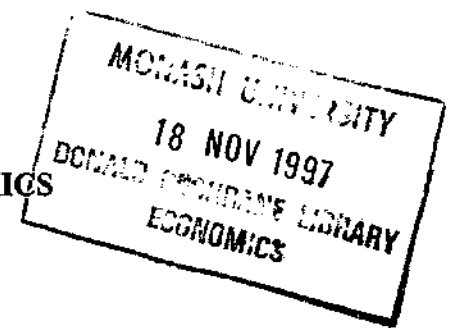


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**RE-THINKING TRANSFORMATIONAL
LEADERSHIP FACTORS**

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ABSTRACT

The aim of this study was to examine the factor structure of the Multifactor Leadership Questionnaire developed by Bass and Avolio (1990). Using 480 senior officers from an Australian Law Enforcement Organisation, a more complex factor structure was identified. A higher order confirmatory factor analysis identified first and second order factors. The second-order factors were consistent with the four transformational leadership factors identified by Bass and Avolio (1990). These second-order factors were generated by eleven previously unidentified first-order factors. This factor structure may explain why some previous attempts to confirm the structural validity of the MLQ have been unsuccessful.

RE-THINKING TRANSFORMATIONAL LEADERSHIP FACTORS

The Multifactor Leadership Questionnaire (Bass and Avolio, 1990) has investigated leadership on every continent except Antarctica (Bass, 1996). However, the factor structure of the MLQ is not beyond question (Curphy, 1991; Tepper and Percy, 1994). This study used LISREL (7.20) to investigate the factor structure of transformational leadership as measured by the MLQ. An Australian Law Enforcement Organization was used for the collection of data, and involved 480 senior officers. A higher-order confirmatory factor analysis identified a first and second order factor structure for the MLQ. The original transformational leadership factors developed by Bass (1985) were confirmed by the four second-order factors of idealized influence, inspirational motivation, individualized consideration, and intellectual stimulation. However, second-order factors were based on eleven, previously unidentified first-order factors and confirmed a more complex factor structure than originally proposed by Bass (1985) or prior investigations (Bass and Avolio, 1990; Hater and Bass, 1988). These first-order factors conform with the findings of previous studies of transformational/charismatic leadership, and help to operationalize the concepts into more easily understood terms (e.g., confidence in followers, self-determination, management of meaning). The resulting factor structure may explain previous difficulties in factor analyzing the MLQ and offers a more detailed understanding of transformational leadership constructs. Implications for future research are discussed.

LITERATURE REVIEW

For several decades, the study of leadership has been an important and central part of the literature on management and organisational behaviour (e.g., Yukl, 1989). Unfortunately, past research has failed to adequately identify a common definition of leadership for either research or practical applications. According to Stogdill (1974, p. 259), there "are almost as many definitions of leadership as there are persons who have attempted to define the concept." Combined with a disparity of approaches, a narrow focus of most researchers, and the inability of broad theories to integrate findings, the field of leadership research is in a state of ferment and confusion (Yukl, 1989). In addition, the need to survive increased economic competition from foreign companies in the 1980s has encouraged American management researchers to focus on the types of leadership important today in order to revitalise organisations and make them more competitive (e.g., Yukl, 1989). Therefore, leadership has both research and practical implications and applications.

Charismatic and transformational leadership theories have been broad in scope and simultaneously involve traits, power, behavior and situational variables (e.g., Yukl, 1989). These theories enable greater integration of the leadership literature and represent an important step forward in the understanding of leadership (e.g., Yukl, 1989). Based on these trends, Bass (1985) established a new paradigm where questions such as autocratic versus democratic leadership, directive versus participative decision making, task versus relationship focus, and initiation versus consideration behaviour, were no longer central to the understanding of leadership (Bass, 1985; 1990a).

Major theories concerning charismatic and transformational leadership have been generated to further extend our understanding of the concepts. For example, Bass (1985) surveyed the literature and identified 142 items which described both transformational and transactional leaders. Further refinement produced the Multifactor Leadership Questionnaire (i.e., MLQ), with the capacity to identify six factors of transformational and transactional leadership (e.g., charismatic leadership, inspirational leadership, individualised consideration, intellectual stimulation, contingent reward and management by exception). The development of the MLQ presents researchers with the

capacity to investigate the new paradigm of leadership from an individual, group, or organisational perspective.

Social scientists recognise the traps of, (a) using instruments simply because they are available and where only prior studies demonstrate their validity, and (b) remaining within the paradigm of the instrument (House, 1996:346). According to Sims (1977:220), in order to avoid such traps and to overcome research boundaries,

The internal psychometric adequacy of any current instrument should never be accepted on faith. A base-line necessity is that the researcher must evaluate reliability and construct validity in each sample. In addition, researchers should be encouraged both to originate new measurement instruments, and to extend and develop existing instruments.

Such an approach would overcome what Behling and McFillen (1996:163) view as only a limited effort into the operationalization of key charismatic/transformational leadership constructs. The inter-relationships between these constructs also needed to be investigated to satisfy the concerns of researchers regarding their construct validity (e.g., Conger and Kanungo, 1988; Curphy, 1991; Keller, 1992; Yukl, 1989). In fact, Tepper and Percy (1994:736) assert that the most immediate concern regarding the MLQ is its structural validity.

METHOD

The MLQ (Form 5R) developed by Bass and Avolio (1990) was distributed to senior police officers in an Australian Law Enforcement Organization, with 480 useable returns, representing a response rate of 82% from the population of 980. In accordance with Bass (1985), the Multifactor Leadership Questionnaire (i.e., MLQ) was assessed using a principal components factor analysis with a varimax rotation. This procedure failed to achieve discrete loadings on seven leadership factors and confirmed several previous studies (i.e. Carless, Mann and Wearing, 1995; Curphy, 1991; Koh Steers, and Terborg, 1995) which also were unable to replicate the factor structure. In fact, Curphy (1991:72) stated that "it is currently unclear how many leadership dimensions are measured by the MLQ." Each transformational leadership factor and their items according to Bass and Avolio (1990) was investigated using a one factor congeneric measurement model (i.e., LISREL Sub-Model 1). Eleven first-order factors emerged from this process.

A higher-order confirmatory factor analysis (see Jöreskog and Sörbom, 1989; Marsh and Hocevar, 1988, 1985) was conducted, after examining each leadership factor's items (i.e., $n = 37$) using a one factor congeneric measurement model (i.e., LISREL sub-model 1). This procedure produced eleven highly reliable factors (see Figure 1). It also highlighted the relationship between the items making up each construct as not being parallel but congeneric and thus indicating the inappropriateness of using Cronbach alphas to examine the reliability of the construct. Factor score (i.e., FS) regression weights that maximise the reliability of the composite scale score (see, Alwin and Jackson, 1980; Brown 1989; Fleishman and Benson, 1987; Wets, Rock, Linn and Jöreskog, 1978; Jöreskog, 1971, Munck, 1979) were generated for each respondent and thus enabled continuous data to be used as first order factors.

The items loading in each first order factor were compared with transformational leadership theory which provided the rationale for their loadings and appropriate factor labels. The interrelationships between first and second order factors are as follows.

Idealised Influence (Charisma): Bass and Avolio (1994:5) defined idealised influence as behaviour that results in followers using their leader as a role model: "Followers identify with the leaders and want to emulate them." Bass (1985) identified the requisite abilities, interests and personality of the charismatic leader and these provide a basis for classifying the first order factors that comprise idealised influence. The labels and description of these factors (i.e., 1, 2 and 3; see Table 1) according to Bass (1985) are: *Emotional Intelligence* (appearance of not being constrained by id-superego conflict and is assured that their values are right and important), *Confidence in Follower* (shows confidence in follower's ability), and *Self Determination* (creation of new values and goals for benefit of others, as well as themselves).

Table 1
Multifactor Leadership Questionnaire: Transformational Leadership

No.	Items (The person I am rating....)	λ
1	Idealised Influence (Emotional Intelligence)	
	makes me proud to be associated with him or her. (Q8)	.888
	is someone in whom I have complete faith. (Q15)	.956
2	has my respect. (Q36)	.962
	Idealised Influence (Confidence in Followers)	
	makes me feel good when I'm around him or her. (Q1)	.825
	has a special gift for seeing what is really worthwhile for me to consider. (Q19)	.829
	shows enthusiasm for what I need to do. (Q43)	.853
3	increases my optimism for the future (Q57)	.816
	Idealised Influence (Self Determination)	
	is viewed as a symbol of success and accomplishment (Q29)	.817
	has a sense of mission which he or she communicates to me. (Q50)	.725
4	has my trust in his or her ability to overcome any obstacle. (Q64)	.817
	Inspirational Motivation (Management of Meaning)	
	sets high standards. (Q2)	.692
5	uses symbols and images to focus our efforts. (Q30)	.606
	communicates expectations of high standards (Q44)	.752
6	Inspirational Motivation (Action Orientation)	
	has a vision that spurs me on. (Q9)	.862
	expresses our important purposes in simple ways. (Q16)	.777
	develops ways to encourage me. (Q23)	.889
7	gives me encouraging talks. (Q37)	.843
	Individualised Consideration (Delegation)	
	coaches me if I need it. (Q46)	.842
8	expresses appreciation when I do a good job. (Q39)	.703
	is ready to instruct or coach me when ever I need it. (Q60)	.851
	Individualised Consideration (Mentoring)	
9	gets me to look at problems as learning opportunities. (Q11)	.800
	gives personal attention to those who seem neglected. (Q4)	.832
	provides advice to me when I need it. (Q53)	.741
10	Individualised Consideration (Specific Needs)	
	treats each of us as an individual. (Q25)	.822
	finds out what I want and helps me to get it. (Q32)	.839
	gives newcomers a lot of help. (Q67)	.827
11	lets me know how I am doing. (Q18)	.791
	Intellectual Stimulation (Alertness to Problems)	
	emphasis the use of intelligence to overcome obstacles. (Q31)	.670
	requires that I back up my opinions with good reasoning. (Q38)	.661
12	gets me to identify key aspects of complex problems. (Q45)	.798
	gets me to use reasoning and evidence to solve problems. (Q66)	.820
	Intellectual Stimulation (Generation of Solutions)	
13	has ideas that have forced me to rethink ideas of my own that I had never questioned before. (Q3)	.701
	provides me with new ways of looking at problems which initially seemed puzzling to me. (Q17)	.887
	provides me with reason to change the way I think about problems. (Q24)	.841
14	Intellectual Stimulation (Diagnosis)	
	enables me to think about old problems in new ways. (Q10)	.752
	places strong emphasis on careful problems. (Q52)	.837
	makes sure I think through what is involved before taking action. (Q59)	.832

Note: λ = Lambda.

Inspirational Motivation: Inspirational motivation involves behaviour (i.e., inspiring or motivating) that gives meaning to and challenges a follower's work (Bass and Avolio, 1994). Leaders can use an action orientation (e.g., do or die) to inspire followers (Bass, 1985) and give meaning to objectives. Therefore action orientation and management of meaning appear to be credible labels for the two factors of inspirational motivation (i.e., 4 and 5; see Table 1).

Individualised Consideration: Individualised consideration is oriented towards developmental exchanges between a leader and his/her followers (Bass and Avolio, 1994). Three first order factors emerged from the study's investigation of the individualised consideration items. These factors appear to correspond to issues Bass (1985) identified with this type of transformational leadership. These factor (i.e., 6, 7 and 8; see Table 1) labels and descriptions are: *Delegation* (ownership of decision is given to the followers but the leader provides a supporting role to provide information and give encouragement), *Mentoring* (one-on-one contact with effective two-way communication), and *Specific-needs* (attention is given to the individual needs of the follower).

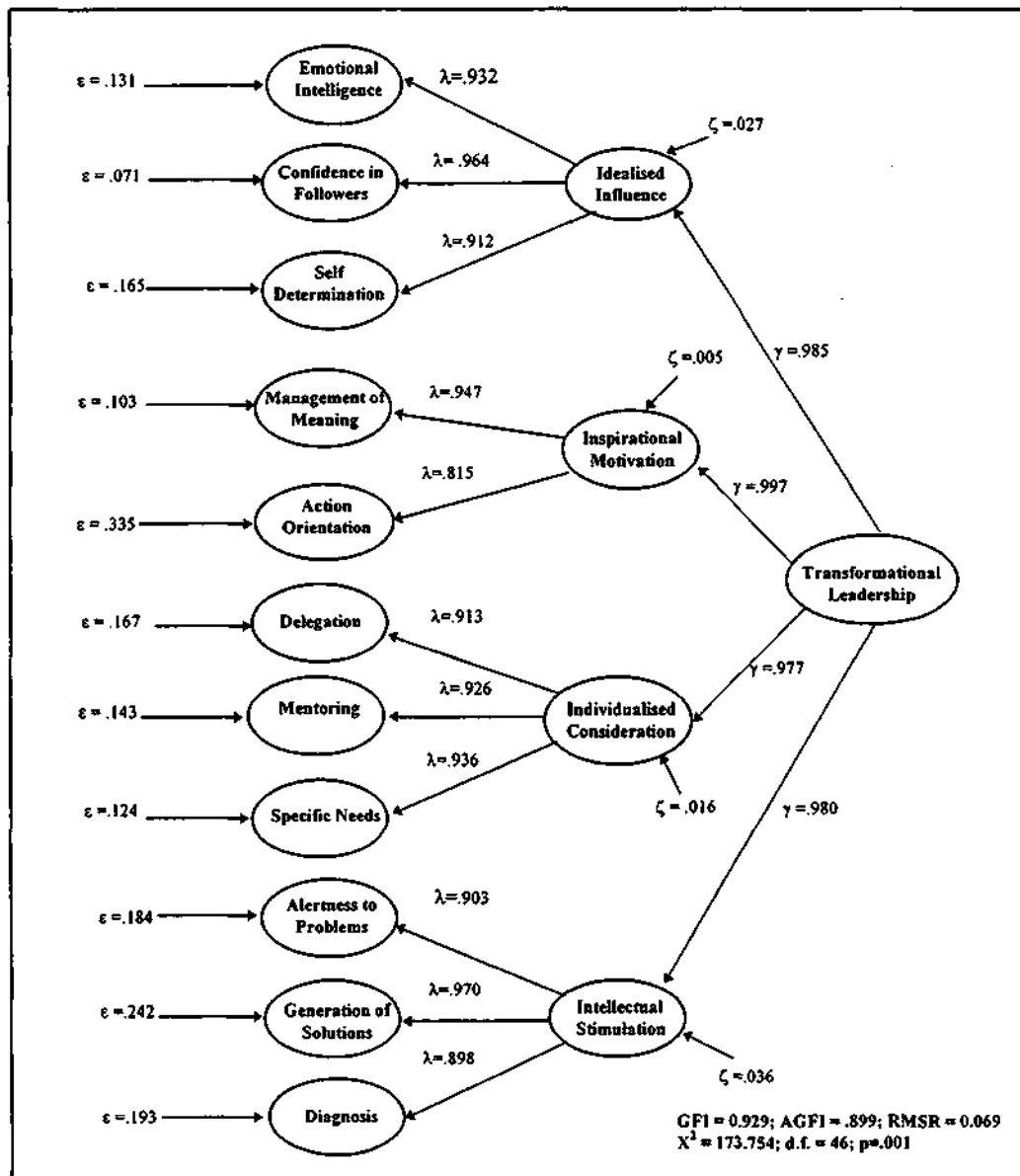
Intellectual Stimulation: The soliciting of new ideas and developing creative problem solutions from followers is how Bass and Avolio (1994) describe a leader's use of intellectual stimulation. Such behavior might be achieved "symbolically by means of vivid imagery and simplified, articulate language for easier comprehension heightened attention" (Bass, 1985, p. 114). The remaining factors (i.e., 9, 10 and 11; see Table 1) have similarities with Bass's (1985) conceptualisation of intellectual stimulation. These labels and descriptions are: *Alertness to problems* (changes the conceptualisation, comprehension and discernment about the nature of the problem and solution), *Generation of solutions* (leading in the identification and innovation of alternative strategies), and *Diagnosis* (high quality problem solving that produces commitment).

The resulting higher order confirmatory factor analysis (i.e., eleven first order and four second order factors) had a goodness of fit index of .929 and an adjusted goodness of fit index of .899 (see Figure 1). The four second order factors could be classified as Bass and Avolio's (1990) transformational leadership factors (e.g., idealised influence, inspirational motivation, individualised consideration and intellectual stimulation), and confirm the factor structure identified by several other studies (i.e., Hater and Bass, 1988; Hoover, 1988; Howell and Avolio, 1991; Waldman, et al. 1987). The higher order confirmatory factor analysis procedure enabled the empirical test of implicit assumptions (Marsh and Hocevar, 1988) about leadership. In other words, do these eleven factors replicate Bass and Avolio's (1990) four transformational leadership factors? The identification of Bass and Avolio's four transformational leadership factors as second order factors in this study reveals a more complex relationship of eleven first order factors. Many previous studies have not investigated this underlying first order structure and have only focused on the four second order factors.

The factor score regression weights of the four emerging second order factors (i.e., idealised influence, inspirational motivation, individualised consideration and intellectual stimulation) were produced using the one factor congeneric measurement model, and these formed the basis for examining transformational leadership in this study.

DISCUSSION

The findings of the present study further clarified the factor structure of the MLQ (Form 5R) and answered the concerns of Tepper and Percy (1994) that a greater understanding of the structural validity of the instrument be undertaken. In this study, a more complex factor structure for the transformational leadership construct was identified where the original four factors were shown to consist of a more complex set of eleven first-order factors. The first-order transformational leadership factors are consistent with the original theoretical framework developed by Bass (1985), and take into account recent research findings. This revised structure of leadership as measured by the MLQ raises doubts about studies that have used only some of the individual items per factor. These studies may in fact be measuring only a first-order factor and misrepresenting that factor as a



second-order factor (e.g., Sarros, Tanewski, Winter, and Santora, 1996). Also, the findings of the current study raise issues concerning the selection and combination of items that make up the leadership factors, particularly if the makeup of these factors or the exclusion of items is not theoretically justified. Research needs to be conducted in other organizations to confirm the first order factor structure. Studies need to focus on understanding the first-order factors comprehensively in order to come to a better understanding of the complex nature of transformational leadership.

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