

Leadership Practices Inventory (LPI) Data Analysis September 2010

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This document provides a current psychometric analysis of the LPI and concludes that

"The LPI continues to be a reliable and valid instrument."

A breakdown of the LPI data using various demographic variables is also provided.

The current sample includes data from over 1.3 million respondents, and was collected through the LPI Online between 2005 and 2009. Demographic information is voluntarily provided by approximately one in five respondents.

Proper citation of this report would be

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RELIABILITY

Reliability of the LPI was tested through analysis of internal reliability (Table 1). All five leadership practices had consistently strong internal reliability coefficients, for both the Self and Observers formats. Cronbach alpha coefficients greater than .70 are generally regarded as very good.

Table 1
Internal Reliability Coefficients (Cronbach alpha)
for the Five Practices of Exemplary Leaders

	MTW	ISV	CTP	EOA	ETH
All Respondents (N = 1,152,716)	.85	.92	.86	.86	.92
Self (N = 282,867)	.84	.91	.86	.86	.91
All Observers (N = 869,849)	.85	.92	.87	.87	.92
Managers (N = 133,015)	.82	.91	.85	.83	.90
Co-Workers (N = 330,067)	.85	.92	.87	.86	.91
Direct Reports (N = 276,336)	.87	.92	.87	.89	.92
Others (N = 130,431)	.85	.91	.87	.86	.91

VALIDITY

Analysis of validity was tested in several ways. A “positive workplace attitude” scale was created, using responses from Observers only. Respondents were asked 10 questions (using five-point Likert scales) regarding their feelings of and assessments about their level of team spirit, organizational pride, behavioral commitment, motivation, productivity, clarity of expectations, trust in management, appreciation, personal as well as workplace effectiveness. Internal reliability (Cronbach alpha) for the Positive Workplace Attitude scale was 0.92.

The correlations shown in Table 2 between Positive Workplace Attitude and the Five Practices of Exemplary Leadership were all statistically significant ($p < .001$).

Table 2
Correlations of Positive Workplace Attitude with
Five Leadership Practices
[LPI-OBSERVER Responses Only]

	MTW	ISV	CTP	EOA	ETH
Positive Workplace Attitude	.32	.29	.29	.31	.29

Three approximately equal-sized groups were created on the Positive Workplace Attitude (PWA) scale, representing weak, moderate and strong PWA groupings. The data in Table 3 reveals that as constituents (observers) report greater levels of engagement

by their leaders in *each* of The Five Practices of Exemplary Leaders that they also report feeling more strongly (favorably) about their workplaces (as reported in greater feelings about their motivation, productivity, commitment, effectiveness, and the like). All differences (ANOVA) between the three PWA groups were statistically significant ($p < .001$).

Table 3
 Analysis of Variance on Five Practices of Exemplary Leadership
 by Positive Workplace Attitude (PWA) Across
 Weak, Moderate and Strong Categories

LEADERSHIP PRACTICE	MEAN	STD DEVIATION
MODEL THE WAY		
Weak PWA	42.16	9.83
Moderate PWA	47.16	7.72
Strong PWA	51.40	7.13
INSPIRE A SHARED VISION		
Weak PWA	38.69	11.58
Moderate PWA	44.18	9.76
Strong PWA	49.20	9.17
CHALLENGE THE PROCESS		
Weak PWA	40.14	10.43
Moderate PWA	45.12	8.55
Strong PWA	49.47	8.11

ENABLE OTHERS TO ACT

Weak PWA	45.25	9.70
Moderate PWA	49.81	7.13
Strong PWA	53.39	6.27

ENCOURAGE THE HEART

Weak PWA	40.85	11.50
Moderate PWA	46.28	9.42
Strong PWA	51.01	8.53

NOTE: Sample sizes for each group were as follows: Weak PWA = 64,937; Moderate PWA = 80,231; and, Strong PWA = 68,922

Table 4 (below) reveals that as constituents (observers) report greater levels of Transformational Leadership (as assessed by the linear combination of their leader's frequency of engagement in The Five Practices of Exemplary Leadership) they report feeling more strongly (favorably) about their workplaces. Differences between the three groups were statistically significant ($p < .001$).

Table 4

Analysis of Variance on Transformational Leadership (Five Leadership Practices Combined) by Positive Work Attitudes (PWA) Across Weak, Moderate and Strong Categories

TRANSFORMATIONAL

LEADERSHIP	MEAN	STD DEVIATION
Weak PWA	207.08	46.71
Moderate PWA	232.55	36.86
Strong PWA	254.47	34.51

DEMOGRAPHIC VARIABLES ACCOUNT FOR LITTLE VARIANCE IN LEADERSHIP OR IMPACT

Regression analysis was used to examine whether or not variances in leadership practices could be accounted for by possible differences across respondents. The following 10 demographic variables were entered into the regression equation with each of the five leadership practices as the dependent variable (only responses from observers/constituents were used):

- Age
- Education
- Ethnicity
- Gender
- Geographical location
- Functional area
- Hierarchical level
- Industry classification
- Length of time with company
- Size of organization (number of employees)

As Table 5 illustrates, these various demographic variables accounted for no more than one percent of the explained variance in any one of the five leadership practices. Even when combining together all five practices (“transformational leadership”) the amount of explained variance provided by these 10 demographic variables is still only around one percent. In other words, little to

no explained variance in leadership practices is provided by understanding various demographic variables about the respondent. Alternatively, demographic characteristics of respondents do not explain their observations about the frequency to which their leaders engage in the Five Practices of Exemplary Leaders.

Table 5
Regression Analysis of Leadership Practices
By 10 Demographic Variables:
[LPI-OBSERVER Responses Only]

Leadership Practice	R	R ²
Model the Way	.105	.011
Inspire a Shared Vision	.129	.017
Challenge the Process	.093	.009
Enable Others to Act	.104	.011
Encourage the Heart	.109	.012
Transformational Leadership (All Practices Combined)	.117	.014

Further analysis, shown in Table 6, reveals that demographic variables provide little explanatory power in understanding Positive Workplace Attitudes (PWA). With PWA as the dependent variable, the contribution of the 10 demographic variables to explained variance, by themselves, is a little over one-half percent ($R^2 = .006$). The addition of the five leadership practices increases the amount of PWA variance explained to 22.5 percent ($\Delta R^2 = .219$).

As the results in Table 6 demonstrate an explanation for why respondents (observers) feel favorably attached and engaged in their workplace is *not* explained by who they are themselves (demographically) but by the leadership practices they experienced being engaged in by their leaders.

Table 6
Regression Analysis on Positive Workplace Attitudes
by Demographic Variables (10)
and Leadership Practices (5)
[LPI-OBSERVER Responses Only]

Positive Workplace Attitudes	R	R ²	ΔR ²
Demographic Variables	.078	.006	
Leadership Practices	.483	.233	.227

**DESCRIPTIVE LPI DATA
ACCORDING TO VARIOUS RESPONDENT
CHARACTERISTICS**

This next section provides descriptive information about the leadership practices of respondents across a variety of demographic variables. The first table in this section (#7) shows the rank order of the 30 leadership behavior statements, from least to most frequent, for both Self and Observers. The remaining tables provide LPI data based upon various demographic characteristics and may be useful when comparing specific groups of respondents with others with similar backgrounds and/or characteristics. Still, it should be noted that *overall demographic*

information provides little in the way of explaining why some people feel engaged (positive workplace attitudes) and some do not feel engaged.

Table 7: Rank Order of LPI Behavioral Statements

The table below provides a listing of each behavioral statement on the LPI in rank order for both SELF respondents and their OBSERVERS, based upon average scores.

Table 7
Means and Standard Deviations (SD) for
all LPI Statements in Rank Order (least to most frequent) for
Self and Observers

Question	Practice	Self		Observer	
		Mean	SD	Mean	SD
Q16	MTW	6.42	2.45	6.51	2.48
Q17	ISV	6.64	2.29	6.80	2.26
Q7	ISV	6.84	2.22	6.92	2.22
Q12	ISV	6.86	2.27	6.94	2.27
Q28	CTP	6.93	2.17	6.96	2.21
Q25	ETH	7.14	2.21	7.24	2.22
Q15	ETH	7.15	2.22	7.25	2.21
Q13	CTP	7.20	2.16	7.31	2.13
Q8	CTP	7.24	2.06	7.31	2.07
Q18	CTP	7.43	2.08	7.47	2.11
Q20	ETH	7.50	2.16	7.58	2.16
Q2	ISV	7.51	1.94	7.55	1.96
Q29	EOA	7.55	2.05	7.57	2.08
Q26	MTW	7.55	2.21	7.59	2.22
Q21	MTW	7.59	1.98	7.68	1.94

Q10	ETH	7.64	1.96	7.67	2.00
Q22	ISV	7.64	2.02	7.67	1.94
Q3	CTP	7.78	1.86	7.80	1.90
Q27*	ISV	7.80	2.13	7.81	2.14
Q23	CTP	7.83	1.91	7.91	1.91
Q6	MTW	7.88	1.80	8.00	1.78
Q19*	EOA	7.95	1.67	7.95	1.73
Q30	ETH	7.96	1.91	7.99	1.96
Q24*	EOA	8.10	1.82	8.11	1.85
Q9*	EOA	8.14	1.75	8.14	1.82
Q5	ETH	8.15	1.80	8.12	1.87
Q1	MTW	8.36	1.59	8.31	1.65
Q4	EOA	8.58	1.60	8.52	1.68
Q11	MTW	8.71	1.47	8.66	1.53
Q14	EOA	9.11	1.37	9.04	1.46

Analyses (*t*-tests) indicated that the two groups (Self vs. Observers) were statistically different from one another ($p < .001$) on all of the statements with the exception of four statements (9, 19, 24, and 27) identified by an asterisk.

Table 8: Leadership Practices by Type of Respondent

This table shows the average score and standard deviation for each leadership practice by respondent type or category: Self, Observers, Managers, Co-Workers, Direct Reports, or Other.

Table 8
Leadership Practices by Respondent Type
Means (Standard Deviations)

MTW ISV CTP EOA ETH

Self (N = 282,883)	46.51 (6.92)	43.29 (10.74)	44.41 (9.40)	49.43 (7.81)	45.54 (10.22)
All Observers (N = 869,873)	46.76 (8.86)	43.70 (10.82)	44.76 (9.54)	49.32 (8.20)	45.86 (10.42)
Managers (N = 133,031)	46.29 (7.75)	41.84 (10.10)	44.16 (8.56)	48.66 (6.95)	45.22 (9.24)
Co-Workers (N = 330,113)	46.46 (8.71)	43.06 (10.81)	44.49 (9.46)	48.65 (8.22)	45.34 (10.29)
Direct Reports (N = 276,268)	46.82 (9.45)	44.70 (11.07)	44.89 (10.07)	50.18 (8.70)	46.23 (11.16)
Others (N = 130,461)	47.87 (8.64)	45.07 (10.61)	45.78 (9.46)	49.84 (7.99)	47.01 (10.12)

All comparisons (*t*-tests) between Self respondents and Observer respondents (as a group) were statistically different ($p < .001$). Observers generally had higher (more frequently engaged in) average scores than Self respondents for Model, Inspire, Challenge and Encourage but not for Enable.

All comparisons (*t*-tests) between Self and Managers, Self and Co-Workers, Self and Direct Reports, and Self and Observers were statistically different ($p < .001$).

All comparisons (ANOVA) between Observers (Managers, Co-Workers, Direct Reports, and Others) were statistically different ($p < .001$). Generally, responses from Others were higher than the other three groups; Direct Reports were higher than those from Co-Workers and Managers. Responses from Co-Workers were higher than Managers, except for Enable (not statistically different).

Table 9: Leadership Practices by Respondent’s Hierarchical Position or Level (OBSERVERS)

This table displays the average scores and standard deviations by leadership practice according to the hierarchical position of the respondent (executive, middle management, supervisory management or individual contributor), using data only from observers.

Table 9
Leadership Practices by Respondent Hierarchical Position
Means (Standard Deviations)
[LPI-Observer Responses Only]

	MTW	ISV	CTP	EOA	ETH
Individual Contributor (N = 59,209)	47.24 (9.35)	44.44 (11.32)	45.23 (10.13)	50.07 (8.58)	46.56 (10.98)
Supervisory Mgt (N = 48,189)	46.87 (8.71)	43.95 (10.70)	44.86 (9.43)	49.28 (8.20)	45.90 (10.35)
Middle Management (N = 55,698)	46.84 (8.64)	43.87 (10.66)	44.89 (9.37)	49.19 (8.17)	45.76 (10.25)
Executive Mgt (N = 49,486)	47.35 (9.14)	44.49 (11.09)	45.29 (9.92)	50.01 (8.40)	46.69 (10.66)

All comparisons (ANOVA) between respondents by hierarchical position were statistically different ($p < .001$) for all five leadership practices.

Responses from Executives were statistically different from Middle Management and Supervisory Management on all five leadership practices, and more frequent than both groups except for Encouraging. Responses from Individual Contributors and Executive Management were not statistically different on any leadership practice. Responses from Supervisory and Middle Management were not statistically different for any of the leadership practices. Responses from Supervisory and Middle Management were significantly different (lower) from Individual Contributors on all five leadership practices.

Table 10: Leadership Practices by Respondent’s Hierarchical Position or Level (SELF)

This table displays the average scores and standard deviations by leadership practice according to the hierarchical position of the respondent (executive, middle management, supervisory management or individual contributor), using data only from Self respondents.

Table 10
Leadership Practices by Respondent Hierarchical Position
Means (Standard Deviations)
[LPI-SELF Responses Only]

	MTW	ISV	CTP	EOA	ETH
Individual Contributor (N = 23,415)	46.98 (9.57)	44.16 (11.63)	45.00 (10.39)	50.11 (8.70)	46.30 (11.30)
Supervisory Mgt (N = 11,446)	46.98 (8.68)	43.56 (10.88)	44.53 (9.61)	49.82 (7.91)	46.00 (10.32)

Middle Management (N = 25,683)	46.62 (8.12)	43.55 (10.20)	44.74 (8.87)	49.36 (7.40)	45.50 (9.75)
Executive Mgt (N = 11,072)	47.14 (8.07)	44.51 (9.94)	45.41 (8.73)	49.31 (7.42)	46.08 (9.37)

All comparisons (ANOVA) between respondents by hierarchical position were more statistically different ($p < .001$) for all five leadership practices.

Responses from Executive Management were different (more frequent) on Inspire and Challenge from the three other hierarchical levels. They were also different (more frequent) from Middle Management on Model and Encourage and different (less frequent) on Enable than Supervisory Management and Individual Contributors.

Middle Managers were statistically different (less frequent) from Supervisory Managers on Model, Enable and Encourage. They were different (less frequent) than Individual Contributors on all five leadership practices. Supervisory Management was different (less frequent) on Inspire, Challenge, Enable and Encourage than Individual Contributors.

Tables 11-13: Leadership Practices by Gender

These tables show the responses on the LPI on the basis of the respondent's gender. Table 11 compares all male respondents with all female respondents. Table 12 compares males and females using only Self data while Table 13 compares males and females using data only from observers.

Table 11
Leadership Practices by Gender of Respondent
Means (Standard Deviations)

	MTW	ISV	CTP	EOA	ETH
All Males (N = 160,478)	46.55 (8.60)	43.36 (10.67)	44.46 (9.32)	49.20 (8.05)	45.54 (10.18)
All Females (N=124,171)	47.72 (9.21)	45.19 (11.10)	45.84 (10.02)	50.30 (8.44)	47.04 (10.85)

All comparisons (*t*-tests) between Male and Female respondents were statistically different ($p < .001$) for all five leadership practices. Average scores of Females were higher than those of Males for all five leadership practices.

Table 12
Leadership Practices by Gender of Respondent
Means (Standard Deviations)
[LPI-SELF Responses Only]

	MTW	ISV	CTP	EOA	ETH
Males (N = 40,403)	46.39 (8.42)	43.19 (10.50)	44.34 (9.14)	49.25 (7.74)	45.22 (10.05)
Females (N = 31,319)	47.59 (8.98)	44.92 (10.98)	45.71 (9.84)	50.29 (8.10)	46.95 (10.55)

Comparisons (*t*-tests) between Male and Female SELF respondents were statistically different ($p < .001$) for all five leadership practices. Female responses were higher (more frequent) than those of male respondents.

Table 13
Leadership Practices by Gender of Respondent
Means (Standard Deviations)
[LPI-OBSERVER Responses Only]

	MTW	ISV	CTP	EOA	ETH
Males (N = 120,075)	46.60 (8.66)	43.42 (10.73)	44.50 (9.38)	49.18 (8.15)	45.64 (10.22)
Females (N = 92,852)	47.77 (9.29)	45.28 (11.14)	45.89 (10.08)	50.31 (8.55)	47.07 (10.95)

All comparisons (*t*-tests) between Male and Female OBSERVER respondents were statistically different ($p < .001$) for all five leadership practices. Average scores of Females were higher than those of Males for all five leadership practices.

Tables 14: Leadership Practices by Age (SELF)

This table shows the responses on the LPI on the basis of the respondent's age, using data only from SELF respondents. Four age categories were created for this analysis: Under 33 years of age, between 33 to 40 years of age, between 41-49 years of age, and 50 years of age and older.

Table 14
 Leadership Practices by Age of Respondent
 Means (Standard Deviations)
 [LPI-SELF Responses Only]

	MTW	ISV	CTP	EOA	ETH
Under 33 years (N = 13,182)	46.86 (8.88)	44.43 (10.79)	45.19 (9.58)	50.06 (8.07)	46.35 (10.47)
33 to 40 years (N = 18,563)	46.44 (8.62)	43.54 (10.67)	44.72 (9.33)	49.39 (7.84)	45.45 (10.21)
41 to 49 years (N = 22,080)	46.70 (8.56)	43.49 (10.68)	44.57 (9.41)	49.39 (7.85)	45.60 (10.18)
50 years & older (N = 18,348)	47.61 (8.77)	44.48 (10.89)	45.34 (9.65)	50.06 (8.00)	46.60 (10.45)

All comparisons (ANOVA) between SELF respondents by their age group were statistically different ($p < .001$) for all five leadership practices.

For Model, the six differences between groups were statistically significant ($p < .01$) with the exception of those under 33 years of age and those in their forties. For Inspire, Challenge, Enable, and Encourage the six differences between groups were statistically significant ($p < .01$) with two exceptions: Those under 33 years of age compared with those in their fifties and between the latter and those in their forties.

Table 15 and Table 16: Leadership Practices in the United States by Respondent’s Ethnicity

These two tables look at comparisons on the five leadership practices on the basis of the respondent's ethnic background, using data from United States respondents only. Analyses by Self and Observers are shown separately, and include comparisons between Caucasian respondents and non-Caucasian respondents (often referred to as "people of color"). Respondents selecting the category of "Other" are assumed to be multi-racial.

Table 15
Leadership Practices by Ethnicity
of Respondents from the United States
Means (Standard Deviations)
[LPI-SELF Responses Only]

	MTW	ISV	CTP	EOA	ETH
Asian/ Pacific Islander (N = 3,638)	46.62 (9.11)	43.78 (10.97)	44.84 (9.81)	49.54 (8.16)	46.52 (10.18)
Black/African American (N = 4,569)	49.87 (8.58)	47.66 (10.38)	47.19 (9.78)	51.50 (7.79)	49.16 (9.93)
Hispanic (N = 3,231)	48.18 (9.18)	45.77 (10.95)	46.08 (10.14)	50.54 (8.45)	47.56 (10.60)
Native American (N = 495)	47.83 (8.55)	45.46 (10.18)	45.56 (9.71)	49.85 (8.46)	46.67 (10.14)
Other (N = 2,412)	46.29 (9.91)	43.87 (11.64)	44.27 (10.78)	48.67 (9.46)	45.54 (11.43)

White/Caucasian (N = 45,160)	46.99 (8.60)	43.95 (10.74)	45.07 (9.40)	49.76 (7.88)	45.93 (10.32)
People of Color (N = 14,345)	47.98 (9.20)	45.54 (10.99)	45.80 (10.10)	50.25 (8.42)	47.44 (10.50)

All comparisons (ANOVA) by Ethnicity classifications were statistically different ($p < .001$) on all five leadership practices for SELF respondents. In addition, all comparisons (t-tests) between Caucasians and People of Color (combining all of the other ethnic groups as non-Caucasians) were statistically different ($p < .001$). People of Color reported significantly higher or more frequent engagement in all five leadership practices compared with their Caucasian counterparts.

Asian/Pacific Islanders were statistically different on all five leadership practices compared with Blacks and Hispanics. Their responses were different from Native Americans on Model and Inspire, were different from Caucasians on Model and Encourage, and different from Others on Enable and Encourage.

Black/African Americans were statistically different from Hispanics, Native Americans, Caucasians, and Others on all five leadership practices.

Hispanics were not statistically different on any of the five leadership practices compared with Native Americans. They were significantly different from Caucasians and Others on all five leaderships.

Native Americans were statistically different from Caucasians on Inspire, and different from Others on Inspire, as well as Challenge and Enable.

Caucasians were different from Others on the leadership practices of Model, Challenge, and Enable.

Table 16
 Leadership Practices by Ethnicity
 of Respondents from the United States
 Means (Standard Deviations)
 [LPI-OBSERVER Responses Only]

	MTW	ISV	CTP	EOA	ETH
Asian/ Pacific Islander (N = 10,566)	46.38 (9.44)	43.48 (11.05)	44.52 (10.37)	49.25 (8.52)	46.25 (10.68)
Black/African American (N = 11,012)	49.82 (9.22)	47.51 (11.05)	47.03 (10.37)	51.34 (8.52)	48.99 (10.69)
Hispanic (N = 8,941)	48.40 (9.28)	46.10 (10.97)	46.21 (10.23)	50.54 (8.54)	47.66 (10.88)
Native American (N = 1,467)	47.85 (9.17)	44.71 (11.30)	45.36 (10.14)	49.68 (8.58)	46.54 (10.86)
Other (N = 6,672)	46.52 (9.87)	43.95 (11.67)	44.45 (10.63)	48.79 (9.58)	45.90 (11.39)
White/Caucasian (N = 138,411)	47.32 (8.90)	44.42 (10.91)	45.37 (9.64)	49.85 (8.26)	46.40 (10.57)
People of Color	47.91	45.36	45.65	50.08	47.31

(N = 38,662) (9.52) (11.35) (10.38) (8.87) (10.93)

All comparisons (ANOVA) by Ethnicity were statistically different ($p < .001$) for all five leadership practices for OBSERVER respondents. In addition, all comparisons (t -tests) between Caucasians and People of Color (combining all of the other ethnic groups as non-Caucasians) were statistically different ($p < .001$). People of Color reported significantly higher or more frequent engagement in all five leadership practices compared with their Caucasian counterparts.

Asian/Pacific Islanders were statistically different on all five leadership practices from Blacks, Hispanics, Caucasians (except for Encourage) and Native Americans (except for Enable and Encourage). Compared with Others the only differences were on Inspire and Enable.

Black/African Americans were statistically different on all five leadership practices from all other ethnic respondent categories.

Hispanics were statistically different on all five leadership practices from Asians, Blacks, Caucasians, Others, and also from Native Americans (except for Model).

Native Americans were statistically different on all five leadership practices from Asians, Blacks, and also from Hispanics (except for Model). Their responses were statistically different from Others on Inspire, Challenge and Enable. Their responses were not statistically different from Caucasians on any of the leadership practices.

Others were statistically different on all five leadership practices from Blacks, Hispanics, and Others. Their responses were statistically different from Caucasians on all the leadership practices except for Enable, and with Native Americans with the

exception of Encourage. The only statistically significant differences with Asian/Pacific Islanders were on Inspire and Enable.

Table 17: Leadership Practices by Educational Level (SELF)
 This table shows the responses on the five leadership practices as a function of educational level, using data only from Self respondents. Three categories were created: No college degree, college degree, and graduate degree obtained.

Table 17
 Leadership Practices by Educational Level of Respondents
 Means (Standard Deviations)
 [LPI-SELF Responses Only]

	MTW	ISV	CTP	EOA	ETH
No College Degree (N = 15,654)	47.67 (9.06)	44.95 (10.89)	44.94 (10.07)	50.01 (8.47)	46.60 (10.82)
College Degree (N = 28,891)	46.56 (8.67)	43.50 (10.77)	44.59 (9.42)	49.43 (7.88)	45.61 (10.32)
Graduate Degree (N = 26,727)	46.82 (8.46)	43.81 (10.61)	45.26 (9.16)	49.78 (7.61)	45.96 (9.98)

All comparisons (ANOVA) between Self respondents by level of education were statistically different ($p < .001$) for all five leadership practices. Likewise, all comparisons between these three categories were statistically different. The least frequent scores on all five leadership practices were those holding a college degree, compared with those without a college degree and those

with a graduate degree. Those without a college degree reported the most frequent scores on Model, Inspire, Enable and Encourage.

Table 18: Leadership Practices by Tenure (Length of Time with the Organization) (SELF)

This table shows the responses on the five leadership practices on the basis of the tenure or length of time the respondent has been with the organization, using data from Self respondents only. Four categories were created: 3 years or less, 3 to 5 years, 5 to 10 years and, More than 10 years.

Table 18
Leadership Practices by Tenure
Means (Standard Deviations)
[LPI-SELF Responses Only]

	MTW	ISV	CTP	EOA	ETH
3 years or less (N = 18,283)	47.15 (8.79)	44.73 (10.72)	45.41 (9.50)	50.14 (8.03)	46.59 (10.33)
3 to 5 years (N = 10,805)	46.70 (8.72)	43.86 (10.81)	44.93 (9.46)	49.60 (7.95)	45.84 (10.49)
5 to 10 years (N = 15,880)	46.52 (8.71)	43.54 (10.81)	44.71 (9.45)	49.47 (7.92)	45.51 (10.35)
More than 10 years (N = 15,880)	46.98 (8.64)	43.57 (10.72)	44.65 (9.53)	49.50 (7.89)	45.78 (10.23)

All comparisons (ANOVA) between respondents by length of time with their organizations (tenure) were statistically different ($p < .001$) for all five leadership practices.

Those with the least amount of time with their organizations (3 or less years) were significantly different from the only three tenure categories on all five leadership practices, with one exception. They did not differ from the longest serving group on Model. They reported engaging in each of the five practices significantly more than respondents in any of the three other tenure categories.

Those with 3 to 5 years of service were significantly different on Inspire and Encourage compared to those with 5-10 years of service. Compared with those having more than 10 years of tenure, this category differed on the leadership practices of Model, Inspire, and Challenge.

Respondents with 5-10 years of tenure differed significantly from those with more than 10 years of service on Model and Encourage.

Table 19 and Table 20: Leadership Practices by Organizational Size (Number of Employees within the Organization)

These tables show the responses on the five leadership practices on the basis of organization size, as determined by the number of employees in the respondent's organization. Four organizational size categories were created: Small (less than 100 employees), Medium (100- 499 employees), Large (500 – 4,999 employees) and Very Large (5,000 or more employees). Table 19 shows the results using responses from Self respondents only and Table 20 presents the results for Observer responses.

Table 19
 Leadership Practices by
 Size of Respondent's Organization
 Means (Standard Deviations)
 [LPI-SELF Responses Only]

	MTW	ISV	CTP	EOA	ETH
Small (N = 14,905)	47.13 (9.04)	44.78 (10.88)	45.34 (9.74)	49.84 (8.26)	46.43 (10.58)
Medium (N = 14,865)	46.91 (8.94)	43.93 (10.96)	44.73 (9.86)	49.50 (8.31)	45.87 (10.54)
Large (N = 19,651)	46.83 (8.66)	43.78 (10.78)	44.78 (9.47)	49.64 (7.93)	45.83 (10.32)
Very Large (N = 21,596)	46.71 (8.33)	43.38 (10.47)	44.81 (9.06)	49.66 (7.45)	45.71 (10.00)

All comparisons (ANOVA) between Self respondents on the basis of the size of their organizations (number of employees) were statistically different ($p < .001$) for all five leadership practices.

Respondents from Small sized organizations differed from those from Medium sized organizations on Inspire, Challenge, Enable and Encourage. They differed from their counterparts in Large and Very Large organizations on the leadership practices of Model, Inspire, Challenge and Encourage.

There were no significant differences between respondents from Medium sized organizations and those in Large organizations. The

only leadership practice that differed significantly between Medium and Very Large sized organizations was Inspire.

The only significant difference between respondents from Large sized organizations and from those in Very Large organizations was on the leadership practice of Inspire.

Table 20
Leadership Practices by
Size of Respondent's Organization
Means (Standard Deviations)
[LPI-OBSERVER Responses Only]

	MTW	ISV	CTP	EOA	ETH
Small (N = 42,424)	47.33 (9.41)	45.10 (11.13)	45.47 (10.09)	49.82 (8.77)	46.73 (10.87)
Medium (N = 39,301)	46.90 (9.22)	44.16 (11.05)	44.83 (9.96)	49.41 (8.60)	46.05 (10.72)
Large (N = 56,541)	46.92 (8.56)	43.85 (10.97)	44.83 (9.73)	49.49 (7.98)	45.90 (10.66)
Very Large (N = 72,015)	47.13 (8.56)	43.93 (10.75)	45.14 (9.35)	49.76 (7.98)	46.27 (10.25)

All comparisons (ANOVA) between Observer respondents on the basis of the size of their organizations (number of employees) were statistically different ($p < .001$) for all five leadership practices.

Respondents from Small sized organizations were statistically different from Moderate and Large sized organizations on all five leadership practices. They were different from Very Large sized organizations on Model, Inspire, Challenge and Encourage.

The only significant difference between respondents from Medium sized organizations and from those in Large sized organizations was on the leadership practice of Inspire. However, Medium sized organizational respondents were different from their counterparts in Very Large sized organizations on all five leadership practices.

Respondents from Large sized organizations statistically differed on Model, Challenge, Enable, and Encourage compared to those in Very Large sized organizations. They differed on all five leadership practices compared with those in Small sized organizations, and on the leadership practice of Inspire with those in Medium sized organizations.

The respondents in Very Large sized organizations differed on Model, Challenge and Encourage with their counterparts in the other three company-size categories. They also differed from Small and Medium sized company respondents on Inspire, and with the latter on Enable, as well as on Enable with those from Large sized organizations.

Table 21 and Table 22: Leadership Practices by Geographical Regions

These tables show the responses on the five leadership practices on the basis of the respondent's geographical region (nationality). A total of 64 different countries were represented by the respondents. For analytical purposes respondents were grouped into major geographical areas (according to the United Nations Composition of Macro-Geographical Regions (Americas, with the U.S., Canada and Latin America and the Caribbean kept separately, Europe,

Asia, and Oceania, consisting of Australia and New Zealand). A separate analysis compared respondents from the United States with all of those from outside of the United States. Table 21 presents the results using responses from Self respondents only, while Table 22 shows the results using only Observer responses.

Table 21
Leadership Practices by
Geographical Regions (Nationality)
Means (Standard Deviations)
[LPI-SELF Responses Only]

	MTW	ISV	CTP	EOA	ETH
Canada (N = 1,429)	44.58 (7.08)	41.39 (9.04)	43.51 (7.72)	49.31 (5.99)	43.92 (8.51)
Latin Amr/Crb (N = 5,183)	46.25 (9.00)	43.31 (10.86)	44.36 (9.59)	49.28 (8.30)	45.48 (10.66)
Europe (N = 4,175)	45.19 (8.51)	42.12 (10.39)	42.98 (9.22)	48.24 (8.06)	44.32 (10.08)
Asia (N = 3,746)	45.40 (7.57)	42.12 (9.47)	43.60 (8.10)	48.63 (6.98)	44.42 (9.04)
Oceania (N = 1,155)	44.90 (8.40)	42.10 (10.49)	42.89 (8.95)	48.37 (7.76)	44.42 (9.80)
United States (N = 59,497)	47.16 (8.84)	44.21 (10.94)	45.16 (9.67)	49.80 (8.08)	46.18 (10.49)
Outside the U.S. (N = 15,688)	45.51 (8.36)	42.44 (10.25)	43.63 (8.96)	48.78 (7.72)	44.67 (9.90)

All comparisons (ANOVA) by Geographical Regions were statistically different ($p < .001$) for all five leadership practices for SELF respondents. In addition, all comparisons (t -tests) between United States respondents and those from Outside the U.S. (combining all of the other regions) were statistically different ($p < .001$). U.S. respondents reported significantly higher or more frequent engagement in all five leadership practices compared with their counterparts outside of the United States.

Respondents in the United States were significantly different from respondents in the other five regions all five leadership practices, with the exception of Enable with Canadian respondents.

Canadian respondents were significantly different on Model, Inspire, Challenge, and Encourage from their counterparts in Latin American. Their only difference from European and Oceania respondents were on the leadership practice of Enable. Comparisons with Asian respondents revealed differences on Model and Enable.

Respondents from Latin America and the Caribbean differed from the respondents in all of the other regions consistently on all five leadership practices, with one exception. They were not significantly different on Enable compared with Canadians.

European respondents showed significant differences on all five leadership practices with their U.S. and Latin America/Caribbean counterparts. They were also different on Challenge with Asians, and on Enable with Canadians.

Respondents from Asia differed significantly from U.S. and Latin American/Caribbean respondents across all five leadership practices. Differences were found between them and Canadian

respondents on Model and Enable; and with European respondents on Challenge.

Respondents from the Oceania region differed significantly from U.S. and Latin American/Caribbean respondents across all five leadership practices. Differences were also found between them and Canadian respondents on Enable.

Table 22
 Leadership Practices by
 Geographical Regions (Nationality)
 Means (Standard Deviations)
 [LPI-OBSERVER Responses Only]

	MTW	ISV	CTP	EOA	ETH
Canada (N = 14,035)	45.79 (9.00)	42.80 (11.06)	45.38 (9.82)	49.02 (8.51)	44.99 (10.82)
Latin Amr/Crb (N = 2,635)	46.66 (8.74)	44.44 (10.48)	45.11 (9.38)	49.60 (7.89)	46.31 (9.87)
Europe (N = 7,511)	45.10 (8.68)	42.08 (10.42)	43.39 (9.24)	47.62 (8.54)	45.16 (9.63)
Asia (N = 18,665)	45.33 (8.13)	42.27 (9.85)	43.46 (8.62)	48.31 (7.64)	44.41 (9.53)
Oceania (N = 3,098)	45.23 (8.41)	42.29 (10.52)	42.84 (9.17)	48.26 (8.28)	44.36 (10.20)
United States (N = 180,620)	47.40 (9.07)	44.54 (11.07)	45.38 (9.85)	49.83 (8.44)	46.50 (10.71)

Outside the U.S. (N = 45,944)	45.50 (8.56)	42.52 (10.42)	43.60 (9.19)	48.49 (8.14)	44.82 (10.03)
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All comparisons (ANOVA) by Geographical Regions were statistically different ($p < .001$) for all five leadership practices for OBSERVER respondents. In addition, all comparisons (t -tests) between United States respondents and those from Outside the U.S. (combining all of the other countries) were statistically different ($p < .001$). U.S. respondents reported significantly higher or more frequent engagement in all five leadership practices compared with their counterparts outside of the United States.

Respondents in the United States were significantly different from respondents in Canada, Europe, Asia and the Oceania on all five leadership practices. The only difference with their Latin American/Caribbean counterparts was on the leadership practice of Model.

Respondents from Canada were significantly different from respondents in the other five regions on all five leadership practices, with one exception. They did not differ from their European counterparts on the leadership practice of Encourage.

Respondents from Latin America and the Caribbean differed from the respondents in all of the other regions consistently, except for the U.S., on all five leadership practices. Their only difference from U.S. respondents was on Model.

European respondents showed significant differences on all five leadership practices with their U.S. and Latin America/Caribbean counterparts. They were also different on Model, Inspire, Challenge and Enable with Canadians. They differed significantly

as well with on Challenge with Oceania respondents, and on Enable and Encourage with both the latter region and with Asians.

Respondents from Asia differed significantly from U.S., Canadian, and Latin American/Caribbean respondents across all five leadership practices. Differences were found between them and European respondents on Enable and Encourage; and on Challenge compared with Oceania respondents.

Respondents from the Oceania region differed significantly from U.S., Canadian, and Latin American/Caribbean respondents across all five leadership practices. Differences were also found between them and European respondents on Challenge, Enable, and Encourage. Their only significant difference with Asians was on the leadership practice of Challenge.

Table 23: Leadership Practices by Functional Area

This table shows the response on the five leadership practices on the basis of the functional area of the respondent, for both Self and Observer responses. Analyses indicate whether the responses from the Self and Observer respondents by functional area are statistically the same or different (*t*-test; significance two-tailed).

Table 23
Leadership Practices by
Functional Area for Self and Observers

CONSTRUCTION

Leadership Practice	Self		Observer		<i>t</i> -test
	Mean	StdDev	Mean	StdDev	<i>p</i>
Model	46.56	8.96	46.25	9.72	n.s.
Inspire	43.20	10.66	43.14	11.35	n.s.
Challenge	44.58	9.30	44.02	10.25	n.s.
Enable	49.36	8.32	48.52	9.24	.015
Encourage	44.83	10.77	44.72	11.26	n.s.

ENGINEERING

Leadership Practice	Self		Observer		<i>t</i> -test
	Mean	StdDev	Mean	StdDev	<i>p</i>
Model	44.78	8.62	45.65	8.73	.001
Inspire	40.77	10.90	41.85	11.04	.001
Challenge	43.06	9.32	43.87	9.46	.001
Enable	48.93	7.55	49.08	8.14	n.s.
Encourage	43.59	10.31	44.44	10.52	.001

FINANCE/TREASURY

Leadership Practice	Self		Observer		<i>t</i> -test
	Mean	StdDev	Mean	StdDev	<i>p</i>
Model	46.27	8.49	46.46	9.67	n.s.
Inspire	42.66	10.61	43.10	10.79	.011
Challenge	44.15	9.36	44.41	9.46	n.s.
Enable	49.33	7.61	49.16	8.18	n.s.
Encourage	44.90	10.16	45.31	10.52	.014

HUMAN RESOURCES

Leadership Practice	Self		Observer		<i>t</i> -test
	Mean	StdDev	Mean	StdDev	<i>p</i>
Model	47.10	8.15	47.52	8.88	n.s.
Inspire	44.12	10.22	44.43	10.97	n.s.
Challenge	45.22	9.00	45.46	9.62	n.s.
Enable	50.07	7.48	50.08	8.17	n.s.
Encourage	46.43	9.83	46.78	10.48	n.s.

IT/INFORMATION SYSTEMS

Leadership Practice	Self		Observer		<i>t</i> -test
	Mean	StdDev	Mean	StdDev	<i>p</i>
Model	45.76	8.64	45.87	9.00	n.s.
Inspire	42.45	10.77	42.56	10.99	n.s.
Challenge	44.19	9.14	44.09	9.60	n.s.
Enable	49.31	7.67	49.22	8.29	n.s.
Encourage	44.78	10.38	44.96	10.80	n.s.

MANAGEMENT

Leadership Practice	Self		Observer		<i>t</i> -test
	Mean	StdDev	Mean	StdDev	<i>p</i>
Model	47.65	8.14	47.62	8.48	n.s.
Inspire	44.90	10.11	44.91	10.44	n.s.
Challenge	45.51	9.02	45.55	9.26	n.s.
Enable	49.85	7.47	49.53	8.05	.001
Encourage	46.63	9.59	46.69	9.38	n.s.

MANUFACTURING

Leadership Practice	Self		Observer		<i>t</i> -test
	Mean	StdDev	Mean	StdDev	<i>p</i>
Model	45.22	8.18	46.51	8.63	.001
Inspire	42.09	10.48	43.60	10.75	.001
Challenge	43.74	8.88	44.94	9.40	.001
Enable	48.28	7.32	49.29	8.07	.001
Encourage	43.82	9.66	45.80	10.21	.001

MARKETING

Leadership Practice	Self		Observer		<i>t</i> -test
	Mean	StdDev	Mean	StdDev	<i>p</i>
Model	45.84	8.62	46.03	8.70	n.s.
Inspire	42.85	10.78	42.89	10.77	n.s.
Challenge	44.53	9.21	44.27	9.50	n.s.
Enable	48.94	7.74	48.64	8.24	n.s.
Encourage	45.20	10.30	45.00	10.39	n.s.

OPERATIONS

Leadership Practice	Self		Observer		<i>t</i> -test
	Mean	StdDev	Mean	StdDev	<i>p</i>
Model	47.13	8.53	47.17	9.05	n.s.
Inspire	43.97	10.65	44.17	11.09	n.s.
Challenge	44.75	9.55	44.72	9.98	n.s.
Enable	49.57	8.00	49.52	8.49	n.s.
Encourage	45.88	10.38	46.10	10.78	n.s.

RESEARCH AND DEVELOPMENT

Leadership Practice	Self		Observer		<i>t</i> -test
	Mean	StdDev	Mean	StdDev	<i>p</i>
Model	44.68	8.52	44.93	9.09	n.s.
Inspire	41.53	10.83	41.43	11.36	n.s.
Challenge	43.85	9.13	43.96	9.64	n.s.
Enable	49.00	7.30	48.50	8.45	.025
Encourage	44.09	10.02	44.07	10.73	n.s.

SALES

Leadership Practice	Self		Observer		<i>t</i> -test
	Mean	StdDev	Mean	StdDev	<i>p</i>
Model	47.03	8.42	47.80	8.78	.001
Inspire	44.65	10.15	45.72	10.47	.001
Challenge	45.05	9.19	45.75	9.52	.001
Enable	49.31	8.08	49.88	8.28	.001
Encourage	46.86	9.85	47.70	10.04	.001

Table 24: Leadership Practices by Industry

This table shows the response on the five leadership practices on the basis of the industry that the respondent is working in, for both Self and Observer responses. Analyses indicate whether the responses from the Self and Observer respondents by functional area are statistically the same or different (*t*-test; significance two-tailed).

Table 24
Leadership Practices by Industry
for Self and Observers

AEROSPACE AND AIRLINES

Leadership Practice Model	Self		Observer		<i>t</i> -test
	Mean	StdDev	Mean	StdDev	<i>p</i>
Inspire	43.14	10.26	43.49	10.58	n.s.
Challenge	44.72	8.63	45.10	9.24	n.s.
Enable	49.54	7.20	49.73	8.05	n.s.
Encourage	45.35	9.85	45.76	10.34	n.s.

AUTOMOTIVE

Leadership Practice Model	Self		Observer		<i>t</i> -test
	Mean	StdDev	Mean	StdDev	<i>p</i>
Inspire	42.19	10.17	43.81	10.56	.001
Challenge	43.93	8.76	44.89	9.44	.017
Enable	48.94	7.46	48.76	8.80	n.s.
Encourage	44.48	9.49	45.29	10.73	n.s.

BANKING/FINANCIAL SERVICES

Leadership Practice Model	Self		Observer		<i>t</i> -test
	Mean	StdDev	Mean	StdDev	<i>p</i>
Inspire	43.35	10.01	43.85	10.42	.001
Challenge	44.54	8.62	44.79	9.15	.018
Enable	49.53	7.13	49.44	8.84	n.s.
Encourage	45.70	9.48	46.10	10.00	.001

COMPUTERS

Leadership Practice Model	Self		Observer		<i>t</i> -test
	Mean	StdDev	Mean	StdDev	<i>p</i>
Inspire	42.59	10.07	42.88	10.86	n.s.
Challenge	44.75	8.40	44.84	9.22	n.s.
Enable	49.41	7.22	49.40	8.03	n.s.
Encourage	45.27	9.78	45.64	10.28	n.s.

EDUCATION

Leadership Practice Model	Self		Observer		<i>t</i> -test
	Mean	StdDev	Mean	StdDev	<i>p</i>
Inspire	46.63	10.80	46.86	11.08	n.s.
Challenge	46.81	9.99	46.83	10.22	n.s.
Enable	50.74	8.55	50.71	8.23	n.s.
Encourage	47.76	10.65	47.82	10.96	n.s.

GOVERNMENT/MILITARY

Leadership Practice Model	Self		Observer		<i>t</i> -test
	Mean	StdDev	Mean	StdDev	<i>p</i>
Inspire	43.20	11.52	43.52	11.47	.019
Challenge	44.46	10.14	44.66	10.24	n.s.
Enable	49.81	8.35	49.87	8.46	n.s.
Encourage	46.05	10.76	46.19	10.88	n.s.

HOSPITALITY

Leadership Practice Model	Self		Observer		<i>t</i> -test
	Mean	StdDev	Mean	StdDev	<i>p</i>
Inspire	44.77	10.19	45.14	10.61	n.s.
Challenge	45.16	9.18	45.64	9.47	n.s.
Enable	49.27	8.20	49.60	8.48	n.s.
Encourage	46.11	10.52	46.98	10.10	n.s.

MEDICAL/HEALTHCARE

Leadership Practice Model	Self		Observer		<i>t</i> -test
	Mean	StdDev	Mean	StdDev	<i>p</i>
Inspire	45.44	10.56	46.08	10.72	.001
Challenge	45.93	9.54	46.44	9.80	.001
Enable	50.27	7.90	50.66	8.22	.001
Encourage	46.84	10.18	47.68	10.43	.001

PETROLEUM

Leadership Practice Model	Self		Observer		<i>t</i> -test
	Mean	StdDev	Mean	StdDev	<i>p</i>
Inspire	43.02	10.21	42.59	10.52	n.s.
Challenge	44.51	8.55	43.92	9.23	n.s.
Enable	49.49	7.24	49.10	8.10	n.s.
Encourage	44.98	9.90	44.79	10.46	n.s.

PHARMACEUTICALS

Leadership Practice Model	Self		Observer		<i>t</i> -test
	Mean	StdDev	Mean	StdDev	<i>p</i>
Inspire	42.60	10.37	42.56	11.20	n.s.
Challenge	44.29	9.06	43.91	9.90	n.s.
Enable	48.97	7.29	48.84	8.48	n.s.
Encourage	45.00	9.90	44.98	10.62	n.s.

PUBLISHING

Leadership Practice Model	Self		Observer		<i>t</i> -test
	Mean	StdDev	Mean	StdDev	<i>p</i>
Inspire	42.52	11.58	42.59	11.12	n.s.
Challenge	44.33	9.85	44.22	9.52	n.s.
Enable	48.12	8.51	48.27	8.70	n.s.
Encourage	43.77	11.09	44.73	10.66	n.s.

RETAILING

Leadership Practice Model	Self		Observer		<i>t</i> -test
	Mean	StdDev	Mean	StdDev	<i>p</i>
Inspire	44.38	10.31	45.16	10.47	n.s.
Challenge	45.37	9.01	45.27	9.32	n.s.
Enable	49.69	8.13	49.45	8.50	n.s.
Encourage	46.30	10.00	46.52	10.51	n.s.

REAL ESTATE

Leadership Practice	Self		Observer		<i>t</i> -test
	Mean	StdDev	Mean	StdDev	<i>p</i>
Model	47.23	8.40	47.48	9.45	n.s.
Inspire	44.98	10.06	45.28	11.20	n.s.
Challenge	45.43	8.99	45.56	9.96	n.s.
Enable	49.47	7.78	50.04	8.56	.011
Encourage	46.31	10.22	47.10	10.84	.007

SOCIAL SERVICES

Leadership Practice	Self		Observer		<i>t</i> -test
	Mean	StdDev	Mean	StdDev	<i>p</i>
Model	47.77	8.73	48.00	8.76	n.s.
Inspire	45.51	10.34	45.54	10.63	n.s.
Challenge	45.47	9.71	45.76	9.69	n.s.
Enable	50.45	8.09	50.51	8.11	n.s.
Encourage	47.23	10.31	47.95	10.22	n.s.

TELECOMMUNICATIONS

Leadership Practice	Self		Observer		<i>t</i> -test
	Mean	StdDev	Mean	StdDev	<i>p</i>
Model	46.24	8.57	47.29	9.04	.001
Inspire	42.68	10.69	43.65	11.24	.001
Challenge	44.00	9.51	44.97	9.97	.001
Enable	49.17	7.70	49.39	8.42	n.s.
Encourage	45.53	10.21	46.49	10.54	.001

TRANSPORTATION

Leadership Practice	Self		Observer		<i>t</i> -test
	Mean	StdDev	Mean	StdDev	<i>p</i>
Model	45.98	8.83	46.40	8.90	n.s.
Inspire	42.31	11.11	42.89	11.08	n.s.
Challenge	43.64	9.83	44.04	9.92	n.s.
Enable	48.80	8.28	48.84	8.51	n.s.
Encourage	44.31	10.79	44.93	10.59	n.s.