



**Leadership Dimensions Questionnaire:
Organisation Context, Leader Performance
and Follower Commitment**

by

Victor Dulewicz and Malcolm Higgs

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Henley Management College
Greenlands
Henley-on-Thames
Oxon RG9 3AU

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ABSTRACT

This research note provides further data and analyses that develop further the work on the Leadership Dimensions Questionnaire (LDQ) reported by Dulewicz & Higgs (2003). The note reports analyses of a mixed sample of over 1000 respondents to the self-report LDQ. In particular it examines the relationship of the LDQ dimensions to three outcome scales: Context, Leader Performance and Follower Commitment. The analyses demonstrated clear linkages between LDQ dimensions and both Leader Performance and Follower Commitment. Overall the data presented provides further support for the use of the LDQ in a range of situations in both public and private sector organisations.

INTRODUCTION

This research note provides an update on the development of the Leadership Dimensions Questionnaire (LDQ) originally reported by Dulewicz & Higgs (2003) in a Henley Working Paper. It includes standardisation data and biographical analyses, based on a much larger sample (n = 1009) than was available for the original studies (222 & 414) and also reports additional information on a new section of the LDQ that was designed to measure:

- Leader Performance
- Follower Commitment
- and Organisational Context in relation to
- Leadership style

in order to increase our understanding of effective leadership.

Self-Rated Leader Performance

Although self-reports had generally been regarded as important sources of information in a wide variety of basic and applied contexts (e.g. opinion and attitude study, personnel selection, therapy outcome research), use of self-evaluations in assessments of own abilities had received relatively little research attention prior to 1982. Then a major review concluded that 'under certain measurement conditions, self evaluation of ability may closely correspond to performance on criterion measures' (Mabe & West, 1982, p.294). Since then, three general conclusions have been drawn surrounding self appraisal:

1. Self-ratings tend to be inflated, suffering from leniency and social desirability bias. (e.g. Podsakoff & Organ, 1986)
2. Self-ratings are less highly related to ratings by others (i.e., peers, supervisors or subordinates) than peers', supervisors' and subordinates' ratings are with each other. (Harris & Schaubroeck, 1988)
3. Accurate self-raters are superior performers compared to their less accurate counterparts. (e.g. Bass & Yammarino, 1991, Church, 1997)

However, enhancing the validity of self-rating often requires little more than 'simple modifications in the self evaluation instructions, e.g. using social comparison terminology

or instructing subjects that self evaluations were to be validated' (Mabe & West, 1982, p.294). The extension of this is the finding that 'self-ratings from well designed personality questionnaires can produce data that are related to boss's ratings of actual job performance' (Dulewicz, 1992, p.4).

The LDQ contains a self-assessment of leadership performance containing six items covering: followers' effort, capability and flexibility and overall team performance and impact. A factor analysis revealed two components, broadly reflecting followers' individual contributions and team output respectively (Dulewicz & Higgs, 2003/4; 2005).

Organisational Commitment of Followers

Transformational and charismatic leadership are partly derived from their effects on followers (Bass 1985, 1990, & 1997; Burns, 1978; House, 1977; Tichy & Devanna, 1990; Bryman, 1992; Conger & Kanungo, 1998; Shamir, House & Arthur, 1993 and Shamir, Zakay & Popper, 1998), albeit that internalisation of the goal appears most important for transformational leadership and personal identification most important for charismatic leadership (Shamir, 1999). But within these similar paradigms the common factor is that the leader 'induces a high degree of loyalty, commitment, and devotion in the followers' (Bass, 1990, p.205). Assessing this follower commitment must therefore be fundamental to a better understanding of leadership within the study environment.

In operationalising their model of transformational leadership in the Multifactor Leadership Questionnaire, Bass & Avolio produced evidence (Bass, 1990, pp.218-219) to demonstrate that the subordinates of more transformational leaders felt that:

- They worked in more highly effective groups.
- Their groups had a greater impact on the organisation.
- They exerted more individual effort.

In producing their Follower Commitment scale, Dulewicz and Higgs (2003; 2005) combined these attitudinal and affective aspects of commitment with measures of the more rational calculative type of commitment, in line with findings by Cooke and Wall (1980) and Mathieu and Zajac (1990). Consequently, the Organisational Commitment scale contains five items 'designed to assess the degree of commitment that followers show to

the organisation and to the team in which they work, covering job satisfaction; realism; commitment to requisite change and to the organisation; and understanding the need for change' (Dulewicz & Higgs, 2004; 2005).

Organisational Context

Since Tannenbaum and Schmidt (1958) first described *'How to Chose a Leadership Pattern'*, the importance of the situation or context has been central to leadership style theory. More recently, successfully implementing change is often seen as the defining action of a leader (see for example Kotter, 1990; White, Hodgson & Crainer, 1996; Higgs & Rowland, 2001). Within this paradigm, the leader-centric behaviours of the Goal-oriented style have been shown to be 'not related to successful change but also they impaired change implementation' (Higgs & Rowland, 2003, p.2). By contrast 'as complexity of the context increased, a more facilitative style of leadership became necessary for success' (Dulewicz & Higgs, 2004; 2005).

The LDQ has an embedded context scale that allows analysis of the suitability of certain styles, by providing a measure of change faced by the organisation. The scale reflects five separate components:

1. a general fundamental need to change;
2. fundamental change of the organisation/business;
3. the need for followers to change;
4. specific pressures from the business environment; and
5. an unstable context. (Source: Dulewicz & Higgs, 2004; 2005)

The components of the Organisational Context scale capture *the impact of change* in the wider environment as well as in the organisation's culture (Pettigrew, 1979; Schien, 1985; Hofstede, Neuijen, Ohayv & Saunders, 1990) and climate (Litwin & Stringer, 1968; Taguri & Litwin, 1968). This reflects Dulewicz and Higgs's (2003) dynamic leadership model within which 'it is feasible that a change in leadership behaviour may lead to a different strategic approach being adopted by the organisation' (p.10).

Leadership Styles

Building on the work of others, particularly Bass (1985; 1990) and Alimo-Metcalf & Alban-Metcalf (2001), Dulewicz & Higgs (2003; 2005) identify three different leadership styles within their model (based on their extensive literature review):

1. **Engaging Leadership.** A style based on a high level of empowerment and involvement appropriate in a highly transformational context. Such a style is focused on producing radical change with high levels of engagement and commitment.
2. **Involving Leadership.** A style that is based on a transitional organisation which faces significant but not radical changes in its business model or “modus operandi”.
3. **Goal Leadership.** A style that is focused on delivering results within a relatively stable context. This is a leader-led style aligned to a stable organisation delivering clearly understood results.

The profile for each style, based upon the range (high, medium or low) of scores obtained on the 15 LDQ dimensions, is reproduced at Table 1.

METHOD

The LDQ was completed by just over 1000 managers and senior officers who attended Henley’s main programmes (MBA & DBA and In-company) as well as from large public and private sector organisations between May 2002 and March 2004.

Sample

The average age of the 1009 respondents was 38.1 years (SD 7.0). A large majority of the sample was male (76.5%) and a minority (23.5%) female. Just over one-half of respondents (52.1%) worked in the Public/Not-for-profit Sector, primarily in the Armed Forces, Civil Service and NHS, and just under one-half (47.9%) worked in the Private Sector, across the entire spectrum of companies from large multi-nationals to SMEs. Looking at the functions in which they worked, 27.7% were General Managers, 9.8% were in Sales/Marketing, 10.6% in Finance, 7.2% in Technical and 36.4% in ‘other’ functions. The last percentage was high because many public sector staff do not work in the traditional functional areas. As regards their *highest* qualifications, 29.8% had a first degree, 23.6% had a higher degree and another 18.4% had a professional qualification. Turning finally to the

nationality of the respondents, 78.8% were from the UK, 10.6% were from the rest of Europe and the remaining 10.6% were from other parts of the world. Full biographical details of the sample (N = 1009) are presented in Table 1.

RESULTS

Biographical Data

In order to investigate possible differences on three main biographical factors – gender, sector and job function - on the context, performance and commitment scale scores, t-tests were conducted on these groups.

As noted above, an *Organisational Context* scale (which has become section II of the LDQ) was designed to examine the degree and nature of change and volatility in their working environment that respondents perceive they face in their role as a leader. From the t-tests results reported in Table 3 relating to biographical differences, it can be seen that Females and Private Sector staff perceive higher levels of change than Males and those working in the Public Sector.

The *Leader Performance* scale provides a self-assessment of leadership performance. It contains six items, covering followers' effort, capability and flexibility and overall team performance and impact. Regarding biographical differences, the results of t-tests reported in Table 3 showed that Public Sector staff rate their performance higher than those in the Private Sector but there were no gender and job function differences.

The *Follower Commitment* scale covers job satisfaction; realism; commitment to requisite change and to the organisation; and understanding the need for change. No gender, job function or sector differences were found, as can be seen from the results in Table 3.

Context, Leader Performance, Follower Commitment & LDQ Dimensions

Inter-Correlations

Correlations between these measures are reported in Table 4, based on scores from a subsample of around 650. The results showed that those who perceived greater change were significantly more likely to attain higher scores on eight LDQ Dimensions: Critical Analysis,

Vision, Perspective, Achieving Self-awareness (negative), Motivation, Sensitivity and Intuitiveness. Statistically significant correlations were also found between self-assessed Leader Performance and all 15 LDQ Dimensions; and between self-assessed Follower Commitment and 14 of the Dimensions, the exception being Intuitiveness.

Regression & Hierarchical Regression

Multiple Regression Analyses were conducted on each of the LDQ subscales by entering the IQ, EQ and MQ groups of items separately. Then, in order to investigate the correlation findings further, in terms of the IQ + EQ + MQ model upon which the LDQ is designed, and to test Goleman's (1996) original proposition that IQ + EQ = success, separate hierarchical regression analyses were conducted on the three LDQ subscales.

The results of the simple Regression, with Context as the Independent Variable (I.V.), are presented in Table 5. Of the Dependent Variables, IQ items accounts for 4.2% of the total Context variance (R Squared expresses as a percentage), EQ items for 10% and MQ items for 6.2%.

The Hierarchical Regression results also reported in Table 5 show that the IQ scales model accounts for 3.7% of the variance on Context and is significant initially. However, introducing the MQ scales adds a further 11% to the variance explained, which is a significant contribution. The five MQ variables add a further 3.3% also a significant addition, so that the 15 LDQ in total account for 18% of the total variance on the context scale.

The results with Self-rated Leadership as the I.V. are presented in Table 6. The IQ items accounts for 19.9% of the total Context variance, EQ items for 11.9% and MQ items for 25.7%.

Hierarchical Regression analysis was also conducted on the Self-rated Leadership performance scale (see Table 6), with similar results to Context, in that each group of LDQ scales, IQ, EQ and MQ, added significantly to the overall variance. However, much more of the total variance (28.5%) on the performance scale was explained. IQ accounted for 12.8%, EQ for an additional 6.9% and MQ for an additional 8.7%.

The regression analysis results with Follower Commitment as the I.V. are presented in Table 7. This time, all three groups accounted independently for around 10% of the total variance on Follower Commitment - the IQ items account for 10.8%, EQ items for 9.2% and MQ items for 10.9%.

The results of the hierarchical regression analysis on Follower Commitment are presented in Table 7 and show less of the total variance (13.8%) is explained than on the other two sub-scales. The three IQ scales account for 9.9% of the variance and the seven EQ scales add 2.5%, a statistically significant increment but the five MQ scales only add a further 1.4%, an increment which is not significant.

DISCUSSION

A sample of over 1000 managers and senior officers means that a robust and comprehensive standardisation sample exists for producing the norms for the LDQ report writer. Furthermore, separate norms can be produced for Gender, based on 772 males and 237 females; and for Sector, based on 483 managers working in the private sector and 526 senior officers working in the public and not-for-profit sectors.

Turning to biographical differences in the three new LDQ subscales, and focusing first on Organisational Context, women perceive a greater change in their context than men. There do not appear to be obvious reasons why this should be so and further research into this finding seems desirable. Private sector staff also perceive greater change than those working in the public sector and this does seem to support quite a widely held view that the degree of change faced by private sector organisations is more fundamental than in the public sector. The private sector mean of 70.14 falls just below the Transformation Change range (74+) whereas the public sector mean of 66 is around the midpoint of the 'significant change' range in the LDQ model.

The only significant difference found on the Leader Performance scale was for Sector and in this instance, the public sector officers' mean score was significantly higher than private sector managers'. Some would argue that leadership is of a higher standard in the public

sector since much trouble is taken to develop leadership, especially in the Senior Civil Service and the Royal Navy, organisations in which a high proportion of the respondents worked. However, further research into this finding would also seem to be called for.

Turning to Follower Commitment, no significant differences were found between public and private sector, gender or job function.

The subscales were further investigated by correlating those scores with the 15 LDQ dimension scores. With Context, it was found that all three IQ dimensions were significantly positively correlated but only one MQ scale (Achieving) and two EQ scales (Motivation and Intuitiveness), although one other EQ scale (Self-awareness) was significantly *negatively* correlated. It is almost self-evident that those who score highly on Vision, Strategic Perspective and Critical Analysis have the intellectual faculties to enable them to perceive the context and the degree of change more widely and accurately, and also perhaps those who are more intuitive. However, it is not quite so obvious why those who are more highly achievement-motivated (Achieving and Motivation) and those who are more sensitive and *less* self-aware are also so disposed. Furthermore, while the IQ, EQ and MQ models all add significantly to the variance explained by hierarchical regression analysis on the context scores, all 15 LDQ dimensions taken together only account for 18% and so much of the variance is accounted for by other factors which are concerned with the actual context experienced and not by personal characteristics.

Self-rated Performance, Follower Commitment and LDQ Scores

It should be emphasised at the outset that these subscale scores are derived from self-assessment and not from a 360° assessment by Followers and so the problems of intra-method ratings apply. Notwithstanding, a study by Young & Dulewicz (2004) on a large sample (n= 261) of naval officers found a statistically significant correlation between LDQ self-rated performance and actual performance ratings from the formal RN appraisal process. Thus, the value of the self-appraised performance should be given some credence.

In this study all 15 LDQ dimensions were highly statistically significantly (0.1% level) related to self-rated performance. The highest individual correlations (>.40) were in the

MQ area, specifically Managing Resources, Communication and Developing. These were the characteristics that were most closely associated with being an effective leader, as seen through his/her own eyes. The results of simple regression analysis support the importance of the MQ Dimensions since they explained 28.5% of the total variance, compared to 17.9% for IQ and only 11.9% for EQ Dimensions. Notwithstanding, hierarchical regression results showed that IQ, EQ and MQ clusters *each* explained significant incremental variance taken separately, whilst overall they explained being 26.6% of the variance.

Turning to Follower Commitment, all LDQ dimensions apart from Intuitiveness were significantly correlated with the scores from that subscale, but the co-efficients were not as large as for Performance. Furthermore, unlike Performance, results from the simple Regression showed that the IQ, EQ & MQ subgroups each accounted for around 10% of the total variance. Therefore, it is surprising that results from the Hierarchical Regression analysis showed that IQ, EQ and MQ together accounted for only 13.8% of the variance and that, while EQ dimensions did add significant variance to IQ, MQ did not. These findings merit further research.

CONCLUSION

In this paper, research findings on the new LDQ subscales measuring Organisational Context, Follower Commitment and Leader Performance have been presented. Furthermore, standardisation data are available, based on a sample of more than 1000 managers. The norms produced constitute a comprehensive sample of middle and senior managers from around the world (Dulewicz and Higgs, 2003). The results of this research provide support for use of the LDQ in a range of situations, in both public and private sector organisations. A unique feature of the LDQ is the opportunity it provides to relate profiles of the scores across the 15 Dimensions to three different leadership styles and in turn to the degree of organisational volatility faced by the leader. The relevance of each style is dependent on the context within which leadership is exercised. The Context scale in part II of the questionnaire provides a reliable measure to help respondents identify the style that is most appropriate for their role in the current organisational context. New sub-

scales designed to measure Leader Performance and Follower Commitment have also been produced to facilitate further research into the LDQ questionnaire.

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Table 1. Goal Oriented, Engaging & Involving Styles of Leadership from LDQ Dimensions

LDQ Dimension	Low	Medium	High
Critical Analysis & Judgement		EI	G
Vision & Imagination		E	GI
Strategic Perspective		EI	G
Engaging Communication		G I	E
Managing Resources	E	I	G
Empowering	G	I	E
Developing		GI	E
Achieving		EI	G
Self-awareness		G	EI
Emotional Resilience			GEI
Motivation			GEI
Interpersonal Sensitivity		GI	E
Influence		G	EI
Intuitiveness		GI	E
Conscientiousness			GEI

Note: G = Goal Oriented; E = Engaging; I = Involving.
Source: Dulewicz & Higgs (2004; 2005)

Table 2. Biographical Data on LDQ Standardisation Sample (N = 1009)

Age		Mean	SD
		38.07	6.99
Gender		N	%
	Male	772	76.5
	Female	237	23.5
	Total	1009	100
Sector			
	Private	483	47.9
	Public	504	50.0
	Not-for-Profit	22	2.1
	Total	1009	100
Job Function			
	General Management	279	27.7
	Marketing / Sales	99	9.8
	HR & Training	40	4.0
	Finance	107	10.6
	R & D	11	1.1
	Manuf / Operations	33	3.3
	Technical/IT	73	7.2
	Other	367	36.4
	Total	1009	100
Qualification (highest)			
	None	5	0.5
	GCSE	49	4.9
	O Levels/ONC	81	8.0
	A Levels/HNC	149	14.8
	1st Degree	301	29.8
	Higher Degree	238	23.6
	Professional Qualification	186	18.4
	Total	1009	100
Nationality			
	UK	795	78.8
	Eire	18	1.8
	Europe	56	5.6
	Scandinavia	32	3.2
	Africa/ Caribbean	17	1.7
	Asia / Pacific	37	3.7
	North America	13	1.3
	Central / South America	3	0.3
	India	3	0.3
	Australia/ NZ	16	1.6
	S Africa	5	0.5
	Other	14	1.4
	Total	1009	100

Table 3: t-tests on Context, Performance and Commitment by Biographical variables

LDQ Scales	Biodata	Group Statistics			Independent Samples Test		
		N	Mean	SD	t	df	Sig. Level
LDQ sub-scales by Gender							
Organisational Context	Female	133	69.47	11.57	2.18	646	0.03
	Male	515	66.90	12.29			
Leader Performance	Female	134	23.85	2.73	0.20	650	0.85
	Male	518	23.80	2.98			
Follower Commitment	Female	135	17.84	2.49	-0.05	650	0.96
	Male	517	17.86	2.39			
LDQ sub-scales by Sector							
Organisational Context	Public/NFP	426	66.01	12.23	-4.14	646	0.00
	Private	222	70.14	11.64			
Leader Performance	Public/NFP	427	24.10	2.88	3.60	650	0.00
	Private	225	23.24	2.94			
Follower Commitment	Public/NFP	427	17.79	2.45	-0.88	650	0.38
	Private	225	17.97	2.33			
LDQ sub-scales by Job Function							
Organisational Context	Other	238	69.62	11.72	-1.63	387	0.10
	Gen Mgr	151	71.58	11.26			
Leader Performance	Other	240	23.33	2.97	-1.85	391	0.07
	Gen Mgr	153	23.88	2.67			
Follower Commitment	Other	241	17.83	2.33	-0.70	391	0.48
	Gen Mgr	152	18.00	2.37			

Table 4. Correlations between Context, Performance, Commitment and LDQ Dimensions

LDQ Dimensions		Context	Performance	Commitment
Critical Analysis & Judgement	r	0.14	0.25	0.26
	Sig.	0.00	0.00	0.00
Vision & Imagination	r	0.20	0.32	0.26
	Sig.	0.00	0.00	0.00
Strategic Perspective	r	0.16	0.30	0.27
	Sig.	0.00	0.00	0.00
Managing Resources	r	0.00	0.42	0.30
	Sig.	0.95	0.00	0.00
Engaging Communication	r	-0.03	0.46	0.29
	Sig.	0.41	0.00	0.00
Empowering	r	0.04	0.36	0.26
	Sig.	0.31	0.00	0.00
Developing	r	0.02	0.43	0.25
	Sig.	0.61	0.00	0.00
Achieving	r	0.20	0.22	0.20
	Sig.	0.00	0.00	0.00
Self-awareness	r	-0.18	0.32	0.24
	Sig.	0.00	0.00	0.00
Emotional Resilience	r	-0.07	0.35	0.25
	Sig.	0.07	0.00	0.00
Motivation	r	0.09	0.32	0.25
	Sig.	0.02	0.00	0.00
Interpersonal Sensitivity	r	0.08	0.25	0.21
	Sig.	0.03	0.00	0.00
Influencing	r	0.02	0.28	0.19
	Sig.	0.59	0.00	0.00
Intuitiveness	r	0.13	0.14	0.08
	Sig.	0.00	0.00	0.06
Conscientious	r	0.04	0.26	0.22
	Sig.	0.37	0.00	0.00
	N	648	652	651

Correlation is significant at the 0.05 level (2-tailed).
Correlation is significant at the 0.01 level (2-tailed).

Table 5: Regression Analysis - LDQ IQ, EQ & MQ Dimensions & Context Rating

Regression (Enter)

	R	R Square	Adjusted R Square
IQ Model	0.206	0.042	0.038
EQ Model	0.316	0.100	0.089
MQ Model	0.249	0.062	0.055

Hierarchical IQ + EQ + MQ Model Summary

Model	R	R Square	Adjusted R Square	Change Statistics:				
				R Square	F Change	df1	df2	Sig. F Change
1 IQ	0.192	0.037	0.032	0.037	7.57	3	595	0.00
2 EQ	0.383	0.147	0.132	0.110	10.85	7	588	0.00
3 MQ	0.424	0.180	0.158	0.033	4.63	5	583	0.00

Table 6: Regression Analysis - LDQ IQ, EQ & MQ Dimensions & Self-rated Performance

Regression (Enter)

	R	R Square	Adjusted R Square
IQ Model	0.424	0.179	0.170
EQ Model	0.344	0.119	0.115
MQ Model	0.507	0.257	0.252

Hierarchical IQ + EQ + MQ Model Summary

Model	R	R Square	Adjusted R Square	Change Statistics:				
				R Square	F Change	df1	df2	Sig. F Change
1 IQ	0.358	0.128	0.124	0.128	29.31	3	599	0.00
2 EQ	0.444	0.197	0.184	0.069	7.31	7	592	0.00
3 MQ	0.534	0.285	0.266	0.087	14.33	5	587	0.00

Table 7: Regression Analysis - LDQ IQ, EQ & MQ Dimensions & Self-Rated Follower Commitment

Regression (Enter)

	R	R Square	Adjusted R Square
IQ Model	0.328	0.108	0.097
EQ Model	0.303	0.092	0.087
MQ Model	0.331	0.109	0.102

Hierarchical IQ + EQ + MQ Model Summary

Model	R	R Square	Adjusted R Square	Change Statistics:				
				R Square	F Change	df1	df2	Sig. F Change
1 IQ	0.315	0.099	0.094	0.099	21.92	3	599	0.00
2 EQ	0.353	0.124	0.109	0.025	2.45	7	592	0.02
3 MQ	0.371	0.138	0.116	0.014	1.86	5	587	0.10