

EQ16-R

emotional intelligence and
mindfulness questionnaire

> User Manual

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1.0 Introduction

1.1 EIQ16 Questionnaires

The EIQ16 and EIQ16-R emotional intelligence questionnaires are designed to provide information about a person's emotional intelligence. The purpose of the instruments is to help people understand and develop emotional qualities, competencies and skills to improve their performance and reach their potential.

1.2 Concept Model

The EIQ16 questionnaires are based on the model of emotional intelligence developed by Mayer, Salovey and Caruso (2002). This model of emotional intelligence has four key branches which in the instruments are named as follows: Reading People, Using Emotions, Understanding Emotions, and Managing Emotions.

Figure 1. Mayer, Salovey and Caruso model of emotional intelligence



Reading people, according to Mayer et al, covers the ability to recognize emotions in oneself and others as well as in objects, art, stories, music and other phenomena. Using emotions is the ability to generate, use and feel emotion to communicate feelings and employ them in thinking and decision making. Understanding emotions means being able to appreciate emotional information and to realize how emotions combine and progress through relationship transitions. Managing emotions describes the ability to be open to feelings and to control them in oneself and others in order to advance personal understanding and growth.

The EIQ16 questionnaires are behavioral style instruments whereas the Mayer-Salovey-Caruso Emotional Intelligence Test is an ability-based test.

1.3 Access

The questionnaires are designed to be used by psychologists, coaches and other HR professionals but can also be purchased direct by individual managers and professionals from the website www.myskillsprofile.com.

1.4 Design Criteria

The questionnaires are 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.

1.5 Development Overview

The development of the questionnaires can be broken down into six phases.

Phase 1. In the first phase of development we carried out a literature review and content analysis of models and measures of emotional intelligence and built a concept model based on the four-branch ability model of EI.

Phase 2. In the beta phase, we created an inventory with emotional competency scales and an impression management scale in the style of a behavioral style assessment test. We piloted the inventory online, analyzed the reliability and validity, generated norms, and produced a technical manual. The assessment was initially made available as a free test for several months before the first commercial version was launched in 2006.

Phase 3. In the third phase of development, we collected more data, conducted further analysis, and made incremental improvements to enhance the reliability of the scales and improve the format and contents of the computer-generated feedback report. We updated the user manual in the second half of 2011 in preparation for a test review. We submitted the instrument to the British Psychological Society (BPS) for review in the first half of 2012 and the review was published in July 2012.

Phase 4. In the fourth phase of development, we built a short 4 scale version of the questionnaire which we published as a free app in 2013. The items for the app were selected by carrying out a 4-factor forced extraction and selecting the items that loaded highest on each factor. The free app can be downloaded from Google Play.

Phase 5. In the fifth phase of development following the BPS review, we decided to look again at the factor structure of the instrument using methods researchers have utilized to remove response acquiescence. With response acquiescence removed, we found stronger evidence for a factor model more congruent with the original concept model. We revised the user manual to reflect these findings and address other issues raised by the BPS review. The revised manual was published in October 2014 and submitted to the Buros Center for

Testing for Review in 2015. The review is published in The Twentieth Mental Measurements Yearbook.

Phase 6. In the sixth phase of development following the Buros review, we made several item changes to the questionnaire to provide a measure of mindfulness competencies alongside emotional intelligence competencies. According to Park et al (2013), the consensus model of mindfulness identifies attention and acceptance as critical components of mindfulness. Attention is defined as maintaining awareness of present-moment experience and acceptance is defined as an attitude of openness and curiosity. Attention and acceptance are common elements of mindfulness self-report instruments and the EIQ16-R questionnaire contains items that assess these elements.

The rest of this chapter describes the development process and rationale for the design of the assessment in more detail.

1.6 EI Models

There are three distinct models/frameworks in the field of emotional intelligence (Cherniss, 2010): an ability model, a competency model, and a personality trait model.

Ability model. Mayer and Salovey are the leading exponents of the ability model. In their 1990 article, Mayer and Salovey define EI as “a subset of social intelligence that involves the ability to monitor one’s own and others feelings and emotions, to discriminate among them and to use this information to guide one’s thinking and actions”. Further work and reviews of the literature led the authors to divide EI skills and abilities into four areas covering the ability to (a) perceive emotion, (b) use emotion to facilitate thought, (c) understand emotions, and (d) manage emotions. Mayer, Salovey, and Caruso (2004) state that EI is a member of a class of “hot” intelligences dealing with personal and emotional cognitive processes.

The Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT) has eight scales with two measuring each of the four branches of EI. The Perceiving Emotions’ scales ask test takers to identify (a) emotions in faces, and (b) the emotions conveyed by landscapes and designs. The Using Emotions’ scales ask test takers to (a) compare emotions to other tactile and sensory stimuli, and (b) identify the emotions that facilitate different types of thinking. The Understanding Emotions’ scales test a person’s understanding of (a) how emotions change in intensity and type and (b) how emotions can blend into complex emotional states. The Managing Emotions’ scales ask test takers how they would manage (a) their own feelings and emotions, and (b) other people’s feelings and emotions in different scenarios.

Competency model. Daniel Goleman has been a leading exponent of the competency model and he has been largely responsible for popularizing the concept of EI in the workplace. Goleman’s 1998 Harvard Business Review article entitled “What makes a leader?” applied the construct to business leadership. In his article, Goleman argued that intelligence, toughness, determination, and vision were not enough to be successful. In order to succeed in business, you also needed to possess a high degree of EI. Goleman identified five groups of EI competencies: self-awareness, self-regulation, motivation, empathy, and social skill. Goleman’s Emotional Competence Framework published by the Consortium for Research on Emotional Intelligence defines these competencies and their elements.

Personality/trait model. The personality or trait model of emotional intelligence has been led by Petrides and Furnham at the London Psychometric Laboratory. Using content analysis, Petrides and Furnham (2001) identified 15 facets of personality relevant to EI which formed the basis of their Trait Emotional Intelligence Questionnaire (TEIQue). Factor analysis of the instrument indicates that trait EI covers 4 areas which in the TEIQue are labeled as Well-Being, Self-Control, Emotionality, and Sociability. The TEIQue total score correlates strongly with three of the Big Five personality factors (Conscientiousness, Extraversion, and Emotional Stability) and with the General Factor of Personality (GFP). According to Petrides et al (2007), trait EI (also defined as trait emotional self-efficacy) “refers to a constellation of emotional self-perceptions located at the lower levels of personality hierarchies”.

1.7 EI Measures

Table 1 provides a summary of eight measures of emotional intelligence that have been reviewed by the Consortium for Research on Emotional Intelligence in Organizations and for which there is “a substantial body of research” (defined as at least five published journal articles or book chapters that provide empirical data based on the test).

Table 1. Measures of emotional intelligence

Emotional Quotient Inventory	Emotional and Social Competence Inventory	Genos Emotional Intelligence Inventory	Mayer-Salovey-Caruso EI Test	Schutte Self Report EI Test	Trait Emotional Intelligence Questionnaire	Work Group Emotional Intelligence Profile	Wong's Emotional Intelligence Scale
Self-assessment	360-degree feedback	360-degree feedback	Self-assessment	Self-assessment	Self-assessment	Self-assessment	Self-assessment
Higher order factors/composite scales							
Self-awareness and self-expression	Self-awareness		Perceiving emotions		Well-being	Ability to deal with own emotions	
Social awareness and interpersonal relationship	Self-management		Facilitating thought		Self-control	Ability to deal with others' emotions	
Emotional management and regulation	Social awareness		Understanding emotions		Emotionality		
Change management	Relationship management		Managing emotions		Sociability		
Self-motivation							
Primary scales / subscales							
Self-regard	Emotional awareness	Emotional self-awareness	Faces	Appraisal and expression of emotion	Adaptability	Ability to recognize own emotions	Appraisal and expression of emotion in the self
Emotional self-awareness	Accurate self-assessment	Emotional expression	Pictures	Regulation of emotion	Assertiveness	Ability to discuss own emotions	Appraisal and recognition of emotion in others
Assertiveness	Self-confidence	Emotional awareness of others	Sensations	Utilization of emotion	Emotion perception (self and others)	Ability to manage own emotions	Regulation of emotion in the self
Independence	Emotional self-control	Emotional reasoning	Facilitation		Emotion expression	Ability to recognize others' emotions	Use of emotion to facilitate performance
Self-actualization	Transparency	Emotional self-management	Blends		Emotion management (others)	Ability to manage others' emotions	
Empathy	Adaptability	Emotional management of others	Changes		Emotion regulation		
Social responsibility	Achievement	Emotional self-control	Emotion management		Impulsiveness		
Interpersonal relationship	Initiative		Emotional relations		Relationships		

Emotional Quotient Inventory	Emotional and Social Competence Inventory	Genos Emotional Intelligence Inventory	Mayer-Salovey-Caruso EI Test	Schutte Self Report EI Test	Trait Emotional Intelligence Questionnaire	Work Group Emotional Intelligence Profile	Wong's Emotional Intelligence Scale
Stress tolerance	Optimism				Self-esteem		
Impulse control	Empathy				Self-motivation		
Reality-testing	Organizational awareness				Social awareness		
Flexibility	Service orientation				Stress management		
Problem-solving	Developing others				Trait empathy		
Optimism	Inspirational leadership				Trait happiness		
Happiness	Change catalyst				Trait optimism		
	Influence						
	Conflict management						
	Teamwork and collaboration						

Table 1 indicates some overlap in what the tests measure as some of the same scale labels can be seen in different tests even though the tests differ in whether they are measuring competencies, traits, or abilities. Nearly all the tests have at least some scales at the factor or facet level which can be linked to the descriptions of the four branches of emotional intelligence provided by Mayer and Salovey. Five of the tests are designed to measure emotional competencies and workplace behaviors, two of the tests are designed to measure trait EI, and one test is designed to measure cognitive abilities (Table 2).

Table 2. Types of emotional intelligence assessment test

Competency Model	Trait Model	Ability Model
Emotional and Social Competence Inventory	Emotional Quotient Inventory	Mayer-Salovey-Caruso EI Test
Genos Emotional Intelligence Inventory	Trait Emotional Intelligence Questionnaire	
Schutte Self Report EI Test		
Work Group Emotional Intelligence Profile		
Wong's Emotional Intelligence Scale		

There have been numerous studies of the factor structure of ability EI. Fan et al (2010) analyzed nineteen studies of the internal structure of the Mayer–Salovey–Caruso Emotional Intelligence Test (MSCEIT) using a meta-analytic structural equation modeling approach. They showed that although the four-factor model of ability EI had excellent fits on four different indices, it was not preferred due to a high correlation between two branches. On this basis, the authors proposed that a three-factor solution (with branches one and two merged as one factor) was the best-fitting alternative model of the MSCEIT structure. Studies of the internal structure of the Trait Emotional Intelligence Questionnaire provide support for four trait EI factors (Petrides, 2011).

The field of EI has not reached a position where a specific factor model (such as the Big Five in personality) commands widespread support. Moreover, the factor models of ability EI and trait EI are quite different because trait EI and ability EI are different constructs. It is also not fully understood how ability EI and trait EI influence competency EI although commonsense would suggest that an individual’s cognitive abilities and personality traits will have an impact on the emotional skills and competencies they display.

1.8 EIQ16 Emotional Intelligence Tests

The design of the EIQ16 assessments owes more to the ability and competency models of EI than trait models of EI. We adopted Mayer and Salovey’s four branch model of EI and decided to construct a test of emotional intelligence measuring emotional skills and competencies rather than cognitive abilities. In contrast to the MSCEIT ability measure, which asks test takers to, for example, identify emotions in faces and landscapes, the

EIQ16-R takes the approach of a behavioral style assessment test, and asks test takers how far they agree with a series of statements about their emotional skills and competencies.

We embraced Mayer and Salovey’s framework because we wanted our measure to focus on emotional skills and abilities and not stray into the assessment of broader management and leadership competencies that are included in, for example, the Emotional and Social Competence Inventory and the Emotional Competence Framework. We also envisioned that the primary application of the instrument would be in development applications, and we wanted to create a relatively short measure that participants would take as part of executive learning programs. This led us to utilize the format of a behavioral style self-assessment test (rather than an ability test or a 360-degree feedback survey).

The EIQ16 concept model (Figure 2) has sixteen emotional competencies covering the four branches of emotional intelligence identified by Mayer and Salovey (four clusters of four emotional competencies). These facets of emotional competence were identified by analyzing the contents of existing models and measures, and the rationale for positioning particular facets under particular branches is based in the main on content analysis of theories and conceptual models of EI in the literature rather than empirical evidence.

Table 3 provides concise descriptions of what each of the sixteen EIQ16 competency scales measure.

Reading people. The scales labeled Self-Analysis, Self-Expression, Analysis of Others, and Discrimination are designed to measure some of the key abilities in the first branch of Mayer and Salovey’s ability model—that is, an individual’s ability to recognize and express their own and other people’s feelings and emotions. There are scales in all the measures in Table 2 that are designed to measure this branch of emotional intelligence. For example, the Genos Emotional Intelligence Inventory has three scales labeled Emotional Self-Awareness, Emotional Expression, and Emotional Awareness of Others. The TEIQue has two scales labeled Emotion Perception (Self and Others) and Emotion Expression.

Using emotions. The scales labeled Thinking, Decision making, Attention, and Problem Solving are designed to measure the abilities in the second branch of the ability model. Mayer and Salovey state that people who are able to integrate their feelings and emotions with other sources of information are more creative, flexible and adaptable in the way they tackle problems and make decisions. In the Genos Emotional Intelligence Inventory, the relevant scale is called Emotional Reasoning, and in the Schutte Self Report EI Test, it is called Utilization of Emotions.

Understanding emotions. The scales labeled Symptoms, Causes, Complexity, and Transitions are designed to measure the third branch of the ability model. Mayer and Salovey define this branch as the “capacity to analyze emotions, appreciate their probable trends over time, and understand their outcomes.” This area of emotional intelligence appears to be under-represented in many of the measures of EI in Table 2.

Table 3. What the scales measure

Scale	What the scale measures	
Self-analysis	The degree to which you are in touch with your feelings and emotions and notice when your mood changes.	Reading people
Analysis of others	The extent to which you pay attention to and identify other people's feelings and emotions.	
Self-expression	How far you are able to describe and communicate your feelings and emotions.	
Discrimination	How far you pick up on emotional cues and can tell when something is wrong or when someone is trying to deceive you.	
Thinking	The degree to which you follow your hunches and feelings and let your feelings guide your thinking.	Using emotions
Decision making	The extent to which you allow your instincts and intuition to influence your judgments and decisions.	
Attention	The extent to which you are able to stay in the present and maintain awareness of present moment experience	
Problem solving	The extent to which you use your own and other people's feelings and emotions to help solve problems.	
Symptoms	Your ability to recognize a range of common emotions—for example, happiness, anger, fear, surprise, interest etc.	Understanding emotions
Causes	How far you understand the factors that lead people to experience different feelings and emotions.	
Complexity	The extent to which you understand complex feelings, emotional blends and contradictory states.	
Transitions	The degree to which you are aware of and can anticipate how emotions progress and change.	
Openness	The extent to which you are receptive to new ideas, experiences, and change and display attitudes of openness and curiosity.	Managing emotions
Monitoring	How far you pay attention to people's moods and behaviors and notice what is going on around you.	
Self-control	Your ability to stay in control of your feelings and emotions when you are under pressure and stress.	
Managing others	The degree to which you are able to handle other people's feelings and emotions in a sympathetic and nonjudgmental manner.	

Managing emotions. The scales labeled Openness, Monitoring, Self-Control, and Managing Others are designed to measure some of the key skills in the fourth branch of the ability model. Mayer and Salovey state that emotionally intelligent individuals are adept at regulating emotion in themselves and others. They are able to enhance their own and other people's moods in order to help achieve particular outcomes—for example, motivating team members to achieve team goals. This area of EI features strongly in the eight EI measures in Table 1.

Impression management. In addition to the competency scales, the EIQ16-R has an impression management scale to throw light on response bias, a common issue with normative assessments. The core items for the IM scale were drawn from the International Personality Item Pool (Goldberg, 1997).

Each of the EIQ16-R scales has eight items. Four items are keyed positively and four keyed negatively. Test takers are required to say how far they agree with each item using a five-point Likert scale.

Key	Example Item
+	I try to understand the reasons for people's feelings
-	I don't pick up on emotional cues

Figure 2. EIQ16-R concept model of emotional intelligence



2.0 Administration

The EIQ16-R is administered online via the Internet. There are two ways that persons can be tested.

2.1 Administered by Professional

Where the test is being administered to a group of people by a psychologist or coach, the test taker receives an email from the test administrator containing a hyperlink which takes the test taker to a testing screen with instructions on how to complete the test. The test taker then goes through a series of screens with the questions and completes a personal details form.

Once the assessment test has been completed, the client may view or download the computer-generated feedback report if the online testing service has been set up to provide feedback reports to test takers. The online testing system can be set up by a test administrator to have feedback reports emailed to the test administrator, or to the test taker, or to the test taker and to the test administrator.

2.2 Direct Access

Individuals can also purchase the EIQ16-R assessment test direct from myskillsprofile.com. In this instance, the test taker is presented with instructions about how to complete the test, does the test and then completes a personal details form. The individual then pays for the assessment by credit card and once the transaction has been processed, the test taker can view and download the feedback report in PDF format. Test takers can also request a copy of their feedback report to be emailed to them.

2.3 Scoring and Norming

The scoring and generation of feedback reports are done online. A person's EIQ16-R raw scores are compared to a very large international comparison group of people who have answered the questionnaire. Details of this norm group are given in Chapter 6.

3.0 Scale Descriptions

Each scale description table in this chapter contains elements covering the meaning of low scores, moderate scores and high scores.

3.1 Scale Items

The EIQ16-R questionnaire has 8 items per scale with equal numbers of positively and negatively keyed items. The tables below present examples of the items.

3.2 Relationships with Other Scales

The final section of each table shows other scales that the scale correlates highly with. These correlations are from the international comparison group. The full intercorrelation matrix is shown in Table 6 in Chapter 5.

3.3 Scale Contents

Scale	Page
Self-analysis	18
Analysis of others	19
Self-expression	20
Discrimination	21
Thinking	22
Decision making	23
Attention	24
Problem solving	25
Symptoms	26
Causes	27
Complexity	28
Transitions	29
Openness	30
Monitoring	31
Self-control	32
Managing others	33
Impression management	34

Key Area 1. Reading People

Scale 1.1. Self-analysis

High scorers

Description

Are in touch with their feelings and emotions and notice when their mood changes.

Example positive item

I notice when my mood changes.

Moderate scorers

Description

Are moderately aware of their feelings and emotions.

Or

Are aware of how they are feeling some of the time.

Low scorers

Description

Pay little attention to their feelings and emotions.

Example negative item

I rarely notice my emotions.

Correlations with other scales

R

Openness	0.66
Self-expression	0.62
Transitions	0.62
Problem solving	0.61

Key Area 1. Reading People

Scale 1.2. Analysis of others

High scorers

Description

Pay close attention to and identify other people's feelings and emotions.

Example positive item

I am good at sensing what others are feeling.

Moderate scorers

Description

Pay some attention to other people's feelings and emotions.

Or

Pay attention to and identify other people's feelings and emotions in some situations but not others.

Low scorers

Description

Pay very little attention to and do not tend to identify other people's feelings and emotions.

Example negative item

I rarely stop to consider why people feel the way they do.

Correlations with other scales

R

Openness	0.65
Transitions	0.64
Complexity	0.64
Managing others	0.63

Key Area 1. Reading People

Scale 1.3. Self-expression

High scorers

Description

Are skilled at describing and communicating their feelings and emotions.

Example positive item

I talk fluently about my feelings.

Moderate scorers

Description

Are moderately skilled at describing and communicating their feelings and emotions.

Or

Are able to describe and communicate their feelings and emotions in some situations but not in others.

Low scorers

Description

Are unable to describe and communicate their feelings and emotions.

Example negative item

I like to keep my feelings to myself.

Correlations with other scales

R

Self-analysis	0.62
Openness	0.6
Transitions	0.52
Analysis of others	0.51

Key Area 1. Reading People

Scale 1.4. Discrimination

High scorers

Description

Pick up on emotional cues and can tell when something is wrong or when someone is trying to deceive them.

Example positive item

I notice when a person is trying to manipulate me.

Moderate scorers

Description

Are fairly competent at picking up on emotional cues and telling when something is wrong or when someone is trying to deceive them.

Or

Pick up on emotional cues and can tell when something is wrong or when someone is trying to deceive them in some situations but not others.

Low scorers

Description

Don't pick up on emotional cues and cannot tell when something is wrong or when someone is trying to deceive them.

Example negative item

I don't pick up on emotional cues.

Correlations with other scales

R

Analysis of others	0.62
Transitions	0.58
Complexity	0.56
Openness	0.54

Key Area 2. Using Emotions

Scale 2.1. Thinking

High scorers

Description

Follow their hunches and feelings and let their feelings guide their thinking.

Example positive item

I like to examine what my emotions are telling me.

Moderate scorers

Description

Follow their hunches and feelings and let their feelings guide their thinking to a moderate degree.

Or

Follow their hunches and feelings and let their feelings guide their thinking in some situations but not in others.

Low scorers

Description

Are reluctant to follow their hunches and let their feelings guide their thinking.

Example negative item

I sometimes confuse feelings with reality.

Correlations with other scales

R

Decision making	0.69
Problem solving	0.59
Attention	0.44
Self-analysis	0.43

Key Area 2. Using Emotions

Scale 2.2. Decision making

High scorers

Description

Understand how to use their own and others' feelings and emotions to help make decisions and act decisively.

Example positive item

I do what feels right when there isn't time to deliberate.

Moderate scorers

Description

Make moderate use of their own and others' feelings and emotions to help make decisions.

Or

Make use of their own and others' feelings and emotions to help make decisions in some situations but not others.

Low scorers

Description

Do not know how to use feelings and emotions to help make decisions and act decisively.

Example negative item

I make poor decisions when my emotions are high.

Correlations with other scales

R

Thinking	0.69
Problem solving	0.58
Attention	0.41
Self-analysis	0.38

Key Area 2. Using Emotions

Scale 2.3. Attention

High scorers

Description

Pay careful attention to present-moment experience with an attitude of openness and curiosity.

Example positive item

I like to make every moment matter.

Moderate scorers

Description

Are reasonably skilled at paying attention to present-moment experience with an attitude of openness and curiosity.

Or

Are as competent at paying attention to present-moment experience as most other people in the reference group.

Low scorers

Description

Struggle to pay attention to present-moment experience with an attitude of openness and curiosity.

Example negative item

I find it difficult to stay in the present.

Correlations with other scales

R

Thinking	0.44
Decision making	0.41
Problem solving	0.37
Self-analysis	0.23

Key Area 2. Using Emotions

Scale 2.4. Problem solving

High scorers

Description

Know how to draw on their own and other people's feelings and emotions to help solve problems.

Example positive item

I like to draw on feelings to help frame a problem.

Moderate scorers

Description

Have some ability to use their own and other people's feelings and emotions to help solve problems.

Or

Use their own and other people's feelings and emotions to help solve problems in some situations but not others.

Low scorers

Description

Have not learned how to use their own and other people's feelings and emotions to help solve problems.

Example negative item

I block out my feelings when I am analyzing a problem.

Correlations with other scales

R

Self-analysis	0.61
Thinking	0.59
Decision making	0.58
Openness	0.54

Key Area 3. Understanding Emotions

Scale 3.1. Symptoms

High scorers

Description

Can recognize a range of common emotions—for example, happiness, anger, fear, surprise, interest etc.

Example positive item

I can see when someone is angry.

Moderate scorers

Description

Can recognize a range of common emotions – for example, happiness, anger, fear, surprise, interest - as well as the average person.

Or

Can recognize common emotions in some situations but not in others.

Low scorers

Description

Have difficulty recognizing a range of common emotions – for example, happiness, anger, fear, surprise, interest etc.

Example negative item

I rarely notice when someone is sad.

Correlations with other scales

R

Discrimination	0.54
Analysis of others	0.53
Complexity	0.51
Transitions	0.49

Key Area 3. Understanding Emotions

Scale 3.2. Causes

High scorers

Description

Understand the factors that lead people to experience different feelings and emotions.

Example positive item

I like to understand what makes people angry.

Moderate scorers

Description

Show a reasonable understanding of the factors that lead people to experience different feelings and emotions.

Or

Understand what leads people to experience different feelings and emotions in some situations but not others.

Low scorers

Description

Do not understand the factors that lead people to experience different feelings and emotions.

Example negative item

No negatively keyed items in this scale.

Correlations with other scales

R

Complexity	0.58
Analysis of others	0.47
Transitions	0.47
Openness	0.47

Key Area 3. Understanding Emotions

Scale 3.3. Complexity

High scorers

Description

Understand complex feelings, emotional blends and contradictory states.

Example positive item

I notice when someone is experiencing conflicting emotions.

Moderate scorers

Description

Have a moderate understanding of complex feelings, emotional blends and contradictory states.

Or

Understand complex feelings, emotional blends and contradictory states as well as the average person.

Low scorers

Description

Do not understand complex feelings, emotional blends and contradictory states.

Example negative item

I am often unaware of the intensity of people's feelings.

Correlations with other scales

R

Transitions	0.69
Analysis of others	0.64
Openness	0.59
Causes	0.58

Key Area 3. Understanding Emotions

Scale 3.4. Transitions

High scorers

Description

Are aware of and can anticipate how emotions progress and change.

Example positive item

I am good at predicting how emotions will develop.

Moderate scorers

Description

Are moderately skilled at anticipating how emotions progress and change.

Or

Can anticipate how emotions progress and change in some situations but not others.

Low scorers

Description

Are unaware of and cannot anticipate how emotions progress and change.

Example negative item

I have difficulty understanding the way emotions change.

Correlations with other scales

R

Complexity	0.69
Analysis of others	0.64
Monitoring	0.63
Openness	0.62

Key Area 4. Managing Emotions

Scale 4.1. Openness

High scorers

Description

Approach new experiences, ideas, and proposals for change with openness and curiosity.

Example positive item

I take pleasure in discovering new things.

Moderate scorers

Description

Possess some ability to approach new experiences, ideas, and proposals for change with openness and curiosity.

Or

Approach new experiences, ideas, and proposals for change with openness and curiosity in some situations but not others.

Low scorers

Description

Find it hard to approach new experiences, ideas, and proposals for change with openness and curiosity.

Example negative item

I am not very curious about the world.

Correlations with other scales

R

Self-analysis	0.66
Analysis of others	0.65
Transitions	0.62
Self-expression	0.6

Key Area 4. Managing Emotions

Scale 4.2. Monitoring

High scorers

Description

Take an active interest in the work climate and notice what people around them are feeling and doing.

Example positive item

I notice when the emotional atmosphere around me changes.

Moderate scorers

Description

Possess a moderate ability to show interest in and notice what people around them are feeling and doing.

Or

Show interest in and notice what people around them are feeling and doing in some situations but not others.

Low scorers

Description

Find it an effort to take an active interest in and notice what people around them are feeling and doing.

Example negative item

I don't notice what other people get up to.

Correlations with other scales

R

Transitions	0.63
Self-control	0.56
Complexity	0.52
Analysis of others	0.48

Key Area 4. Managing Emotions

Scale 4.3. Self-control

High scorers

Description

Are able to stay in control of their feelings and emotions when they are under pressure and stress.

Example positive item

I am good at keeping calm in a crisis.

Moderate scorers

Description

Are as capable as the average person of staying in control of their feelings and emotions when they are under pressure and stress.

Or

Manage to stay calm and in control in some situations but have difficulty in others.

Low scorers

Description

Have difficulty staying in control of their feelings and emotions when they are under pressure and stress.

Example negative item

I often get overwhelmed by emotions.

Correlations with other scales

R

Monitoring	0.56
Transitions	0.42
Complexity	0.41
Discrimination	0.39

Key Area 4. Managing Emotions

Scale 4.4. Managing others

High scorers

Description

Are able to manage other people's feelings and emotions in a sympathetic manner.

Example positive item

I like to make others feel good.

Moderate scorers

Description

Have some ability to manage other people's feelings and emotions in a sympathetic manner.

Or

Manage other people's feelings and emotions in a sympathetic manner in some situations but not others.

Low scorers

Description

Are unable to manage other people's feelings and emotions in a sympathetic manner.

Example negative item

I sometimes hurt other people's feelings.

Correlations with other scales

R

Analysis of others	0.63
Openness	0.56
Self-analysis	0.54
Transitions	0.5

Response Style

MD Scale. Impression management

High scorers

Description

Answer questions honestly and self-critically.

Example positive item

I always tell the truth.

Moderate scorers

Description

Answer questions as honestly as the average person.

Or

Have a reasonably accurate picture of their strengths and weaknesses.

Low scorers

Description

Present a less honest and self-critical assessment of their strengths and weaknesses.

Example negative item

I get back at others.

Correlations with other scales

R

Self-control	0.32
Monitoring	0.24
Transitions	0.23
Managing others	0.21

4.0 Interpretation and Feedback Report

This chapter describes how the EI16-R sten scoring system works and explains how the EI16-R computer-generated feedback report is constructed.

4.1 Sten Scores

The EI16-R uses the Standard Ten (sten) scoring approach. To help professional users and test takers understand what different sten scores mean, the EI16-R interpretive model breaks the sten range into five categories. The table below illustrates the approach, for example:

- A sten score of 9 indicates that the person has Level 5 emotional competencies which they should exploit.
- A sten score of 5 indicates that the person has Level 3 emotional competencies which they should endeavor to work on.
- A sten score of 3 indicates that the person has Level 2 emotional competencies which they should try to develop.

Table 4. EI16-R scoring approach

Range	Level	Competence	Development
9-10	5	Very high	Capitalize on
7-8	4	High	Round off
5-6	3	Average	Work on
3-4	2	Low	Develop
1-2	1	Very low	Improve

Table 5 shows how a person's sten scores relate to percentiles. For example, a sten score of 6 indicates that the person's emotional competencies are more developed than those of about 60 percent of persons in the international the comparison group.

4.2 Feedback Report

The EI16-R computer-generated feedback report has five sections.

Section 1. Gives a brief introduction to the questionnaire explaining what the instrument measures and how the scoring system works.

Section 2. Provides concise descriptions of the emotional intelligence and mindfulness competencies that the test taker receives feedback on in the report.

Section 3. Provides an executive summary of the results of the assessment covering the test taker's overall emotional competence, their scores on the four branches of emotional intelligence, their score on mindfulness, and their impression management score.

Section 4. Provides scorecards for each of the four branches of emotional intelligence and mindfulness, summarizes their emotional intelligence and mindfulness competencies, and provides develop tips and suggestions.

Section 5. Gives guidance on personal development and provides a development plan template.

Table 5. Relationship between stens and percentiles

Sten Score	Higher than
10	99 percent of persons in the comparison group
9	95 percent of persons in the comparison group
8	90 percent of persons in the comparison group
7	75 percent of persons in the comparison group
6	60 percent of persons in the comparison group
5	40 percent of persons in the comparison group
4	25 percent of persons in the comparison group
3	10 percent of persons in the comparison group
2	5 percent of persons in the comparison group
1	1 percent of persons in the comparison group

5.0 Reliability and Validity

5.1 Internal Consistency Reliabilities

Table 6 presents internal consistency estimates for the EIQ16 based on Cronbach's Coefficient Alpha together with raw and sten score SEMs for the international comparison group. The characteristics of the sample are described in Chapter 6. The internal consistencies range from 0.66 to 0.87 with a median of 0.73. The sten score SEMs range from 0.84 to 1.40 with a median of 1.17. This indicates that there is a 68 percent likelihood that the person's true score on one of the scales will be about one sten either side of the observed score.

Table 6. Internal consistency reliabilities for EIQ16¹ (n = 6,000)

Scale	Alpha	Mean	SD	Raw score SEM	Sten score SEM
Self-analysis	0.73	31.61	4.26	2.21	1.17
Analysis of others	0.77	31.73	4.71	2.26	1.07
Self-expression	0.87	27.84	6.54	2.36	0.84
Discrimination	0.78	30.03	4.61	2.16	1.07
Thinking	0.67	26.96	4.70	2.70	1.29
Decision making	0.69	26.64	4.49	2.50	1.28
Attention	0.68	24.71	4.85	2.74	1.29
Problem solving	0.70	28.24	4.51	2.47	1.25
Symptoms	0.73	32.43	4.11	2.14	1.17
Causes	0.80	33.47	3.86	1.73	1.00
Complexity	0.77	30.86	4.60	2.21	1.08
Transitions	0.81	29.97	4.92	2.14	1.01
Openness	0.69	30.39	4.28	2.38	1.25
Monitoring	0.67	27.17	4.68	2.69	1.29
Self-control	0.82	28.09	6.04	2.56	0.97
Managing others	0.77	32.49	4.71	2.26	1.10
Impression management	0.66	24.00	4.87	2.84	1.40
Median	0.73	29.97	4.68	2.36	1.17

¹ A study of the internal consistency reliability of the EIQ16-R scales based on 500 respondents produced alpha estimates close to those reported in Table 1.

5.2 Scale Intercorrelations

Intercorrelations indicate how closely related or independent the EIQ16 scales are. This helps interpretation and throws light on construct validity. Table 7 shows the intercorrelations of the EIQ16 scales. The correlations for the EIQ16 range from -0.45 to 0.68 with a median of 0.38. About three quarters of the intercorrelations were less than 0.50. This indicates a reasonable degree of independence between the scales.

5.3 Intercorrelations and Reliability

In order to determine how well an assessment test 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 percent reliable variance, then we can be reasonably certain that they are independent.

Table 8 shows the percentage of common reliable variance for the EIQ16 scales. Forty nine percent of the EIQ16 scale pairs share less than 25 percent common variance and 76 percent share less than 50 percent indicating that the scales show a fair degree of independence.

5.4 Standard Error of Difference

The Standard Error of Difference (SEd) helps 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 percent likelihood that there is a real difference.

Table 9 shows the SEds for the EIQ16. The median SEd for the EIQ16 primary scales is 1.41 indicating that a difference of 3 stens is likely to indicate a real difference between one scale score and another. In other words, you need to see a difference of 3 stens (depending on the scales in question) before you can say that a person has more emotional competencies in one area than another.

Table 7. Scale intercorrelations for the EIQ16 (n = 6,000)

Scale	Self-analysis	Analysis of others	Self-expression	Discrimination	Thinking	Decision making	Attention	Problem solving	Symptoms	Causes	Complexity	Transitions	Openness	Monitoring	Self-control	Managing others	Impression management
Self-analysis	1.00	0.60	0.62	0.46	0.43	0.38	0.23	0.61	0.43	0.42	0.54	0.62	0.66	0.44	0.22	0.54	0.17
Analysis of others		1.00	0.51	0.62	0.29	0.27	0.12	0.52	0.53	0.47	0.64	0.64	0.65	0.48	0.37	0.63	0.16
Self-expression			1.00	0.38	0.32	0.26	0.12	0.49	0.34	0.34	0.49	0.52	0.60	0.40	0.24	0.45	0.21
Discrimination				1.00	0.12	0.15	-0.02	0.33	0.54	0.42	0.56	0.58	0.54	0.46	0.39	0.37	0.16
Thinking					1.00	0.69	0.44	0.59	0.16	0.13	0.18	0.23	0.35	0.00	-0.22	0.32	-0.07
Decision making						1.00	0.41	0.58	0.16	0.12	0.18	0.22	0.31	0.06	-0.18	0.23	-0.10
Attention							1.00	0.37	0.03	0.04	0.02	0.09	0.16	-0.03	-0.45	0.11	-0.14
Problem solving								1.00	0.30	0.29	0.43	0.53	0.54	0.39	0.11	0.47	0.06
Symptoms									1.00	0.46	0.51	0.49	0.48	0.34	0.29	0.43	0.13
Causes										1.00	0.58	0.47	0.47	0.32	0.25	0.39	0.13
Complexity											1.00	0.69	0.59	0.52	0.41	0.49	0.18
Transitions												1.00	0.62	0.63	0.42	0.50	0.23
Openness													1.00	0.47	0.32	0.56	0.19
Monitoring														1.00	0.56	0.32	0.24
Self-control															1.00	0.29	0.32
Managing others																1.00	0.21
Impression management																	1.00

Table 8. Percentage of common reliable variance for EIQ16 scales (n=6,000)

Scale	Self-analysis	Analysis of others	Self-expression	Discrimination	Thinking	Decision making	Attention	Problem solving	Symptoms	Causes	Complexity	Transitions	Openness	Monitoring	Self-control	Managing others	Impression management
Self-analysis		64	61	37	38	29	11	73	35	30	52	65	86	40	8	52	6
Analysis of others			39	64	16	14	3	50	50	36	69	66	80	45	22	67	5
Self-expression				21	18	11	2	39	18	17	36	38	60	27	8	30	8
Discrimination					3	4	0	20	51	28	52	53	54	40	24	23	5
Thinking						103	42	74	5	3	6	10	26	0	9	20	1
Decision making							36	70	5	3	6	9	20	1	6	10	2
Attention								29	0	0	0	1	5	0	36	2	4
Problem solving									18	15	34	50	60	32	2	41	1
Symptoms										36	46	41	46	24	14	33	4
Causes											55	34	40	19	10	25	3
Complexity												76	66	52	27	40	6
Transitions													69	73	27	40	10
Openness														48	18	59	8
Monitoring															57	20	13
Self-control																13	19
Managing others																	9
Impression management																	

Table 9. SED of EI16 scales (n = 6,000)

Scale	Self-analysis	Analysis of others	Self-expression	Discrimination	Thinking	Decision making	Attention	Problem solving	Symptoms	Causes	Complexity	Transitions	Openness	Monitoring	Self-control	Managing others	Impression management
Self-analysis		0.82	0.99	0.92	0.82	0.89	1.32	1.40	1.12	1.23	1.18	1.24	1.16	1.30	1.31	1.51	1.41
Analysis of others			0.97	0.90	0.80	0.88	1.31	1.39	1.11	1.22	1.17	1.23	1.15	1.29	1.30	1.50	1.40
Self-expression				1.05	0.97	1.03	1.42	1.49	1.23	1.33	1.29	1.35	1.27	1.40	1.41	1.59	1.51
Discrimination					0.90	0.96	1.37	1.45	1.18	1.28	1.23	1.29	1.21	1.35	1.36	1.55	1.46
Thinking						0.87	1.31	1.39	1.10	1.21	1.17	1.23	1.14	1.29	1.30	1.50	1.40
Decision making							1.35	1.43	1.16	1.26	1.22	1.28	1.20	1.34	1.34	1.54	1.45
Attention								1.73	1.51	1.59	1.56	1.60	1.54	1.65	1.66	1.82	1.74
Problem solving									1.58	1.66	1.63	1.67	1.61	1.72	1.72	1.88	1.81
Symptoms										1.43	1.39	1.44	1.37	1.50	1.50	1.68	1.60
Causes											1.48	1.53	1.47	1.58	1.59	1.75	1.67
Complexity												1.49	1.42	1.55	1.55	1.72	1.64
Transitions													1.48	1.59	1.60	1.76	1.68
Openness														1.53	1.53	1.71	1.62
Monitoring															1.65	1.81	1.73
Self-control																1.81	1.73
Managing others																	1.89
Impression management																	

5.5 Factor Analysis

Response bias is a common problem with normative assessments especially where the items are transparent. Recent studies in the field of personality (Rammstedt, Kemper, and Borg, 2013; Rammstedt, Goldberg, and Borg, 2010; Rammstedt and Kemper, 2011) suggest that the structure of instruments assessing the Big Five personality factors is sensitive to effects of acquiescent responding. When acquiescence was controlled for through ipsatization, the Big Five factor structure became much clearer and more congruent with simple structure.

Previous factor analyses of the EIQ16 have provided evidence for two, three, and four-factor models. In the most recent study of the factor structure of the inventory, we carried out analyses using normative scores, ipsatized scores, and combined scores (the mean of standardized normative and standardized ipsatized scores). Ipsatization transforms a respondent's scores relative to their average response so that their scale scores represent deviations from their average scale score.

Factor analysis with the combined scale scores produced solutions that bore closest resemblance to the four-branch concept model and these are reported below.

Principal axis extraction with oblique rotation was performed on the EIQ16 scales separately for men and women on an international sample of 1,293 men and 1,288 women. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy was above 0.8 in each analysis, well above 0.6 required for a good factor analysis.

Four factors were extracted with eigenvalues over 1 for men and women accounting for 54 percent and 48 percent of variance. The variables were on the whole reasonably well-defined by the factor solutions. The median communality values were 0.54 and 0.47. Table 10 shows loadings of variables on factors.

The first factor for men and the third factor for women have six scales loading on them and we interpret this factor as measuring the Understanding Emotions branch in the four-branch ability model. The following scales loaded on this factor: Complexity, Discrimination, Analysis of Others, Symptoms, Causes, and Transitions.

Factor two for men and factor one for women both have the following scales loading them: Decision making, Problem Solving, and Thinking. This factor appears to be measuring the Using Emotions branch in the four-branch model. In the matrix for women, the Attention scale also loads positively on this factor, and the Self-Control and Monitoring scales load negatively. It seems that women who allow their emotions to influence their thinking have difficulty regulating their emotions; and, women who regulate their emotions tend not to allow their emotions to influence their thinking.

Factor four for men and factor three for women both have the following scales loading on them: Self-Analysis, Self-expression, Openness, and Transitions. This factor appears to be tapping the Reading People branch in the four-branch model. In the matrix for women, the Monitoring scale also loads on this factor.

Table 10. Rotated component matrix for EIQ16 combined scores (n=6,000)

Scale	Men				Women			
	F1	F2	F3	F4	F1	F2	F3	F4
Self-analysis	-0.14	-0.01	-0.17	0.78	0.27	-0.02	0.65	0.06
Analysis of others	0.68	0.11	0.15	0.12	-0.10	0.55	0.08	0.24
Self-expression	-0.11	-0.13	0.06	0.67	-0.05	-0.05	0.69	-0.02
Discrimination	0.81	0.02	0.07	-0.14	-0.06	0.72	-0.04	-0.04
Thinking	-0.05	0.70	-0.15	-0.01	0.79	-0.03	0.17	0.00
Decision making	-0.06	0.81	0.07	-0.12	0.65	-0.05	0.13	-0.06
Attention	-0.10	0.18	-0.54	-0.01	0.63	0.00	-0.19	-0.05
Problem solving	-0.04	0.76	-0.06	0.14	0.71	-0.04	0.23	0.08
Symptoms	0.68	-0.10	-0.12	-0.14	0.07	0.62	-0.16	0.12
Causes	0.67	-0.14	-0.11	0.12	0.05	0.66	0.11	-0.07
Complexity	0.92	0.05	-0.07	-0.13	0.07	0.87	-0.07	-0.06
Transitions	0.47	-0.05	0.05	0.31	-0.07	0.43	0.34	-0.09
Openness	0.10	0.18	0.15	0.43	-0.11	-0.02	0.31	0.39
Monitoring	0.13	0.02	0.53	0.20	-0.36	0.13	0.34	-0.10
Self-control	-0.18	-0.02	0.98	-0.10	-0.74	-0.20	0.16	0.01
Managing others	0.19	0.30	0.00	0.21	0.03	0.04	-0.04	0.72

N for men = 1,293, n for women = 1,288. Main factor loadings are in **bold**, secondary loadings above 0.30 are in **bold italic**.

Factor three for men and factor four for women both have two scales from the Managing Emotions branch loading on them but they are different scales. In the matrix for men, the Self-Control and Monitoring scales load on the factor whereas in the matrix for women, the Managing Others and Openness scales load on the factor. In the matrix for men, the Attention scale also loads negatively on the factor.

5.6 Relationship to Other Measures

International Personality Item Pool. In order to confirm that the EIQ16 measures aspects of emotional style, we included marker variables in the test development questionnaire. These markers were taken from the International Personality Item Pool (2001). Table 11 shows the relationships between these marker variables and 12 out of 17 EIQ scales for a sample of 1,500 respondents.

The mean age of respondents was 37.2 with a standard deviation of 12. The majority of respondents were between the ages of 21 and 50 with roughly equal numbers in the 21-30, 31-40 and 41-50 age groups. Two thirds of respondents described themselves as White,

7.6% said they were Asian, 7% said they were Black, and 4.2% of a mixed background. Approximately half of the respondents were from the United States and one fifth from the United Kingdom. About a fifth of respondents were from Canada, Australia, and New Zealand.

The correlations between the EIQ16 scales and the marker variables are in the range of 0.42 to 0.76 with a median correlation of 0.62.

Table 11. Correlations between EIQ16 scales and IPIP marker variables (n =1,500)

Scale	R	IPIP Marker Variable Scale
Self-analysis	0.70	Attending to emotions
Analysis of others	0.62	Social/Personal/Emotional Intelligence
Self-expression	0.76	Expressiveness
Discrimination	0.59	Attending to emotions
Thinking	0.50	Emotion-based decision making
Decision making	0.55	Emotion-based decision making
Attention	0.68	Tranquillity
Problem solving	0.62	Emotion-based decision making
Symptoms	-	No equivalent or similar scale in IPIP database
Causes	-	
Complexity	-	
Transitions	-	
Openness	0.59	Emotionality
Monitoring	0.42	Warmth
Self-control	0.56	Negative expressivity
Managing others	0.66	Understanding
Impression management	0.66	Impression management

All correlations significant at 0.01 level.

Trait emotional intelligence. We also looked at the relationship between EI competencies and trait emotional intelligence. Twelve hundred and thirty five respondents completed the EIQ16 and the short version of the Trait Emotional Intelligence Questionnaire (TEIQue-SF). Sixty three percent of respondents were women and 37 percent were men. The average age of respondents was 41.5 years. Table 12 shows correlations between the two measures.

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.

There are strong correlations between the total scores of the two measures indicating that the personal competencies that the EIQ16 assesses are influenced by trait emotional intelligence. Overall, the total scores from the two measures correlate at 0.72 which is good evidence of congruent validity.

Table 12. Correlations between EIQ16 scales and TEIQue variables (n =1,235)

Scale	Total score	Reading people	Using emotions	Understanding emotions	Managing emotions
Total score	0.72**	0.70**	0.18**	0.63**	0.82**
Well-being	0.46**	0.43**	0.08**	0.36**	0.59**
Self-control	0.40**	0.39**	-0.15**	0.40**	0.56**
Emotionality	0.59**	0.61**	0.40**	0.46**	0.53**
Sociability	0.60**	0.57**	0.18**	0.58**	0.64**

All correlations significant at 0.01 level.

The strongest correlation at $r = 0.82$ is between the EIQ16 Managing Emotions factor and the TEIQue total score--defined as excellent evidence of congruent validity. This suggests that the four scales that make up the EIQ16 Managing Emotions factor measure key aspects of a respondent's well-being, self-control, emotionality, and sociability.

The weakest correlations are between the TEIQue factors and the EIQ16 Using Emotions factor. This would appear to be because the short form of the TEIQue does not measure how far a person uses their emotions in problem solving and decision making to the same degree.

5.7 Correlations with Job Performance

The international comparison group data set contains information about respondents' job performance based on questionnaire items asking respondents to self-assess their job performance and report their line manager's assessment using a 4-point scale from "Excellent" to "Not satisfactory".

Table 13 shows the frequency of the two types of job performance ratings reported by respondents. Just over 2,000 respondents rated their performance as excellent, 3,004 thought it was good, 763 thought it was satisfactory, and 200 said it was not satisfactory. The correlation between the self-assessments and reported line manager assessments was 0.69.

Table 13. Distribution of ratings of job performance (n = 6,000)

Self-Assessment	Line Manager's Assessment				Total
	Excellent	Good	Satisfactory	Not satisfactory	
Excellent	1,715	284	24	10	2,033
Good	594	2,122	245	43	3,004
Satisfactory	64	251	393	55	763
Not satisfactory	7	26	67	100	200
Total	2,380	2,683	729	208	6,000

Table 14 shows the correlations between the EIQ16 scales and the self-assessed performance ratings, the line manager ratings and a combined rating (the sum of the two ratings).

There were statistically significant correlations between self-assessed job performance and test scores on 14 scales. The correlations ranged from 0.00 to 0.30 with a median of 0.21. There were also statistically significant correlations between the boss's job performance assessment and test scores on 14 scales. The correlations ranged from 0.01 to 0.27 with a median of 0.19. The correlations for the combined rating which were statistically significant for 15 scales ranged from 0.00 to 0.31 with a median of 0.22.

The magnitude of these correlations is consistent with those reported in the literature for emotional intelligence variables--for example, O'Boyle et al. (2011) reported corrected correlations ranging from 0.24 to 0.30 with job performance resulting from a meta-analysis of EI studies.

Table 14. Correlations between EIQ16 scales and job performance (n = 6,000)

Scale	Self-Assessment	Manager's Assessment	Combined Assessment
Self-analysis	0.20	0.17	0.20
Analysis of others	0.22	0.23	0.24
Self-expression	0.23	0.18	0.22
Discrimination	0.23	0.23	0.25
Thinking	0.00*	-0.01*	0.00*
Decision making	0.02*	0.01*	0.02*
Attention	-0.13	-0.11	-0.13
Problem solving	0.14	0.12	0.14
Symptoms	0.15	0.18	0.18
Causes	0.17	0.15	0.18
Complexity	0.23	0.22	0.25
Transitions	0.25	0.23	0.26
Openness	0.21	0.19	0.22
Monitoring	0.30	0.26	0.30
Self-control	0.30	0.27	0.31
Managing others	0.17	0.19	0.20
Median	0.21	0.19	0.22

*All scales significant at 0.01 level except Thinking and Decision making (2-tailed).

5.8 Demographics and EIQ16 scales

The EIQ16 is designed to be used in different countries by adults of all ages. In this section, we examine the influence of age, gender, ethnic origin and country of origin. The analyses were carried out on the international comparison group.

Age. Table 15 shows the correlations between age and EIQ16 test scores. There are statistically significant correlations between age and test scores in 14 scales but all of these are below 0.20 in absolute magnitude. Self-expression, Openness and Self-Control correlate strongest with age demonstrating that older people are, for example, more able to express their feelings and emotions, more open to feelings and emotions, and more capable of controlling their feelings and emotions. There would seem to be no need for separate norm groups for adults in different age groups, however, because the observed age differences are very small.

Gender. There were statistically significant correlations between gender and test scores in 13 scales but the observed gender differences are again quite small (Table 15). Only one reaches 0.20 in absolute magnitude. Women tend to score higher than men on all but one of the scales--the exception being Self-Control. As the differences are again quite insignificant in scale, it would seem to be acceptable to use combined sex norms.

Ethnic origin. Table 16 shows means and standard deviations on EIQ16 scales for six race and ethnicity categories. Analysis of variance showed that the differences in scores between the groups were statistically significant on all the scales but the differences were once again quite modest in size. People of Chinese and Asian origin tended to have slightly lower scores generally on the EIQ16 scales but as with age and gender, the differences are quite modest.

Country of origin. Table 17 gives means and standard deviations on EIQ16 scales for respondents from the United States, the United Kingdom, Canada, Australia and the rest of the world. Analysis of variance revealed statistically significant differences on all the scales but as with the other demographic variables, the differences were once again quite slender in size. These findings would seem to suggest that a combined country international sample is justified.

Table 15. Correlations of age and sex with EIQ16 scales (n = 6,000)

Scale	Age	Gender
Self-analysis	0.06**	0.14**
Analysis of others	0.07**	0.12**
Self-expression	0.15**	0.13**
Discrimination	0.02	0.00
Thinking	0.00	0.19**
Decision making	0.06**	0.15**
Attention	-0.11**	0.16**
Problem solving	0.07**	0.18**
Symptoms	0.08**	0.03
Causes	0.10**	0.00
Complexity	0.10**	0.06**
Transitions	0.04	0.11**
Openness	0.15**	0.08**
Monitoring	0.06**	0.03
Self-control	0.13**	-0.14**
Managing others	0.07**	0.20**
Median	0.07**	0.11**

** Significant at 0.01 level, * Significant at 0.05 level (2-tailed). Gender was coded 1 for male and 2 for female.

Table 16. EIQ16 scale scores by ethnic origin (n = 6,000*)

Scale	Asian		Black		Chinese		Mixed		Spanish**		White		Total	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Self-analysis	30.49	4.27	31.82	4.26	30.34	3.86	31.52	4.47	31.48	4.33	31.76	4.23	31.61	4.26
Analysis of others	29.95	4.77	31.51	4.50	29.62	4.30	31.73	4.67	31.08	4.64	32.04	4.66	31.73	4.71
Self-expression	26.70	5.84	27.48	6.74	26.20	5.79	27.68	6.50	27.81	6.51	28.07	6.59	27.84	6.54
Discrimination	28.70	4.61	30.47	4.24	28.03	4.25	29.85	4.29	29.80	4.39	30.21	4.62	30.03	4.60
Thinking	26.05	4.28	25.46	4.43	25.34	3.59	26.92	4.48	26.00	4.52	27.29	4.46	26.96	4.47
Decision making	25.46	4.55	25.25	4.59	25.23	4.71	26.57	4.54	25.36	4.64	27.01	4.42	26.64	4.49
Attention	25.00	4.74	23.87	5.03	23.79	4.32	25.07	4.60	23.62	4.79	24.81	4.89	24.71	4.85
Problem solving	27.47	4.16	27.76	4.27	26.80	4.13	28.07	4.28	27.90	4.37	28.44	4.60	28.24	4.51
Symptoms	31.31	4.30	32.07	4.26	31.20	3.64	32.13	4.18	31.59	4.78	32.68	3.98	32.43	4.11
Causes	32.30	4.26	33.75	4.11	31.97	3.36	33.42	4.01	33.30	4.02	33.63	3.74	33.47	3.86
Complexity	29.52	4.73	30.38	4.91	29.46	3.74	30.31	5.02	30.79	4.48	31.12	4.51	30.86	4.60
Transitions	29.15	5.02	30.14	4.65	28.11	4.42	29.93	4.97	29.75	4.74	30.11	4.93	29.97	4.92
Openness	28.75	4.07	30.12	4.24	27.95	4.22	30.39	4.21	29.45	4.49	30.70	4.25	30.39	4.28
Monitoring	26.53	4.30	27.94	4.43	26.20	4.52	27.28	4.87	27.34	4.59	27.15	4.72	27.17	4.67
Self-control	26.68	5.87	29.02	6.27	27.41	5.61	27.59	6.23	27.82	5.92	28.24	6.03	28.09	6.04
Managing others	31.09	4.72	32.47	4.72	30.33	4.16	32.14	4.87	31.82	5.02	32.76	4.66	32.49	4.71
Impression management	23.98	4.75	24.66	5.36	23.80	3.75	23.44	4.50	24.47	4.66	23.97	4.89	24.00	4.87

*Asian = 432, Black = 395, Chinese = 61, Mixed = 256, Spanish/Hispanic/Latino = 253, White = 4,334, Other = 269. **Spanish/Hispanic/Latino.

Table 17. EIQ16 scale scores by country of origin (n = 6,000*)

Scale	United States		United Kingdom		Canada		Australia		Rest of the World		Total	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Self-analysis	31.85	4.19	31.65	4.22	31.62	4.22	31.39	4.38	30.89	4.38	31.61	4.26
Analysis of others	32.08	4.57	31.88	4.59	31.94	4.61	31.52	5.12	30.41	4.88	31.73	4.71
Self-expression	28.05	6.50	28.08	6.66	27.58	6.65	27.92	6.60	26.87	6.31	27.84	6.54
Discrimination	30.28	4.53	30.10	4.56	30.01	4.36	29.83	4.90	29.29	4.75	30.03	4.60
Thinking	26.78	4.56	27.73	4.22	27.22	4.37	27.31	4.39	26.31	4.38	26.96	4.47
Decision making	26.65	4.52	27.17	4.29	26.66	4.41	26.77	4.53	25.89	4.51	26.64	4.49
Attention	24.31	4.96	25.50	4.67	25.05	4.88	25.01	4.73	24.76	4.65	24.71	4.85
Problem solving	28.45	4.53	28.22	4.45	28.12	4.36	28.42	4.58	27.47	4.42	28.24	4.51
Symptoms	32.64	4.00	32.57	4.09	32.40	4.00	32.53	4.03	31.45	4.48	32.43	4.11
Causes	33.76	3.78	33.42	3.67	33.57	3.77	33.25	3.94	32.68	4.20	33.47	3.86
Complexity	31.18	4.48	30.91	4.42	30.76	4.65	30.65	4.86	29.92	4.88	30.86	4.60
Transitions	30.34	4.81	29.84	4.95	29.84	4.68	29.74	5.14	29.12	5.10	29.97	4.92
Openness	30.60	4.22	30.78	4.18	30.51	4.16	30.36	4.30	29.18	4.47	30.39	4.28
Monitoring	27.63	4.62	26.52	4.86	26.85	4.66	26.98	4.76	26.66	4.40	27.17	4.67
Self-control	28.76	5.98	27.42	6.16	27.59	6.15	27.79	6.11	27.06	5.76	28.09	6.04
Managing others	32.71	4.66	32.83	4.54	32.67	4.46	32.33	5.10	31.38	4.77	32.49	4.71
Impression management	24.36	5.03	23.07	4.76	23.73	4.71	23.73	4.51	24.20	4.59	24.00	4.87

*United States = 2,996, United Kingdom = 1,060, Canada = 441, Australia = 621, Rest of the World = 882.

6.0 Norms

The comparison group was created from an international sample of just under 15,000 persons who completed the online assessment between December 2009 and May 2011 at www.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 70 were deleted from the sample. Duplicate cases and cases with missing personal data were also identified and deleted. This left a sample of just under 10,000 respondents two thirds of whom were women. A data set of 6,000 cases was then created from two equally-sized gender data sets. The cases for the gender data sets were selected randomly using SPSS.

Age and gender. The age and gender distribution of the sample is shown in Table 18. There were roughly equal numbers in the four age categories from age 16 to age 54. About one in ten respondents was aged 55-64 and one in one hundred was in the 65-70 age band. The mean age of the sample was 37.7 with a standard deviation of 12.9.

Table 18. Age and gender distribution of EIQ16 comparison group (n = 6,000)

Age Band	Male	Female	Total
16-24	618	632	1,250
	10.3%	10.5%	20.8%
25-34	635	649	1,284
	10.6%	10.8%	21.4%
35-44	734	698	1,432
	12.2%	11.6%	23.9%
45-54	670	722	1,392
	11.2%	12.0%	23.2%
55-64	293	274	567
	4.9%	4.6%	9.5%
65-70	50	25	75
	0.8%	0.4%	1.3%
Total	3,000	3,000	6,000
	50.0%	50.0%	100.0%

Ethnic origin. Table 19 shows the distribution by race and ethnicity. Seventy two percent described themselves as White, 7.2 percent said they were Asian, 6.6 percent reported that they were Black and 4.2 percent said they were Hispanic and Latino.

Table 20. Ethnic origin of respondents in EIQ16 comparison group (n = 6,000)

Ethnic Origin	Male	Female	Total
Asian	254	178	432
	4.2%	3.0%	7.2%
Black	199	196	395
	3.3%	3.3%	6.6%
Chinese	40	21	61
	0.7%	0.4%	1.0%
Mixed	132	124	256
	2.2%	2.1%	4.3%
Spanish/Hispanic/ Latino	125	128	253
	2.1%	2.1%	4.2%
White	2,126	2,208	4,334
	35.4%	36.8%	72.2%
Other	124	145	269
	2.1%	2.4%	4.5%
Total	3,000	3,000	6,000
	50.0%	50.0%	100.0%

Country of origin. Table 20 gives the country distribution of the sample. Most respondents came from the United States, the United Kingdom, Canada and Australia. About half the sample was from the United States, one fifth from the United Kingdom and one tenth from Australia.

Table 20. Country of origin of respondents in EIQ16 comparison group (n = 6,000)

Country	Male	Female	Total
United States	1,519	1,477	2,996
	25.3%	24.6%	49.9%
United Kingdom	501	559	1,060
	8.4%	9.3%	17.7%
Canada	205	236	441
	3.4%	3.9%	7.4%
Australia	292	329	621
	4.9%	5.5%	10.4%
Other	483	399	882
	8.1%	6.7%	14.7%
Total	3,000	3,000	6,000
	50.0%	50.0%	100.0%

Table 21 shows the top twenty business sectors represented in the sample. The largest groups were education and health services making up about one quarter of the sample.

Table 21. Top twenty sectors in EIQ16 comparison group (n = 6,000)

Sector	Frequency	Percent	Cumulative Percent
Education	994	16.6	16.6
Health services	622	10.4	26.9
Government	407	6.8	33.7
Other services	319	5.3	39.0
Accounting	188	3.1	42.2
Consulting	180	3.0	45.2
Sales	178	3.0	48.1
Food/beverage	169	2.8	51.0
Medical/health care devices	154	2.6	53.5
Construction	153	2.6	56.1
Social services	144	2.4	58.5
Engineering	142	2.4	60.8
Retail/wholesale	133	2.2	63.1
Arts/culture	130	2.2	65.2
Other non-profit	127	2.1	67.3
Food service/lodging	110	1.8	69.2
Computers/software	109	1.8	71.0
Advertising/marketing	104	1.7	72.7
Computer-related services	103	1.7	74.4

Table 22 provides norms for the EIQ16 scales using the Standard Ten (sten) scoring approach, and Table 23 provides percentiles for the scales.

Table 22. EIQ16 general person norms (n = 6,000)

Scale	sten										Scale	Mean	SD
	1	2	3	4	5	6	7	8	9	10			
Self-analysis	8-21	22-24	25-27	28-29	30-31	32-33	34-35	36-37	38	39-40	Self-analysis	31.61	4.26
Analysis of others	8-20	21-23	24-26	27-29	30-31	32-33	34-35	36-38	39	40	Analysis of others	31.73	4.71
Self-expression	8-13	14-16	17-19	20-24	25-28	29-31	32-33	34-36	37-38	39-40	Self-expression	27.84	6.54
Discrimination	8-18	19-22	23-25	26-27	28-29	30-31	32-33	34-36	37-38	39-40	Discrimination	30.03	4.60
Thinking	8-16	17-19	20-22	23-24	25-26	27-28	29-30	31-32	33-34	35-40	Thinking	26.96	4.47
Decision making	8-16	17-19	20-21	22-24	25-26	27-28	29-30	31-32	33-34	35-40	Decision making	26.64	4.49
Attention	8-14	15-16	17-19	20-21	22-24	25-26	27-29	30-31	32-33	34-40	Attention	24.71	4.85
Problem solving	8-17	18-20	21-23	24-25	26-28	29-30	31	32-33	34-36	37-40	Problem solving	28.24	4.51
Symptoms	8-23	24-25	26-27	28-30	31	32-33	34-36	37-38	39	40	Symptoms	32.43	4.11
Causes	8-25	26-27	28-29	30-31	32	33-34	35-37	38	39	40	Causes	33.47	3.86
Complexity	8-20	21-23	24-25	26-28	29-30	31-32	33-34	35-37	38-39	40	Complexity	30.86	4.60
Transitions	8-18	19-21	22-24	25-27	28-30	31	32-33	34-36	37-38	39-40	Transitions	29.97	4.92
Openness	8-20	21-23	24-25	26-28	29-30	31-32	33	34-35	36-37	38-40	Openness	30.39	4.28
Monitoring	8-16	17-19	20-22	23-24	25-27	28-29	30-31	32-33	34-35	36-40	Monitoring	27.17	4.67
Self-control	8-14	15-17	18-21	22-24	25-28	29-31	32-33	34-36	37-38	39-40	Self-control	28.09	6.04
Managing others	8-20	21-24	25-27	28-30	31-32	33-34	35-36	37-38	39	40	Managing others	32.49	4.71
Impression management	8-13	14-16	17-18	19-21	22-23	24-25	26-28	29-30	31-33	34-40	Impression management	24.00	4.87

Table 23. Percentiles for EIQ16 scales (n = 6,000)

Raw score	Self-analysis	Analysis of others	Self-expression	Discrimination	Thinking	Decision making	Attention	Problem solving	Symptoms	Causes	Complexity	Transitions	Openness	Monitoring	Self-control	Managing others	Impression management
8																	
9																	
10																	
11			1												1		
12			1				1								1		1
13			2		1	1	1							1	1		1
14			3		1	1	2							1	2		2
15			4		1	1	3	1				1		1	3		4
16			6	1	2	2	5	1				1		2	4	1	5
17		1	8	1	3	3	7	2			1	1		3	5	1	8
18	1	1	10	2	4	4	10	2			1	2	1	4	7	1	13
19	1	1	13	2	6	6	14	4			1	3	1	7	9	2	18
20	1	2	16	3	8	9	20	5			2	4	2	9	12	2	24
21	2	3	19	4	11	12	25	8		1	3	6	3	12	15	3	31
22	3	4	23	6	15	16	33	10	1	1	5	8	4	16	18	4	39
23	4	6	26	8	20	22	39	14	1	1	6	11	6	20	22	5	46
24	7	8	30	12	27	30	49	21	4	2	9	15	10	27	28	7	55
25	9	11	34	15	35	37	56	26	6	2	12	18	14	33	32	8	63
26	12	13	38	20	43	47	64	33	9	3	17	22	19	42	37	10	71
27	16	17	43	26	52	55	71	40	12	5	22	27	24	49	43	13	77
28	21	22	48	33	62	65	78	49	17	8	28	33	31	59	49	17	82

29	26	27	53	41	70	74	83	58	21	11	34	40	37	67	55	21	87
30	35	35	60	52	79	82	88	68	30	17	43	49	47	76	62	28	91
31	44	42	66	61	86	87	92	76	36	25	51	57	56	83	68	35	93
32	56	54	76	72	91	92	95	85	56	45	65	71	68	89	75	45	96
33	68	64	81	80	94	95	97	90	63	57	73	79	77	93	81	55	97
34	76	72	86	85	97	97	98	93	71	65	80	85	85	96	86	65	98
35	83	79	89	89	98	98	99	96	77	71	85	89	90	97	90	73	99
36	89	85	92	93	99	99		97	83	77	89	92	93	99	93	80	
37	92	90	95	95				99	87	82	92	95	96		96	86	
38	96	93	97	97					91	86	95	97	98		98	92	
39	98	97	98	99					94	91	97	98	99		99	96	
40	99	99	99						99	99	99	99				99	

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