Transactional versus transformational leadership: An analysis of the MLQ

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A questionnaire used often to measure transformational, transactional and laissez-faire leadership is the Multifactor Leadership Questionnaire developed by Bass (Bass & Avolio, 1989). This study aims to test the factor structure of the MLQ as developed by Bass & Avolio. The MLQ-8Y was analysed using data collected in Dutch organizations. Seven hundred employees from eight organizations rated their leader's behaviour with the MLQ. First, an indication of the internal consistency of the scales developed by Bass is reported. The results of subsequent factor analyses show that the three types of leadership can be found in the data; however, the scales found here are slightly different from Bass' scales. Especially, the transactional and laissez-faire scales have been altered on theoretical and empirical grounds. The adapted version of the MLQ covers the domain with fewer items.

Leadership has been an important topic in the social sciences for many decades. Recently there has been a renewed interest in leadership. Meindl (1990) notes that this recent resurgence of interest in studying the topic of leadership appears to be accompanied by an acceptance of the distinction between transactional and transformational leadership, with an emphasis on the latter. Quinn (1988) compares transactional and transformational leadership with other differentiations in leadership such as relations oriented–task oriented leadership (Fiedler, 1967), consideration–initiating structure (Korman, 1966), and directive–participative or autocratic–democratic leadership (Heller & Yukl, 1969). Bass (1990*b*) claims that the transactional–transformational model is a new paradigm, neither replacing nor explained by other models such as the relations oriented–task oriented leadership model. Some authors describe concepts similar to transformational leadership as charismatic, inspirational or visionary leadership (Bryman, 1992). Although the terminology used by these authors is different, more similarities than differences seem to exist between these views of the phenomenon of leadership. Bass inspired and is still one of the major contributors to this approach that Bryman (1992) calls 'the New leadership'. 'The New leadership' approach revived leadership as a topic of theory and research, after many lost interest and faith in this concept (see, for instance, Miner, 1975). 'The New leadership' integrates ideas from trait, style and contingency approaches of leadership and also incorporates and builds on work of sociologists such as Weber (1947) and political scientists such as Burns (1978).

*Requests for reprints.

Transactional leadership

A better understanding of transformational leadership can follow from contrasting it with transactional leadership. Burns (1978) argues that transactional leadership entails an exchange between leader and follower. Followers receive certain valued outcomes (e.g. wages, prestige) when they act according to their leader's wishes. Taking Burns as his starting point Bass (1985) notes that leadership in research has generally been conceptualized as a transactional or cost-benefit exchange process. Transactional leadership theories are all founded on the idea that leader–follower relations are based on a series of exchanges or implicit bargains between leaders and followers. The general notion is that, when the job and the environment of the follower fail to provide the necessary motivation, direction and satisfaction, the leader, through his or her behaviour, will be effective by compensating for the deficiencies. The leader clarifies the performance criteria, in other words what is expected from subordinates, and what they receive in return (House, Woycke & Fodor, 1988). Several transactional theories have been tested extensively. Some have received considerable empirical support. Examples are path-goal theory (House, 1971; House & Mitchell, 1974; Indvink, 1986) and vertical dyad theory (Graen & Cashman, 1975; Graen & Scandura, 1987).

Transformational leadership

While the transactional leader motivates subordinates to perform as expected, the transformational leader typically inspires followers to do more than originally expected. Transformational leadership theories predict followers' emotional attachment to the leader and emotional and motivational arousal of followers as a consequence of the leader's behaviour (House *et al.*, 1988). Hater & Bass (1988) state: 'The dynamics of transformational leadership involve strong personal identification with the leader, joining in a shared vision of the future, or going beyond the self-interest exchange of rewards for compliance' (p. 695). Transformational leaders broaden and elevate the interests of followers, generate awareness and acceptance among the followers of the purposes and mission of the group and motivate followers to go beyond their self-interests for the good of the group (Yammarino & Bass, 1990; see also Burns, 1978). Yammarino & Bass (1990) also note 'the transformational leader articulates a realistic vision of the future that can be shared, stimulates subordinates intellectually, and pays attention to the differences among the subordinates' (p. 151). Tichy & Devanna (1990) highlight the transforming effect these leaders can have on organizations as well as on individuals. By defining the need for change, creating new visions, mobilizing commitment to these visions, leaders can ultimately transform the organization. According to Bass (1985) this transformation of followers can be achieved by raising the awareness of the importance and value of designed outcomes, getting followers to transcend their own self-interests and altering or expanding followers' needs.

Relations between transformational and transactional leadership

As Hater & Bass (1988) point out, contrasting transactional and transformational leadership does not imply that the models are unrelated. Burns (1978) thought of the two types of leadership as being at opposite ends of a continuum. Bass (1985) however views them

as separate dimensions, this means a leader can be both transactional and transformational (Bryman, 1992). Bass (1985) argues that transformational leadership builds on transactional leadership but not vice versa. Transformational leadership can be viewed as a special case of transactional leadership, inasmuch as both approaches are linked to the achievement of some goal or objective. The models differ on the *process* by which the leader motivates subordinates and on the *type of goals* set (Hater & Bass, 1988).

Laissez-faire leadership

Both transformational and transactional leaders are active leaders. They actively intervene and try to prevent problems. When researching these two active forms of leadership, they are often contrasted with extremely passive laissez-faire leadership (see, for example, Yammarino & Bass, 1990; Yammarino, Spangler & Bass, 1993). The laissez-faire leader avoids decision making and supervisory responsibility. This type of leader is inactive, rather than reactive or proactive. In a sense this extremely passive type of leadership indicates the absence of leadership. Bass (1990*a*) reports laissez-faire leadership usually correlates negatively ($-.3$ to $-.6$) with other, more active leadership styles. Bass (1990*a*) concludes that there is a negative association between laissez-faire leadership and a variety of subordinate performance, effort and attitudinal indicators. This implies that laissez-faire leadership is always an inappropriate way to lead. When by 'laissez-faire' it is meant that the leader is not sufficiently motivated or adequately skilled to perform supervisory duties, this observation seems correct. However, one could probably define situations in which highly active leadership is not necessary and maybe not even desirable. For instance, in their substitutes for leadership theory Kerr & Jermier (1978) propose several subordinate, task, and, organization characteristics that could reduce the importance of leadership. A less active role of leaders could also lead to 'empowerment' of followers which could even make for a useful component of transformational leadership.

Bass and the MLQ

Bass' framework and programme of research has made an important contribution to the development of the concept of transformational leadership. Central to his research is the Multifactor Leadership Questionnaire (MLQ), developed to measure the transformational, transactional and laissez-faire leadership concepts described above. The MLQ has been revised several times and is now widely used. Respondents rate the behaviour of the leader, usually their superior, by filling out the MLQ (see Method). Bass and associates define both transactional and transformational leadership as comprising several dimensions. The dimensions vary slightly in different studies. In describing Bass' transformational and transactional leadership the basis will be the eight dimensions the MLQ-8Y form distinguishes, as this is the form used in the current study.

Bass' transformational leadership has four dimensions

The first dimension is *charisma*. The charismatic leader provides vision and a sense of mission, instills pride, gains respect and trust, and increases optimism (Bass & Avolio, 1989; Bass, 1985). Charismatic leaders excite, arouse and inspire their subordinates (Yammarino & Bass, 1990).

The second dimension of transformational leadership is *inspiration*. This dimension is concerned with the capacity of the leader to act as a model for subordinates, the communication of a vision and the use of symbols to focus efforts. In Bass (1985) inspiration and charisma formed a single factor but different behaviours were implied. Charisma required identification with the leader, inspiration did not.

The third dimension is *individual consideration*. While a leader's charisma may attract subordinates to a vision or mission, the leader's use of individualized consideration also significantly contributes to individual subordinates achieving their fullest potential (Yammarino & Bass, 1990). Individual consideration is in part coaching and mentoring, it provides for continuous feedback and links the individual's current needs to the organization's mission (Bass, 1985; Bass & Avolio, 1990). Individualized consideration is similar to the Ohio State notion of consideration (Bryman, 1992). The last dimension of transformational leadership is *intellectual stimulation*. An intellectually stimulating leader provides subordinates with a flow of challenging new ideas that are supposed to stimulate rethinking of old ways of doing things (Bass, 1985; Bass & Avolio, 1990). It arouses an awareness of problems, of their own thoughts and imagination, and a recognition of their beliefs and values in subordinates. Intellectual stimulation is evidenced by subordinates' conceptualization, comprehension, and analysis of the problems they face and the solutions they generate (Yammarino & Bass, 1990).

Bass' transactional leadership has three dimensions

The first dimension of transactional leadership is *contingent reinforcement or contingent reward*. The leader rewards followers for attaining the specified performance levels. Reward is contingent on effort expended and performance level achieved. There is considerable research and literature on the association between this kind of leader behaviour and subordinate performance and satisfaction (see Bass, 1990*a* or Yukl, 1994 for a summary of such research). The second and third dimension of transactional leadership are two types of *management-by-exception*. When practising *management-by-exception* a leader only takes action when things go wrong and standards are not met (Bass & Avolio, 1989). Leaders avoid giving directions if the old ways work and allow followers to continue doing their jobs as always if performance goals are met (Hater & Bass, 1988). There are two types of management-by-exception, *active* and *passive*. The active form characterizes a leader who actively seeks deviations from standard procedures and takes action when irregularities occur. The passive form characterizes leaders who only take action after deviations and irregularities have occurred. The difference between the two is that in the active form the leader searches for deviations, whereas in the passive form the leader waits for problems to materialize (Hater & Bass, 1988).

Laissez-faire leadership is also measured by the MLQ. In a sense it indicates the absence of leadership. It is described as the most extreme form of passive leadership or even non-leadership. Laissez-faire usually correlates negatively with more active leadership styles (Bass, 1990*a*).

Problems investigated in this study

Transformational leaders when compared to transactional and laissez-faire leaders were shown to have subordinates who report greater satisfaction and more often exert extra

effort, and to have higher performing work groups and receive higher ratings of effectiveness and performance (see, for example, Bass, 1985; Bryman, 1992; Hater & Bass, 1988; Yammarino & Bass, 1990; Yammarino *et al.*, 1993). Although Bass has demonstrated that transformational leadership is a useful concept which can be operationalized in the context of organizations, there are several problems which make careful examination of the results obtained with the MLQ necessary. One problem with the concepts in the MLQ and their operationalization is the distinction made between passive management-by-exception and laissez-faire leadership. Hater & Bass (1988) state: 'passive management-by-exception is not the same as laissez-faire leadership. The status quo is guarded and respected in passive management-by-exception; the status quo is ignored by the laissez-faire leader who essentially avoids decision making and supervisory responsibilities' (p. 697). This distinction between laissez-faire and passive management-by-exception is not clear when the empirical data are examined. As shown in Bass (1985) passive management-by-exception and laissez-faire leadership form a higher order factor in Bass' data. Also, in a study by Yammarino & Bass (1990), passive management-by-exception and laissez-faire correlate positively with each other and negatively with the other leadership dimensions. Especially interesting was the slightly negative correlation they found between active and passive management-by-exception, supposedly related concepts. When regarding the items in the MLQ, the distinction between the two types seems hard to make, both are extremely passive leaders, avoiding rather than tackling problems.

Another problem with (operationalization of) the concepts in the MLQ is pointed out by Bryman (1992). One of the items that measures inspiration is concerned with whether the leader has a vision which urges the subordinate on. In view of the centrality of this notion of vision to charismatic leadership Bryman finds it strange to disentangle vision from charisma and treat it as indicating inspiration even though, as stated earlier, Bass holds that the behaviours implied are different. These two issues indicate that refining the three concepts in the MLQ into eight separate dimensions is not without problems.

Three questions are addressed in this study. The first is whether the three main leadership concepts as defined by Bass (transformational, transactional and laissez-faire) can be found in the collected MLQ data. The second is whether the four transformational and three transactional dimensions can clearly be distinguished. The third is whether the data support combining passive management-by-exception and laissez-faire leadership in one factor for passive leadership.

Method

Sample and procedure

The sample in this study consisted of approximately 1200 employees from eight organizations. The organizations and institutions contributing to the sample are very diverse in their core business activities and size: Two commercial businesses (catering, fast food), two welfare institutions, two health-care organizations (nursing home, psychiatric hospital), one local government organization and two departments of air traffic control. Samples within each organization were created by randomly dividing the employees of participating departments in the organization into two groups. One of the two groups in each department received the MLQ, rating their supervisor. Respondents either received the questionnaire with a reference letter in person at work or the questionnaire was mailed to the respondent's home address. Respondents were requested to send the questionnaire back after completion. The researchers were present in the organizations at various prearranged

times to answer questions or could be contacted by telephone. The response was approximately 60 per cent for the total sample (787 questionnaires were returned, not all questionnaires could be used in data analysis due to missing values). There were considerable differences in response for individual organizations. The lowest response was 29 per cent (in one of the organizations where the survey was done by mail); the highest response was 80 per cent (in one of the organizations where respondents were handed the questionnaire in person at work); 55.7 per cent of the respondents were male. The average age of the respondents was 36, ages ranging from 16 years old to 64 years old. On average the respondents had worked for the organization for five years. The range in the level and type of education was large, both respondents with a university degree and respondents with hardly any secondary education are found in the sample.

Questionnaire

In this study a Dutch translation of the MLQ, version 8Y, was used to assess transformational, transactional and laissez-faire leadership (following Bass & Avolio, 1989). The questionnaire was first translated from English to Dutch by a Dutch native speaker then backtranslated by an English native speaker, both experts in the field of organizational psychology. The questionnaire instructs respondents to judge how often their manager displays 40 items of behaviour (see Fig. 1 for sample items), using a five-point scale (from 'frequently, if not always' to 'not at all').

Data analysis

The first point of interest was the internal consistency of the MLQ scales for transformational, transactional and laissez-faire leadership as empirically derived by Bass. Often only Cronbach's α (Cronbach, 1951) is given as an indication of internal consistency. This, however, has two problems. First, α is affected by the number of items in a scale. In the literature (Nunally, 1967) $\alpha > .70$ has been declared an adequate α. However, the α of a scale with many items can be high with a relatively low average inter-item correlation. In a unidimensional scale a relatively high average inter-item correlation would be expected. Secondly, α is affected by dimensionality within a scale. Although α decreases as a function of multidimensionality, α can be reasonably high even when items are somewhat interrelated but multidimensional (Cortina, 1993). Therefore, not only was the Cronbach α calculated but also the average and range of inter-item correlations. Next, the correlations between the eight dimensions of the MLQ as defined by Bass were calculated.

Four transformational dimensions (24 items in total):

Charisma (12 items). An example is: 'I am ready to trust the person I am rating to overcome any obstacle'.

Inspiration (4 items). An example is: 'In my mind the person I am rating is a symbol of success and accomplishment'.

Intellectual stimulation (4 items). An example is: 'The person I am rating shows how to look at problems from new angles'.

Individual consideration (4 items). An example is: 'The person I am rating treats me as an individual rather than just a member of the group'.

Three transactional dimensions (12 items in total):

Contingent reward (4 items). An example is: 'The person I am rating points out what I will receive if I do what is required'.

Active management-by-exception (4 items). An example is: 'The person I am rating focuses attention on irregularities, mistakes, exceptions and deviations from what is expected of me'.

Passive management-by-exception (4 items). An example is: 'Problems have to be chronic before the person I am rating will take action'.

One *laissez-faire* dimension (4 items in total). An example is: 'The person I am rating avoids making decisions'.

Figure 1. The MLQ-8Y measures, and examples of items (Bass & Avolio, 1989).

A principal component factor analysis of the MLQ data was done to determine whether the factors as found by Bass would also be found in our data set. Again Cronbach's α and inter-item correlations were calculated. The aggregate measures for transformational, transactional and laissez-faire leadership as defined by Bass were correlated with each other and with the scales derived from factor analysis.

To assess the reliability and internal consistency of the scales several criteria were used. Items that did not meet the criteria were left out of subsequent analyses. This was done to increase the homogeneity of the scales. The criteria used in this study are those more often used in research and literature. The first criterion used is that the Cronbach α of the scale should be >.70 (Nunally, 1967). This seems to reflect the general idea in literature of what an acceptable α is. The criterion used for average inter-item correlations is that they should be >.30. The criterion used in this study for item–rest correlations is that they should be >.20 (Kline, 1986). Criteria used for the factor loadings are: factor loadings should be >.30 and the difference between factor loadings of an item on two factors shold be >.20. If items in the scales yielded by the factor analysis did not meet the criteria they were removed from the scales. Therefore the scales that were found and adapted in this study have fewer items than the scales as developed by Bass.

Results

The aggregate measures for transformational, transactional and laissez-faire leadership

The scale statistics for the dimensions of transformational, transactional and laissez-faire leadership as defined by Bass & Avolio (1989) are reported in Table 1. Transformational leadership was a high α of .95. However, transformational leadership also has most items. The αs for the transactional (.60) and laissez-faire scale (.49) are below the .70 criterion. The reason for the low α of the transactional measure is that passive management-by-exception is in Bass' transactional scale, even though the findings of the present study show that correlations between passive management-by-exception and the other transactional dimensions are negative. When passive management-by-exception is left out of the transactional scale, the α of transactional leadership increases to .79 (this scale would have eight items).

Table 1. Scale statistics for Bass' theoretical scales

I	*Transformational leadership:*	
	24 items	$\alpha = .95$
	Mean = 3.03	
	SD = .33	
	average inter-item correlation .44 (variance = .02)	
	range of item–total correlation .32 to .77	
II	*Transactional leadership:*	
	12 items	$\alpha = .60$
	Mean = 2.48	
	SD = .62	
	average inter-item correlation .12 (variance = .06)	
	range of item–total correlations −.07 to .46	
III	*Laissez-faire leadership:*	
	4 items	$\alpha = .49$
	Mean = 2.34	
	SD = .59	
	average inter-item correlation .21 (variance = .04)	
	range of item–total correlations .09 to .44	

Also, when passive management-by-exception is then included in the *laissez-faire* measure its α increases to .72 (this scale would have eight items). For the transactional and the laissez-faire measure several items have item–rest correlations lower than the .20 criterion. These items with the lowest item–rest correlations in the transactional measure are the passive management-by-exception items.

The subdimensions of transformational and transactional leadership

The scale statistics for the scales measuring Bass' subdimensions of transformational, transactional and non-leadership are shown in Table 2. Bass' transformational leadership has four subdimensions, charisma, inspiration, intellectual stimulation and individualized consideration. The transactional leadership measure has three subdimensions, contingent reward, active management-by-exception and passive management-by-exception. The non-leadership measure only has one subdimension, laissez-faire leadership. The laissez-faire measure in Table 2 is therefore identical to the laissez-faire measure given in Table 1.

All scales for the subdimensions have four items, except for the charisma measure which has 12 items. All subdimension scales except passive management-by-exception and *laissez-faire* have an $\alpha > .70$ and the item–rest correlations of items in these scales are all above the .20 criterion. Passive management-by-exception and laissez-faire (four items each) give the least adequate results. The α is below .70 for both and not all the item–rest correlations are above the specified .20 criterion. The average inter-item correlations of passive management-by-exception and laissez-faire (.26 and .21 respectively) are lower than the average inter-item correlations of the other scales (ranging from .39 to .52).

Correlations of the Bass scales

The correlations between Bass' MLQ dimensions of transformational, transactional and laissez-faire leadership are reported in Table 3. Two aspects of the pattern of correlations between the subscales are especially interesting. The first is that laissez-faire and passive management-by-exception correlate positively (.47) with each other and negatively with all other dimensions, including active management-by-exception. The second interesting aspect is that the correlation between the other two dimensions of transactional leadership, contingent reward and active management-by-exception (.39), is slightly lower than their correlation with all the transformational dimensions (ranging from .40 to .54). Thus, both the contingent reward subdimension and the active management-by-exception subdimension correlate at least as high with transformational subdimensions as with each other (transactional subdimensions).

The correlations between the scales for the aggregated measures of transformational, transactional and *laissez-faire* leadership are given in Table 7. The correlation between transformational and transactional leadership is positive (.47). The measure for *laissez-faire* leadership correlates negatively with the transformational measure ($-.17$) and positively with the transactional measure (.18).

Factor analysis and empirical scales

An exploratory factor analysis was done to assess whether the factor structure described by Bass & Avolio (1989) would hold. Through principal component analysis different

Table 2. Scale statistics for Bass' measures of subdimensions of transformational, transactional and laissez-faire leadership

Transformational scales

   I   *Charisma:*
        12 items $\alpha = .93$
        Mean = 2.89
        SD   = .32
        average inter-item correlation .52 (variance = .03)
        range of item–total correlation .30 to .81

   II   *Inspiration:*
        4 items $\alpha = .72$
        Mean = 3.20
        SD   = .16
        average inter-item correlation .39 (variance = .05)
        range of item–total correlations .43 to .58

   III *Intellectual stimulation:*
        4 items $\alpha = .81$
        Mean = 2.98
        SD   = .18
        average inter-item correlation .52 (variance = .004)
        range of item–total correlations .56 to .70

   IV   *Individualized consideration:*
        4 items $\alpha = .75$
        Mean = 3.35
        SD   = .36
        average inter-item correlation .43 (variance = .01)
        range of item–total correlations .42 to .59

Transactional scales

   I   *Contingent reward:*
        4 items $\alpha = .78$
        Mean = 1.75
        SD   = .22
        average inter-item correlation .47 (variance = .005)
        range of item–total correlations .29 to .43

   II   *Active management-by-exception:*
        4 items $\alpha = .78$
        Mean = 3.07
        SD   = .25
        average inter-item correlation .48 (variance = .02)
        range of item–total correlations .50 to .67

   III *Passive management-by-exception:*
        4 items $\alpha = .58$
        Mean = 2.63
        SD   = .29
        average inter-item correlation .26 (variance = .01)
        range of item–total correlations .23 to .44

Non-leadership (laissez-faire) scale:

   I   *Laissez-faire:*
        4 items $\alpha = .49$
        Mean = 2.34
        SD   = .59
        average inter-item correlation .21 (variance = .04)
        range of item–total correlations .09 to .44

Table 3. Correlations between theoretical subdimensions of leadership

	CHAR	INSP	INTEL	INDC	CNTR	AMBE	PMBE	LAIS
CHAR	1.00							
INSP	.73**	1.00						
INTEL	.73**	.61**	1.00					
INDC	.75**	.61**	.67**	1.00				
CNTR	.49**	.40**	.50**	.40**	1.00			
AMBE	.54**	.50**	.48**	.47**	.39**	1.00		
PMBE	−.24**	−.22**	−.13**	−.19**	−.05	−.25**	1.00	
LAIS	−.19**	−.10**	−.08*	−.14**	−.00	−.12**	.47**	1.00

$*p < .05$; $**p < .01$ (two-tailed).
Key. CHAR = charisma; INSP = inspiration; INTEL = intellectual stimulation; INDC = individualized consideration; CNTR = contingent reward; AMBE = active management-by-exception; PMBE = passive management-by-exception; LAIS = laissez-faire.

solutions for the number of factors can be obtained. Well-interpretable solutions were the two-, three- and four-factor solution. When extracting more than four factors they are no longer interpretable theoretically, although seven factors have an eigenvalue larger than one. Two factors distinguish between active and passive leadership. The four-factor solution yields a transformational, a passive and two transactional factors, almost identical to contingent reward and active management-by-exception. The solution deemed most important in this study, mainly for theoretical reasons, was the three-factor solution. The three-factor solution gives three factors that are similar to the factors that Bass and associates describe. Thus, a transformational, a transactional and a laissez-faire factor were found. To avoid confusion *the three empirical factors* will be referred to as inspirational, rational–objective and passive leadership instead of transformational, transactional and laissez-faire leadership respectively.

In Tables 4, 5 and 6 the loadings of the items on the three empirical factors and the scale statistics are reported. Items that did not meet the criteria specified earlier, only six items in total, were discarded. The adapted instrument thus has 34 items. The three-factor solution explains 46.8 per cent of the total variance, 35.4 per cent is explained by the first factor, 6.5 per cent by the second and 4.9 per cent by the third. The first factor found is similar to the theoretical scale for transformational leadership. As stated the scale found in this study that closely resembles Bass' transformational leadership will be referred to as inspirational leadership to avoid confusion. As can be seen in Table 7, the correlation between Bass' tranformational scale and the inspirational leadership scale found here is high, .99. The inspirational scale has fewer items than the transformational scale, 18 items remained after carrying out factor analysis and comparison with the criteria. Factor analysis put several 'transformational items' in the rational–objective factor. Only one of these met the criteria and is thus regarded as rational–objective, or, transactional (item 35, Table 5). The scale statistics for inspirational leadership are, as expected after adapting the scale, slightly better than the same statistics for transformational leadership.

The α of *inspirational leadership* is .95, identical to the α of transformational leadership, but inspirational leadership has fewer items (18 vs. 24). The average inter-item correla-

Table 4. Loadings and item–total correlations of the items on Factor 1 (inspirational leadership, $\alpha = .95$) and scale statistics

Item number		Factor loading	Item–rest correlation
38	I have complete confidence in him/her ...	.82	.77
39	in my mind, he/she is a symbol of success and accomplishment ...	.78	.78
33	engages in words and deeds which enhances his/her image of competence ...	.75	.78
17	serves as a role model for me ...	.75	.77
32	instills pride in being associated with him/her ...	.75	.74
40	displays extraordinary talent and competence in whatever he/she decides ...	.75	.76
37	I am ready to trust him/her to overcome any obstacle ...	.73	.72
10	listens to my concerns ...	.72	.66
34	makes me aware of strongly held values, ideals, and aspirations which are shared in common ...	.72	.77
28	mobilizes a collective sense of mission ...	.70	.72
36	projects a powerful, dynamic, and magnetic presence ...	.68	.72
23	Shows how to look at problems from new angles ...	.63	.70
18	makes me back up my opinions with good reasoning ...	.61	.66
9	articulates a vision of future opportunities ...	.57	.63
16	provides advice when it is needed ...	.57	.61
19	introduces new projects and new challenges ...	.55	.58
3	treats me as an individual rather than just a member of the group ...	.55	.43
2	talks optimistically about the future ...	.48	.49
I	*Inspirational leadership:* 18 items	$\alpha = .95$	
	Mean = 3.00 SD = .34 average inter-item correlation .50 (variance = .01) range of item–total correlations .43 to .78		

tion of inspirational leadership (.50) is higher than the average inter-item correlation of transformational leadership (.44). The lowest item–rest correlation is also higher for inspirational leadership .46, compared with .32 for transformational leadership. The inspirational scale thus has a higher internal consistency than the transformational scale.

The factor found for transactional leadership, named *rational–objective leadership*, is similar to Bass' scale for transactional leadership without passive management-by-exception. The correlation between the two scales is considerable (.84, see Table 7). After factor analysis and application of the stipulated criteria, nine items are in the rational–objective scale. The scale statistics for rational–objective leadership are shown in Table 5. They are as expected after adapting the scale, better than those statistics for Bass' transactional leadership. The α of rational–objective leadership is .79, higher than the .60 α of transactional leadership. Rational–objective leadership has fewer items (9 vs. 12). The average inter-item correlation of rational leadership (.30) is not as high as the average inter-item

Table 5. Loadings and item–total correlations of the items on Factor 2 (rational-objective leadership, $\alpha = .81$) and scale statistics

Item number		Factor loading	Item–rest correlation
14	focuses attention on irregularities, mistakes, exceptions and deviations from what is expected of me . . .	.69	.46
30	keeps careful track of mistakes . . .	.65	.60
20	monitors performance for errors needing correction . . .	.63	.62
29	points out what I will receive if I do what is required . . .	.58	.54
25	tells me what to do to be rewarded for my efforts . . .	.56	.52
7	is alert for failure to meet standards . . .	.49	.45
6	works out agreements with me on what I will receive if I do what needs to be done . . .	.49	.45
12	talks about special rewards for good work . . .	.45	.36
35	demonstrates a strong conviction in his/her beliefs and values . . .	.39	.31
II	*Rational-objective leadership:* 9 items Mean = 2.54 SD = .79 average inter-item correlation .30 (variance = .02) range of item–total correlations .31 to .62	$\alpha = .79$	

correlation of inspirational leadership, but considerably higher than the average inter-item correlation of transactional leadership (.12). The item–rest correlations of rational–objective leadership as compared with transactional leadership are also higher. For rational–objective the range is .31 to .62, for transactional leadership −.07 to .46. The rational–objective scale thus has a higher internal consistency than the transactional scale. However, some of the statistics could still be improved upon.

The scale found for *laissez-faire leadership*, named passive leadership, forms a combination of Bass' scales for laissez-faire leadership and passive management-by-exception. One item from the subscale of laissez-faire did not meet the stipulated criteria and was left out of the passive leadership scale, seven items remained. The scale statistics for passive leadership are, as expected after adapting the scale, better than the same statistics for Bass' laissez-faire leadership. The α of passive leadership is .74, considerably higher than the .49 α of laissez-faire leadership, even though passive leadership has more items (7 vs. four). The average inter-item correlation of passive leadership (.30) is higher than the average inter-item correlation of laissez-faire leadership (.21). The range of item–rest correlations for the passive leadership items is .25 to .57 vs. a range of item–rest correlations from .09 to .44 for laissez-faire. The passive scale thus has a higher internal consistency than the laissez-faire scale. Some of the statistics could still be improved upon.

Correlations between the factors found in this study and Bass' factors

Table 7 shows the correlations of the three factors found in this study with each other and Bass' factors. The correlation of inspirational with rational–objective leadership is substantial, .62. It is higher than the correlation between Bass' transformational and trans-

Table 6. Loadings and item–total correlations of the items on Factor 3 (passive leadership, $\alpha = .72$) and scale statistics

Item number		Factor loading	Item–rest correlation
21	as long as work meets minimal standards, he/she avoids trying to make improvements . . .	.60	.45
22	avoids getting involved when important issues arise . . .	.60	.52
27	problems have to be chronic before he/she will take action . . .	.59	.54
4	things have to go wrong for him/her to take action . . .	.58	.49
26	avoids making decisions . . .	.55	.48
15	if I don't bother him/her, he/she doesn't bother me . . .	.48	.40
13	shows he/she is a firm believer in 'If it ain't broken, don't fix it.' . . .	.47	.28
III	*Passive leadership:*		
	7 items	$\alpha = .74$	
	Mean = 2.40		
	SD = .43		
	average inter-item correlation .30 (variance = .01)		
	range of item–total correlations .25 to .57		

actional leadership (.47). The reason for the lower correlation between those two is that the measure for passive management-by-exception, which correlates negatively with the other transactional and transformational subdimensions, is part of the measure of transactional leadership. This lowers the correlation. When Bass' transformational scale is correlated with rational–objective leadership (similar to transactional leadership not including passive management-by-exception) the correlation is .66, which is slightly higher than the correlation between inspirational and rational–objective leadership. The correlation of .62 between inspirational and rational–objective leadership is high but still leaves 64 per cent of the variance unexplained. The correlation between inspirational and transformational leadership (.99) is very high, as expected since the measures are very much alike. The correlations between rational and transactional and between laissez-faire and passive are somewhat lower (.84 and .76). This was to be expected since these scales were altered more than the transformational scale was.

Table 7. Correlations between the theoretical leadership scales and the leadership scales found in this study

	TRF	TRA	LF	INSP	RATIO	PASS
TRF	1.00					
TRA	.47**	1.00				
LF	−.17**	.18**	1.00			
INSP	.99**	.43**	−.18**	1.00		
RATIO	.66**	.84**	−.07*	.62**	1.00	
PASS	−.36**	.26**	.76**	−.37**	−.23**	1.00

$*p < .05$; $**p < .01$ (two-tailed).
Key. TRF = transformational leadership; TRA = transactional leadership; LF = *Laissez-faire* leadership; INSP = inspirational leadership; RATIO = rational–objective leadership; PASS = passive leadership.

Discussion

Three questions were addressed in this study. The first is whether the three main leadership concepts as defined by Bass (transformational, transactional and laissez-faire) can be found in the data collected with the Dutch version of the MLQ. To answer this question, first, the scales as developed by Bass were analysed. The analysis of these scales suggested that it was desirable to increase the internal consistency of the scales, especially the transactional and laissez-faire scales.

Two or three factors?

An exploratory factor analysis was done to see whether the factor structure as found by Bass would again appear in these data. One could argue that the only real distinction that can be found in leadership research is the distinction between the presence and the absence of leadership. Distinguishing between transactional and transformational leadership would then be an artifact. If a two-factor solution is forced on the data in this study, this pattern is indeed found, an active and a passive factor. However, more non-trivial factors can be found in the data. The three-factor solution yields a separate transactional and transformational factor within the active factor and a passive factor. These three factors were well interpretable from Bass' theoretical viewpoint, the Bass' framework is indeed found in the data, even through exploratory analyses.

The most important reasons to use the three-factor solution, rather than the mere active–passive leadership distinctions, are, first, the theoretical importance of the three factors and, second, the differential effects of the two active types of leadership (transformational and transactional) which have been found in many studies (see Bryman, 1992).

Can eight separate leadership dimensions be distinguished?

The second question addressed in this study is whether the four transformational and three transactional dimensions can be distinguished separately. Besides the two- and three-factor solution only the four-factor solution was interpretable within the Bass framework. The four-factor solution yields the inspirational, the passive and two transactional factors, namely contingent reward and active management-by-exception. The subdimensions of tranformational leadership as defined by Bass were not found in the data through exploratory factor analysis, transformational items group together differently.

Although the three-factor solution provides a useful research solution, distinguishing between different components of transformational leadership may remain useful, particularly for training purposes. One can use colourful and simple language to be more inspirational without being seen as individually considerate and vice versa. Thus, in certain circumstances, treating the components separately may be useful even though these behaviours tend to be correlated.

One factor for passive leadership?

The third question was whether the data support combining passive management-by-exception and laissez-faire leadership in one factor for passive leadership. The data give no reason to distinguish between the subdimensions laissez-faire and passive management-

by-exception. The expected grouping of passive management-by-exception and laissez-faire items is clear from the data, the passive management-by-exception and laissez-faire items are all in the passive factor. Also Bass' dimensions of laissez-faire and passive management-by-exception correlate positively with each other and negatively with all other subdimensions of transactional and transformational leadership (see Table 3). The theoretical distinction between laissez-faire and passive management-by-exception, made by Hater & Bass (1988), is thus not found empirically in this data set. The same correlation pattern between passive management-by-exception and laissez-faire leadership found in this study has been found in the United States (see Yammarino & Bass, 1990). Therefore, even if the theoretical distinction is of importance, it either cannot be measured clearly with the MLQ, or respondents do not perceive the difference. The two types of leadership are not only empirically but also theoretically related, as they are both extremely passive in nature, this opposed to all other measured dimensions that are active in nature.

Conclusion

Bass' framework for examining transformational and transactional leadership has produced an impressive array of findings over the last decade. Transformational leadership has been shown to play an important part in many of the outcomes that have traditionally been of interest to organizational researchers as well as practitioners. Central to Bass' measurement-based framework is the widely used Multifactor Leadership Questionnaire analysed in this study. From the results of this study it can be concluded that the Bass' framework distinguishing a transformational, a transactional and a laissez-faire factor is also found through exploratory analysis on a Dutch data set. In this study the internal consistency of two of the three scales of the MLQ as defined by Bass was not sufficient. We feel this is a result of the assumption in Bass' framework that passive management-by-exception belongs in the transactional and not in the laissez-faire factor. This assumption is not supported by the data. The question remains, can and should new items be written to distinguish between management-by-exception and laissez-faire leadership? According to Bass they refer to different components of leader behaviour, however, discriminating among them may call for preparing new items.

The three scales found in this study improve the internal consistency, first and foremost by combining passive management-by-exception and laissez-faire in one passive factor. The separate dimensions of transformational and transactional leadership were not found. The adapted instrument covers the same domain with fewer items.

Acknowledgement

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