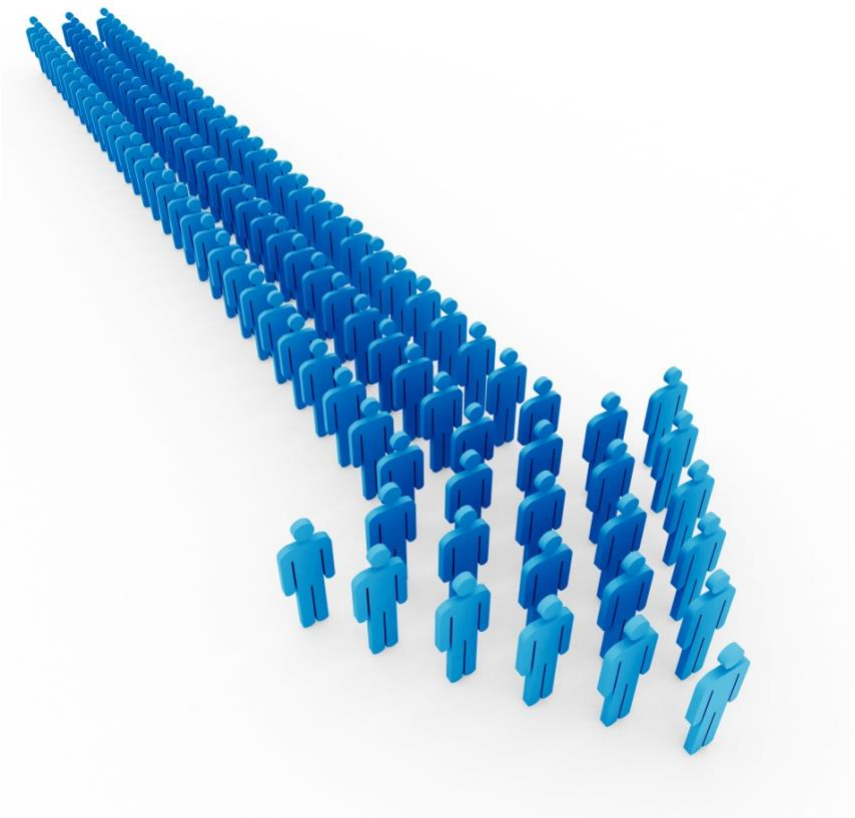
mySkillsProfile

Leadership Potential Indicator

> User Manual



Reviewed by **BUROS CENTER FOR TESTING**

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1. Introduction

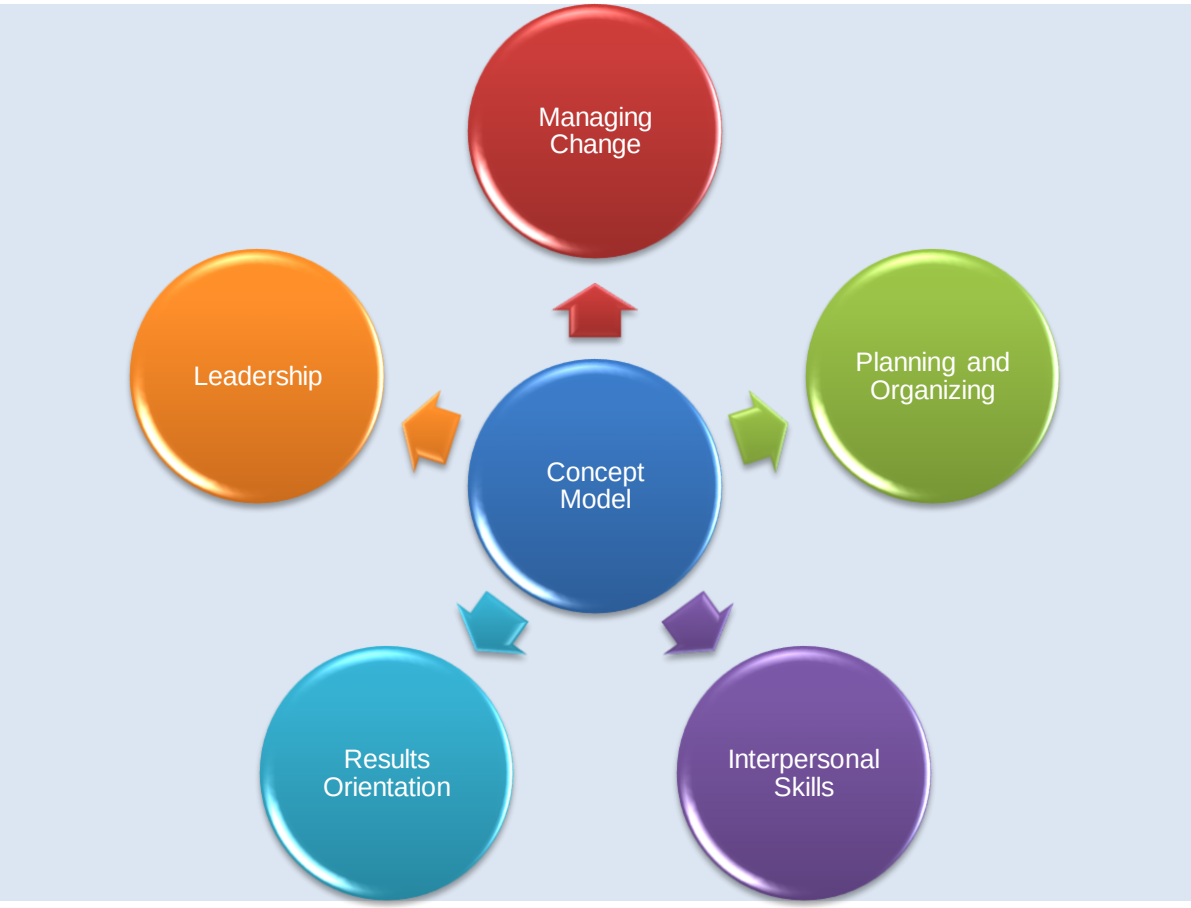
1.1 Purpose of LPI

The Leadership Potential Indicator (LPI) is designed to help individuals in management and leadership positions identify their current areas of competency, and decide where they should focus their development efforts. This manual describes the LPI competency assessment approach and the design and development of the instrument.

1.2 LPI Competency Model

The LPI leadership assessment test was designed around a five-factor concept model of management and leadership competencies: Managing Change, Planning and Organizing, Interpersonal Skills, Results Orientation, and Leadership (Figure 1).

Figure 1. LPI Concept Model of Management and Leadership Competencies



1.3 LPI Development

The development and production of the LPI can be broken down into three broad work streams.

Phase 1. In the first phase of development, we carried out a literature review and content analysis of models and measures of management and leadership competencies, and developed a five-branch model of management and leadership competencies. We then developed, piloted, and published a 20-scale instrument based on this five-branch model. The first commercial version of the assessment was published as a paper and pencil test in 1998.

Phase 2. In 2004, we carried out an evaluation of the instrument which led to the publication of the second version of the instrument with a revised user manual and a new computer-generated feedback report. We made changes to some of the scales to improve their reliability, and we published new norms based on a much larger international comparison group. The revised user manual provided a more detailed picture of the psychometric properties of the instrument.

Phase 3. In 2014, we carried out a second evaluation of the LPI in preparation for submitting the test for review. The objective was to ensure that the measure was ready, and the test documentation was in a suitable format for review by the British Psychological Society and Buros Center for Testing. We did further research on the construct validity of the measure during this phase, and updated the user manual.

Design standards. The LPI leadership assessment test is designed to meet the key criteria in the EFPA Review Model for the Description and Evaluation of Psychological Tests (Bartram, 2002). The EFPA Review Model was produced to support and encourage the process of harmonizing the reviewing of tests. It provides a standard set of criteria to assess the quality of modern psychometric tests. These cover the common areas of test review such as norms, reliability, and validity.

Competencies. McClelland (1973) is generally credited with using the term "competencies" to refer to factors that could predict job success. He defined competency as an underlying characteristic--an ability to do something--producing effective or superior performance. The LPI competency framework was based on a concept model of management and leadership competencies modelled on Boyatzis' (1982) approach illustrated below. A wide-ranging literature search was carried out to identify competency dimensions related to successful management and leadership performance.

Dimension	Example
Cluster	Leadership
Competency	Use of oral presentations
Skills	Verbal presentation skills

Competency dimensions identified during the literature search were printed on cards. The resulting cards were sorted into groups, and each group was given a broad title--for example, "quality/detail orientation". The list of competency groups that emerged from this process was compared with a list of frequently occurring competencies reported in a survey of company competency frameworks, and twenty competencies were selected (Table 1).

Table1. LPI Management and Leadership Competencies

Scale	Scale Definition	
Initiating activity	Shows initiative, has positive attitude, self-starter	Managing Change
Taking risks	Takes risks, challenges accepted practice, bends rules to make progress	
Creating and innovating	Originates change, makes things better, produces creative ideas and solutions	
Adapting to change	Adapts quickly to change, responds flexibly to people and situations	
Analyzing and interpreting	Analyses situations carefully, makes rational judgments and logical decisions	Planning and Organizing
Making decisions	Decides quickly, displays confidence, acts independently when necessary	
Planning and prioritizing	Plans and prioritizes tasks, project manages work effectively	
Monitoring quality	Takes pride in work, does job well, gets the detail correct	
Communicating	Communicates views and ideas assertively, makes impact with presentations	Interpersonal Skills
Listening and supporting	Displays sensitivity to people's needs, involves people in plans and decisions	
Relating and networking	Develops strong working relationships, builds rapport quickly	
Team working	Strong team player, works effectively with people	
Achieving goals	Self-motivated, driven to get ahead, prepared to do whatever it takes	Results Orientation
Meeting customer needs	Applies customer concepts, focuses on quality and service	
Focusing on the business	Understands the business, focuses on bottom line, keeps eye on competitors	
Learning and developing	Exploits opportunities for self-development, demonstrates self-awareness	
Persuading and influencing	Has presence and authority, enjoys being in charge, takes lead when required	Leadership
Motivating and empowering	Empowers and motivates team members, delegates tasks effectively	
Coaching others	Coaches and mentors team members, gives regular development feedback	
Coping with pressure	Handles pressure and stress, stays calm and in control	

Table 2 shows some of the frequently occurring competencies in company competency frameworks identified by the 1996 survey (HR-BC/IRS, 1996) which the LPI measures.

Table 2. Top 10 Competencies in Organization Frameworks

Competency	Frequency
Communication	30
Results-orientation	28
Customer focus	22
Teamwork	22
Leadership	17
Planning and organizing	17
Commercial awareness	16
Developing others	15
Analytical thinking	12
Building relationships	12

In 2004, we revisited the competency literature to check the coverage of the measure with more recent competency frameworks. Table 3 shows the overlap between the LPI and the Emotional Competence Framework published by the Consortium for Research on Emotional Intelligence.

Table 4 gives a comparison between the LPI framework and the SHL Universal Competency Framework (Bartram, 2004). The SHL model is based on a synthesis of the company's own generic competency models, models in the public domain, and models in the literature. The framework has 111 competency components which map onto 20 dimensions and relate to 8 higher order factors--general reasoning ability, the Big Five personality factors, and need for achievement and need for power or control.

SHL state that the 20 dimensions are widely important competencies that have been frequently used by the company in assessment and development centers over two decades. Bartram states that the 20 competency dimensions provide coverage of the whole competency domain at a level of detail sufficient for most clients that do not require tailored competency solutions.

The comparison exercise revealed that the LPI captured the majority of the competencies in the SHL and CREI frameworks. The LPI has adequate to good coverage of 17 out of 20 dimensions in SHL's "universal" competency framework. The missing areas are "adhering to principles and values", "writing and reporting", and "applying expertise and technology". The LPI has adequate to good coverage of 20 out of 25 dimensions in the CREI framework. The missing areas are "emotional awareness", "trustworthiness", "optimism", "leveraging diversity", and "conflict management".

Table 3. Overlap between LPI and Emotional Competence Framework (ECF)

ECF Key Area	ECF Competency	LPI Competency
Self-awareness	Emotional awareness	
	Accurate self-assessment	Learning and developing
	Self-confidence	Persuading and influencing
Self-regulation	Self-control	Coping with pressure
	Trustworthiness	
	Conscientiousness	Monitoring quality
	Adaptability	Adapting to change
	Innovativeness	Creating and innovating
Self-motivation	Achievement drive	Achieving goals
	Commitment	Achieving goals
	Initiative	Initiating activity
	Optimism	
Social awareness	Empathy	Listening and supporting
	Service orientation	Meeting customer needs
	Developing others	Coaching others
	Leveraging diversity	
	Political awareness	Focusing on the business
Social skills	Influence	Persuading and influencing
	Communication	Communicating
	Leadership	Motivating and empowering
	Change catalyst	Taking risks
	Conflict management	
	Building bonds	Relating and networking
	Collaboration and cooperation	Team working
	Team capabilities	Team working

Table 4. Overlap between LPI and Great 8 Competencies

Great 8 Factor	Great 8 Competency	LPI Competency
Leading and deciding	Deciding and initiating action	Making decisions
	Leading and supervising	Motivating and empowering
Supporting and co-operating	Working with people	Team working
	Adhering to principles and values	
Interacting and presenting	Relating and networking	Relating and networking
	Persuading and influencing	Persuading and influencing
	Presenting and communicating information	Communicating
Analyzing and interpreting	Writing and reporting	
	Applying expertise and technology	
	Analyzing	Analyzing and interpreting
Creating and conceptualizing	Learning and researching	Learning and developing
	Creating and innovating	Creating and innovating
	Formulating strategies and concepts	Analyzing and interpreting
Organizing and executing	Planning and organizing	Planning and prioritizing
	Delivering results and meeting customer expectations	Meeting customer needs
	Following instructions and procedures	Monitoring quality
Adapting and coping	Adapting and responding to change	Adapting to change
	Coping with pressures and setbacks	Coping with pressure
Enterprising and performing	Achieving personal work goals and objectives	Achieving goals
	Entrepreneurial and commercial thinking	Focusing on the business

A key theme in the literature is that management and leadership are different, and the concept model includes management competencies and leadership competencies. According to Kotter (2013), management is to do with the processes that keep an organization running—for example, processes such as planning, budgeting, measuring performance, and problem-solving. The function of management is to “produce products and services as you have promised, of consistent quality, on budget, day after day, week after week.”

In the LPI, the scales that measure the competencies Kotter describes can be found in the Planning and Organizing and Results Orientation clusters—for example, competencies labeled Analyzing and Interpreting, Making Decisions, Planning and Prioritizing, Monitoring Quality, Achieving Goals, Meeting Customer Needs, and Focusing on the Business. These are competencies that managers require to keep an organization functioning efficiently.

Kotter argues that leadership is to do with “taking an organization into the future, finding opportunities that are coming at it faster and faster, and successfully exploiting those opportunities. Leadership is about vision, about people buying in, about empowerment and, most of all, about producing useful change. Leadership is not about attributes, it’s about behavior.”

In the LPI, the competency components that capture the emphasis that Kotter and other leadership experts place on aligning people to the vision and achieving buy-in through communication, motivation, and inspiration are measured by scales in the Managing Change, Interpersonal Skills, and Leadership clusters—for example, the scales labeled Initiating Activity, Taking Risks, Creating and Innovating, Listening and Supporting, Persuading and Influencing, and Motivating and Empowering.

These scales also measure behaviors in Bass’ (2006) model of transformational leadership—for example, those to do with influencing people, motivating them, stimulating them, and treating them as individuals. The findings from a study examining the relationship between the LPI scales and the short form version of Bass and Avolio’s (1995) Multifactor Leadership Questionnaire are reported in Chapter 5.

Test format. The LPI inventory is constructed in the format of a typical normative personality or behavioral style assessment test. Respondents are presented with short competency statements, and invited to say how far they agree with each statement using a 5-point Likert scale.

Strongly agree	**Agree**	**Neutral**	**Disagree**	**Strongly disagree**

Example item
I can relate well to all types of people.

The inventory has twenty scales and each scale has eight half items (four positively keyed and four reverse keyed). The LPI uses Standard Ten (sten) scores to show how a test taker’s scores compare to those of a large international comparison group.

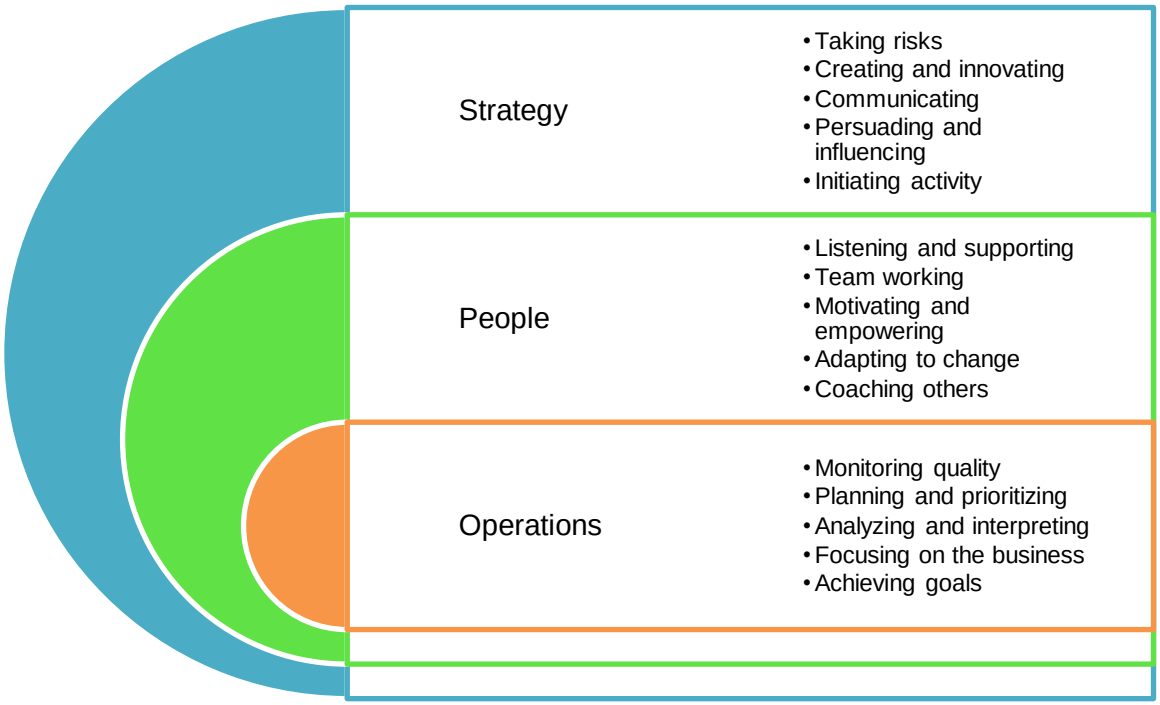
Factor structure. We have conducted numerous exploratory factor analyses (EFAs) of the LPI since the measure was first published. EFA with different extraction methods and with both orthogonal and oblique rotation has consistently produced a matrix with three key areas.

In the most recent analysis, we carried out EFA with three, four, and five-factor solutions. These analyses confirmed that a three-factor solution provides the best fit to the data (see chapter 5). Figure 2 shows the five highest loading scales on each of the competency factors which appear to measure the strategic, people, and operational aspects of leadership. The three-factor solution is similar to the Primary Colors Model of Leadership (Pendleton and Furnham, 2011) that distinguishes three domains of management and leadership competencies, which in the primary colors model are defined as the strategic domain, the operational domain, and the interpersonal skills domain.

The current LPI feedback report is based on the concept model. We plan to offer a second computer-generated feedback report based on the LPI factor model in the future.

Job performance. At the end of the online questionnaire, there is an optional form where respondents are asked to provide information about their job performance. Respondents are asked to assess their performance over the last year using a four point scale from excellent to unsatisfactory. Using the same scale, respondents are also asked to report how their line managers rated their performance.

Figure 2. LPI Three Factor Model of Leadership



We used this information to look at the relationship between the LPI scales and job performance, and we found that all the scales correlated significantly with performance. The median correlation between the LPI scales and job performance was 0.25 when the self-assessments were used, and the median correlation was 0.22 when the line manager assessments were used.

We also carried out regression analysis to throw light on which scales were the best predictors of job performance. A stepwise multiple regression was performed between job performance ratings as the dependent variable and the management and leadership competency scales as the independent variables (see Chapter 5 for details).

The best predictors of performance were the scales labeled Persuading and Influencing, Monitoring Quality, Planning and Prioritizing, and Making Decisions. Altogether, 14% of the variability in job performance ratings was predicted by knowing the scores on these scales. In summary, high performing leaders in the international comparison group are persuasive and influential, focused on quality, decisive, and skillful planners and organizers.

2. Administration

The LPI questionnaire is suitable for a range of assessment and development applications including selection, coaching, training, team building, and career counseling.

2.1 Applications

Selection. LPI interpretive reports about a candidate's management and leadership style and competencies provide a structure for interviewers and candidates to discuss a candidate's potential strengths and weaknesses. In competency-based selection, the LPI model provides a framework of twenty competencies to compare candidates against, and use as the foundation for a competency-based interview.

Assessment and development centers. The LPI profiles provide a source of information about a candidate's leadership level, style, strengths and development needs to put alongside information from in-tray and group exercises. The interpretive report provides practical tips and suggestions for performance improvement for participants to consider alongside feedback from assessors.

Training and development. The LPI questionnaire can help in the development of a company's existing staff in individual and group development contexts. The LPI profile provides a structure for a member of staff and their line manager, mentor, trainer or coach to explore strengths and development needs. The development section of the interpretive report provides practical ideas and suggestions for learning and development for trainees to consider.

Team building. Sharing of LPI profiles can help teams to understand the range of skills and competencies that the team possesses, and how these might be deployed in projects. The creation of a LPI team profile may also reveal gaps in the team's capability and help identify suitable team development activities.

Coaching and counseling. LPI interpretive reports also provide a suitable structure for a coach to explore a client's management and leadership level, style, strengths, and potential development needs.

2.2 Test Administration

It is important that people who are asked to take the LPI assessment test understand the purpose and process. Test takers typically want to know what the test measures, how it will be used, whether they will see their results, and who else will have access to their profiles. This information could be provided as part of a broader briefing about the assessment context, or it could be sent out with the invitation email to the online assessment session.

The LPI questionnaire can only be administered online by MySkillsProfile and its partners. The service for individual customers provides a direct access service for individual customers to take the questionnaire, pay for the assessment by credit card, and download (or receive via email) the interpretive report in PDF format.

The corporate testing service works in a similar fashion except that test takers bypass the payment element, and test administrators have the option of determining how feedback reports are handled. The feedback handling options are that interpretive reports are sent to a) the test administrator, b) the test taker, or c) both the test administrator and test taker.

2.3 Norming

In order to interpret LPI raw scores, we compare an individual's results against an international comparison group of people who have answered the questionnaire. The international comparison group is referred to as the norm group or standardization sample, and the comparison generates a Standard Ten Score (sten) for each scale.

Chapter 4 gives information about the composition of the norm group for the questionnaire. The collection of norms from different countries is an ongoing process, and additional norm tables will be added as required.

3. Scale Descriptions

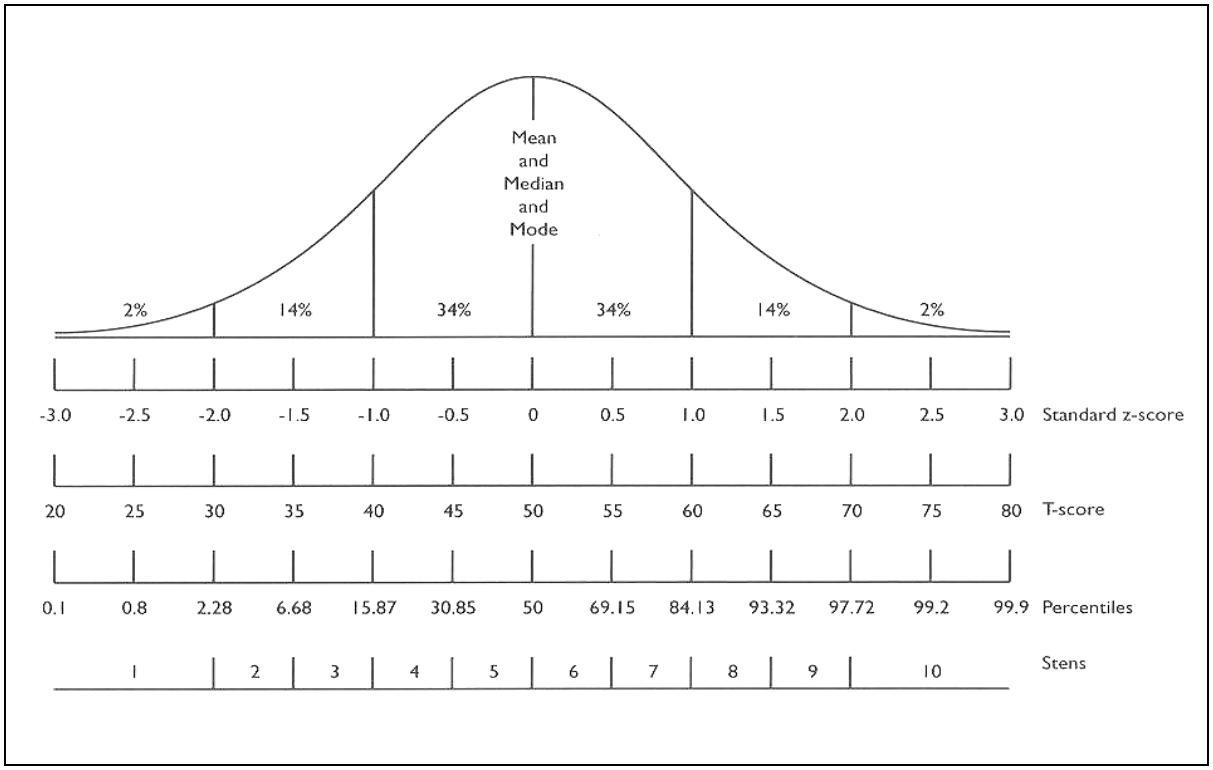
3.1 Overview

This section presents information about how to interpret scores from each of the LPI scales. The information covers a brief description of the meaning of a high, low and medium score, examples of positively and negatively keyed questionnaire items and fuller behavioral descriptions covering the potential positive and negative implications of high and low scores.

3.2 Sten Scale

Test-takers' scores are reported as stens. Sten is short for standard ten. Figure 3 shows how stens and other commonly used scales map onto the normal distribution curve. The average range on a sten scale is from 4 to 7 with a score of 4 interpreted as low average and a score of 7 interpreted as high average. Sixty eight percent of people score in this middle range. Sixteen percent of people score higher than 7 and sixteen percent score lower than 4.

Figure 3. Sten Scale and its Relationship with the Normal Distribution Curves and Other Scales



3.3 How to Interpret Scores

Table 5 provides information on how to interpret sten scores. For example, a manager who scores 8 on a LPI competency scale will have scored the same as or higher than about 90% of his or her colleagues. A sten of 8 indicates that the competency is a strength in the individual's repertoire, and it also indicates that the competency in question is probably a low priority for development activity. A sten score of 8 (or higher) should not be interpreted as meaning that the individual has reached the pinnacle of performance, however, because performance can always be improved even if the individual is one of the best performers in the organization.

Table 5. Interpretion of LPI Sten scores

Sten	Percentile	Competence	Development need
10	99	Outstanding strength	Very low
9	95		
8	90	Definite strength	Low
7	75	Mid-range skill/borderline strength	Average/borderline low
6	60	Mid-range skill	Average
5	40		
4	25	Mid-range skill/borderline weakness	Average/borderline high
3	10	Definite weakness	High
2	5	Possible fatal flaw	Critical
1	1		

When interpreting factor scores (ie Managing Change, Planning and Organizing etc), especially middle range ones, it is particularly important to look at the pattern of primary scale scores as key factor scores are simply the sum of the primary scale scores. It cannot be assumed that a middle range factor score implies that the test taker also has middle range scores on each of the scales that make up the key factor.

Initiating Activity

Low Scorer	High Scorer
Description Procrastinates or waits for others to originate activities, tasks or managerial actions.	Description Originates activities, tasks or managerial actions.
Typical Item I don't usually take the first step.	Typical Item I act independently when it is necessary.
Key Behaviors Positive Implications Seeks support before acting Follows instructions Reduces risks	Key Behaviors Positive Implications Identifies and develops business opportunities Gets things done Acts independently
Negative Implications Leaves things for others to sort out Does not act on his/her own Misses business opportunities	Negative Implications Rushes into things Acts without consulting others Takes risks
Moderate Scorer	
Displays as much initiative as the average manager. Displays initiative in some situations but not others.	
Correlations	**R**
Persuading and influencing Learning and developing Making decisions Creating and innovating Coaching others	0.7 0.63 0.61 0.6 0.58

Taking Risks

Low Scorer	High Scorer
Description Sticks to rules and reduces risks.	Description Bends rules and takes risks.
Typical Item I respect custom and tradition.	Typical Item I challenge rules and procedures.
Key Behaviors Positive Implications Reduces risks Follows rules and procedures Seen as safe pair of hands	Key Behaviors Positive Implications Takes risks to create business opportunities Interprets rules flexibly Challenges status quo
Negative Implications Resists change Interprets rules rigidly Seen as steady plodder	Negative Implications Takes unnecessary risks Causes problems and difficulties Seen as maverick

Moderate Scorer
Displays as much willingness to take risks as the average manager. Willing to bend the rules and take risks in some situations but not others.

Correlations	R
Creating and innovating	0.44
Communicating	0.31
Initiating activity	0.29
Persuading and influencing	0.26
Making decisions	0.25

Creating and Innovating

Low Scorer	High Scorer
Description Implements other people's ideas and approaches for products or services.	Description Invents new ideas and approaches for products or services.
Typical Item I prefer change to occur gradually.	Typical Item I am a person who originates change.
Key Behaviors Positive Implications Happy to implement other's ideas Makes incremental changes Generates a few practical ideas	Key Behaviors Positive Implications Originates change Thinks about doing things differently Generates novel ideas
Negative Implications Resists novel solutions Clings to the status quo Seen as obstructive	Negative Implications Needs change to stay interested Creates waves Loses interest easily

Moderate Scorer
Displays as much capacity to innovate as the average manager. Displays innovative behaviors in some situations but not others.

Correlations	R
Initiating activity Communicating Persuading and influencing Making decisions Coaching others	0.6 0.57 0.57 0.55 0.55

Adapting to Change

Low Scorer	High Scorer
Description Responds unbendingly to different people and situations.	Description Responds flexibly to different people and situations.
Typical Item I like to get my own way.	Typical Item I am prepared to compromise to get agreement.
Key Behaviors Positive Implications Defends own position Gets own way Perceived as tough and uncompromising	Key Behaviors Positive Implications Adapts quickly to change Responds flexibly to people and situations Co-operates with people
Negative Implications Unwilling to give a little Gets into confrontations Seen as obstructive and inflexible	Negative Implications Compromises own position Gives in too easily Seen as chameleon
Moderate Scorer	
Displays as much malleability as the average manager. Displays agility in some situations but not others.	
Correlations	**R**
Meeting customer needs Team working Listening and supporting Coaching others Learning and developing	0.54 0.54 0.53 0.5 0.5

Analyzing and Interpreting

Low Scorer	High Scorer
Description Lacks ability to analyze data and think things through.	Description Analyses issues and information, thinks systematically and logically.
Typical Item I don't always weigh up options carefully enough.	Typical Item I analyze the facts rigorously before taking decisions.
Key Behaviors Positive Implications Operates on instinct and feel Uses right side of brain Spontaneous	Key Behaviors Positive Implications Analyses things carefully Homes in on key issues Makes logical and rational decisions
Negative Implications Jumps to conclusions Misdiagnoses problems Seen as superficial	Negative Implications Does not use right side of brain Finds it hard to act spontaneously Slow to take action when there is little information to go on
Moderate Scorer	
Displays as well-developed analytical thinking skills as the average manager. Displays a rational and logical approach in some situations but not others.	
Correlations	**R**
Monitoring quality Planning and prioritizing Meeting customer needs Coping with pressure Learning and developing	0.57 0.57 0.52 0.52 0.51

Making Decisions

Low Scorer	High Scorer
Description Tends to prevaricate and avoid taking decisions.	Description Displays readiness to take decisions quickly when required.
Typical Item I avoid taking difficult decisions.	Typical Item I make sound decisions under pressure.
Key Behaviors Positive Implications Takes decisions slowly Unlikely to take risks Seen as prudent and careful	Key Behaviors Positive Implications Makes decisions quickly Displays confidence Accepts responsibility for outcomes
Negative Implications Frustrating to work for Holds things up Seen as hesitant and indecisive	Negative Implications Rushes into decisions Acts on impulse Seen as risky
Moderate Scorer	
Displays as well-developed decision making skills as the manager. Appears decisive in some situations but not others.	
Correlations	**R**

Initiating activity Persuading and influencing Coping with pressure Creating and innovating Communicating	0.61 0.58 0.57 0.55 0.54

Planning and Prioritizing

Low Scorer	**High Scorer**
Description Acts on impulse and without planning ahead.	Description Plans and organizes resources efficiently.
Typical Item I often leave things to the last minute.	Typical Item I always plan how deadlines are going to be met.
Key Behaviors Positive Implications Leaves things to the last minute Makes things up as he/she goes along Acts on the spur of the moment	Key Behaviors Positive Implications Plans work Prioritizes tasks Prepares carefully
Negative Implications Does not anticipate problems and difficulties Wastes resources Seen as disorganized	Negative Implications Finds it difficult to act on the spur of the moment May have difficulty responding when things go differently to the way they were planned Seen as inflexible
Moderate Scorer	
Displays planning skills as often as the average manager. Plans and organizes work activities in some situations but not others.	

Correlations	R
Monitoring quality	0.63
Analyzing and interpreting	0.57
Focusing on the business	0.51
Learning and developing	0.44
Meeting customer needs	0.43

Monitoring Quality

Low Scorer	High Scorer
Description Prefers to leave the detail to other people.	Description Pays close attention to quality and detail.
Typical Item I sometimes leave problems behind me.	Typical Item I like to get the detail right.
Key Behaviors Positive Implications Interested in main goals rather than detail Allows people to make mistakes Easy to work for	Key Behaviors Positive Implications Has high standards Gets things right first time Does job well
Negative Implications Makes mistakes in the detail Leaves problems for others to sort out Loses customers	Negative Implications Alters other people's work unnecessarily Frustrating to work for Seen as inflexible and uncompromising

Moderate Scorer
Displays as much attention to quality and detail as the average manager. Displays a quality focus in some situations but not others.

Correlations	R
Planning and prioritizing Analyzing and interpreting Meeting customer needs Focusing on the business Achieving goals	0.63 0.57 0.52 0.5 0.49

Communicating

Low Scorer	High Scorer
Description Has difficulty expressing views and ideas.	Description Comes over as articulate and persuasive.
Typical Item I am not good with words.	Typical Item I express my ideas clearly and concisely.
Key Behaviors Positive Implications Speaks plainly Lets others speak first Seen as down-to-earth	Key Behaviors Positive Implications Expresses views clearly and concisely Makes impact with presentations Seen as influential and persuasive
Negative Implications Cannot talk / communicate Makes poor impression Seen as reserved and detached	Negative Implications Does not use plain English Likes sound of own voice Seen as too silver-tongued
Moderate Scorer	
Is as articulate and persuasive as the average manager. Displays good communication skills in some situations but not others.	
Correlations	**R**
Persuading and influencing Creating and innovating Initiating activity Coaching others Making decisions	0.68 0.57 0.56 0.56 0.54

Listening and Supporting

Low Scorer	High Scorer
Description Tends to ignore people's views and ideas, overlooks people's feelings and emotions.	Description Responds to people sensitively, deals with people's feelings and emotions.
Typical Item I don't give other people much chance to say what they think.	Typical Item I make the time to listen to people's views and ideas.
Key Behaviors Positive Implications Difficult to hurt or upset Prepared to take unpopular decisions Perceived as thick-skinned	Key Behaviors Positive Implications Listens to people's views and ideas Responds to people's problems Seen as considerate and caring
Negative Implications Upsets people Has poor working relationships Seen as selfish and egotistical	Negative Implications Tolerates poor performance Taken for a ride Seen as inexperienced
Moderate Scorer	
Displays as much emotional sensitivity as the average manager. Displays empathy and understanding in some situations but not others.	
Correlations	**R**
Team working Motivating and empowering Meeting customer needs Coaching others Learning and developing	0.63 0.62 0.6 0.59 0.59

Relating and Networking

Low Scorer	High Scorer
Description Neglects relationships, operates better independently.	Description Builds effective relationships, keeps people in the loop.
Typical Item I am a bit of a loner.	Typical Item I relate well to all types of people.
Key Behaviors Positive Implications Works well alone Keeps distance Reserved and tactful	Key Behaviors Positive Implications Develops strong working relationships Builds rapport quickly Seen as warm and friendly
Negative Implications Takes time to build relationships Does not communicate information Seen as aloof and unsociable	Negative Implications Gossips about people Feels lonely in leadership positions Ignores the task
Moderate Scorer	
Relationship management skills as well-developed as those of the average manager. Displays good relationship management skills in some situations but not others.	
Correlations	**R**
Persuading and influencing Team working Initiating activity Coaching others Communicating	0.56 0.47 0.46 0.42 0.42

Team Working

Low Scorer	High Scorer
Description Weak team player, individual contributor.	Description Strong team player.
Typical Item I am a difficult person to work with.	Typical Item I enjoy being part of a team.
Key Behaviors Positive Implications Strong personal performer Acts independently Prefers to operate alone	Key Behaviors Positive Implications Strong team player Co-operates with people Fits in quickly
Negative Implications Does own thing Does not consult people Seen as loose cannon	Negative Implications Finds it hard to hold out against group Avoids confrontations Seen as weak
Moderate Scorer	
Works in a team as well as the average manager. Displays team working skills in some situations but not others.	
Correlations	**R**
Listening and supporting Coaching others Meeting customer needs Adapting to change Motivating and empowering	0.63 0.57 0.56 0.54 0.52

Achieving Goals

Low Scorer	High Scorer
Description Does enough work to get by.	Description Displays high levels of achievement motivation.
Typical Item I act as if there is more to life than work.	Typical Item I am prepared to go at things again and again.
Key Behaviors Positive Implications Puts personal life first Works steadily Happy with current position	Key Behaviors Positive Implications Works hard Likes challenges Keen to get on
Negative Implications Does not win business Seen as passenger Lacks energy and drive	Negative Implications Rides roughshod over people Finds it hard to co-operate Experiences difficulties in personal life
Moderate Scorer	
Displays as much achievement drive as the average manager. Displays energy and drive when wants to achieve a personal goal.	
Correlations	**R**
Focusing on the business Initiating activity Monitoring quality Persuading and influencing Making decisions	0.55 0.52 0.49 0.48 0.44

Meeting Customer Needs

Low Scorer	High Scorer
Description Shows little interest in what the customer wants.	Description Strives to meet customer needs and expectations.
Typical Item I get impatient with customers.	Typical Item I strive for excellence in service delivery.
Key Behaviors Positive Implications Assertive with customers Refuses to be pushed around Will not be intimidated	Key Behaviors Positive Implications Handles customers well Strives to deliver excellence Sets quality targets
Negative Implications Delivers a poor service Loses sales Loses customers	Negative Implications Allows customers to be rude Quality standards exceed requirements Does not control the money
Moderate Scorer	
Displays as much quality focus as the average manager. Displays customer focus in some situations but not others.	
Correlations	**R**
Coaching others Learning and developing Listening and supporting Team working Initiating activity	0.66 0.6 0.6 0.56 0.55

Focusing on the Business

Low Scorer	High Scorer
Description Shows little awareness of how to manage the business.	Description Shows commercial and business acumen.
Typical Item I don't know much about the competition.	Typical Item I watch costs closely.
Key Behaviors Positive Implications Focuses on other management issues – for example, people, service quality	Key Behaviors Positive Implications Sets stretching targets Manages money effectively Maximizes profitability
Negative Implications Does not manage the money Runs over budget Makes a loss	Negative Implications Ignores other important aspects of the business – e.g. management, marketing etc.
Moderate Scorer	
Displays as much business awareness as the average manager. Displays business awareness in some situations but not others.	
Correlations	**R**
Initiating activity Achieving goals Learning and developing Persuading and influencing Analyzing and interpreting	0.55 0.55 0.52 0.51 0.51

Learning and Developing

Low Scorer	High Scorer
Description Lacks interest in self-development.	Description Committed to continuous learning and self-improvement.
Typical Item I don't have any specific learning goals.	Typical Item I seek opportunities to test myself.
Key Behaviors Positive Implications Satisfied with current position Content with work that does not provide learning opportunities Content with lot	Key Behaviors Positive Implications Identifies opportunities for self-development Learns from mistakes Reaches individual potential
Negative Implications Does not learn from mistakes Does not update skills Loses employability	Negative Implications Learning activity interferes with performance Abuses colleagues' goodwill Seen as passenger
Moderate Scorer	
Displays as much motivation to self-improve as the average manager. Shows interest in learning new skills when personally motivated.	
Correlations	**R**
Coaching others Initiating activity Persuading and influencing Meeting customer needs Coping with pressure	0.64 0.63 0.6 0.6 0.59

Persuading and Influencing

Low Scorer	High Scorer
Description Keeps low profile, stays in the background.	Description Displays charisma and presence, enjoys the limelight.
Typical Item I lack self-confidence.	Typical Item I pitch in and lead by example.
Key Behaviors Positive Implications Lets others speak first Displays humility Adopts low profile	Key Behaviors Positive Implications Displays self-confidence Has authority and presence Possesses leadership qualities
Negative Implications Comes over as nervous and unconfident Does not motivate or inspire Seen as weak manager	Negative Implications Comes over as arrogant Puts people off Seen as smooth-talking
Moderate Scorer	
Displays as much charm and presence as the average manager. Displays self-confidence in some situations but not others.	
Correlations	**R**
Initiating activity Communicating Coaching others Learning and developing Making decisions	0.7 0.68 0.63 0.6 0.58

Motivating and Empowering

Low Scorer	High Scorer
Description Fails to inspire and motivate employees.	Description Inspires and motivates employees.
Typical Item I don't trust people to do the right thing.	Typical Item I am prepared to let others take the lead.
Key Behaviors Positive Implications Keeps tight control Directs all work Task oriented	Key Behaviors Positive Implications Empowers team members Delegates tasks effectively Team members feel motivated and committed
Negative Implications Does not motivate or inspire Seen as control freak Employees leave	Negative Implications Assumes people will do what he/she expects Team members don't deliver required outcome Seen as too trusting
Moderate Scorer	
Displays as much ability to motivate people as the average manager. Able to inspire and motivate in some situations but not others.	
Correlations	**R**
Listening and supporting Team working Coaching others Learning and developing Meeting customer needs	0.62 0.52 0.5 0.49 0.47

Coaching Others

Low Scorer	High Scorer
Description Expects employees to develop themselves.	Description Coaches and develops people.
Typical Item I don't often coach people.	Typical Item I go out of my way to help people develop.
Key Behaviors Positive Implications Focuses on the job Expects people to develop themselves Does not tolerate passengers	Key Behaviors Positive Implications Gives regular feedback Coaches staff Creates learning climate
Negative Implications Does not develop team members skills Team performs below capability Unpopular to work for	Negative Implications Tolerates poor performance Taken for a ride Unrealistic about people's ability to develop
Moderate Scorer	
Devotes as much effort to developing employees as the average manager. Coaches and mentors employees in some situations but not others.	
Correlations	**R**
Meeting customer needs Learning and developing Persuading and influencing Listening and supporting Initiating activity	0.66 0.64 0.63 0.59 0.58

Coping with Pressure

Low Scorer	High Scorer
Description Struggles to manage feelings and emotions.	Description Manages feelings and emotions effectively.
Typical Item I get irritable and moody when I am stressed.	Typical Item I deal with difficult situations calmly.
Key Behaviors Positive Implications Worries about getting things right Takes things seriously Anxious to please	Key Behaviors Positive Implications Handles pressure and stress Recovers quickly from setbacks Seen as imperturbable
Negative Implications Finds it hard to stay in control Performs poorly under stress Seen as anxious and worrying	Negative Implications Misses errors Overlooks potential problems Perceived as laid back
Moderate Scorer	
Displays as much emotional resilience as the average manager. Displays resilience in some situations but not others.	
Correlations	**R**
Learning and developing Making decisions Persuading and influencing Initiating activity Analyzing and interpreting	0.59 0.57 0.55 0.54 0.52

4. Norms

4.1 International Comparison Group

The international comparison group was created from a sample of over 28,000 test takers who completed the online assessment at myskillsprofile.com. This incidental sample included people who had taken the test as individual customers and people who had taken the test as part of corporate selection and development initiatives. Respondents aged under 16 or over 65 were deleted from the sample. Duplicate cases and cases with missing personal data were also identified and deleted. A data set of 20,000 cases was then created from two equally-sized gender data sets. The cases for the gender data sets were selected randomly using SPSS.

Age. The age distribution of the sample is shown in Table 5. Fifteen percent of respondents were aged 16-25, about 27% were aged 26-35 and about 22% were aged 46-55. Only 6% of respondents were in the older 55+ age range. The mean age of the sample was 38.1 with a standard deviation of 11.

Table 5. Age and Gender Distribution of Norm Group (N=20,000)

Age Band	Male	Female	Total
16-25	1,558	1,528	3,086
	7.79%	7.64%	15.43%
26-35	2,741	2,664	5,405
	13.71%	13.32%	27.03%
36-45	3,092	2,925	6,017
	15.46%	14.63%	30.09%
46-55	1,996	2,364	4,360
	9.98%	11.82%	21.80%
56-65	613	519	1,132
	3.07%	2.60%	5.66%
Total	10,000	10,000	20,000
	50%	50%	100%

Country of origin. Table 6 shows the nationality of respondents. There were 160 nationalities in the international comparison group but the majority of respondents (80%) were from the United States, the United Kingdom and Australia and New Zealand. About fifty percent of respondents came from the United States, about 20% came from the United Kingdom and about 10% came from Australia and New Zealand. Six percent of respondents came from Canada and 3% came from South Africa.

Table 6. Country of Origin of Respondents (N=20,000)

Country	Male	Female	Total
United States	5,142	5,543	10,685
	25.71%	27.72%	53.43%
United Kingdom	1,813	1,902	3,715
	9.07%	9.51%	18.58%
Australia and New Zealand	826	878	1,704
	4.13%	4.39%	8.52%
Canada	653	603	1,256
	3.27%	3.02%	6.28%
South Africa	358	267	625
	1.79%	1.34%	3.13%
Rest of the World	1,208	807	2,015
	6.04%	4.04%	10.08%
Total	10,000	10,000	20,000
	50%	50%	100%

Ethnic origin. Table 7 shows the distribution by race and ethnicity. Seventy percent described themselves as White, 9 percent said they were Black, 7 percent reported that they were Asian, 3 percent said they were Spanish or Latino, 3 % said they were Mixed race and 1% said they were Chinese.

Table 7. Ethnic Origin of Respondents (N=20,000)

Ethnic Origin	**Male**	**Female**	**Total**
White	6,958	7,125	14,083
	34.79%	35.63%	70.42%
Black	759	965	1,724
	3.80%	4.83%	8.62%
Asian	897	506	1,403
	4.49%	2.53%	7.02%
Hispanic or Latino	348	311	659
	1.74%	1.56%	3.30%
Mixed	329	314	643
	1.65%	1.57%	3.22%
Chinese	72	61	133
	0.36%	0.31%	0.67%
Other	637	718	1,355
	3.19%	3.59%	6.78%
Total	10,000	10,000	20,000
	50%	50%	100%

Industry sectors. Table 8 shows the top twenty sectors represented in the international comparison group. The largest groups were from education and health services making up about 30 percent of the sample.

Table 8. Industry Sectors in LPI General Population Norm Sample (N=20,000)

Sector	Frequency	Percent
Education	3,293	16.47%
Health services	2,469	12.35%
Government	1,416	7.08%
Other services	956	4.78%
Retail/wholesale	763	3.82%
Sales	574	2.87%
Consulting	561	2.81%
Food/beverage	537	2.69%
Other non-profit	483	2.42%
Engineering	445	2.23%
Accounting	415	2.08%
Telecommunications	399	2.00%
Construction	389	1.95%
Social services	385	1.93%
Other manufacturing	375	1.88%
Transportation	341	1.71%
Computer-related Services	325	1.63%
Computers/software	325	1.63%
Medical/health care devices	324	1.62%
Advertising/marketing	305	1.53%

4.2 Norms Table

Table 9 provides norms for the LPI scales using the Standard Ten (Sten) scoring approach

Table 9. LPI General Population Norms (N=20,000)

Scale	1	2	3	4	5	6	7	8	9	10	Mean	SD
Initiating Activity	8-24	25-27	28-29	30-31	32	33-34	35-36	37	38-39	40	31.43	3.99
Taking Risks	8-18	19-20	21-22	23-24	25	26-27	28-30	31	32-33	34-40	25.36	3.88
Creating and Innovating	8-21	22-24	25-26	27-28	29-30	31-32	33-34	35-36	37	38-40	29.84	4.06
Adapting to change	8-23	24-25	26-27	28-29	30-31	32-33	34-35	36	37-38	39-40	30.86	3.74
Analyzing and Interpreting	8-21	22-24	25-26	27-28	29-30	31-32	33-34	35-36	37-38	38-40	29.94	4.06
Making Decisions	8-20	21-22	23-24	25-26	27-28	29-31	32-33	34-35	36-37	38-40	28.45	4.21
Planning and Prioritizing	8-17	18-20	21-23	24-25	26-28	29-30	31-33	34-35	36-37	38-40	27.74	4.95
Monitoring Quality	8-22	23-24	25-26	27-29	30-31	32-33	34-35	36-37	38-39	40	30.49	4.25
Communicating	8-19	20-22	23-25	26-28	29-30	31-32	33-35	36-37	38-39	40	29.94	4.81
Listening and Supporting	8-23	24-26	27-28	29-30	31-32	33-34	35-36	37-38	39	40	32.19	4.04
Relating and Networking	8-19	20-21	22-24	25-26	27-28	29-30	31-32	33-34	35-36	37-40	27.80	4.20
Team Working	8-23	24-25	26-28	29-30	31-32	33-34	35-36	37	38-39	40	31.81	4.01
Achieving Goals	8-21	22-23	24-25	26-27	28-29	30-31	32-33	34-35	36-37	38-40	29.23	3.93
Meeting Customer Needs	8-24	25-27	28-29	30-31	32-33	34-35	36-37	38	39	40	32.85	3.86
Focusing on the Business	8-21	22-23	24-25	26-28	29-30	31-32	33-34	35-36	37-38	39-40	29.66	4.17
Learning and Developing	8-24	25-26	27-28	29-30	31-32	33-34	35-36	37-38	39	40	32.04	3.88
Persuading and Influencing	8-21	22-24	25-27	28-30	31-32	33-34	35-36	37-38	39	40	31.73	4.71
Motivating and Empowering	8-22	23-24	25	26-27	28-29	30	31-32	33-34	35	36-40	28.65	3.36
Coaching Others	8-23	24-26	27-28	29-31	32	33-34	35-36	37-38	39	40	32.36	4.08
Coping with Pressure	8-19	20-22	23-24	25-27	28-29	30-31	32-34	35-36	37-38	39-40	29.12	4.63

5. Reliability and Validity

5.1 Reliability

Test scores are reliable when they are reproducible and consistent. If an assessment test gives significantly different results when it is taken on different occasions, then it is likely to be unreliable. Because of errors in measurement and human inconsistency, people are not expected to produce precisely the same results on different occasions. The statistical measure describing the relationship between the scores is called the reliability coefficient.

Internal consistency reliability. Cronbach's Coefficient Alpha is a frequently used measure of internal consistency reliability. It gives the average of the correlations between all possible pairs of items on a scale. Table 10 presents internal consistency estimates for the questionnaire. The LPI questionnaire has a median scale reliability of 0.71--in the range defined as adequate by the EFPA Review Model.

Table 10. LPI Internal Consistency Reliabilities (N=20,000)

Scale	Alpha	Mean	SD	Raw Score SEm	Sten Score SEm
Initiating activity	0.66	31.43	3.99	2.33	1.23
Taking risks	0.66	25.36	3.88	2.26	1.16
Creating and Innovating	0.73	29.84	4.06	2.11	0.83
Adapting to change	0.70	30.86	3.74	2.05	1.09
Analyzing and Interpreting	0.71	29.94	4.06	2.19	1.03
Making decisions	0.73	28.45	4.21	2.19	0.91
Planning and Prioritizing	0.78	27.74	4.95	2.32	0.85
Monitoring quality	0.66	30.49	4.25	2.48	1.16
Communicating	0.77	29.94	4.81	2.31	0.93
Listening and Supporting	0.78	32.19	4.04	1.89	0.92
Relating and Networking	0.75	27.80	4.20	2.10	1.12
Team working	0.75	31.81	4.01	2.01	0.99
Achieving goals	0.60	29.23	3.93	2.49	1.22
Meeting customer needs	0.69	32.85	3.86	2.15	1.08
Focusing on the Business	0.64	29.66	4.17	2.50	1.22
Learning and Developing	0.66	32.04	3.88	2.26	1.08
Persuading and Influencing	0.78	31.73	4.71	2.21	0.94
Motivating and Empowering	0.64	28.65	3.36	2.02	1.15
Coaching others	0.74	32.36	4.08	2.08	0.93
Coping with Pressure	0.71	29.12	4.63	2.49	1.11
Median	0.71	29.94	4.06	2.20	1.08

5.2 Standard Error of Measurement

The Standard Error of Measurement (SEm) provides an error band around a score. The SEm allows us to put confidence bands around the scores of individual test takers. If one standard error is added to a score and one standard error is subtracted from it, a range is created within which we can be 68% certain the true score falls. If two standard errors are added to the score and two standard errors are subtracted from it, a wider range is created within which we can be 95% certain that the true score falls.

The LPI raw score SEms range from 1.89 to 2.5 with a median SEm of 2.2. This is equivalent to a primary scale Sten score SEm of approximately 1. This means that there is a 68% likelihood that the person's true score on one of the primary competency scales will be 1 Sten either side of the observed score.

5.3 Validity

This section focuses on the construct and criterion validity of the LPI. Evidence for construct validity is based on information about LPI scale intercorrelations, factor analysis of the LPI, and investigations of the relationship between the LPI and a) the Emotional Competence Framework, and b) the Multifactor Leadership Questionnaire. The evidence for criterion validity is based on analysis of the relationship between LPI scores and job performance ratings.

Intercorrelations. Table 11 shows the intercorrelations of the LPI scales. The correlations range from -0.13 to 0.7 with a median correlation of 0.43. Seven out of ten correlations fall between 0.5 and -0.1 and one fifth of correlations fall between 0.3 and -0.1. In order to determine how well a questionnaire differentiates between the different dimensions it is designed to measure, it is necessary to correct the correlations for unreliability. A correlation needs to be divided by the square root of the product of the two variables' reliability to determine what the correlation between the two variables would be if the variables' reliabilities were perfect. If two scales share less than 50% reliable variance, then we can be reasonably certain that they are independent.

Table 12 shows the percentage of common reliable variance for the LPI scales. Sixty six percent of the scale pairs share less than 50% common variance, and 30% share less than 25% common variance.

Standard error of difference. The Standard Error of Difference (SEd) helps us determine the size of the gap that you need to see between a person's scores on any two scales before you can conclude that the difference is real. The SEd depends on the reliability of the scales – the higher the reliability the smaller the SEd is. If there are two full SEds between the scores on two scales, then there is a 95% likelihood that there is a real difference.

Table 13 shows the SEds for the LPI scales. The SEds range from 1.19 to 1.73 with a median of 1.49. This means that you need to see a difference of 3 Stens or more before you can infer that the candidate has more of one competency than the other – for example, John has more management skills than leadership skills.

Table 11. Intercorrelations of LPI scales (N=20,000)

Scale	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Initiating activity	1.00	0.29	0.60	0.44	0.44	0.61	0.40	0.47	0.56	0.43	0.46	0.39	0.52	0.55	0.55	0.63	0.70	0.36	0.58	0.54
Taking risks		1.00	0.44	0.13	-0.01	0.25	-0.13	-0.12	0.31	0.00	0.10	-0.05	0.07	0.08	0.14	0.20	0.26	0.12	0.17	0.14
Creating and innovating			1.00	0.45	0.38	0.55	0.24	0.31	0.57	0.32	0.34	0.32	0.42	0.50	0.42	0.53	0.57	0.30	0.55	0.43
Adapting to change				1.00	0.38	0.42	0.27	0.31	0.33	0.53	0.31	0.54	0.22	0.54	0.30	0.50	0.40	0.43	0.50	0.50
Analyzing and interpreting					1.00	0.45	0.57	0.57	0.41	0.45	0.18	0.37	0.40	0.52	0.51	0.51	0.43	0.35	0.49	0.52
Making decisions						1.00	0.39	0.42	0.54	0.30	0.35	0.33	0.44	0.49	0.46	0.50	0.58	0.27	0.51	0.57
Planning and prioritizing							1.00	0.63	0.26	0.40	0.25	0.31	0.36	0.43	0.51	0.44	0.35	0.28	0.38	0.42
Monitoring quality								1.00	0.32	0.39	0.21	0.33	0.49	0.52	0.50	0.46	0.38	0.23	0.45	0.37
Communicating									1.00	0.31	0.42	0.30	0.42	0.45	0.42	0.48	0.68	0.31	0.56	0.43
Listening and supporting										1.00	0.39	0.63	0.19	0.60	0.35	0.59	0.43	0.62	0.59	0.49
Relating and networking											1.00	0.47	0.28	0.37	0.33	0.41	0.56	0.34	0.42	0.40
Team working												1.00	0.23	0.56	0.30	0.49	0.43	0.52	0.57	0.45
Achieving goals													1.00	0.39	0.55	0.42	0.48	0.13	0.41	0.32
Meeting customer needs														1.00	0.48	0.60	0.52	0.47	0.66	0.51
Focusing on the business															1.00	0.52	0.51	0.30	0.46	0.46
Learning and developing																1.00	0.60	0.49	0.64	0.59
Persuading and influencing																	1.00	0.40	0.63	0.55
Motivating and empowering																		1.00	0.50	0.43
Coaching others																			1.00	0.51
Coping with pressure																				1.00

Table 12. Common Reliable Variance of LPI Scales (N=20,000)

Scale	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Initiating activity	0.19	0.75	0.42	0.41	0.77	0.31	0.51	0.62	0.36	0.43	0.31	0.68	0.66	0.72	0.91	0.95	0.31	0.69	0.62
Taking risks		0.40	0.04	0.00	0.13	0.03	0.03	0.19	0.00	0.02	0.01	0.01	0.01	0.05	0.09	0.13	0.03	0.06	0.04
Creating and innovating			0.40	0.28	0.57	0.10	0.20	0.58	0.18	0.21	0.19	0.40	0.50	0.38	0.58	0.57	0.19	0.56	0.36
Adapting to change				0.29	0.35	0.13	0.21	0.20	0.51	0.18	0.56	0.12	0.60	0.20	0.54	0.29	0.41	0.48	0.50
Analyzing and interpreting					0.39	0.59	0.69	0.31	0.37	0.06	0.26	0.38	0.55	0.57	0.56	0.33	0.27	0.46	0.54
Making decisions						0.27	0.37	0.52	0.16	0.22	0.20	0.44	0.48	0.45	0.52	0.59	0.16	0.48	0.63
Planning and prioritizing							0.77	0.11	0.26	0.11	0.16	0.28	0.34	0.52	0.38	0.20	0.16	0.25	0.32
Monitoring quality								0.20	0.30	0.09	0.22	0.61	0.59	0.59	0.49	0.28	0.13	0.41	0.29
Communicating									0.16	0.31	0.16	0.38	0.38	0.36	0.45	0.77	0.20	0.55	0.34
Listening and supporting										0.26	0.68	0.08	0.67	0.25	0.68	0.30	0.77	0.60	0.43
Relating and networking											0.39	0.17	0.26	0.23	0.34	0.61	0.24	0.32	0.30
Team working												0.12	0.61	0.19	0.49	0.32	0.56	0.59	0.38
Achieving goals													0.37	0.79	0.45	0.49	0.04	0.38	0.24
Meeting customer needs														0.52	0.79	0.50	0.50	0.85	0.53
Focusing on the business															0.64	0.52	0.22	0.45	0.47
Learning and developing																0.70	0.57	0.84	0.74
Persuading and influencing																	0.32	0.69	0.55
Motivating and empowering																		0.53	0.41
Coaching others																			0.50

Table 13. SEds of LPI scales (N=20,000)

Scale	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Initiating activity	1.23	1.27	1.34	1.12	1.30	1.22	1.32	1.33	1.11	1.31	1.22	1.29	1.28	1.24	1.20	1.27	1.15	1.22	1.17
Taking risks		1.34	1.40	1.19	1.37	1.29	1.38	1.40	1.19	1.37	1.29	1.35	1.34	1.31	1.27	1.34	1.23	1.29	1.24
Creating and innovating			1.44	1.23	1.40	1.33	1.41	1.43	1.23	1.41	1.32	1.39	1.38	1.34	1.31	1.37	1.26	1.32	1.28
Adapting to change				1.30	1.46	1.40	1.48	1.49	1.30	1.47	1.39	1.45	1.44	1.41	1.38	1.44	1.33	1.39	1.35
Analyzing and interpreting					1.26	1.19	1.28	1.30	1.07	1.27	1.18	1.25	1.24	1.20	1.16	1.23	1.11	1.18	1.13
Making decisions						1.36	1.44	1.46	1.26	1.44	1.35	1.41	1.41	1.37	1.34	1.40	1.29	1.35	1.31
Planning and prioritizing							1.37	1.39	1.18	1.37	1.28	1.34	1.34	1.30	1.27	1.33	1.22	1.28	1.23
Monitoring quality								1.47	1.27	1.45	1.37	1.43	1.42	1.39	1.35	1.41	1.31	1.37	1.32
Communicating									1.29	1.46	1.38	1.44	1.44	1.40	1.37	1.43	1.33	1.38	1.34
Listening and supporting										1.27	1.17	1.24	1.23	1.19	1.16	1.23	1.10	1.17	1.12
Relating and networking											1.36	1.42	1.41	1.38	1.35	1.41	1.30	1.36	1.32
Team working												1.34	1.33	1.29	1.26	1.32	1.21	1.27	1.22
Achieving goals													1.39	1.36	1.32	1.39	1.28	1.34	1.29
Meeting customer needs														1.35	1.32	1.38	1.27	1.33	1.28
Focusing on the business															1.28	1.34	1.23	1.29	1.25
Learning and developing																1.31	1.20	1.26	1.21
Persuading and influencing																	1.26	1.32	1.28
Motivating and empowering																		1.21	1.16
Coaching others																			1.22

Factor analysis. Exploratory Factor Analysis (EFA) was carried out following guyidelines developed by Costello and Osborme (2005). Maximum likelihood extraction with orthogonal and oblique rotations was carried out using SPSS on the LPI scales with 20,000 respondents from the standardization sample.

The graph of the eigenvalues (Figure 4) indicates that there are four data points above the break point in the data where the curve flattens out. We ran multiple analyses varying the number of factors and varying the rotation methods. The Kaiser-Meyer-Olkin measure of sampling adequacy for these solutions was 0.95, well above 0.6 required for a sound analysis. Communality values ranged from 0.75 to 0.45 with a median value of 0.59.

Figure 4. Scree Plot for Maximum Likelihood Extraction

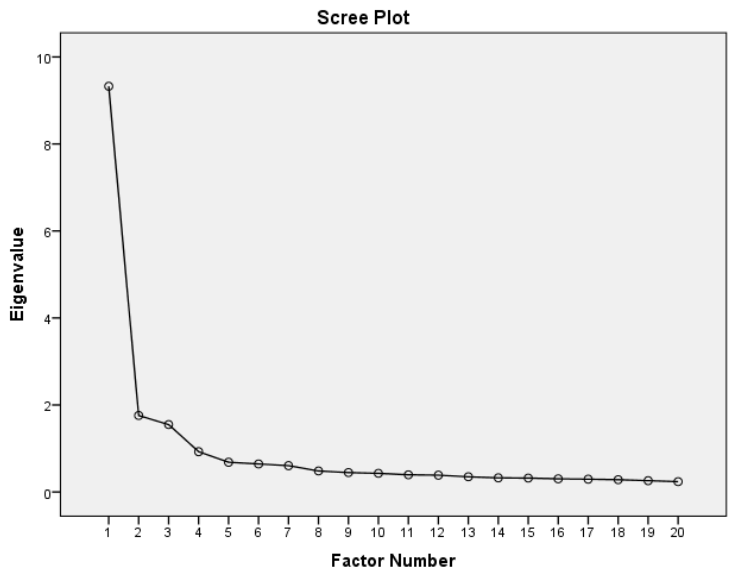


Table 14 shows loadings of the scales on the factors for three, four, and five-factor solutions using oblique rotation. A three-factor solution has the “cleanest” factor structure judged by the strength of loadings and the number of cross-loadings on each factor--that is, item loadings of at least 0.32 (10 percent overlapping variance), few item cross-loadings, and no factors with fewer than three items.

The first three factors in each of the solutions are quite similar. Seven scales load on the first factor in each solution: Listening and Supporting, Team Working, Motivating and Empowering, Adapting to Change, Coaching Others, Meeting Customer Needs, and Learning and Developing. Five scales load on the second factor in each solution: Taking Risks, Creating and Innovating, Communicating, Persuading and Influencing, and Initiating Activity. Five scales load on the third factor in each solution: Monitoring quality, Planning and Prioritizing, Analyzing and Interpreting, Focusing on the Business, and Achieving Goals.

The main difference between the three solutions is the movement of a small number of scales into a fourth, or fourth and fifth factor. For example, in the four and five-factor solutions, the Relating and Networking scale becomes the highest loading scale in a fourth factor, and in the five-factor solution, the Coping with Pressure scale becomes the highest loading scale in a fifth factor.

Table 14. Rotated Solutions for 3, 4, and 5 Factor Extractions (N=20,000)

Scale	3-Factor			4-Factor				5-Factor				
	1	2	3	1	2	3	4	1	2	3	4	5
Initiating activity		0.49	*-0.38*		0.37	0.35			0.37	0.33		
Taking risks		0.61			0.71				0.66			
Creating and innovating		0.60			0.52				0.56			
Adapting to change	0.61			0.61				0.55				
Analyzing and interpreting			-0.62			0.67				0.56		
Making decisions		0.44	*-0.41*		*0.39*	0.40					-0.35	
Planning and prioritizing			-0.77			0.75				0.66		
Monitoring quality			-0.84			0.82				0.82		
Communicating		0.59			0.46				0.48			
Listening and supporting	0.90			0.85				0.85				
Relating and networking	0.36	*0.33*					-0.70					-0.72
Team working	0.79			0.72				0.71				
Achieving goals		*0.32*	-0.58			0.51	*-0.41*			0.53		*-0.35*
Meeting customer needs	0.53			0.52		0.33		0.56		0.32		
Focusing on the business			-0.61			0.59				0.53		
Learning and developing	0.47			0.45				0.41				
Persuading and influencing		0.59			0.36		-0.46		*0.36*			-0.40
Motivating and empowering	0.78			0.74				0.70				
Coaching others	0.56			0.52				0.56				
Coping with pressure	0.40			0.38							-0.90	

Loadings below 0.32 are omitted. Secondary loadings above 0.32 are shown in *italic*.

Relationship between LPI and Emotional Competence Framework. A study of the relationship between the LPI and the Emotional Competence Framework (ECF) was conducted to establish whether the LPI measures competencies similar to those assessed by the ECF. The ECF is a generic competence framework distilling findings from a range of recognized academic and government sources. We constructed an expanded questionnaire with marker items drawn from the ECF. One hundred and ninety two respondents completed this questionnaire.

Table 15 shows that correlations between LPI scales and the markers ranged from 0.51 to 0.88 with a median correlation of 0.77. A median correlation above 0.75 is classified as an excellent construct validity rating by the EFPA Review Model.

Table 15. Correlations between LPI and Emotional Competence Framework markers (n=192)

Scale	Correlation	Marker
Initiating activity	0.83	Initiative
Taking risks	0.66	Initiative
Creating and innovating	0.81	Change catalyst
Adapting to change	0.76	Adaptability
Making decisions	0.70	Self-confidence
Planning and prioritizing	0.51	Collaboration and cooperation
Monitoring quality	0.86	Conscientiousness
Communicating	0.81	Influence
Listening and supporting	0.82	Empathy
Relating and networking	0.74	Building bonds
Team working	0.80	Team capabilities
Achieving goals	0.77	Achievement drive
Meeting customer needs	0.88	Service orientation
Focusing on the business	0.78	Political awareness
Learning and developing	0.81	Accurate self-assessment
Persuading and influencing	0.70	Self-confidence
Motivating and empowering	0.74	Leadership
Coaching others	0.72	Developing others
Coping with pressure	0.75	Self-control
Median	0.77	

All correlations significant at 0.01 level.

Relationship between LPI and Transformation Leadership Behavior. Transformational leadership behavior was measured using the Multifactor Leadership Questionnaire Short Form (Bass & Avolio, 1995). The short form version of the MLQ is widely used to assess transformational, transactional, and laissez-faire leadership styles. Ten items from the MLQ were used to examine the relationship between transformational leadership behavior and the LPI variables (Table 16). Respondents completing the LPI were asked to assess how frequently they displayed each of the 10 items of behavior using the LPI 5-point Likert scale.

Table 16. Transformational Leadership Marker Variables

Scale	Item*
Idealized influence (attributes)	I go beyond self-interest for the good of the group
	I display a sense of power and confidence
Idealized influence (behaviors)	I consider the moral and ethical consequences of decisions
	I emphasize the importance of having a collective sense of mission
Inspirational motivation	I articulate a compelling vision of the future
	I express confidence that goals will be achieved
Intellectual stimulation	I seek differing perspectives when solving problems
	I get others to look at problems from many different angles
Individualized consideration	I spend time teaching and coaching
	I help others to develop their strengths

*Rephrased to fit the style of LPI management and leadership items.

Six hundred and thirty five respondents completed the LPI questionnaire with the marker variables online. Fifty eight percent of respondents were men and 42 percent were women. The average age of respondents was 41.7 with a standard deviation of 11.7.

In the EFPA review model, correlations between 0.55 and 0.64 are defined as adequate evidence of congruent validity, correlations between 0.65 and 0.74 are defined as good, and correlations at 0.75 and above are defined as excellent.

Table 17 reveals a pattern of robust correlations between the LPI scales and the marker variables. The correlation between the LPI total score and the total score of the marker variables is 0.82, and nearly all of the correlations in the table fall within the ranges defined as adequate or good in the EFPA review model. This data presents strong evidence that the LPI assesses key aspect of transformational leadership behavior.

Table 17. Correlations between LPI Scales and Transformation Leadership Behavior Marker Variables (n=635)

Scale	Idealized influence (attributes)	Idealized influence (behaviors)	Inspirational motivation	Intellectual stimulation	Individualized consideration	Marker variable total
Managing change	0.56	0.56	0.72	0.55	0.62	0.77
Planning and organizing	0.48	0.51	0.57	0.45	0.50	0.64
Interpersonal skills	0.45	0.55	0.57	0.49	0.52	0.66
Results orientation	0.52	0.58	0.60	0.54	0.54	0.71
Leadership	0.50	0.64	0.62	0.63	0.66	0.78
LPI total	0.58	0.66	0.71	0.62	0.66	0.82

All correlations significant at 0.01 level.

Correlation between LPI and job performance ratings. Table 18 shows the correlations between LPI scale scores and job appraisal ratings. Respondents were asked to report how their manager assessed their performance at their last performance appraisal using a 4-point scale (excellent, good, satisfactory, poor), and to assess their own performance using the same scale.

The correlations between the competency scales and self-assessed job performance range from -0.05 to 0.30 with a median of 0.25. All the correlations are statistically significant. The strongest correlation is with Persuading and Influencing. The correlations between the scales and line manager-assessed job performance range from 0.06 to 0.25 with a median of 0.22. All the correlations are statistically significant. The strongest correlation is with Persuading and Influencing and Initiating Activity.

Table 18. Correlations between LPI scores and Job Appraisal Ratings

Scale	Self-Assessment (N=19,221)	Managerial Assessment (N=18,162)
Initiating activity	0.28	0.25
Taking risks	0.05	0.06
Creating and innovating	0.23	0.21
Adapting to change	0.19	0.19
Analyzing and interpreting	0.23	0.20
Making decisions	0.28	0.24
Planning and prioritizing	0.27	0.22
Monitoring quality	0.28	0.24
Communicating	0.26	0.23
Listening and supporting	0.18	0.18
Relating and networking	0.18	0.16
Team working	0.17	0.16
Achieving goals	0.21	0.16
Meeting customer needs	0.25	0.23
Focusing on the business	0.26	0.20
Learning and developing	0.26	0.24
Persuading and influencing	0.30	0.25
Motivating and empowering	0.16	0.16
Coaching others	0.27	0.24
Coping with pressure	0.26	0.23
Median	0.25	0.22

All correlations significant < 0.001

We used multiple regression to throw more light on the relationship between LPI competency scores and job performance. Table 19 presents the results from regression of LPI scale scores on self-assessed job performance ratings using the standardization group. The best predictors of performance were Persuading and Influencing, Monitoring Quality, Planning and Prioritizing, and Making Decisions. Altogether, 14% of the variability in job performance ratings was predicted by knowing the scores on these scales.

Table 19. Regression of LPI Scale Scores on Job Performance Ratings

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
Persuading and Influencing	0.30	0.09	0.09	0.63	0.09	1933.67	1	19,219	0.00
Persuading and Influencing, Monitoring Quality	0.35	0.12	0.12	0.62	0.03	674.39	1	19,218	0.00
Persuading and Influencing, Monitoring Quality, Planning and Prioritizing	0.36	0.13	0.13	0.62	0.01	176.22	1	19,217	0.00
Persuading and Influencing, Monitoring Quality, Planning and Prioritizing, Making Decisions	0.37	0.14	0.14	0.62	0.01	112.05	1	19,216	0.00

6. Group Comparisons

6.1 Gender

At the primary scale level, there are very small but statistically significant differences in 18 out of 20 scales (Table 20). Men have very slightly higher scores on Achieving Goals, Motivating and Empowering, Coping with Pressure, Focusing on the Business, Taking Risks Analyzing and Interpreting, Making Decisions, Communicating, Creating and Innovating and Initiating Activity. Women have very slightly higher average scores on Relating and Networking, Learning and Developing, Monitoring Quality, Team Working, Adapting to Change, Planning and Prioritizing, Listening and Supporting, Coaching Others, Meeting Customer Needs, and Persuading and Influencing.

The largest differences are in Achieving Goals, Motivating and Empowering, Coping with Pressure, and Focusing on the Business where men score higher; and, in Coaching Others, Meeting Customer Needs, and Persuading and Influencing where women score higher.

Table 20. LPI Means and Standard Deviations of Men and Women (N=20,000)

Scale	Men		Women		Significance
	Mean	SD	Mean	SD	
Initiating activity	31.48	4.08	31.37	3.89	0.05
Taking risks	25.76	3.91	24.96	3.81	0.00
Creating and innovating	30.11	4.05	29.56	4.06	0.00
Adapting to change	30.59	3.78	31.13	3.68	0.00
Analyzing and interpreting	30.33	4.09	29.56	3.99	0.00
Making decisions	28.79	4.23	28.11	4.16	0.00
Planning and prioritizing	27.47	5.09	28.02	4.79	0.00
Monitoring quality	30.35	4.38	30.63	4.11	0.00
Communicating	30.24	4.78	29.64	4.82	0.00
Listening and supporting	31.80	4.20	32.58	3.83	0.00
Relating and networking	27.76	4.28	27.84	4.11	0.20
Team working	31.62	4.13	32.01	3.88	0.00
Achieving goals	32.66	4.02	28.86	3.91	0.00
Meeting customer needs	30.11	4.25	33.04	3.69	0.00
Focusing on the business	31.99	4.02	29.22	4.05	0.00
Learning and developing	32.00	4.74	32.09	3.73	0.07
Persuading and influencing	28.50	3.46	31.46	4.67	0.00
Motivating and empowering	32.30	4.21	28.79	3.26	0.00
Coaching others	29.66	4.64	32.42	3.95	0.03
Coping with pressure	31.48	4.08	28.57	4.57	0.00

6.2 Age

LPI competencies are desirable work behaviors refined through experience so it would be reasonable to see a positive relationship with age. Table 21 confirms that such a relationship exists. There are positive correlations with age in 19 out of 20. The highest correlation is only 0.20, however, indicating that age accounts for less than 4% of the variation in scale scores. The largest differences were in Meeting Customer Needs, Motivating and Empowering, and Coaching Others.

Table 21. Correlations of LPI scores with Age (N =20,000)

Scale	Age	Significance
Initiating activity	0.07	0.00
Taking risks	0.14	0.00
Creating and innovating	0.14	0.00
Adapting to change	0.12	0.00
Analyzing and interpreting	0.13	0.00
Making decisions	0.13	0.00
Planning and prioritizing	0.05	0.00
Monitoring quality	0.01	0.14
Communicating	0.14	0.00
Listening and supporting	0.08	0.00
Relating and networking	-0.03	0.00
Team working	0.08	0.00
Achieving goals	-0.04	0.00
Meeting customer needs	0.20	0.00
Focusing on the business	0.06	0.00
Learning and developing	0.08	0.00
Persuading and influencing	0.07	0.00
Motivating and empowering	0.19	0.00
Coaching others	0.17	0.00
Coping with pressure	0.08	0.00

6.3 Ethnic Origin

Table 22 shows differences in LPI scores by ethnic origin. There are statistically significant differences between the groups but the differences are very small. The median differences in mean scale scores range from 0.55 to -0.98. The Black and Chinese groups differ most from the general population norm group as a whole. Blacks tended to score slightly higher on the LPI scales than the norm group as a whole--the median difference in mean scale scores is 0.55. Chinese tended to score lower—the median difference in mean scale scores is -0.98.

6.4 Nationality

Table 23 shows LPI scores by nationality. There are statistically significant differences between the country groups but, as with ethnicity, the differences are very small. The median differences in mean scale scores range from 0.29 to -0.74. The rest of the world countries differed most from the global population norm group as a whole--the median difference in mean scale scores was -0.74. Respondents from the United States and South Africa tended to have slightly higher scores on the scales whereas the United Kingdom and Australia tended to have slightly lower scores.

Table 22. LPI Scores by Ethnic Origin

Scale	White		Asian		Black		Chinese		Mixed		Hispanic		All Races		Sig
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	
Initiating activity	31.51	3.87	30.79	4.34	31.59	4.07	29.67	4.88	31.19	4.42	31.64	4.23	31.43	3.99	0.00
Taking risks	25.55	3.93	24.94	3.52	24.54	3.65	24.82	3.51	25.33	3.90	24.74	3.81	25.36	3.88	0.00
Creating and innovating	29.88	4.04	29.41	4.21	29.76	4.00	28.05	4.65	29.85	4.09	30.10	4.10	29.84	4.06	0.00
Adapting to change	31.06	3.63	29.51	3.89	30.77	3.89	29.09	3.62	30.59	3.92	31.10	3.92	30.86	3.74	0.00
Analyzing and interpreting	29.78	3.96	30.24	4.27	30.90	4.14	29.65	4.79	29.88	4.34	30.17	4.30	29.94	4.06	0.00
Making decisions	28.57	4.16	28.00	4.31	28.04	4.17	27.06	4.82	28.21	4.15	28.98	4.37	28.45	4.21	0.00
Planning and prioritizing	27.62	4.91	28.37	4.93	28.17	4.98	27.47	5.20	27.59	5.10	28.38	5.42	27.74	4.95	0.00
Monitoring quality	30.47	4.20	30.38	4.49	30.93	4.29	29.53	4.54	30.09	4.45	30.72	4.36	30.49	4.25	0.00
Communicating	30.01	4.72	28.93	5.10	30.50	4.94	27.79	5.03	30.01	4.81	29.98	5.17	29.94	4.81	0.00
Listening and supporting	32.13	3.95	32.06	4.38	32.90	4.00	31.38	4.79	31.93	4.35	32.45	4.25	32.19	4.04	0.00
Relating and networking	27.84	4.12	27.92	4.54	27.55	4.32	26.71	4.97	27.76	4.15	28.09	4.50	27.80	4.20	0.00
Team working	31.81	3.94	31.61	4.34	32.06	3.96	30.83	4.27	31.44	4.16	32.31	4.28	31.81	4.01	0.00
Achieving goals	29.01	3.90	29.83	4.04	30.40	3.79	28.32	4.11	29.11	4.18	29.81	4.02	29.23	3.93	0.00
Meeting customer needs	32.82	3.77	32.57	4.26	33.47	3.78	31.83	4.58	32.52	4.33	33.10	3.92	32.85	3.86	0.00
Focusing on the business	29.48	4.14	30.14	4.17	30.42	4.07	29.80	4.58	29.53	4.53	30.09	4.40	29.66	4.17	0.00
Learning and developing	31.89	3.79	32.16	4.13	32.87	3.84	31.62	4.44	31.94	4.29	32.61	4.06	32.04	3.88	0.00
Persuading and influencing	31.64	4.65	31.52	5.03	32.65	4.53	29.59	5.20	31.68	5.02	32.50	4.87	31.73	4.71	0.00
Motivating and empowering	28.59	3.31	28.27	3.50	29.39	3.38	28.17	4.07	28.43	3.57	28.88	3.48	28.65	3.36	0.00
Coaching others	32.36	3.98	31.98	4.55	32.89	3.96	30.63	4.95	32.13	4.46	32.54	4.48	32.36	4.08	0.00
Coping with pressure	29.02	4.55	28.84	5.09	30.05	4.60	28.17	4.97	29.09	4.79	29.61	4.89	29.12	4.63	0.00

White=14083, Black=1724, Asian=1403, Hispanic=659, Mixed=643, Chinese=133.

Table 23. LPI scores by Nationality

Scale	United States		United Kingdom		Australia and NZ		Canada		South Africa		Rest of the World		All Countries		Sig.
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	
Initiating activity	31.92	3.86	30.76	3.91	30.92	3.86	31.50	4.00	31.53	3.95	30.38	4.47	31.43	3.99	0.00
Taking risks	25.04	3.88	25.86	3.89	25.94	3.73	25.82	3.94	25.96	3.99	25.20	3.77	25.36	3.88	0.00
Creating and innovating	29.82	3.91	29.73	4.21	30.42	4.14	30.05	4.19	30.54	4.33	29.31	4.27	29.84	4.06	0.00
Adapting to change	31.18	3.75	30.94	3.54	31.05	3.37	30.99	3.74	29.74	3.58	29.12	3.87	30.86	3.74	0.00
Analyzing and interpreting	30.28	3.99	29.24	4.05	29.63	3.97	29.82	4.17	30.56	3.94	29.64	4.24	29.94	4.06	0.00
Making decisions	28.71	4.22	28.18	4.01	28.25	4.18	28.52	4.34	28.55	4.15	27.70	4.31	28.45	4.21	0.00
Planning and prioritizing	27.96	4.96	27.36	4.94	27.37	4.83	27.69	5.05	27.88	4.79	27.60	4.88	27.74	4.95	0.00
Monitoring quality	30.93	4.14	29.98	4.24	29.80	4.23	30.40	4.41	30.68	4.25	29.69	4.44	30.49	4.25	0.00
Communicating	30.16	4.79	29.80	4.69	29.85	4.70	29.94	4.82	30.04	5.06	29.09	5.01	29.94	4.81	0.00
Listening and supporting	32.47	3.95	32.06	3.91	31.82	4.01	32.18	4.15	31.99	3.98	31.36	4.54	32.19	4.04	0.00
Relating and networking	27.88	4.17	27.93	4.00	27.58	4.25	27.78	4.18	27.63	4.44	27.38	4.54	27.80	4.20	0.00
Team working	32.10	3.95	31.64	3.82	31.60	3.79	31.97	4.16	30.98	4.11	30.97	4.50	31.81	4.01	0.00
Achieving goals	29.47	3.86	28.93	4.02	28.63	3.88	28.77	4.04	29.83	4.02	29.11	3.98	29.23	3.93	0.00
Meeting customer needs	33.18	3.81	32.52	3.69	32.69	3.68	32.71	3.99	33.00	3.76	31.90	4.29	32.85	3.86	0.00
Focusing on the business	30.02	4.13	28.88	4.12	29.06	4.08	29.51	4.18	30.59	4.08	29.54	4.31	29.66	4.17	0.00
Learning and developing	32.38	3.78	31.38	3.81	31.64	3.78	32.16	3.96	32.34	3.79	31.58	4.31	32.04	3.88	0.00
Persuading and influencing	32.24	4.58	30.86	4.66	31.07	4.73	31.86	4.82	32.06	4.66	31.01	5.05	31.73	4.71	0.00
Motivating and empowering	28.84	3.35	28.38	3.19	28.57	3.30	28.64	3.43	28.97	3.24	28.06	3.67	28.65	3.36	0.00
Coaching others	32.64	3.98	32.01	3.98	32.22	3.99	32.38	4.35	32.76	3.95	31.48	4.57	32.36	4.08	0.00
Coping with pressure	29.56	4.60	28.50	4.52	28.64	4.57	29.07	4.63	29.32	4.57	28.27	4.79	29.12	4.63	0.00

United States=10,685, United Kingdom=3,715, Australia and New Zealand=1,704, Canada=1,256, South Africa=625, Rest of the World=2,015.

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