language accommodation (see Ralston et al. 1995) will require additional data collection and study.

## CROSS-NATIONAL RESPONSE SETS USING THE LBDQ XII

The intent of the design of the LBDQ XII is that higher scores on the Likert scales indicate a greater level of preference for the behaviour in the ideal leader. Therefore differences in response patterns should indicate differences in response bias related to culture. In Table 1 we can see statistical reports on response characteristics by national cultures.

In Table 1, we see that the South African Colored and the Ugandan samples generated a more widely distributed set of responses, in fact yielding negative kurtosis for the responses, compared with positive kurtosis for all other samples. For the South

African Whites, German, and to a lesser extent UK samples, there is a tendency observed to use “4” rather than “5” as the upper limit on preference.

Due to the nature of the studies, these propensities cannot be really termed “bias”, but is an indicator of cultural differences in perception and use of Likert-type rating systems. There can be quite a number of reasons for these kinds of distributions, which will be investigated further. Discussion here is beyond the conference length restrictions on this paper.

Hierarchical cluster analysis of the samples based upon the statistics in Table 1, shown in Table 2 indicate groupings that will require considerable further study to interpret.

**Table 1.**
**Indications of Response Pattern Differences Across the Cultures Studied**

| | **Cn** | **Ro** | **SAA** | **UK** | **SAB** | **SAW** | **De** | **SAC** | **Ug** |
|---|---|---|---|---|---|---|---|---|---|
| **N** | 212 | 40 | 33 | 36 | 87 | 86 | 46 | 16 | 305 |
| **Max** | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 |
| **Min** | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| **Mean** | 4.11 | 4.06 | 3.98 | 4.10 | 3.94 | 3.94 | 3.99 | 3.73 | 3.52 |
| **Median** | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| **Mode** | 5.00 | 5.00 | 5.00 | 4.00 | 5.00 | 4.00 | 4.00 | 4.00 | 5.00 |
| **Std Dev** | 1.05 | 1.11 | 1.11 | 0.90 | 1.11 | 1.02 | 0.92 | 1.10 | 1.32 |
| **Skewness** | -1.45 | -1.19 | -1.14 | -0.92 | -1.06 | -1.01 | -0.85 | -0.60 | -0.57 |
| **Kurtosis** | 1.88 | 0.75 | 0.73 | 0.59 | 0.60 | 0.76 | 0.59 | ***-0.42*** | ***-0.72*** |
| | | | | | | | | | |
| **%, Item Response=5** | 44.7% | 44.5% | 40.1% | 38.7% | 38.6% | 32.8% | 32.1% | ***30.6%*** | ***29.3%*** |
| **%, Item Response=4** | 32.9% | 31.8% | 33.8% | ***39.4%*** | 32.1% | ***40.9%*** | ***42.5%*** | ***31.0%*** | ***25.7%*** |
| **%, Item Response=3** | 13.1% | 13.2% | 14.2% | 16.6% | 17.3% | 16.7% | 18.9% | ***23.1%*** | ***21.5%*** |
| **%, Item Response=2** | 4.7% | 5.8% | 6.8% | 4.1% | 6.9% | 6.2% | 5.0% | ***11.5%*** | ***11.7%*** |
| **%, Item Response=1** | 3.7% | 4.7% | 4.6% | 1.1% | 4.4% | 3.3% | 1.5% | ***3.6%*** | ***10.8%*** |
| **% Blank** | 1.0% | 0.0% | 0.5% | 0.0% | 0.7% | 0.2% | 0.0% | ***0.1%*** | ***1.0%*** |

Ro, Romania; UK, United Kingdom; De, Germany; SAA, South Africa Asians; SAB, South Africa Blacks; SAC, South Africa Colored; SAW, South Africa Whites; Ug, Uganda; Cn, China.

**Table 2**
**Hierarchical Cluster Analysis: Cluster Membership Based Upon Table 1 Data**

| **Clusters**<br>**Case** | **8** | **7** | **6** | **5** | **4** | **3** | **2** |
|---|---|---|---|---|---|---|---|
| **Cn** | **1** | **1** | **1** | **1** | **1** | **1** | 1 |
| **Ro** | ***2*** | 2 | 2 | 2 | 2 | 2 | 1 |
| **SAA** | ***2*** | 2 | 2 | 2 | 2 | 2 | 1 |
| **UK** | 3 | ***3*** | 3 | ***3*** | 2 | 2 | 1 |
| **SAB** | 4 | 4 | 2 | 2 | 2 | 2 | 1 |
| **SAW** | 5 | 5 | ***4*** | ***3*** | 2 | 2 | 1 |
| **De** | 6 | ***3*** | 3 | ***3*** | 2 | 2 | 1 |
| **SAC** | 7 | 6 | 5 | **4** | **3** | **3** | ***2*** |
| **Ug** | 8 | 7 | 6 | ***5*** | ***4*** | **3** | ***2*** |

Ro, Romania; UK, United Kingdom; De, Germany; SAA, South Africa Asians; SAB, South Africa Blacks; SAC, South Africa Colored; SAW, South Africa Whites; Ug, Uganda; Cn, China.

## CULTURAL DIMENSIONS AND RESPONSE STYLES

Johnson, Kulesa, Llc, Young, and Shavitt (2005)Despite extensive work on the cultural dimensions that Hofstede (2001) originally proposed, there is little theoretical guidance concerning the form that associations between these cultural dimensions and response styles might take. They offer tentative hypotheses concerning potential relationships between culture and each form of response style. Tables 3 and 4 depict the relationships from the data in this study.

**TABLE 3**
**ESTIMATES OF HOFSTEDE-BOND SCORES FOR THE NATIONAL CULTURES**

| ***Country*** | **Individualism IDV** | **Power Distance PDI** | **Masculinity MAS** | **Uncertainty Avoidance UAI** | **Long Term Orientation LTO** |
|---|---|---|---|---|---|
| **Hofstede (2002a) Ranges, Means** | ***6 – 91 Mean=51*** | ***11 –104 Mean=51*** | ***5 – 95 Mean=51*** | ***8-112 Mean=64*** | |
| **Hofstede (1994, 2002a)** | | | | | |
| Germany FR | 67 (Moderate) | 35 (Low) | 66 (High) | 65 (Moderate) | |
| Great Britain | 89 (High) | 35 (Low) | 66 (High) | 35 (Low) | |
| Romania | | | Moderately Low | | |
| **Timm et al. (1999)** | | | | | |
| Germany | 67 (M) | 35 (Low) | 66 (H) | 65 (M) | 31 (L) |
| United Kingdom | 89 (H) | 35 (Low) | 66 (H) | 35 (L) | 25 (L) |
| Romania | 34 (L) | 63 (H) | 29 (L) | 72 (H) | -- |
| **Sundqvist et al. (2001)** | | | | | |
| Cluster 1-Germany | 53 (M) | 62.5 (H) | 58 (H) | 82 (H) | -- |
| Cluster 2-UK | 74 (H) | 28 (L) | 65 (H) | 54 (M) | -- |
| Cluster 3-Romania | 22 (L) | 70 (H) | 42 (M) | 79 (H) | -- |
| **University of Southern Denmark: Students, 1991 (personal communication):** | | | | | |
| Germany | 70 (M) | | 29 (L) | | |
| Romania | 23 (L) | | 36 (L) | | |
| **Aycan, et al. (2000), not Hofstede scale questions** | | | | | |
| Germany | | *99 (L)* | | | |
| United Kingdom | | | | | |
| Romania | | *82 (L)* | | | |
| **http://www.geert-hofstede.com** | | | | | |
| Africa, East | 27 | 64 | 41 | 52 | 25 |
| Africa, West | 20 | 77 | 46 | 54 | 16 |
| China* | 20 | 80 | 66 | 40 | 118 |
| South Africa | 65 | 49 | 63 | 49 | |

| *Consensus* | | | | | |
|---|---|---|---|---|---|
| | **IDV** | **PDI** | **MAS** | **UAI** | **LTO** |
| Africa, East | Low | High | Moderate | Moderately Low | Low |
| Africa, West | Low | High | Moderate | Moderately Low | Low |
| China* | Low | High | High | Low | High |
| Germany (De) | Moderate | Mixed | High | M-H | Low |
| Romania | Low | High | Low | High | -- |
| South Africa | Moderate | Moderate | High | Low | |
| United Kingdom | High | Low | High | Low | Low |

## TABLE 4 ESTIMATES OF HOFSTEDE'S DIMENSION SCORES AND CHARACTERISTICS OF OBSERVED DATA

| ***Consensus – Hofstede Dimensions from Available Estimates*** | | | | | |
|---|---|---|---|---|---|
| | **IDV** | **PDI** | **MAS** | **UAI** | **LTO** |
| Africa, East | Low | High | Moderate | Moderately Low | Low |
| Africa, West | Low | High | Moderate | Moderately Low | Low |
| China | Low | High | High | Low | High |
| Germany (De) | Moderate | Mixed | High | M-H | Low |
| Romania | Low | High | Low | High | -- |
| South Africa | Moderate | Moderate | High | Low | |
| United Kingdom | High | Low | High | Low | Low |
| ***Consensus – Best Guess Likert-Type Scores, High=5, Low+1*** | | | | | |
| | **IDV** | **PDI** | **MAS** | **UAI** | **LTO** |
| Africa, East | 1 | 5 | 3 | 2 | 1 |
| Africa, West | 1 | 5 | 3 | 2 | 1 |
| China | 1 | 5 | 5 | 1 | 5 |
| Germany (De) | 3 | 3 | 5 | 4 | 1 |
| Romania | 1 | 5 | 1 | 5 | |
| South Africa | 3 | 3 | 5 | 1 | |
| United Kingdom | 5 | 1 | 5 | 1 | 1 |

### Observed Data in this Study

| | Mean | Median | Mode | Std Dev | Skewness | Kurtosis | %, Item Response=5 | %, Item Response=4 | %, Item Response=3 | %, Item Response=2 | %, Item Response=1 | % Blank |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ug** | **3.52** | **4** | **5** | **1.32** | **-0.57** | **-0.72** | **29.3%** | **25.7%** | **21.5%** | **11.7%** | **10.8%** | **1.0%** |
| **Cn** | **4.11** | **4** | **5** | **1.05** | **-1.45** | **1.88** | **44.7%** | **32.9%** | **13.1%** | **4.7%** | **3.7%** | **1.0%** |
| **De** | **3.99** | **4** | **4** | **0.92** | **-0.85** | **0.59** | **32.1%** | **42.5%** | **18.9%** | **5.0%** | **1.5%** | **0.0%** |
| **Ro** | **4.06** | **4** | **5** | **1.11** | **-1.19** | **0.75** | **44.5%** | **31.8%** | **13.2%** | **5.8%** | **4.7%** | **0.0%** |
| **AA** | **3.98** | **4** | **5** | **1.11** | **-1.14** | **0.73** | **40.1%** | **33.8%** | **14.2%** | **6.8%** | **4.6%** | **0.5%** |
| **SAB** | **3.94** | **4** | **5** | **1.11** | **-1.06** | **0.6** | **38.6%** | **32.1%** | **17.3%** | **6.9%** | **4.4%** | **0.7%** |
| **SAC** | **3.73** | **4** | **4** | **1.10** | **-0.6** | **-0.42** | **30.6%** | **31.0%** | **23.1%** | **11.5%** | **3.6%** | **0.1%** |
| **SAW** | **3.94** | **4** | **4** | **1.02** | **-1.01** | **0.76** | **32.8%** | **40.9%** | **16.7%** | **6.2%** | **3.3%** | **0.2%** |
| **UK** | **4.1** | **4** | **4** | **0.90** | **-0.92** | **0.59** | **38.7%** | **39.4%** | **16.6%** | **4.1%** | **1.1%** | **0.0%** |

Vary preliminary correlation analysis of the available data in Tables 3 and 4 of this study found significant correlations ($p<.05$), for two pairs:

1. A significantly high negative correlation between the Mode of the scores and Individualism; the higher the Individualism score, the lower the value of the Mode.

2. A significantly high positive correlation between the Mode of the scores and Power Distance; the higher the Power Distance score, the higher the value of the Mode.

Uganda, with low Individualism and high Power Distance had a wide distribution of scores, a platykurtic distribution.

## REVERSE-SCORED ITEMS: DESIGNING SURVEYS TO FIT PRECONCEIVED NOTIONS OF REVIEWERS

In an effort to reduce response set, or response bias, measurement some "experts" recommended using negatively and positively worded items when measuring the same construct. Nunnaly (1967) published an early significant work on response set bias (RSB). RSB occurs when respondents fail to discriminate among the items and respond to every question in the same manner (e.g. circle all 4's on a 5-point Likert scale). To reduce or eliminate RSB by ensuring that the respondents were reading the questions in a thoughtful manner, Nunnaly recommended negatively worded items should be included on survey questionnaires. The argument was that respondents who failed to recognize the reversal of the items could be identified as engaging in some type of response bias and could be removed from the sample, therefore providing a method by which researchers could increase the accuracy of the data being analyzed. The logic of reversing the wording of particular items and then recoding them during scoring to be consistent with the remaining items has a certain intuitive, though fallacious, appeal. All studies reviewed are not cited in this paper, however, comments of researchers on the low correlations and factor loadings of reverse scored item are almost universal that they have a lower contribution to measurement of the concept of interest, sometimes to the degree of lowering the scale reliability to an unacceptable level. Ibrahim (2001) believes reverse-scored items lead to tendencies such as acquiescence, malicious random responding, and response set bias.

Researchers would all like to ensure that all subjects are providing information based on thoughtful responses. Unfortunately, in some cases (Kelloway, Catano, and Southwell, 1992; Roberts, Lewinsohn, Seeley, 1993) the negatively worded items have a tendency to load onto a separate factor rather than contribute uniquely to the construct of interest.

Researchers have investigated this phenomenon both from an empirical (e.g., Cordery and Sevastos, 1993; Schmitt and Stults, 1985) and a theoretical (Marsh, 1996) perspective. While there does not seem to be a clear resolution to the debate regarding negatively worded items, there is some consensus that in many situations

the negatively worded items tend to be linked to one another in a quantitatively, and perhaps qualitatively, different manner than the positively worded items.

Studying the Job Diagnostic Survey (JDS: Hackman and Oldham, 1975) Fried and Ferris (1986) suggested education level of the respondents as the cause for differences in reverse-scored item responses. They suggested that individuals with lower levels of education were not able to recognize the reverse nature of items "as well" as individuals with a higher level of education, and were "causing" separate factors to emerge in the JDS when none existed. Cordery and Sevastos (1993) failed to support the education-level hypothesis using several samples responding to the JDS, but rather carelessness of the respondents was considered responsible for separate factors emerging in some of the samples.

Marsh (1996) provided evidence of another problem with reverse-scored items. He administered a self-esteem scale to a large sample (20,000+) of adolescents; analyses resulted in a factor emerging based solely on negatively worded items. The confirmatory factor analysis provided support for a two-factor solution rather than the hypothesized uni-dimensional construct. The negatively worded items loaded onto a separate factor as a result of method artefacts. The factor associated with negatively worded items appeared to be associated with respondents who had lower verbal abilities. Specifically, method effects associated with negatively worded items appeared to decrease for individuals who were more verbally capable. Consistent with Fried and Ferris (1986), Marsh felt that education level could be moderating the outcome. The education theory could be plausible based on the results of Schmitt and Stults (1985) who found that when as few as 10% of the items were reverse-scored separate factors emerged. If education level were to moderate responses on negatively worded items, then a small percentage of the respondents could be responsible for the separate factor demonstrated by Marsh.

Schmitt and Stults (1985) investigated the effect of reversing a random number of items in three existing correlation matrices to determine the effects of the reversal procedure on the underlying factor structures. Each set of data represented different samples and different constructs. Three factor solutions were demonstrated prior to the random reversal of items within the matrices. When as few as 10% of the items were reversed within each matrix, a separate unique factor emerged in all three of the samples. In each case the items and respondents were chosen randomly such that items were evenly dispersed across the pre-existing constructs. The negatively worded factors emerged first in each of the analyses and accounted for the most variance in the multiple factor solutions. Schmitt and Stults cautioned researchers to beware of unique factors that emerge based solely on negatively worded items.

Mook, Kleijn, and Ploeg (1992) investigated dispositional optimism using negatively and positively worded items. They demonstrated a two-factor solution indicating positive and pessimistic attitudes. The positive outcomes were associated with positively phrased items whereas the pessimistic outcomes were associated with negatively worded items. In this case the items were designed to measure different constructs that resulted in the hypothesized outcomes. However, the implications of this result leads to questions concerning factors intended to demonstrate levels of intensity for positive traits but using negative statements.

Bolin and Dodder (1990) measured affect and its association with real life satisfaction and discovered that with a specific sample, separate factors emerged as a result of the wording of the items. Previously, the scale had been demonstrated to have adequate reliability and factor loadings where one factor consistently emerged. When the measure was administered to college students rather than older adults, the negative and positive items produced unique factors.

Herche and Engelland (1996) found that in marketing research studies, the sometimes complex and abstract issues investigated led to substantial degradation in uni-dimensionality when reverse polarity items were included. They suggest a solution of designing three matched surveys, one all positive items, one all negative items, and one mixed and testing with three matched samples.

Wong, Rindfleish, and Burroughs (2003) in a study of more than 800 adults in the USA, Singapore, Thailand, Japan, and Korea, and a second study of approximately 400 Americans and East Asians, found that the cross-cultural measurement equivalence and construct validity of the Material Values Scale (MVS, Richins and Dawson, 1992) is reduced by reversed-scored Likert format items. They conclude that the cross-cultural applicability of such scales may be enhanced by replacing items posed as statements with items framed as questions.

Ron Piccolo (2004, personal communication) comments that reverse coded items tend to be less reliable than their positively phrased counterparts. In many confirmatory factor analyses of scale items across discipline, reverse coded items tend to exhibit low scale item reliability. It is not unusual for example to read an article where authors had to drop the reverse coded items in order to get a confirmatory factor model to fit. This phenomenon could be due to (1) response style of the participant (i.e., participants do not fully read through the items or do not use the full response scale on reverse coded items), or (2) the reverse coded items actually measure a characteristic that is not central to the construct of interest. The art, then, becomes in developing reverse coded items that are consistent with the construct's definition. You can imagine a positively phrased item for leader *Consideration*, for example that reads, “My leader is considerate of my feelings” contrasted with a reverse coded item in the same scale, "My leader is not considerate of my feelings." The latter phrasing is different from “inconsiderate of my feelings”, with inconsideration being equated with “rude”. The issue of course is whether being "rude" is truly indicative of an absence of consideration or some active process. Thus, the potential for low reliability of the reverse coded item and subsequently, lower construct validity.

All that said, reviewers tend to like scales that utilize reverse coded items. If you ultimately develop a scale with only positively phrased items, you will certainly have a scale that achieves desirable psychometric properties - reliability, confirmation in Standard Error of Measurement without modification, discriminant validity, etc. But a shortened scale without reverse coding may not pass the scrutiny of reviewers with more bias than knowledge. Selmer (2004, personal communication) reports no good experiences with reverse scored items, indicating they usually distort the factor structure or the reliability scores or both. He also suspects that they reduce the response rate in mail surveys since reverse items make a survey more time-consuming to complete. Selmer comments further that if you ask such sensitive questions that you need to check through complicated reverse-phrased items that the respondents are

responding consistently, the only thing that you in fact may have achieved is to fool yourself as to the quality of your survey and your subjects. Selmer recommends trying to avoid reverse scorings unless one absolutely has to use a scale in which they are already incorporated.

Piccolo notes,

> "I am not sure the extent to which this matters with scales of leader behaviour, but indeed it matters with measures of personality (e.g., core self-evaluations) and job-related attitudes (e.g., job satisfaction). How many reverse coded items should you use? Here are my thoughts. If you use only a few, you might get high item reliability and satisfactory factor loadings for the numerous positively phrased items and low reliability among the reverse coded items. For example, take a scale with 10 items, 2 of which are reverse coded. You might get 8 factor loadings that are in the 0.80 and above range and 2 that are in the 0.50 range. You'd be able to drop the two reverse coded items and be on your way.
>
> "If on the other hand, half of your items are reverse coded, there are advantages (a full examination of the construct) but there are risks. You could get 2 separate factors – one that comprises the positively framed items and one that comprises the negative items. You might even get all the items to load on one factor, but get factor loadings that are, in general, lower than desired. All 10 items, for example, might yield factor loadings less than .70. I am not certain which will ultimately be the best approach, but I offer these observations as guidance."

Reflecting upon the large volume of literature on reverse-scored items, almost all indicating that they detract from the reliability, and possibility the validity of questionnaires, I am led to the conclusion that the only value of this kind of item is to identify careless and malicious subjects, and after being used for that function, they should be omitted from analyses. I am also interested in investigating the possibility that reverse-worded items worded in a negative direction measure something other than the opposite of the positively worded item, stemming from, for example, the reluctance of members of Japanese and some Southeast Asian cultures to express explicit and specific disagreement. I would appreciate any readers having specific research data on this idea contacting me.

## CRONBACH'S ALPHA ANALYSIS OF LBDQ XII ITEMS FOR SIX COUNTRIES

Results of Cronbach's alpha reliability analysis normally yield coefficients between 0 and 1. However, there is actually no lower limit to the coefficient. The closer Cronbach's alpha coefficient is to 1.0 the greater the internal consistency of the items in the scale. Based upon the formula **Alpha = rk / [1 + (k -1)r]** where **k** is the number of items considered and **r** is the mean of the inter-item correlations, the size of alpha is determined by both the number of items in the scale and the mean inter-item correlations. George and Mallery (2003, p. 231) provide the following rules of

thumb: 0.9: Excellent, 0.8: Good, 0.7: Acceptable, 0.6: Questionable, 0.5: Poor, and <0.5: Unacceptable"

While increasing the value of alpha is partially dependent upon the number of items in the scale, it should be noted that this has diminishing returns. It should also be noted that while a high value for Cronbach's alpha indicates good internal consistency of the items in the scale, it does not mean that the scale is uni-dimensional. Factor analysis is a method to determine the dimensionality of a scale.

Investigation of item responses of subjects across six countries on the LBDQ XII indicate the reverse-scored items are less reliable contributors to the total scores for the behaviour sets. A compounding problem is the fact that there are only a few, 18 of 100, items, that are reverse scored, and they are concentrated in only a few factors rather than spread across several. The Cronbach Alpha scores for the twelve factors for the six countries are in Table 5

**Table 5.**
**Item-Factor Reliability (Cronbach's Alpha) for the Twelve LBDQ XII Factors Across Six Countries**

| Factor No. | No. Items Defining Factor | UK | De | Ro | Cn | Ug | SA |
|---|---|---|---|---|---|---|---|
| F1 | 5 | 0.7 | 0.7 | **0.5** | 0.6 | 0.6 | 0.6 |
| F2 | 5 | 0.7 | **0.4** | 0.7 | 0.7 | **0.2** | 0.7 |
| F3 | 10 | 0.8 | 0.6 | 0.6 | **0.4** | **0.5** | 0.7 |
| ***F4*** | 10 | 0.9 | 0.8 | 0.7 | 0.9 | 0.7 | 0.8 |
| F5 | 10 | 0.9 | 0.6 | **0.5** | 0.8 | 0.8 | 0.8 |
| **F6** | 10 | 0.9 | 0.8 | 0.7 | 0.8 | 0.6 | 0.8 |
| F7 | 10 | 0.8 | 0.6 | **0.4** | **0.5** | **0.4** | **0.5** |
| F8 | 10 | 0.9 | 0.6 | 0.7 | 0.6 | **0.4** | 0.6 |
| F9 | 10 | 0.9 | 0.8 | 0.6 | **0.4** | 0.8 | 0.6 |
| ***F10*** | 5 | 0.9 | 0.7 | 0.6 | 0.9 | 0.8 | 0.8 |
| F11 | 5 | 0.9 | 0.7 | **0.3** | 0.8 | 0.8 | 0.9 |
| ***F12*** | 10 | 0.9 | 0.6 | 0.6 | 0.6 | 0.8 | 0.7 |

Four factors have acceptable to high reliability across all six national cultures:

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

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

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

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

Detailed item analysis based upon Cronbach alphas for items composing the factors follows. Low item-factor reliabilities occur in varying patterns. A problem that immediately comes to mind is that the translated survey items do not accurately reflect the English versions; however, the various patterns do not indicate this to be the case, as items with low reliability are related to both English and other languages in most cases. Due to the myriad possible sources of differences, they are only noted.

**Factor 1: Representation** measures to what degree the manager speaks as the representative of the group. ***In this and subsequent tables of this type, HIGH "*alpha if item deleted*" indicates LOW item-factor relationship.***

| **UK** | **De** | ***Ro*** | **Cn** | **Ug** | **SA** | **F1: Alpha and alpha if item deleted** |
|---|---|---|---|---|---|---|
| **.734** | **.689** | ***.498*** | **.636** | **.613** | **.602** | Factor alpha, all items aggregated |
| | | | | | | **Alpha if item deleted:** |
| .713 | .590 | *.413* | .578 | 560 | 516 | 1. Acts as the spokesman of the group |
| **.808*** | **.751*** | *.494* | .574 | 577 | 597 | 11. Publicizes the activities of the group |
| .602 | .613 | *.398* | .554 | 578 | 506 | 21. Speaks as the representative of the group |
| .616 | .688 | *.519* | **.666*** | 557 | **628*** | 31. Speaks for the group when visitors are present |
| .667 | .503 | *.394* | .551 | 526 | 477 | 41. Represents the group at outside meetings |

For the Romanian sample, the meaning of this particular set of items is different from all other samples. Questions 11 and 31 seem to have different meanings across cultures.

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

| UK | *De* | Ro | Cn | *Ug* | SA | **F2: Alpha and alpha if item deleted** |
|---|---|---|---|---|---|---|
| **.692** | ***.429*** | **.661** | **.658** | ***.203*** | **.728** | Factor alpha, all items aggregated |
| | | | | | | **Alpha if item deleted:** |
| .610 | *.456* | .639 | .568 | *.339* | 667 | 51. Handles complex problems efficiently |
| .664 | *.259* | .586 | .613 | *.083* | 735 | 61. Gets swamped by details (***reverse scored***) |
| .577 | *.378* | .651 | **.670** | *.081* | 697 | 71. Gets things all tangled up (***reverse scored***) |
| .599 | *.327* | .597 | .584 | *.186* | 620 | 81. Can reduce a madhouse to system and order |
| **.761** | *.428* | .561 | .580 | *.107* | 680 | 91. Gets confused when too many demands are made of him/her **(*reverse scored*)** |

Translators and several of the Chinese subjects questioned the meaning of and value of inclusion of question no. 81. Asylums for the mentally ill are extremely rare in the Peoples' Republic of China, and practically non-existent in the interior of that country. The fact that three of five of these items are ***reverse scored*** also casts doubt upon the validity and reliability of the responses defining this factor. Items 61, 71, and 81 use USA English slang, which is difficult to translate. They could also difficult to comprehend by non-USA subjects, as indicated by this factor having the lowest reliability for the UK sample.

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

| UK | *De* | *Ro* | *Cn* | *Ug* | SA | **F3: Alpha and alpha if item deleted** |
|---|---|---|---|---|---|---|
| **.802** | ***.552*** | ***.590*** | ***.413*** | ***.509*** | **.670** | Factor alpha, all items aggregated |
| | | | | | | **Alpha if item deleted:** |
| .791 | *.606* | *.536* | *.325* | *468* | 680 | 2. Waits patiently for the results of a decision |
| .776 | *.472* | *.545* | *.333* | *516* | 629 | 12. Becomes anxious when he/she cannot find out what is coming next (***reverse scored***) |
| .793 | *.482* | *.563* | *.333* | *508* | 660 | 22. Accepts defeat in stride |
| .786 | *.546* | *.619* | *.416* | *441* | 646 | 32. Accepts delays without becoming upset |
| .771 | *.504* | *.557* | *.337* | *499* | 640 | 42. Becomes anxious when waiting for new developments (***reverse scored***) |
| .796 | *.498* | *.561* | *.447* | *458* | 644 | 52. Is able to tolerate postponement and uncertainty |
| .763 | *.558* | *.541* | *.459* | *500* | 642 | 62. Can wait just so long, then blows up (***reverse scored***) |
| .772 | *.484* | *.581* | *.377* | *437* | 621 | 72. Remains calm when uncertain about coming events |
| .791 | *.505* | *.604* | *.409* | *461* | 649 | 82. Is able to delay action until the proper time occurs |
| .802 | *.570* | *.519* | *.422* | *524* | 648 | 92. Worries about the outcome of any new procedure (***reverse scored***) |

What appears to be a straightforward factor to USA and UK English speakers yields one of the poorest sets of reliabilities outside those countries. The items include four (40%) reverse scored.

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

| UK | De | Ro | Cn | Ug | SA | **F4: Alpha and alpha if item deleted** |
|---|---|---|---|---|---|---|
| **.941** | **.786** | **.690** | **.867** | **.691** | **.797** | Factor alpha, all items aggregated |
| | | | | | | **Alpha if item deleted:** |
| .943 | .752 | .687 | .858 | .684 | .802 | 3. Makes pep talks to stimulate the group |
| .930 | .778 | .690 | .842 | .621 | .771 | 13.His/her arguments are convincing |
| .936 | .773 | .661 | .867 | .648 | .790 | 23. Argues persuasively for his/her point of view |
| .930 | .737 | .678 | .850 | .640 | .766 | 33. Is a very persuasive talker |
| .931 | .747 | .644 | .854 | .632 | .762 | 43. Is very skilful in an argument |
| .938 | .778 | .677 | .867 | **.781** | .783 | 53. Is not a very convincing talker (***reverse scored***) |
| .938 | .777 | .681 | .849 | .675 | .775 | 63. Speaks from a strong inner conviction |
| .929 | .780 | .649 | .841 | .631 | .762 | 73. Is an inspiring talker |
| .933 | .773 | .671 | .860 | .661 | .807 | 83. Persuades others that his/her ideas are to their advantage |
| .936 | .776 | .626 | .855 | .658 | .773 | 93. Can inspire enthusiasm for a project |

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

| UK | *De* | *Ro* | Cn | Ug | SA | **F5: Alpha and alpha if item deleted** |
|---|---|---|---|---|---|---|
| **.928** | ***.598*** | ***.470*** | **.779** | **.812** | **.775** | Factor alpha, all items aggregated |
| | | | | | | **Alpha if item deleted:** |
| .925 | *.547* | *.322* | .766 | 799 | 747 | 4. Lets group members know what is expected of them |
| .929 | *.582* | *.360* | .758 | 789 | 761 | 14.Encourages the use of uniform procedures |
| .918 | *.615* | *.487* | .802 | 800 | 783 | 24. Tries out his/her ideas in the group |
| .913 | *.542* | *.401* | .746 | 788 | 751 | 34. Makes his/her attitudes clear to the group |
| .932 | *.577* | *.394* | .746 | 813 | 784 | 44. Decides what shall be done and how it shall be done |
| .921 | *.584* | *.322* | .754 | 803 | 745 | 54. Assigns group members to particular tasks |
| .920 | *.560* | *.413* | .771 | 791 | 752 | 64. Makes sure that his/her part in the group is understood |
| .913 | *.554* | *.511* | .732 | 778 | 736 | 74. Schedules the work to be done |
| .912 | *.585* | *.492* | .747 | 795 | 739 | 84. Maintains definite standards of performance |
| .918 | *.574* | *.597* | .766 | 794 | 756 | 94. Asks that group members follow standard rules and regulations |

The unsatisfactory alphas for the German and Romanian samples indicate cultural differences in the meaning of this factor and its items for the only two continental European countries.

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

| UK | De | Ro | Cn | *Ug* | SA | **F6: Alpha and alpha if item deleted** |
|---|---|---|---|---|---|---|
| **.898** | **.774** | **.685** | **.789** | ***.578*** | **.802** | Factor alpha, all items aggregated |
| | | | | | | **Alpha if item deleted:** |
| .879 | .748 | .609 | .752 | *516* | 780 | 5. Allows the members complete freedom in their work |
| .874 | .749 | .655 | .750 | *484* | 769 | 15. Permits the members to use their own judgment in solving problems |
| .888 | .758 | .682 | .780 | *517* | 778 | 25. Encourages initiative in the group members |
| .878 | .770 | .580 | .760 | *487* | 772 | 35. Lets the members do their work the way they think best |
| .886 | .748 | .738 | .768 | *589* | 784 | 45. Assigns a task, then lets the members handle it |
| **.927** | .720 | .634 | .784 | ***648*** | **823** | 55. Turns the members loose on a job, and lets them go to it |
| .885 | .767 | .698 | .816 | ***655*** | 791 | 65. Is reluctant to allow the members any freedom of action (***reverse scored***) |
| .872 | .742 | .641 | .773 | *506* | 768 | 75. Allows the group a high degree of initiative |
| .886 | .758 | .675 | .754 | *497* | 774 | 85. Trusts members to exercise good judgment |
| .899 | .784 | .651 | .765 | *552* | 806 | 95. Permits the group to set its own pace |

Factor 6 has a different meaning for the Ugandan sample.

**Factor 7: Role Assumption** measures to what degree the manager exercises actively the leadership role rather than surrendering leadership to others. Seven of ten items reverse scored. This factor has seven (70%) reverse scored items, and one of the lowest sets of reliabilities.

| UK | *De* | *Ro* | *Cn* | *Ug* | *SA* | **F7: Alpha and alpha if item deleted** |
|---|---|---|---|---|---|---|
| **.844** | ***.618*** | ***.392*** | ***.531*** | ***.403*** | ***.522*** | Factor alpha, all items aggregated |
| | | | | | | **Alpha if item deleted:** |
| .826 | *.611* | *.344* | *.573* | *382* | *468* | 6. Is hesitant about taking initiative in the group (***reverse scored***) |
| .820 | *.568* | *.349* | *.501* | *347* | *436* | 16. Fails to take necessary action (***reverse scored***) |
| .857 | *.578* | *.212* | *.430* | *389* | *518* | 26. Lets other persons take away his/her leadership in the group (***reverse scored***) |
| .835 | *.554* | *.271* | *.476* | *291* | *455* | 36. Lets some members take advantage of him/her (***reverse scored***) |
| .817 | *.640* | *.293* | *.499* | *339* | *434* | 46. Is the leader of the group in name only (***reverse scored***) |
| .817 | *.571* | *.296* | *.487* | *353* | ***677*** | 56. Backs down when he/she ought to stand firm (***reverse scored***) |
| .839 | *.605* | *.264* | *.529* | *371* | *506* | 66. Lets some members have authority that he/she should keep (***reverse scored***) |
| .829 | *.601* | *.457* | *.490* | *444* | *464* | 76. Takes full charge when emergencies arise |
| .839 | *.590* | *.619* | *.512* | *410* | *467* | 86. Overcomes attempts made to challenge his/her leadership |
| .811 | *.599* | *.402* | *.539* | *421* | *447* | 96. Is easily recognized as the leader of the group |

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

| UK | *De* | Ro | *Cn* | *Ug* | *SA* | **F8: Alpha and alpha if item deleted** |
|---|---|---|---|---|---|---|
| **.892** | ***.591*** | **.664** | ***.628*** | ***.403*** | ***.613*** | Factor alpha, all items aggregated |
| | | | | | | **Alpha if item deleted:** |
| .865 | *.523* | .643 | *.594* | *365* | *576* | 7. Is friendly and approachable |
| .881 | *.538* | **.715** | ***.735*** | *398* | ***647*** | 17. Does little things to make it pleasant to be a member of the group |
| .877 | *.534* | .686 | *.570* | *298* | *550* | 27. Puts suggestions made by the group into operation |
| .875 | *.605* | .573 | *.572* | *273* | *533* | 37. Treats all group members as his/her equals |
| .871 | *.593* | .620 | *.574* | *282* | *527* | 47. Gives advance notice of changes |
| .905 | *.594* | .576 | *.588* | ***512*** | ***726*** | 57. Keeps to himself/herself (***reverse scored***) |
| .872 | *.596* | .651 | *.640* | *269* | *580* | 67. Looks out for the personal welfare of group members |
| .870 | *.568* | .648 | *.549* | *312* | *535* | 77. Is willing to make changes |
| .887 | *.547* | .618 | *.566* | ***459*** | *570* | 87. Refuses to explain his/her actions (***reverse scored***) |
| .904 | *.548* | .641 | *.583* | ***497*** | *573* | 97. Acts without consulting the group (***reverse scored***) |

*Consideration* is one of the two factors defined in the original LBDQ studies (Stogdill, 1974). However, the manner in which the questions are framed seems to lead to problems across four of the six national cultures.

**Factor 9: Production Emphasis** measures to what degree the manager applies pressure for productive output. The meaning of factor 9 is obviously quite different in China compared to the other five samples, and to some degree in Romania.

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

| UK | De | *Ro* | Cn | Ug | SA | **F10: Alpha and alpha if item deleted** |
|---|---|---|---|---|---|---|
| **.892** | **.711** | ***.607*** | **.856** | **.766** | **.798** | Factor alpha, all items aggregated |
| | | | | | | **Alpha if item deleted:** |
| .859 | .701 | ***.633*** | .859 | 697 | 790 | 9. Makes accurate decisions |
| .874 | .636 | *.465* | .818 | 7296 | 739 | 29. Seems able to predict what is coming next |
| .858 | .675 | *.584* | .807 | 712 | 768 | 49. Things usually turn out as he/she predicts |
| .847 | .618 | *.471* | .819 | 7285 | 735 | 59. Is accurate in predicting the trend of events |
| .903 | .676 | *.584* | .822 | 751 | 763 | 89. Anticipates problems and plans for them |

For the Romanian sample, the meaning of the particular set of items for factor 10 appears to be different from all other samples.

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

| UK | De | *Ro* | Cn | Ug | SA | **Factor 11: Alpha and alpha if item deleted** |
|---|---|---|---|---|---|---|
| **.859** | **.705** | ***.295*** | **.803** | **.817** | **.872** | Factor alpha, all items aggregated |
| | | | | | | **Alpha if item deleted:** |
| .811 | .732 | ***.400*** | .775 | 785 | 840 | 19. Keeps the group working together as a team |
| .901 | .619 | *.176* | .806 | 782 | 840 | 39. Settles conflicts when they occur in the group |
| .796 | .623 | ***.362*** | .746 | 791 | 839 | 69. Sees to it that the work of the group is coordinated |
| .801 | .648 | *.135* | .774 | 760 | 851 | 79. Helps group members settle their differences |
| .831 | .635 | *.127* | .725 | 786 | 853 | 99. Maintains a closely knit group |

For the Romanian sample, the meaning of the factor 11 set of items is different from all other samples.

**Factor 12: Superior Orientation** measures to what extent the manager maintains cordial relations with superiors; has influence with them; is striving for higher status. Factor 12 has higher reliabilities in countries where English is an official or first language, lower in the other countries.

| UK | *De* | *Ro* | *Cn* | Ug | SA | **Factor 12: Alpha and alpha if item deleted** |
|---|---|---|---|---|---|---|
| **.877** | ***.574*** | ***.551*** | ***.564*** | **.751** | **.725** | Factor alpha, all items aggregated |
| | | | | | | **Alpha if item deleted:** |
| .859 | *.509* | *.591* | *.538* | 726 | 695 | 10. Gets along well with the people above him/her |
| .860 | *.547* | *.576* | *.542* | 724 | 686 | 20. Keeps the group in good standing with higher authority |
| .872 | *.592* | *.403* | *.580* | 729 | 735 | 30. Is working hard for a promotion |
| .855 | *.536* | *.485* | *.543* | 728 | 697 | 40. His/her superiors act favourably on most of his/her suggestions |
| .872 | *.614* | *.615* | *.606* | 749 | 743 | 50. Enjoys the privileges of his/her position |
| .911 | *.542* | *.478* | *.508* | 733 | 715 | 60. Gets his/her superiors to act for the welfare of the group members |
| .850 | *.521* | *.525* | *.533* | 722 | 680 | 70. His/her word carries weight with superiors |
| .851 | *.533* | *.511* | *.526* | 726 | 694 | 80. Gets what he/she asks for from his/her superiors |
| .860 | *.572* | *.484* | *.479* | 748 | 701 | 90. Is working his/her way to the top |
| .855 | *.511* | *.533* | *.517* | 714 | 686 | 100. Maintains cordial relations with superiors |

## DISCUSSION

The LBDQ XII and its predecessor, the LBDQ, have been employed in leadership research in the USA for fifty years. The LBDQ XII has been in use since 1963. The first cross-national-culture article identified is Black and Porter (1991) comparing managers in the USA and Hong Kong. There are not a large number of cross-cultural studies using the LBDQ XII, and many of those have been administered in English even when it was not the primary language of the national culture.

Several researchers have criticized the LBDQ versions, among them Korman (1966), Northouse (1997), Yukl (1998), Yukl and Van Fleet (1992), and House and Aditya, (1997). Nonetheless, Judge et al. (2004), in the most recent review of work using the LBDQ versions located 18 reviews, and 165 articles and 36 dissertations reporting studies using primary data after searching the PsycINFO database from 1887–2001. Brief searches of the ProQuest, ProQuest Digital Dissertations, and EBSCO online databases indicate that research employing the LBDQ, particularly the LBDQ XII is continuing since 2001 at a good rate.

Blunt and Jones (1997) put forth an interesting point of view concerning the academic study of theories of leadership:

> "Many theories of leadership have been developed in the last 50 years. Like most other theories of human behaviour, however, ways of testing these theories and, hence, of establishing their scientific credentials have remained elusive. The result is that such theories can be assessed only in terms of the intuitive appeal of the explanations they offer, rather than by their ability to withstand repeated attempts to falsify

> predictions drawn from them following conventional norms of scientific testing (see e.g. Blunt, 1981; Popper, 1959). ***Theories of leadership which have fallen from favor are therefore more likely to have been victims of changes in fashion in the broad field of management than of anything else."*** (Emphasis added)

One might also speculate that the death of a champion of a theory can also lead to the demise if graduate students and colleagues have not been converted to disciples, and them jumping onto other bandwagons or developing theories of their own. The LBDQ and LBDQ XII are demonstrating remarkable longevity.

Though many of the studies are contradictory, Johnson *et alia* (2005) derive general conclusions:

**Johnson, et al. (2005): Hypotheses Derived from Their Literature Review**

1. Positive Response Acquiescence is a submissive response style that conveys agreeableness and deference to hierarchy, especially in contexts in which interpersonal or group harmony is important. *In this study,* ***China data did indicate Positive Response Acquiescence.***

2. Cultures high in power distance tend to be more authoritarian societies where conformity is stressed and submissiveness is common. One manner in which conformity might be expressed is via deferential, or acquiescent, behaviour. ***The results of this study did not this hypothesis***.

3. Persons in low power distance cultures, which are similar to horizontal cultures in their emphasis on equality in status may be more likely to emphasize modesty as a value, leading to midrange responses. ***The results of this study supported this hypothesis.***

4. Though the research reviewed was inconclusive, most studies indicate persons embedded in masculine cultures may also be more likely to endorse extreme responses on questionnaires. Perhaps some of the better known features of masculine cultures are emphases on assertiveness and on decisive and daring behaviour. These qualities may encourage respondents within such cultures to select the strongest available choices for representing their opinions. ***High Masculinity cultures China, Germany, and the UK indicated a positive response bias toward the upper extremes of the scale.***

5. More feminine cultures emphasize modesty, which may be reflected at the individual level by personal preferences for more middling and less extreme response styles***. In this study, High Femininity Romania had similar response patterns to High Masculinity China.***

6. Persons from nations with individualistic cultures seek to achieve clarity in their explicit verbal statements because they are less concerned with the consequences of expressing strong opinions. Therefore, extreme response styles may be more common among persons from individualist countries. ***This hypothesis was not supported in this study.***

7. Collectivism is associated with a greater emphasis on interpersonal harmony and with less emphasis on individual opinions. Ambiguity in communication is adaptive in these cultural contexts. Thus, a middling response style should better fit the cultural norms and imperatives of persons living in collectivist cultures. ***This hypothesis was not supported in this study.***

8. According to Hofstede (2001), societies higher in uncertainty avoidance have many rules and have little tolerance for ambiguity. Research has suggested that individuals' extreme responding is a reflection of intolerance of ambiguity; the extreme anchors of a measurement scale may often be interpreted by respondents as being more definitive and clear than are scale midpoints, which are more likely to be subject to qualifications and multiple interpretations by respondents. Johnson *et alia* we thus hypothesize that extreme responding will be more common in cultures that emphasize uncertainty avoidance. ***Romania and China, with high UAI scores, did indicate high positive score Acquiescence.***

The results of the analyses in this study indicate that there are some problems that need rectifying:

1. Of reliability in the item-factor relationships across cultures as measured by Cronbach's alpha;

2. With reverse-scored items reducing the item-factor reliabilities and with a poor proportion and distribution of reverse-scored items;

3. With response set bias across cultures; some countries have a considerably different distribution of responses to the five anchor-points on the Likert scale scoring;

4. With suspected differences in response sets due to the subject's first language, e.g., the Uganda data.

These problems are common in cross-cultural research, but nonetheless are serious and must be dealt with by revising the survey. Revision is selected over abandonment due to the fact that the items and the factor scores do yield different responses that appear to be related to the subjects' national culture, language, religion, and other demographic variables.

## CONCLUSIONS

Item and factor score data for the LBDQ XII were analyzed across samples from six national cultures, China, Germany, Romania, South Africa (with race as a further level of analysis), Uganda, and the UK. Results indicate that the items defining the factors are sensitive to cultural differences, and while this is a useful finding, the fact that the differences lead to poor item-factor reliabilities for most of the behaviour sets presents a considerable set of problems. Additionally, response bias was observed for two of the six countries.

Very high item-factor reliabilities were found for the UK sample, generally in the 0.8 and 0.9 ranges.

The results indicate that the LBDQ XII factors are not general across cultures, except perhaps for four of the twelve, and that a considerable amount of work needs to be done in redeveloping and validating this survey in cross-cultural settings.

## FUTURE PLANS

We will continue to collect data using the standard version of the LBDQ XII in English and in translations in order to identify and analyze clusters of national cultures preferring similar sets of explicit leader behaviour. Additionally, a collaborative project is underway collecting information necessary to revise the LBDQ XII to enhance reliability and, hopefully, to reduce the number of items, as collaborators have raised issues with the extensive use of US English slang and idioms, the fact that some items refer to traits rather than behaviours, and the length of the survey.

## REFERENCES

Bales, R.F. 1954. In conference. *Harvard Business Review*, 32: 41-49.

Bandura, A. 1986. *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall, Inc.

Bass, B.M. 1990. *Bass And Stogdill's Handbook Of Leadership: Theory, Research And Managerial Applications*. *3rd Ed*. New York: Free Press.

Baumgartner, H. and Steenkamp, J-B.E.M. 2001. Response styles in marketing research: a cross-national investigation. *Journal of Marketing Research*, 38(2): 143-156.

Berry, J.W., Poortinga, Y. H., Segall, M. H., and Dasen, P. R. 1992. *Cross-cultural Psychology: Research and Applications.* New York: Cambridge University Press.

Black, J.S. and Porter, L.W. 1991. Managerial behaviors and job performance: A successful manager in Los Angeles may not succeed in Hong Kong. *Journal of International Business Studies*, 1991, 22(1): 99-114.

Blake, R. R. and Mouton, J. 1985. *The Managerial Grid III*: The key to leadership excellence. Houston, TX: Gulf Publishing.

Blake, R.R. and Mouton, J. 1964. *The Managerial Grid.* Houston, TX: Gulf Publishing.

Blunt, P. and Jones, M.L 1997. Exploring the Limits of Western Leadership Theory in East Asia and Africa. *Personnel Review*, 26(1): 6-23.

Blunt, Peter 1981. Methodological developments in the social sciences: some implications for interdisciplinary study. *New Zealand Psychologist*, (10)2: 55-70.

Bolin, B. L., and Dodder, R. A., 1990. The affect balance scale in American college population. *The Journal of Social Psychology.* 130(6): 839-840.

Bond, M.H. and Yang, K.S. 1982. Ethnic affirmation versus cross-cultural accommodation: The variable impact of questionnaire language on Chinese bilinguals from Hong Kong. *Journal of Cross-Cultural Psychology*, 23(2): 169-185.

Bowers, D.G. and Seashore, S.E. 1966. Predicting organizational effectiveness with a four-factor theory of leadership. *Administrative Science Quarterly*, 11: 238-263.

Brierley, J.A. 1996 . The measurement of organizational commitment and professional commitment. *Journal of Social Psychology*, 136(2): 265-267.

Brown, D. E. 1991. *Human Universals*. New York: McGraw-Hill.

Cohen, J.R., Pant, D.W. and Sharp, L.W. 1995. An exploratory of international differences in auditors' ethical perceptions. *Behavioral Research in Accounting*, 7: 37-64.

Cordery, J. L., and Sevastos, P. P. 1993. Responses to the original and revised job diagnostic survey: Is education a factor in responses to negatively worded items? *Journal of Applied Psychology.* 78(1): 141-143.

Cronbach, L. J. (1946). Response sets and test design. Educational and Psychological Measurement, 6, 475-494.

Dorfman, P.W., Howell, J.P., Hibino, S., Lee, J.K., Tate, U. and Bautista, A. 1997. Leadership in Western and Asian countries: Commonalities in effective leadership processes across cultures. *Leadership Quarterly*, 8(3): 233-274.

Fischer, R. 2004. Standardization to Account for Cross-Cultural Response Bias: A Classification of Score Adjustment Procedures and Review of Research in JCCP, Journal of Cross-Cultural Psychology, 35(3): 263-282.

Fleishman, E. A. (1989a). *Leadership Opinion Questionnaire (LOQ)examiner's manual.* Park Ridge, IL: Science Research Associates.

Fleishman, E. A. (1989b). *Supervisory Behavior Description Questionnaire(SBD) examiner's manual.* Park Ridge, IL: Science Research Associates.

Fleishman, E. A. 1995. Consideration and structure: Another look at their role in leadership research. In F. Dansereau & F. J. Yammarino (Eds.), *Leadership: The multiple-level approaches.* Stamford, CT: JAI Press, pp. 51–60.

Fried, Y., and Ferris, G. R. (1986). The dimensionality of job characteristics: Some neglected issues. *Journal of Applied Psychology:* 71, 419-426.

George, D., and Mallery, P. (2003). *SPSS for Windows step by step: A simple guide and*
*reference. 11.0 update* (4th ed.). Boston: Allyn and Bacon.

Hackman, J. R., and Oldham, G. R. 1975. Development of the Job Diagnostic Survey. *Journal of Applied Psychology*, 60: 159-170.

Halpin, A. W. (1957a). *Manual for the Leader Behavior Description Questionnaire.* Columbus, OH: Bureau of Business Research, Ohio State University.

Halpin, A. W. (1957b). The leader behavior and effectiveness of aircraft commanders. In R. M. Stogdill and A. E. Coons (Eds.), *Leader behavior: Its description and measurement* (pp. 52–64). Columbus, OH: Bureau of Business Research.

Harzing, A-W. and Maznevski, M. 2002. The interaction between language and culture: A test of the cultural accommodation hypothesis in seven countries. *Language and Intercultural Communication*. 2(2): 120-139.

Herche, J. and Engelland, B. 1996. Reversed polarity items and scale unidimensionality. J*ournal of the Academy of Marketing Science*, 24(4), 366-374.

House, R.J. and Aditya, R. 1997. The social scientific study of leadership: quo vadis? *Journal of Management*, 23(3), 409-473.

House, Robert J., Wright, N. and Aditya, R.N. 1997. Cross cultural research on organizational leadership: a critical analysis and a proposed theory. In P.C. Earley and M. Erez Eds. *New Perspectives on International Industrial and Organizational Psychology*. San Francisco, CA: Jossey-Bass.

Ibrahim**,** A.M. 2001. Differential responding to positive and negative items: the case of a negative item in a questionnaire for course and faculty evaluation. *Psychological Reports*, 88(2): 497-500.

Johnson, T., Kulesa, P., Llc, I., Cho, Y.I., Shavitt, S. 2005. The Relation between Culture and Response Styles: Evidence from 19 Countries, Journal of Cross-cultural Psychology, 36(2): 264-277.

Judge, T.A., Piccolo, R.F., and Ilies, R. 2004. The forgotten ones? The validity of consideration and initiating structure in leadership research. *Journal of Applied Psychology*, 89(1): 36–51.

Kahn, R.L. and Katz, D. (1953). *Leadership practices in relation to productivity and morale*. In D. Cartwright and A. Zander (Eds.), *Group Dynamics*. New York: Harper and Row.

Kelloway, E. K., Catano, V. M., and Southwell, R. R. 1992. The construct validity of union commitment: Development and dimensionality of a shorter scale. *Journal of Occupational and Organizational Psychology* 65: 197-211.

Kerr, S., Schriesheim, C.A., Murphy, C.J., and Stogdill, R. H. 1974. Toward a contingency theory of leadership based upon the consideration and initiating structure literature. *Organizational Behavior and Human Performance*, 12: 62-82.

Likert, R. (1961). *New patterns of management.* New York: McGraw-Hill.

Littrell, R.F. 2002a. Desirable leadership behaviors of multi-cultural managers in China. *The Journal of Management Development.* 21(1): 5-74.

Littrell, R.F. 2002b. Comparative analysis of management styles: Desirable leader traits across cultures, Proceedings Academy of International Business Southeast Asia and Australia Regional Conference CD, ISBN 962-8134-05-1. July 18 – 20, 2002, Shanghai, China, Hong Kong Institute of Business Studies, Lingnan University, Tuen Mun, Hong Kong, http://www.ln.edu.hk/hkibs/

Littrell, R.F. 2003 Corporate and National Cultures: Influence of the Cross-Cultural Composition of the Management Team on Leadership Preferences in a Chinese Organisation, A Longitudinal Study, Proceedings of the 2003 International Human Resources Management Conference, University of Limerick, Limerick, Ireland, (available at http://www.romielittrellpubs.homestead.com)

Littrell, R.F. and Baguma, P. 2004. Leader behavior preferences of educators in Uganda. *Proceedings First Conference on Cross Cultural Leadership and Management Studies*, Seoul, Korea, June 10-12, 2004. (Copy available: http://www.romielittrellpubs.homestead.com)

Littrell, R.F. and Nkomo, S.M. in preparation. Gender and Race Differences in Leader Behavior Preferences in South Africa. (copy available at http://www.romielittrellpubs.homestead.com)

Littrell, R.F. and Valentin, L.N. forthcoming 2005. Preferred leadership behaviours: Exploratory results from Romania, Germany, and the UK. *The Journal of Management Development*, vol. 24. (available at http://www.romielittrellpubs.homestead.com).

Littrell, R.F. in preparation, 2005. Gender differences in preferred explicit leader behaviour: Data from six countries: China, Germany, Romania, South Africa, Uganda, and the UK. Submitted to *Women In Management Review*, draft available at http://www.romielittrellpubs.homestead.com

Lord, R. G., Foti, R. J., and De Vader, C. L. 1984. A test of leadership categorization theory: Internal structure, information processing, and leadership perceptions. *Organizational Behavior and Human Performance*, 34: 343–378.

Lucas, P.R., Messner, P.E., Ryan, C.W. and Sturm, G.P. 1992. Preferred leadership style differences: perceptions of defence industry labour and management. *Leadership and Organization Development Journal*, (13)7: 19-22.

Mann, F.C. 1965. Toward an understanding of the leadership role in formal organization. In R. Dublin (Ed.), *Leadership and Productivity*. San Francisco: Chandler, pp. 68-103.

Marsh, H. W. 1996. Positive and negative global self-esteem: A substantively meaningful distinction or artifacts? *Journal of Personality and Social Psychology*, 70(4): 810-819.

Mook, J., Kleijn, W. C., and Ploeg, H. M. (1992). Positively and negatively worded items in a self-report measure of dispositional optimism. *Psychological Reports*, 71: 275-78.

Mueller, D.J. and Kim, K. 2004. The tenacious goal pursuit and flexible goal adjustment scales: Examination of their validity. *Educational And Psychological Measurement*, 64(1): 120-142.

Nakata, C. and Sivakumar, K 2001. Instituting the Marketing Concept in a Multinational Setting: The Role of National Culture, *Academy of Marketing Science. Journal*, 29(3): 255-276.

Northouse, P. G. (1997). *Leadership: Theory and practice.* Thousand Oaks, CA: Sage.

Nunnaly, J. C. (1967). *Psychometric Theory*. New York: McGraw Hill.

Patel, C., Harrison, G.L. and McKinnon, J.L. 2002. Cultural influences on judgments of professional accountants in auditor-client conflict resolution. *Journal of International Financial Management and Accounting*, 13(1): 1-31.

Peterson, Robert A (1994). A meta analysis of Cronbach's coefficient alpha. *Journal of Consumer Research*, 21: 381-391.

Piccolo, R. 2004. Personal communication concerning reverse-scored survey items.

Popper, K.R. 1959. *The Logic of Scientific Discovery.* London: Hutchinson.

Poynor, H. 2004. Personal communication concerning scaling of item scores for standardization.

Poynor, L. 2004. Personal communication concerning scaling of item scores for standardization.

Ralston, D.A., Cunniff, M.K. and Gustafson, D.J. 1995. Cultural accommodation: The effect of language on the responses of bilingual Hong Kong Chinese managers. *Journal of Cross - Cultural Psychology*, 26(6): 714-727.

Richins, M.L. and Dawson, S. 1992. A consumer values orientation for materialism and its measurement: scale development and validation. *Journal of Consumer Research*, 19(December): 303-316.

Roberts, R. E., Lewinsohn, P. M., and Seeley, J. R. (1993). A brief measure of loneliness suitable for use with adolescents. *Psychological Reports*, 72: 1379-1391.

Rupp, A.A.; Zumbo, B.D. 2004. A Note on How to Quantify and Report Whether Irt Parameter Invariance Holds: When Pearson Correlations are Not Enough, Educational And Psychological Measurement, 64(4): 588-599.

Sashkin, M. 1979. A review of Ralph M. Stogdill's Leader Behavior Description Questionnaire – Form XII. *Group and Organizational Studie*s, 4(2): 247-250.

Schermerhorn, J.R. and Bond, M.H. 1991. Upward and downward influence tactics in managerial networks: A comparative study of Hong Kong Chinese and Americans. *Asia Pacific Journal of Managemen*t, 8: 147-158.

Schmitt, N. and Stults, D. M. 1985. Factors defined by negatively keyed items: The result of careless respondents? *Applied Psychological Measurement*, 9(4): 367-373.

Schneider, J. and Littrell, R.F. 2003. Leadership Preferences of German and English Managers. *The Journal of Management Development*, 22(2), 130-148.

Schriesheim, C. A., and Kerr, S. (1974). Psychometric properties of the Ohio State leadership scales. *Psychological Bulletin,* 81: 756–765.

Selmer, J. 1997. Differences in leadership behavior between expatriate and local bosses as perceived by their host country national subordinates. *Leadership and Organizational Development Journal,* (18)1: 13-22.

Selmer, J. 2004. Personal communication concerning reverse-scored survey items.

Smith, P.B. 2004a. Acquiescent Response Bias as an Aspect of Cultural Communication Style, Journal of Cross-Cultural Psychology, 35(1): 50-61.

Smith, P.B. 2004b. Nations, Cultures, and Individuals: New Perspectives and Old Dilemmas
*Journal of Cross-Cultural Psychology*, 35(1): 6-12.

Smith, P.B., Peterson, M.F., and Schwartz, S.H. 2002. Cultural values, sources of guidance, and their relevance to managerial behaviour. *Journal of Cross - Cultural Psychology*, 33(2): 188-208.

Stogdill, R.M. 1948. Personal factors associated with leadership: A survey of the literature. *Journal of Psychology*, 25: 35-71.

Stogdill, R.M. 1950. Leadership, membership and organization. *Psychological Bulletin*, *47*, 1–14.

Stogdill, R.M. 1959. *Individual behavior and group achievement*. New York: Oxford University Press.

Stogdill, R.M. 1963. *Manual for the Leader Behavior Description Questionnaire-Form XII*. Columbus: Ohio State University, Bureau of Business Research.

Stogdill, R.M. 1974. *Handbook of leadership: A survey of theory and research*. New York: The Free Press.

Stogdill, R.M. and Coons, A.E. 1957. *Leader behavior: Its description and measurement*. Columbus, OH: Bureau of Business Research.

Taylor, J.C. and Bowers, D.G. 1972. *The survey of organizations*. Ann Arbor, MI: Institute for Social Research, The University of Michigan.

Triandis, H.C. 1976. Methodological problems of comparative research. *International Journal of Psychology*, 11(3): 155-159.

Van Herk, H., Poortinga, Y.H.; Verhallen, T.M.M. 2004. Response Styles in Rating Scales: Evidence of Method Bias in Data From Six EU Countries, Journal of Cross-cultural Psychology, 35(3): 346-360.

Watkins, D. and Cheung, S. 1995. Culture, gender, and response bias: An analysis of responses to the self-description questionnaire. *Journal of Cross Cultural Psychology*, 26(5): 490-504.

Weissenberg, P., & Kavanagh, M. J. (1972). The independence of initiating structure and consideration: A review of the evidence. *Personnel Psychology*,25: 119–130.

Wong, N. Rindfleisch, A. and Burroughs. J.E. 2003. Do reverse-worded items confound measures in cross-cultural consumer research? The case of the material values scale *Journal of Consumer Research*. 30(1): 72-91.

Yang, K.S. and Bond, M.H. 1980. Ethnic affirmation by Chinese bilinguals. *Journal of Cross-Cultural Psychology*, 11: 411-425.

Yukl, G. (1998). *Leadership in organizations.* Upper Saddle River, NJ: Prentice Hall.

Yukl, G., & Van Fleet, D. D. 1992. Theory and research on leadership in organizations. In M. D. Dunnette and L. M. Hough (Eds.), *Handbook of Industrial and Organizational Psychology*, 2: 147–197. Palo Alto, CA: Consulting Psychologists Press.

Yunker, G.W. and Hunt. J.G. 1976. An empirical comparison of the Michigan four-factor and Ohio State LBDQ leadership scales. *Organizational Behavior and Human Performanc*e, 17: 45-65.

## APPENDIX 1

### The LBDQ XII "IDEAL LEADER" VERSION IN ENGLISH

*Purpose of the Questionnaire:* On the following pages is a list of items that may be used to describe the behavior of a leader as you think he or she should act, the ideal leader**.** Although some items may appear similar, they express differences that are important in the description of leadership. Each item should be considered as a separate description. This is not a test of ability or consistency in making answers. Its only purpose is to make it possible for you to describe, as accurately as you can, the behavior of an ideal supervisor.

A. READ each item carefully.

B. THINK about an acceptable frequency the leader could engage in the behavior described by the item.

C. DECIDE whether he/she should (A) *always*, (B) *often*, (C) *occasionally*, (D) *seldom* or (E) *never* act as described by the item.

D. MARK AN X over *one* of the five letters (A B C D E) following the item to show the answer you have selected.

E. MARK your answers as shown in the example below.

| | | | | | |
|---|---|---|---|---|---|
| Example: Often acts as described | A | **X** | C | D | E |
| Example: Never acts as described | A | B | C | D | **X** |

The Ideal Leader: A=Always B=Often C=Occasionally D=Seldom E=Never

| | | | | | |
|---|---|---|---|---|---|
| 1. Acts as the spokesperson of the group | A | B | C | D | E |
| 2. Waits patiently for the results of a decision | A | B | C | D | E |
| 3. Makes pep talks to stimulate the group | A | B | C | D | E |
| 4. Lets group members know what is expected of them | A | B | C | D | E |
| 5. Allows the members complete freedom in their work | A | B | C | D | E |
| 6. Is hesitant about taking initiative in the group | A | B | C | D | E |
| 7. Is friendly and approachable | A | B | C | D | E |
| 8. Encourages overtime work | A | B | C | D | E |
| 9. Makes accurate decisions | A | B | C | D | E |

| | | | | | |
|---|---|---|---|---|---|
| 10. Gets along well with the people above him/her | A | B | C | D | E |
| 11. Publicizes the activities of the group | A | B | C | D | E |
| 12. Becomes anxious when he/she cannot find out what is coming next | A | B | C | D | E |
| 13.His/her arguments are convincing | A | B | C | D | E |
| 14.Encourages the use of uniform procedures | A | B | C | D | E |
| 15. Permits the members to use their own judgment in solving problems | A | B | C | D | E |
| 16. Fails to take necessary action | A | B | C | D | E |
| 17. Does little things to make it pleasant to be a member of the group | A | B | C | D | E |
| 18. Stresses being ahead of competing groups | A | B | C | D | E |
| 19. Keeps the group working together as a team | A | B | C | D | E |
| 20. Keeps the group in good standing with higher authority | A | B | C | D | E |
| 21. Speaks as the representative of the group | A | B | C | D | E |
| 22. Accepts defeat in stride | A | B | C | D | E |
| 23. Argues persuasively for his/her point of view | A | B | C | D | E |
| 24. Tries out his/her ideas in the group | A | B | C | D | E |
| 25. Encourages initiative in the group members | A | B | C | D | E |
| 26. Lets other persons take away his/her leadership in the group | A | B | C | D | E |
| 27. Puts suggestions made by the group into operation | A | B | C | D | E |
| 28. Needles members for greater effort | A | B | C | D | E |
| 29. Seems able to predict what is coming next | A | B | C | D | E |
| 30. Is working hard for a promotion | A | B | C | D | E |
| 31. Speaks for the group when visitors are present | A | B | C | D | E |
| 32. Accepts delays without becoming upset | A | B | C | D | E |
| 33. Is a very persuasive talker | A | B | C | D | E |

| | | | | | |
|---|---|---|---|---|---|
| 34. Makes his/her attitudes clear to the group | A | B | C | D | E |
| 35. Lets the members do their work the way they think best | A | B | C | D | E |
| 36. Lets some members take advantage of him/her | A | B | C | D | E |
| 37. Treats all group members as his/her equals | A | B | C | D | E |
| 38. Keeps the work moving at a rapid pace | A | B | C | D | E |
| 39. Settles conflicts when they occur in the group | A | B | C | D | E |
| 40. His/her superiors act favorably on most of his/her suggestions | A | B | C | D | E |
| 41. Represents the group at outside meetings | A | B | C | D | E |
| 42. Becomes anxious when waiting for new developments | A | B | C | D | E |
| 43. Is very skilful in an argument | A | B | C | D | E |
| 44. Decides what shall be done and how it shall be done | A | B | C | D | E |
| 45. Assigns a task, then lets the members handle it | A | B | C | D | E |
| 46. Is the leader of the group in name only | A | B | C | D | E |
| 47. Gives advance notice of changes | A | B | C | D | E |
| 48. Pushes for increased production | A | B | C | D | E |
| 49. Things usually turn out as he/she predicts | A | B | C | D | E |
| 50. Enjoys the privileges of his/her position | A | B | C | D | E |
| 51. Handles complex problems efficiently | A | B | C | D | E |
| 52. Is able to tolerate postponement and uncertainty | A | B | C | D | E |
| 53. Is not a very convincing talker | A | B | C | D | E |
| 54. Assigns group members to particular tasks | A | B | C | D | E |
| 55. Turns the members loose on a job, and lets them go to it | A | B | C | D | E |
| 56. Backs down when he/she ought to stand firm | A | B | C | D | E |
| 57. Keeps to himself/herself | A | B | C | D | E |
| 58. Asks the members to work harder | A | B | C | D | E |
| 59. Is accurate in predicting the trend of events | A | B | C | D | E |

| | | | | | |
|---|---|---|---|---|---|
| 60. Gets his/her superiors to act for the welfare of the group members | A | B | C | D | E |
| 61. Gets swamped by details | A | B | C | D | E |
| 62. Can wait just so long, then blows up | A | B | C | D | E |
| 63. Speaks from a strong inner conviction | A | B | C | D | E |
| 64. Makes sure that his/her part in the group is understood | A | B | C | D | E |
| 65. Is reluctant to allow the members any freedom of action | A | B | C | D | E |
| 66. Lets some members have authority that he/she should keep | A | B | C | D | E |
| 67. Looks out for the personal welfare of group members | A | B | C | D | E |
| 68. Permits the members to take it easy in their work | A | B | C | D | E |
| 69. Sees to it that the work of the group is coordinated | A | B | C | D | E |
| 70. His/her word carries weight with superiors | A | B | C | D | E |
| 71. Gets things all tangled up | A | B | C | D | E |
| 72. Remains calm when uncertain about coming events | A | B | C | D | E |
| 73. Is an inspiring talker | A | B | C | D | E |
| 74. Schedules the work to be done | A | B | C | D | E |
| 75. Allows the group a high degree of initiative | A | B | C | D | E |
| 76. Takes full charge when emergencies arise | A | B | C | D | E |
| 77. Is willing to make changes | A | B | C | D | E |
| 78. Drives hard when there is a job to be done | A | B | C | D | E |
| 79. Helps group members settle their differences | A | B | C | D | E |
| 80. Gets what he/she asks for from his/her superiors | A | B | C | D | E |
| 81. Can reduce a madhouse to system and order | A | B | C | D | E |
| 82. Is able to delay action until the proper time occurs | A | B | C | D | E |
| 83. Persuades others that his/her ideas are to their advantage | A | B | C | D | E |
| 84. Maintains definite standards of performance | A | B | C | D | E |

| | | | | | |
|---|---|---|---|---|---|
| 85. Trusts members to exercise good judgment | A | B | C | D | E |
| 86. Overcomes attempts made to challenge his/her leadership | A | B | C | D | E |
| 87. Does not feel it is necessary to explain his/her actions | A | B | C | D | E |
| 88. Urges the group to beat its previous record | A | B | C | D | E |
| 89. Anticipates problems and plans for them | A | B | C | D | E |
| 90. Is working his/her way to the top | A | B | C | D | E |
| 91. Gets confused when too many demands are made of him/her | A | B | C | D | E |
| 92. Worries about the outcome of any new procedure | A | B | C | D | E |
| 93. Can inspire enthusiasm for a project | A | B | C | D | E |
| 94. Asks that group members follow standard rules and regulations | A | B | C | D | E |
| 95. Permits the group to set its own pace | A | B | C | D | E |
| 96. Is easily recognized as the leader of the group | A | B | C | D | E |
| 97. Acts without consulting the group | A | B | C | D | E |
| 98. Keeps the group working up to capacity | A | B | C | D | E |
| 99. Maintains a closely knit group | A | B | C | D | E |
| 100. Maintains cordial relations with superiors | A | B | C | D | E |