



# SYNTHESIS

personality and emotional intelligence test

> User Manual

**Talent Assessment**

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# Introduction

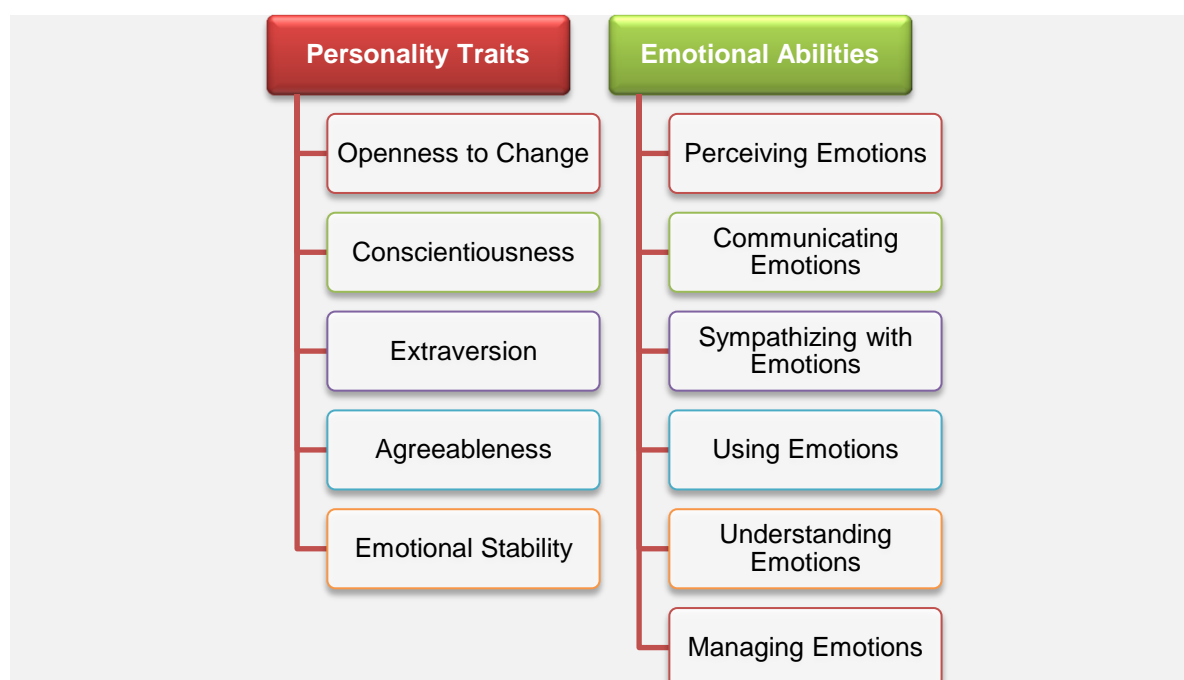
This User Manual gives an overview of the application, administration, interpretation and reliability and validity of the Synthesis personality and emotional intelligence questionnaire.

Evidence for the reliability and validity is presented against some of 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 tests. These cover the common areas of test review such as norms, reliability and validity.

## Purpose of Questionnaire

The Synthesis questionnaire was designed to provide information about an individual's behavioral style and fitness based on an assessment of their personality traits and emotional abilities. Synthesis measures 11 dimensions of personality and emotional ability (Figure 1). Five dimensions cover the Big Five factors of personality and six dimensions cover different aspects of emotional intelligence.

**Figure 1. Synthesis Model of Behavioral Style and Fitness**



The table below provides further details of what the questionnaire measures.

## Questionnaire Versions

There are two versions of the questionnaire:

**Synthesis.** The main test is a relatively short normative instrument that requires a test taker to rate their typical behavior on a 5 point Likert scale ranging from “Strongly agree” to “Strongly disagree”. The test has a scale measuring response style in addition to the 11 scales that measure personality and emotional intelligence. The questionnaire consists of 96 statements (8 items per scale) and most test takers complete the test in about 15-20 minutes.

**App Version.** The shorter app version of the questionnaire has 48 questions (4 items per scale) and takes about 10 minutes to complete.

## Development of Synthesis

The objective was to produce a relatively short instrument providing an overview of a person’s personality traits and emotional abilities. Development of the test was driven by a conceptual model of personality and emotional intelligence and iterative analysis of the datasets of two existing broad-bandwidth inventories to identify items for the instrument. The conceptual framework for the test was based on the Big Five model of personality and the Mayer, Salovey, Caruso four-branch model of emotional intelligence.

**Synthesis Personality Scales.** The items for the personality scales were extracted using factor analysis of the dataset of an existing broad-bandwidth personality inventory. In order to identify possible items for each of the Big Five scales, we first extracted five groups of items using SPSS Factor Analysis (FA). The FA was carried out on a subset of the items that had the highest correlations with job performance and that included marker variables from the International Personality Item Pool (Goldberg et al, 2006). Visual inspection of items loading on each of the factors in the rotated matrix indicated that they were measuring the Big Five factors.

We then carried out a FA with the top eight-loading items on each factor. The FA of the reduced set of 40 items did not initially replicate the matrix from the initial FA so we embarked on an iterative factor analytical procedure changing items in the 40-item subset until we had identified 40 items that delivered a matrix close to simple structure.

We computed scores for each of the Big Five scales and carried out a FA of the scale scores. One higher-order factor with an eigenvalue over 1 was extracted from the data accounting for 55 percent of the variance. We interpreted this result as providing evidence for Rushton’s (2011) assertion that a General Factor of Personality (GFP) occupies the apex of the hierarchy of personality and justification for the creation of a single GFP scale based on the sum of the Big Five scales.

Having settled on the items for the personality scales, we checked the reliabilities of the finalized set of items for each of the Big Five scales and the higher-order 40-item GFP scale. The reliabilities of the Big Five scales are in the range defined as good by the EFPA review model and the reliability of the GFP scale is in the range described as excellent.

The items for the shorter App version of the test were selected from the finalized selection by taking the four highest loading items on each factor.

Chapter 5 provides details of the reliability and validity of the scales and Chapter 6 describes the characteristics of the norms samples.

**Synthesis Emotional Ability Scales.** The process of developing the emotional ability scales was very similar to the process described above for the personality scales except that whilst we started off with the aim of extracting four factors corresponding to the Mayer-Salovey-Caruso framework, we found that there were six big factors in the emotional intelligence inventory dataset.

The FA on the emotional intelligence data was carried out on a subset of the items that had the highest correlations with job performance. Having established that there were six factors and that four of these covered our initial four branch conceptual model, we conducted a FA with the top eight-loading items on each of the six factors.

As with the personality factor FA, the FA on the reduced set of 48 items did not initially reproduce the matrix from the initial analysis and this led into an iterative analytical procedure where we tried out different items until we found a 48-item set that resulted in a matrix approximating simple structure.

We computed scores for each of the scales and we carried out a FA of the scale scores. One higher-order factor with an eigenvalue over 1 was extracted from the data accounting for 49 percent of the variance. We see this as providing evidence for a general factor of emotional intelligence (EQ) at the head of the organization of emotional abilities and justification for the construction of a single EQ measure based on the sum of the six scales.

Once the items for the emotional ability scales had been finalized, we calculated the reliabilities of the six scales and the higher-order 48-item EQ scale. The reliabilities of the six scales are in the range defined as good by the EFPA review model and the reliability of the EQ scale is in the range described as excellent.

As with App personality items, the items for the App emotional ability subtest were selected from the finalized selection by taking the four highest loading items on each of the six factors.

**Creation of Finalized Instrument.** Before creating the final test, we selected 8 items for a measure of response style from the emotional intelligence questionnaire to add to the personality and emotional ability items. The finalized Synthesis test is a 96-item instrument made up of twelve 8-item scales: five personality scales, six emotional intelligence scales and an impression management scale. For the main instrument and shorter 48-item App version, the selected items were put into random order using an online random sequence generator.

## WHAT SYNTHESIS MEASURES

Personality Factors	High Score Meaning
General Factor of Personality	Is generous, friendly, relaxed, conscientious, sociable, and open, possesses high levels of well-being and self-esteem.
Creative and Open to Change	Is full of ideas, cuts through red tape, develops new ways of doing things, enjoys thinking about things.
Conscientious and Achieving	Shows drive and determination, completes tasks successfully, works hard, does more than what's expected.
Extravert and Outgoing	Makes friends easily, gets to know people quickly, is comfortable around people, feels at ease in social situations.
Cooperative and Agreeable	Makes people feel welcome, goes out of way to help people, is concerned about others, is a good listener.
Stable and Calm	Is calm under fire, not easily bothered by things, even-tempered, upbeat, self-assured, self-confident.
Emotional Abilities	High Score Meaning
Emotional Quotient	Recognizes, understands, uses and manages own and other people's feelings and emotions effectively.
Perceiving Emotions	Recognizes what others are feeling, picks up non-verbal signals, senses when something is wrong.
Communicating Emotions	Is able to describe own feelings and emotions, comfortable when other people express their feelings and emotions.
Sympathizing with Emotions	Tries to understand, is sensitive to and shows concern for other people's feelings and emotions.
Using Emotions	Uses feelings and emotions to generate ideas and to help solve problems and make decisions.
Understanding Emotions	Understands how emotions develop and change and when to use and ignore feelings and emotions.
Managing Emotions	Manages feelings and emotions successfully when under pressure, stays calm and in control.

# Applications and Administration

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

## Applications

**Selection.** Synthesis interpretive reports about a candidate's personality and emotional competencies provide a structure for interviewers and candidates to discuss a candidate's potential strengths and weaknesses. In competency-based selection, the Synthesis model provides a framework of behavioral style and fitness to compare candidates against and use as the foundation for a competency-based interview.

**Assessment and Development Centers.** The Synthesis profiles provide a source of information about a candidate's general personality and emotional intelligence to put alongside information from in-tray and group exercises. The interpretive report raises issues for performance improvement for participants to consider alongside feedback from assessors.

**Training and Development.** The Synthesis questionnaire can help in the development of a company's existing staff in individual and group development contexts. The Synthesis profile provides a structure for a member of staff and their line manager, mentor, trainer or coach to explore strengths and development needs. The emotional competency section of the interpretive report together with the downloadable development guide booklet provide practical ideas and suggestions for learning and development for trainees to consider.

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

**Coaching and Counseling.** The Synthesis interpretive report provides a suitable structure for a coach to explore aspects of a client's management and leadership style, strengths and potential development needs as the integrated personality and emotional intelligence profile provides a clear picture of how easy or difficult a person is to get along with.

## Administration

It is important that people who are asked to take the Synthesis 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 Synthesis questionnaires can only be administered online via [app-personalitytests.com](http://app-personalitytests.com) or [MySkillsProfile.com](http://MySkillsProfile.com). The online and app questionnaires provide 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.

## **Norming**

In order to interpret Synthesis questionnaire 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 comparison group or standardization sample, and the comparison generates a Standard Ten Score (sten) for each scale.

Chapter 6 gives information about the composition of the comparison group for the main questionnaire. The collection of norms for different occupational sectors and nationalities is an ongoing process and additional norm tables will be added as required.

# Scale Descriptions

Each scale description table in this section gives background information to help interpret the scale and describes the meaning of high, moderate and low scores. The final section of the table shows how strongly each scale correlates with other scales in the subtest. These correlations are from the standardization samples. The full intercorrelation matrices for the personality and emotional intelligence elements of the main questionnaire are shown in Chapter 5.

Scale	Page
General Factor of Personality	11
Creative and Open To Change	12
Conscientious and Achieving	13
Extravert and Outgoing	14
Cooperative and Agreeable	15
Stable and Calm	16
Emotional Quotient	17
Perceiving Emotions	18
Communicating Emotions	19
Sympathizing with Emotions	20
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## General Factor of Personality (GFP)

According to Rushton et al (2008), a general factor of personality (GFP) occupies the apex of the hierarchy of personality as well as the apex of the personality disorders in the same way that a general factor of mental ability occupies the apex in the organization of cognitive abilities. High scores on the GFP indicate what is meant by a “good” personality and low scores indicate what is meant by a “difficult” personality, and the GFP can be viewed as a dimension of social effectiveness. Rushton argues that the GFP probably arose through evolutionary selection for socially desirable traits that facilitate performance.

### HIGH SCORER

Individuals high on the GFP are likely to be altruistic, agreeable, relaxed, conscientious, sociable, and open, with high levels of wellbeing and self-esteem. It is important to analyze an individual’s personality profile, however, as it is possible to have a high GFP score without having a high score on every Big Five factor.

### MODERATE SCORER

Is as easy to get along with as the average person.

**Or**

Is moderately altruistic, agreeable, relaxed, conscientious, sociable and open.

**Or**

Has a mixed profile across the Big Five factors.

It is important to analyze an individual’s personality profile across the Big Five factors to understand their personality as average GFP scores can arise from different factor combinations.

### LOW SCORER

Is more difficult to get along with than the average person.

**Or**

Is less altruistic, agreeable, relaxed, conscientious, sociable and open than the average person.

## Creative and Open to Change

This scale measures the Big Five factor labeled Openness to Change in the personality literature--the O factor in the OCEAN model. In the personality literature, individuals high on openness to change are described as being creative and imaginative, artistic, curious and open-minded, willing to try new things, unconventional and willing to take risks. Individuals low on openness to change are described as being practical, cautious, predictable, more narrowly focused, less interested in the arts and less likely to take risks.

### HIGH SCORER

Likes to try new ways of working, enjoys thinking about things, develops new ways of doing things, is willing to take calculated risks, makes things happen.

### MODERATE SCORER

Is as creative and open to change as the next person.

#### Or

Is as open to new ways of working as the average person, enjoys thinking about things as much as the average person, is as likely to develop new ways of doing things as most other people, is as willing to cut through red tape as the next person.

### LOW SCORER

Is more cautious, conventional and risk-averse than the average person. Is likely to defend the status quo, tends to prefer incremental to radical change.

### RELATIONSHIPS WITH OTHER SCALES

Correlations	Conscientious and Achieving (0.60) Cooperative and Agreeable (0.45) Extravert and Outgoing (0.40) Stable and Calm (0.29)
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## Conscientious and Achieving

This scale measures the Big Five factor labeled Conscientiousness in the literature on the Big Five factors--the C factor in the OCEAN model. In the personality literature, individuals high on conscientiousness are described as being organized, dependable, resourceful, goal-oriented, ambitious, self-disciplined and thorough. Individuals low on conscientiousness are described as being disorganized, unreliable, directionless, unprepared and distractible.

### HIGH SCORER

Works hard, likes to be busy, tackles tasks with enthusiasm, shows energy, drive and determination, plans and completes tasks.

### MODERATE SCORER

Is as conscientious and achieving as the next person.

Or

Works as hard as the next person, shows as much energy, drive and determination as most other people, is as reliable and dependable as the average person.

### LOW SCORER

Presents as less well-prepared, more disorganized, more distractible and more unreliable than the average person.

### RELATIONSHIPS WITH OTHER SCALES

Correlations	Creative and Open to Change (0.60)
	Cooperative and Agreeable (0.54)
	Stable and Calm (0.44)
	Extravert and Outgoing (0.43)

## Extravert and Outgoing

This scale measures the Big Five factor labeled Extraversion in the literature on the Big Five factors--the E factor in the OCEAN model. In the personality literature, individuals high on extraversion are described as being friendly, sociable, gregarious, assertive, energetic, cheerful, self-confident and bold. Individuals low on openness to change are described as being reserved, quiet, serious and self-absorbed.

### HIGH SCORER

Makes friends easily, gets to know people quickly, is at ease in social situations, enjoys social occasions, likes to be in the limelight.

### MODERATE SCORER

Is as extravert and outgoing as the next person.

**Or**

Makes friends as easily as the average person, feels as ease in social situations as the next person, enjoys the limelight as much as most other people.

### LOW SCORER

Is more quiet, reserved, introverted, serious, independent and self-absorbed than the average person.

### RELATIONSHIPS WITH OTHER SCALES

Correlations	Stable and Calm (0.49) Cooperative and Agreeable (0.47) Conscientious and Achieving (0.43) Creative and Open to Change (0.40)
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## Cooperative and Agreeable

This scale measures the Big Five factor labeled Agreeableness in the literature on the Big Five factors--the A factor in the OCEAN model. In the personality literature, individuals high on agreeableness are described as being considerate, helpful, straightforward, accepting, cooperative, understanding and sympathetic. Individuals low on agreeableness are described as being self-centered, competitive, self-contained, guarded and egotistical.

### HIGH SCORER

Shows interest and concern for people, listens well to people, accepts people as they are, is honest and straightforward with people.

### MODERATE SCORER

Is as considerate, sympathetic and understanding as the next person.

**Or**

Is as compassionate and considerate as the next person, listens to people as well as the average person, is as honest and straightforward as most other people.

### LOW SCORER

Is more guarded, self-contained and egotistical than the average person. Has difficulty listening to people, tends to ignore people's feelings and emotional needs.

### RELATIONSHIPS WITH OTHER SCALES

Correlations	Conscientious and Achieving (0.54) Extravert and Outgoing (0.47) Creative and Open to Change (0.45) Stable and Calm (0.26)
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## Stable and Calm

This scale measures the Big Five factor frequently called Neuroticism--the N factor in the OCEAN model. It is also often referred to as Emotional Stability in the personality literature. People high on emotional stability are described as being cool and relaxed, upbeat and contented, calm when put under stress, socially confident and self-assured. Individuals low on emotional stability/high on neuroticism are described as being anxious, nervous, tense, short-tempered, disgruntled, awkward and likely to panic under stress.

### HIGH SCORER

Displays confidence and optimism, is sure about ability to deal with things, appears relaxed and contented, controls feelings and emotions when placed under pressure and stress.

### MODERATE SCORER

Is as calm and contented as the next person.

**Or**

Appears as relaxed and confident as the average person, is as sure about ability to deal with things as the next person, handles pressure and stress as well as most other people.

### LOW SCORER

Is more anxious and tense than the average person, feels unable to deal with things, is not comfortable with self, gets stressed out easily.

### RELATIONSHIPS WITH OTHER SCALES

Correlations

Extravert and Outgoing (0.49)  
Conscientious and Achieving (0.44)  
Creative and Open to Change (0.29)  
Cooperative and Agreeable (0.26)



## Emotional Quotient (EQ)

According to Mayer, Salovey and Caruso (2002), a general factor of emotional intelligence occupies the apex of the hierarchy of emotional abilities in the same way that a general factor of mental ability occupies the apex in the organization of cognitive abilities. High EQ scores in this test indicate that a person has a broad range of emotional abilities including the ability to perceive, communicate, empathize, understand, use and manage feelings and emotions.

### HIGH SCORER

Individuals with high EQs are likely to be skilled in the six emotional abilities measured by the test. It is important to analyze an individual's emotional ability profile, however, as it is possible to have a high EQ score without having a high score on every ability.

### MODERATE SCORER

Is as emotionally intelligent as the average person.

**Or**

Is moderately skilled in the six emotional abilities measured by the test.

**Or**

Has a mixed profile across the six EQ dimensions.

It is important to analyze an individual's profile across the six dimensions to understand their emotional intelligence as average EQ scores can arise from different scale combinations.

### LOW SCORER

Is less emotionally intelligent than the average person.

**Or**

Is less skilled in the six emotional abilities measured by the test.

## Perceiving Emotions

This scale measures the ability to observe and identify feelings and emotions. In the Mayer-Salovey-Caruso four branch model of emotional intelligence, Perceiving Emotions is defined as “the ability to perceive emotions in oneself and others as well as in objects, art, stories, music and other stimuli”. The Synthesis scale measures skills that include the ability to read facial expressions, take in how others are feeling, know when someone is trying to manipulate you and sense how things will turn out.

### HIGH SCORER

Reads facial expressions, picks up what other people are feeling, knows when someone is trying to manipulate them, senses how things will turn out, detects when something is wrong.

### MODERATE SCORER

Is moderately skilled at recognizing feelings and emotions.

#### Or

Is able to read people’s feelings and emotions as well as the next person, is as capable of taking in the emotional aspects of a situation as most other people, is as likely to detect when something is wrong as the average person.

### LOW SCORER

Does not pay a great deal of attention to people’s feelings and emotions, is less skilled at perceiving what other people are feeling, is less skilled at taking in the emotional aspects of a situation.

### RELATIONSHIPS WITH OTHER SCALES

#### Correlations

Understanding Emotions (0.49)  
Using Emotions (0.41)  
Sympathizing with Emotions (0.37)  
Communicating Emotions (0.33)  
Managing Emotions (0.3)

## Communicating Emotions

This scale measures the ability to communicate feelings and emotions. In the Mayer-Salovey-Caruso four branch model of emotional intelligence, this is an element of Facilitating Thought and Managing Emotions rather than a separate branch. Synthesis provides a distinct and separate scale focusing on a person's ability to describe, express and share feelings and emotions with other people.

### HIGH SCORER

Is open about their feelings and emotions, is comfortable when other people talk about their feelings and emotions, is able to describe their feelings and emotions, expresses and shares feelings and emotional needs with others.

### MODERATE SCORER

Is moderately skilled at describing and communicating feelings and emotions.

**Or**

Is as open about their feelings and emotions as most other people, is as skilled at describing and communicating their feelings and emotions as the next person.

### LOW SCORER

Does not feel comfortable when people talk about their feelings and emotions, finds it hard to describe and communicate their feelings and emotional needs, tends to bottle up feelings.

### RELATIONSHIPS WITH OTHER SCALES

Correlations

Understanding Emotions (0.58)  
Sympathizing with Emotions (0.40)  
Using Emotions (0.36)  
Perceiving Emotions (0.33)  
Managing Emotions (0.25)

## Sympathizing with Emotions

This scale measures the ability to empathize with other people's feelings and emotions. In the Mayer-Salovey-Caruso four branch model of emotional intelligence, this is considered to be a part of a person's ability to manage emotions. The Synthesis questionnaire has a separate scale assessing a person's ability to empathize with others' feelings and emotions—for example, demonstrating understanding, sensitivity, compassion and respect for other people's feelings and emotions.

### HIGH SCORER

Tries to understand the reasons for people's feelings, is sensitive to other people's feelings and needs, feels what other people feel, takes care not to upset or offend people.

### MODERATE SCORER

Is moderately skilled at empathizing with feelings and emotions.

**Or**

Shows as much sensitivity to other people's feelings and emotional needs as the average person, takes as much care not to hurt or offend people as the next person.

### LOW SCORER

Tends to ignore other people's feelings and emotional needs, appears unconcerned about upsetting and offending people.

### RELATIONSHIPS WITH OTHER SCALES

Correlations	Understanding Emotions (0.48)
	Using Emotions (0.45)
	Communicating Emotions (0.40)
	Perceiving Emotions (0.37)
	Managing Emotions (0.24)

## Using Emotions

Using Emotions covers the ability to use feelings and emotions to facilitate thinking and problem solving and to guide decision making and performance. In the Mayer-Salovey-Caruso four branch model of emotional intelligence, this is called Facilitating Thought and it is defined as “the ability to generate, use, and feel emotion as necessary to communicate feelings or employ them in other cognitive processes”. The Synthesis scale focuses on whether a person uses their instincts and intuition to help analyze situations, solve problems and make decisions.

### HIGH SCORER

Examines feelings to help tackle personal problems, knows how to use feelings and emotions to gain different perspectives on a situation, listens to own and other people’s feelings and emotions when making decisions.

### MODERATE SCORER

Is moderately skilled at using own and other people’s feelings and emotions.

#### Or

Uses feelings and emotions when tackling problems and making decisions to the same extent as most other people, relies on instincts and intuition as much as the next person.

### LOW SCORER

Tends to ignore own and other people’s feelings and emotions when tackling problems and making decisions, uses facts and evidence rather than instincts and intuition when making decisions.

### RELATIONSHIPS WITH OTHER SCALES

Correlations	Sympathizing with Emotions (0.45) Perceiving Emotions (0.41) Understanding Emotions (0.40) Communicating Emotions (0.36) Managing Emotions (0.08)
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## Understanding Emotions

In the Mayer-Salovey-Caruso four branch model of emotional intelligence, Understanding Emotions is defined as “the ability to understand emotional information, to understand how emotions combine and progress through relationship transitions and to appreciate such emotional meanings”. The Synthesis scale assesses these skills—for example, whether a person feels they know how emotions work, understands the way in which emotions change and considers how emotions will develop if various things happen.

### HIGH SCORER

Knows how emotions work, understands the way in which emotions change, anticipates how emotions are likely to develop, knows when to use and when to ignore feelings and emotions.

### MODERATE SCORER

Understands emotional information as well as the average person.

#### Or

Understands how emotions combine and progress as well as most other people, is as good at anticipating how emotions are likely to develop as the next person.

### LOW SCORER

Pays very little attention to emotional information, does not really understand how emotions progress and combine, is unable to anticipate how emotions are likely to develop and people will react.

### RELATIONSHIPS WITH OTHER SCALES

#### Correlations

Communicating Emotions (0.58)  
Perceiving Emotions (0.49)  
Sympathizing with Emotions (0.48)  
Managing Emotions (0.48)  
Using Emotions (0.40)

## Managing Emotions

In the Mayer-Salovey-Caruso four branch model of emotional intelligence, Managing Emotions is defined as “the ability to be open to feelings, and to modulate them in oneself and others so as to promote personal understanding and growth”. The Synthesis scale assesses how far a person is able to regulate their feelings and emotions—for example, whether they are even-tempered and calm under fire or changeable and unpredictable.

### HIGH SCORER

Thinks clearly and stays focused when placed under pressure, is able to adopt a positive mindset when problems occur, is cool, calm and collected in a crisis.

### MODERATE SCORER

Is moderately skilled at managing feelings and emotions.

**Or**

Stays as cool, calm and collected under pressure as most other people, is as good at managing painful feelings and emotions as the next person, is as liable to vent feelings and emotions as the average person.

### LOW SCORER

Has difficulty managing distressing feelings and emotions, is likely to lose control and take feelings out on others, is perceived by others as volatile and unpredictable.

### RELATIONSHIPS WITH OTHER SCALES

Correlations	Understanding Emotions (0.48)
	Perceiving Emotions (0.30)
	Communicating Emotions (0.25)
	Sympathizing with Emotions (0.24)
	Using Emotions (0.08)

## Impression Management

Socially desirable responding is defined by Paulhus (1991) as a tendency to give overly positive self-descriptions. People with high impression management scores typically describe themselves in consistently positive terms across a range of personality traits. The Synthesis scale provides an indication of socially desirable responding but it does not provide proof of faking. When there is a high impression management score, it is important to look for other evidence that high scores indicate a departure from reality.

### HIGH SCORER

May have intentionally sought to present an overly positive profile of personality traits and emotional abilities. Advise respondent to do an informal 360 feedback to seek views from close colleagues and friends.

### MODERATE SCORER

Is as likely to have sought to present a favorable profile of personality traits and emotional abilities as most other people.

**Or**

Is as insightful about personal style and qualities as the next person.

### LOW SCORER

Has presented an overly critical view of personality tendencies and emotional abilities, may have underestimated degree of positive traits and abilities.



# Interpretation

## Sten Scores

The Synthesis assessment uses the Standard Ten (sten) scoring approach. To help respondents understand what different sten scores mean, the interpretive report breaks the sten range into five categories. The meaning of each of the categories is defined using percentile scores and descriptions of ability/competence (Table 1).

**Table 1. Synthesis Scoring Approach**

STEN	PERCENTILE MEANING	COMPARED TO AVERAGE	COMPETENCE INDICATOR
8-10	8 is higher than about 90% of respondents	Much higher than average	Outstanding strength
7	7 is higher than about 75% of respondents	High average	Strength
5-6	5 is higher than about 40% of respondents	Average	Mid-range skill
4	4 is higher than about 25% of respondents	Low average	Possible improvement area
1-3	3 is higher than about 10% of respondents	Much lower than average	Improvement area

Table 2 shows how a respondent's sten scores relate to percentiles. For example, an EQ sten score of 6 indicates that the respondent's emotional abilities are more developed than those of about 60% of respondents in the international comparison group.

## Feedback Report

The full Synthesis computer-generated feedback report has the following sections.

**Introduction.** Provides a brief introduction to the questionnaire explaining what the instrument measures and how the scoring system works.

**Synthesis Scale Definitions.** Gives concise descriptions of what each of the Synthesis scales measure.

**Graphic Profile Chart of Personality Traits and Emotional Abilities.** Gives a sten score summary of the test taker's results on all the scales.

**Profile Summary.** Comprises a one-page summary describing the test taker's GFP score, EQ score and impression management score.

**Graphic Profile Chart of Emotional Competencies.** Gives a sten score summary of 16 emotional competencies covering 4 key areas: work ethic, social skills, innovation and change, and feelings and emotions.

**Table 2. Relationship between Stens and Percentiles**

STEN	HIGHER THAN % OF RESPONDENTS IN THE COMPARISON GROUP
10	99
9	95
8	90
7	75
6	60
5	40
4	25
3	10
2	5
1	1

**Description of Emotional Competencies.** Contains four one-page summaries of each of the key areas identifying the respondent's strengths, mid-range skills and improvement areas. Each competency description is based on the test taker's scores on two scales. Table 3 shows the scales that are used in the interpretation of different competencies and Table 4 illustrates how the rules operate (using Achievement Drive as an example).

**Next Steps.** The final section of the report gives guidance on the next steps and access to a downloadable booklet of performance improvement tips and suggestions.

The free App report is made up of the first three sections.

**Table 3. Scale Combinations Used In Synthesis Emotional Competency Framework**

COMPETENCY	SCALE COMBINATION
Achievement Drive	Conscientious and Achieving, Extravert and Outgoing
Altruism	Conscientious and Achieving, Cooperative and Agreeable
Initiative	Conscientious and Achieving, Creative and Open to Change
Optimism	Conscientious and Achieving, Stable and Calm
Leadership	Extravert and Outgoing, Dominant and Forceful (low score end of Cooperative and Agreeable)
Cooperation and Collaboration	Cooperative and Agreeable, Conscientious and Achieving
Communication	Perceiving Emotions, Sympathizing with Emotions
Negotiating and Conflict Management	Cooperative and Agreeable, Stable and Calm
Innovativeness	Using Emotions, Creative and Open to Change
Change Catalyst	Extravert and Outgoing, Creative and Open to Change
Assertiveness	Stable and Calm, Creative and Open to Change
Open-Mindedness	Cooperative and Agreeable, Creative and Open to Change
Emotional Awareness	Perceiving Emotions, Using Emotions
Empathy	Communicating Emotions, Sympathizing with Emotions
Self-Control	Understanding Emotions, Managing Emotions
Emotional Well-Being	Stable and Calm, Extravert and Outgoing

**Table 4. Interpretive Approach Used to Generate Achievement Drive Competency Description**

CONSCIENTIOUS AND ACHIEVING				
Sten		10-8	7-4	3-1
EXTRAVERT AND OUTGOING	10-8	<p><u>Outstanding Strength</u> You are very extraverted, outgoing and sociable and you are very conscientious, hardworking and achieving. You seem to have the ambition, vitality and contagious energy of a high achiever, self-starter and go-getter.</p>	<p><u>Strength</u> You are very extraverted and outgoing and you are quite conscientious, hardworking and achieving. These personality traits indicate that you have a lot of vitality, passion and contagious energy but life is not all about work for you.</p>	<p><u>Possible Improvement Area</u> You are very extraverted and outgoing but you don't seem to have a great deal of work ethic. These personality traits indicate that you have a lot of vitality, passion and contagious energy that you channel into non-work, social and adventure activities.</p>
	7-4	<p><u>Strength</u> You present yourself as being very conscientious, hardworking and achieving and moderately extraverted, sociable and outgoing. You have some of the personality tendencies of a high achiever.</p>	<p><u>Mid-Range Skill</u> You present yourself as being fairly conscientious, hardworking and achieving and fairly extraverted, sociable and outgoing. You exhibit a moderate amount of vitality, passion and energy but life is not all about work for you.</p>	<p><u>Possible Improvement Area</u> You are moderately extraverted and outgoing but you don't seem to have a great deal of work ethic. This combination suggests that you channel your energy into/are more focused on non-work activities at the present point in time.</p>
	3-1	<p><u>Possible Improvement Area</u> You have the profile of a conscientious and steady/methodical worker. You are very disciplined and hardworking and you are very independent, self-contained and reserved.</p>	<p><u>Possible Improvement Area</u> You have the profile of a fairly conscientious and steady/methodical worker. You present yourself as being moderately conscientious, disciplined and hardworking and very self-contained, independent and reserved.</p>	<p><u>Improvement Area</u> You are very self-contained and reserved and you don't appear to have a great deal of work ethic or drive. You seem to be lacking energy and in limbo at the present point in time.</p>

# Reliability and Validity

## Internal Consistency Reliabilities

Table 5 presents internal consistency estimates based on Cronbach's Coefficient Alpha together with raw score SEMs for the main test. In the Big Five personality scales, the internal consistency reliabilities of the scales ranged from 0.79 to 0.89 and the median reliability for the scales was 0.87. The reliability of the General Factor of Personality measure (the questionnaire as a whole) was 0.94—higher than the reliabilities of the Big Five scales.

The reliabilities of the emotional ability scales ranged from 0.78 to 0.88 and the median scale reliability was 0.83. The reliability of the Emotional Quotient measure (all the emotional ability items) was 0.93—higher than the primary scales. The median reliabilities of the personality and emotional ability scales are in the category ( $r=0.8$  to  $0.89$ ) that is defined as good by the EFPA Review Model.

**Table 5. Synthesis Internal Consistency Reliabilities (N=6,000-25,000)**

Scale	Alpha	Mean	SD	Raw Score SEM
General Factor of Personality	0.94	104.87	22.51	5.51
Creative and Open to Change	0.89	18.06	6.28	2.08
Conscientious and Achieving	0.87	22.22	5.88	2.12
Extravert and Outgoing	0.89	20.18	6.82	2.26
Cooperative and Agreeable	0.79	21.05	5.18	2.37
Stable and Calm	0.87	22.46	6.17	2.22
Emotional Quotient	0.93	128.98	22.71	6.01
Perceiving Emotions	0.84	24.04	4.45	1.78
Communicating Emotions	0.88	19.55	6.83	2.37
Sympathizing with Emotions	0.81	24.88	4.60	2.01
Using Emotions	0.78	20.50	4.83	2.27
Understanding Emotions	0.86	20.37	5.89	2.20
Managing Emotions	0.82	19.64	6.10	2.59
Impression Management	0.66	16.00	4.87	2.84
Personality scale median	0.87	21.05	6.17	2.22
Emotional ability scale median	0.83	20.44	5.36	2.23
Median for all scales	0.85	20.44	5.89	2.24

N for personality scales is 25,000, N for emotional ability scales is 6,000

The Standard Error of Measurement (SEM) provides a tolerance figure or error band around a person's observed competency scale score. There is a 68 percent likelihood that a person's true score will be within one SEM of the observed score. For the personality scales, the median scale raw score SEM was 2.22 and for the emotional ability scales it was 2.23.

As with most other personality assessment instruments, this means that there is a 68 percent likelihood that a person's true score is likely to be one sten either side of their observed score.

### Equivalence Reliability

Table 6 shows the correlations between the main 8-item and app 4-item versions of the scales. For the personality scales, the correlations ranged from 0.87 to 0.96 and the correlation between the two GFP scales was 0.97. For the emotional ability scales, the correlations ranged from 0.91 to 0.93 and the correlation between the two EQ measures was 0.97. The median of the personality scale correlations was 0.94 and the median of the emotional ability correlations was 0.92. The correlation between the long and short versions of the impression management scale was 0.87.

**Table 6. Synthesis Equivalence Reliability (N=6,000-25,000)**

Scale	R
General Factor of Personality	0.97
Creative and Open to Change	0.95
Conscientious and Achieving	0.94
Extravert and Outgoing	0.94
Cooperative and Agreeable	0.87
Stable and Calm	0.96
Emotional Quotient	0.97
Perceiving Emotions	0.92
Communicating Emotions	0.93
Sympathizing with Emotions	0.92
Using Emotions	0.91
Understanding Emotions	0.93
Managing Emotions	0.92
Impression Management	0.87
Personality scale median	0.94
Emotional ability scale median	0.92
Median for all scales	0.93

N for personality scales is 25,000, N for emotional ability scales is 6,000. All correlations are significant at the 0.01 level (2-tailed).

## Construct Validity

### Scale Intercorrelations

The intercorrelations between the personality scales are shown in Table 7. The intercorrelations ranged from 0.26 to 0.60 with a median intercorrelation of 0.45. This indicates a moderate degree of association between the scales. The highest correlation was between the conscientiousness and the openness to change scales, and the lowest correlation was between the agreeableness and emotional stability scales. Empirical studies with the Big Five measures typically show weak to moderate correlations among the Big Five personality dimensions (Digman, 1997).

**Table 7. Synthesis Personality Scale Intercorrelations (N=25,000)**

Scale	Conscientious and Achieving	Extravert and outgoing	Cooperative and Agreeable	Stable and calm
Creative and Open to Change	0.60	0.40	0.45	0.29
Conscientious and Achieving		0.43	0.54	0.44
Extravert and Outgoing			0.47	0.49
Cooperative and Agreeable				0.26

The intercorrelations between the emotional ability scales are shown in Table 8. The intercorrelations ranged from 0.08 to 0.58 with a median intercorrelation of 0.40. This indicates a fair degree of association between the emotional ability scales. The highest correlation is between understanding emotions and communicating emotions, and the lowest correlation is between managing emotions and using emotions. Examination of the pattern of intercorrelations suggests that understanding emotions is an important component of emotional competence.

**Table 8. Synthesis Emotional Ability Scale Intercorrelations (N=6,000)**

Scale	Communicating Emotions	Sympathizing with Emotions	Using Emotions	Understanding Emotions	Managing Emotions
Perceiving Emotions	0.33	0.37	0.41	0.49	0.30
Communicating Emotions		0.40	0.36	0.58	0.25
Sympathizing with Emotions			0.45	0.48	0.24
Using Emotions				0.40	0.08
Understanding Emotions					0.48

## Factor Structure of Synthesis

The key role of factor analysis in the development of the instrument was described in section 1.3. This section describes the factor analyses conducted on the finalized selection of items.

**Personality Items.** Principal factors extraction with varimax rotation was performed on 40 personality items using data from 25,000 respondents. The results of a varimax rotation are show here because the Big Five factors are considered to be orthogonal but other rotation approaches produced similar outcomes. The characteristics of the sample are described in section 6.

The Kaiser-Meyer-Olkin Measure of Sampling Adequacy was 0.96, well above 0.6 required for a good factor analysis. Communalities ranged from 0.40 to 0.75 with a median value of 0.59 indicating that the items were moderately well defined by the factor solution. Five factors were extracted with eigenvalues over 1 accounting for 55 percent of the variance. With a cut of 0.45 for inclusion of an item in the interpretation of a factor, all the items loaded on one of the five factors. Three items loaded on more than one factor. Table 9 shows the loadings of the items on the factors. Loadings under 0.45 (20 percent of variance) are excluded.

**Emotional Ability Items.** Principal factors extraction was performed on 48 emotional ability items using the responses of 6,000 respondents. Different methods of rotation were tried and oblique rotation (consistent with the notion that emotional abilities are related) produced the matrix that was closest to simple structure.

The Kaiser-Meyer-Olkin Measure of Sampling Adequacy was 0.95, considerably above 0.6 required for a good factor analysis. Communalities ranged from 0.31 to 0.68 with a median value of 0.52 indicating that the items were moderately well defined by the factor solution. Six factors were extracted with eigenvalues over 1 accounting for 51 percent of the variance. With a cut of 0.45 for inclusion of an item in the interpretation of a factor, 46 of the 48 items loaded on one of the six factors. Table 10 shows the loadings of the items on the factors. Loadings under 0.45 (20 percent of variance) are excluded.

**Personality Scales.** Principal factors extraction was performed on the five personality scales using data from 25,000 respondents. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy was 0.75, above 0.6 required for a good factor analysis. Communalities ranged from 0.42 to 0.68 with a median value of 0.56 indicating that the scales were moderately well defined by the factor solution. One factor was extracted with an eigenvalue of 2.77 accounting for 55 percent of the variance. Table 11 shows the loadings of the scales on the factor.

**Table 11. Synthesis General Personal Factor Component Matrix (N=25,000)**

Scale	R
Conscientious and Achieving	0.83
Creative and Open to Change	0.75
Extravert and Outgoing	0.75
Cooperative and Agreeable	0.74
Stable and Calm	0.65



**Table 9. Factor Structure of Personality Scales (N=25,000)**

Item	N(ES)	O	E	C	A
I feel unable to deal with things	0.78				
Stable and Calm item	0.75				
Stable and Calm item	0.74				
Stable and Calm item	0.73				
Stable and Calm item	0.72				
Stable and Calm item	0.64				
Stable and Calm item	0.60				
Stable and Calm item	0.59				
I develop new ways of doing things		0.80			
Creative and Open to Change item		0.79			
Creative and Open to Change item		0.76			
Creative and Open to Change item		0.75			
Creative and Open to Change item		0.65			
Creative and Open to Change item		0.61			
Creative and Open to Change item		0.61			
Creative and Open to Change item		0.60			
I feel at ease in social situations			0.80		
Extravert and Outgoing item			0.75		
Extravert and Outgoing item			0.73		
Extravert and Outgoing item			0.72		
Extravert and Outgoing item			0.68		
Extravert and Outgoing item			0.63		
Extravert and Outgoing item	0.46		0.58		
Extravert and Outgoing item	0.46		0.57		
I work hard				0.78	
Conscientious and Achieving item				0.67	
Conscientious and Achieving item				0.64	
Conscientious and Achieving item				0.64	
Conscientious and Achieving item				0.63	
Conscientious and Achieving item				0.61	
Conscientious and Achieving item				0.53	
Conscientious and Achieving item				0.52	
I am concerned about others					0.75
Cooperative and Agreeable item					0.72
Cooperative and Agreeable item					0.70
Cooperative and Agreeable item					0.70
Cooperative and Agreeable item			0.47		0.66
Cooperative and Agreeable item					0.64
Cooperative and Agreeable item					0.54
Cooperative and Agreeable item					0.51

**Table 10. Factor Structure of Emotional Ability Scales (N=6,000)**

Item	1	2	3	4	5	6
I don't understand the way in which emotions change	0.74					
Understanding Emotions item	0.68					
Understanding Emotions item	0.67					
Understanding Emotions item	0.67					
Understanding Emotions item	0.67					
Understanding Emotions item	0.66					
Understanding Emotions item	0.56					
Understanding Emotions item	0.52					
I am open about my feelings		0.86				
Communicating Emotions item		0.85				
Communicating Emotions item		0.79				
Communicating Emotions item		0.78				
Communicating Emotions item		0.76				
Communicating Emotions item		0.72				
Communicating Emotions item		0.51				
Communicating Emotions item		*				
I know when someone is trying to pull the wool over my eyes			0.76			
Perceiving Emotions item			0.73			
Perceiving Emotions item			0.69			
Perceiving Emotions item			0.69			
Perceiving Emotions item			0.67			
Perceiving Emotions item			0.65			
Perceiving Emotions item			0.65			
Perceiving Emotions item			0.52			
I keep my emotions under control				0.81		
Managing Emotions item				0.72		
Managing Emotions item				0.63		
Managing Emotions item				0.61		
Managing Emotions item				0.61		
Managing Emotions item				0.61		
Managing Emotions item				0.56		
Managing Emotions item				0.54		
I feel badly if my words or actions cause someone else emotional pain					0.73	
Sympathizing with Emotions item					0.69	
Sympathizing with Emotions item					0.68	
Sympathizing with Emotions item					0.66	
Sympathizing with Emotions item					0.60	
Sympathizing with Emotions item					0.56	
Sympathizing with Emotions item					0.46	
Sympathizing with Emotions item					*	
I use mood changes to help see a problem from different points of view						0.79
Using Emotions item						0.70
Using Emotions item						0.59
Using Emotions item						0.57
Using Emotions item						0.56
Using Emotions item						0.52
Using Emotions item						0.49
Using Emotions item						0.48

\* Item loading less than 0.45

**Emotional Ability Scales.** Principal factors extraction was performed on the six emotional ability scales using data from 6,000 respondents. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy was 0.78, above 0.6 required for a good factor analysis. Communalities ranged from 0.28 to 0.71 with a median value of 0.50 indicating that the scales were moderately well defined by the factor solution. One factor was extracted with an eigenvalue of 2.92 accounting for 49 percent of the variance. Table 12 shows the loadings of the scales on the factor.

**Table 12. Synthesis Emotional Quotient Factor Component Matrix (N=6,000)**

Scale	R
Perceiving Emotions	0.84
Communicating Emotions	0.72
Sympathizing with Emotions	0.71
Using Emotions	0.70
Understanding Emotions	0.65
Managing Emotions	0.53

### Model of Behavioral Style and Fitness

The results from the separate factor analyses of the personality and emotional ability scales suggest a model of behavioral style and fitness based on general factors covering personality and emotional ability. These factors may have arisen, as Rushton et al (2008) argue for the GFP, through evolutionary selection for socially desirable traits that facilitate performance (Rushton et al., 2008). Rushton et al argue that individuals high on the GFP left more progeny, since people prefer as mates, fellow workers, and leaders those who are altruistic, conscientious, and emotionally stable.

The Synthesis assessment was developed from data from two separate assessments, and the technical properties of the instrument reported above are based on separate samples. In order to assess the factor structure of the combined assessment, principal factors extraction with oblique rotation was performed using data from 2,415 respondents who completed the combined assessment. Women accounted for sixty percent of the sample and men forty percent. The mean age of respondents was 31.7 years.

The Kaiser-Meyer-Olkin Measure of Sampling Adequacy was 0.85, well above 0.6 required for a good factor analysis. Communalities ranged from 0.38 to 0.79 with a median value of 0.56 indicating that the scales were moderately well defined by the factor solution. Two factors were extracted with eigenvalues over 1 accounting for 58 percent of the variance. The correlation between the two components was 0.41.

Table 13 shows the loadings of the scales on the factors. There are more of the personality scales in the first factor (four out of five) and more of the emotional competency scales in the second factor (four out of six). This can be interpreted as meaning that factor one is mostly about the General Factor of Personality and factor two is mostly about emotional intelligence. However, the pattern matrix is not a simple structure based on whether the scales measure personality traits or emotional competencies.

The first factor comprises four of the Big Five personality factors and two of the emotional competency scales. The two scales that load strongest on this factor are the emotional stability personality factor and the emotional competency scale measuring regulating

emotions. Respondents who score highly on this factor are stable and calm and are able to manage their feelings and emotions. They are also open, conscientious, extravert, and understand how emotions work.

The second factor comprises four of the six emotional competency scales and the agreeableness personality factor. Respondents who score highly on this factor have an agreeable personality and they are skilled at perceiving, expressing, sympathizing with, and using feelings and emotions.

**Table 13. Rotated Component Matrix for Synthesis Scales (N=2,415)**

Scale	Factor 1	Factor 2
Stable and Calm	0.96	
Managing Emotions	0.88	
Conscientious and Achieving	0.66	
Creative and Open to Change	0.61	
Extravert and Outgoing	0.59	
Understanding Emotions	0.59	
Sympathizing with Emotions		0.82
Using Emotions		0.81
Cooperative and Agreeable		0.58
Perceiving Emotions		0.49
Communicating Emotions		0.41

Loadings under 0.45 are omitted.

## Correlation with Other Measures

The personality and emotional ability datasets contained marker variables from scales in the International Personality Item Pool (Goldberg et al, 2006). Goldberg defines the IPIP website as “an international effort to develop and continually refine a set of personality inventories, whose items are in the public domain, and whose scales can be used for both scientific and commercial purposes”.

Table 14 shows the correlations between the Synthesis scales and marker variables from IPIP scales. For the personality scales, the correlations are between the Synthesis personality scales and items from IPIP scales measuring the five NEO-PI-R domains. The correlations ranged from 0.75 to 0.86 and the median correlation was 0.78.

For the emotional ability scales, the correlations are between the Synthesis emotional ability scales and items from IPIP scales measuring Barchard’s (2001) emotional intelligence components. The emotional ability correlations ranged from 0.70 to 0.90 and the median correlation was 0.80. The median correlation for all scales was 0.79.

**Table 14. Correlations between Synthesis Scores and Marker Variables (N=6,000-25,000)**

Scale	R	IPIP Scale
Creative and Open to Change	0.86	Openness to experience
Conscientious and Achieving	0.78	Conscientiousness
Extravert and Outgoing	0.87	Extraversion
Cooperative and Agreeable	0.76	Agreeableness
Stable and Calm	0.75	Neuroticism
Perceiving Emotions	0.81	Social/personal/emotional intelligence
Communicating Emotions	0.90	Reserve
Sympathizing with Emotions	0.78	Understanding
Using Emotions	0.79	Emotion-based decision-making
Understanding Emotions	0.70	Attending to emotions
Managing Emotions	0.83	Self-regulation/self-control
Impression Management	0.75	Impression Management
Personality marker median	0.78	
Emotional ability marker median	0.80	
Median correlation for all scales	0.79	

All correlation significant at the 0.01 level (2-tailed). N for personality scales is 25,000, N for emotional ability scales is 6,000.

## Criterion Validity

The datasets used to develop Synthesis contained 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". The personality test dataset contained job performance data from 1,500 respondents and the emotional intelligence dataset contained data from all 6,000 respondents.

Table 15 shows the frequency of the two types of job performance ratings reported by respondents from the emotional ability test sample. 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 unsatisfactory. The correlation between the self-assessments and reported line manager assessments was 0.69.

Table 16 shows the correlations between the Synthesis 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 the different measures of job performance and test scores on all scales.

**Table 15. 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
Unsatisfactory	7	26	67	100	200
Total	2,380	2,683	729	208	6,000

Taking the combined rating, the correlations between the Big Five scales and job performance ranged from 0.27 to 0.48 with a median correlation of 0.31. The correlation between GFP and job performance was 0.45. The correlations between the emotional intelligence scales and job performance ranged from 0.12 to 0.32 with a median correlation of 0.23. The correlation between EQ and job performance was 0.33. The median correlation for all 11 primary scales (excluding the GFP and EQ measures) was 0.28.

**Table 16. Correlations between Synthesis Scores and Job Appraisal Ratings (N=1,500-6,000)**

Scale	Self-Assessment	Managerial Assessment	Combined
General Factor of Personality	0.44	0.38	0.45
Creative and Open to Change	0.30	0.26	0.31
Conscientious and Achieving	0.46	0.42	0.48
Extravert and Outgoing	0.27	0.22	0.27
Cooperative and Agreeable	0.26	0.25	0.28
Stable and Calm	0.37	0.28	0.36
Emotional Quotient	0.32	0.29	0.33
Perceiving Emotions	0.22	0.21	0.23
Communicating Emotions	0.23	0.18	0.22
Sympathizing with Emotions	0.14	0.16	0.16
Using Emotions	0.13	0.10	0.12
Understanding Emotions	0.27	0.24	0.28
Managing Emotions	0.30	0.28	0.32
Personality scale median	0.30	0.26	0.31
Emotional ability scale median	0.23	0.20	0.23
Median for all scales	0.27	0.24	0.28

All correlation significant at the 0.01 level (2-tailed). N for personality scales is 1,500, N for emotional ability scales is 6,000.

The magnitude of these correlations is consistent with those reported in the literature for personality and EI variables. For example, Robertson (1997) reports that the upper limits for

the validity of personality variables against overall work performance variables are in the range of 0.25 to 0.4. In a recent meta-analysis of the relation between emotional intelligence and job performance, O'Boyle et al (2011) report corrected correlations between different types of EI measures and job performance ranging from 0.24 to 0.30.

## Demographics

**Gender.** There were statistically significant differences related to gender across the Big Five but no differences in GFP scores (Table 17). Men scored slightly higher on openness to change and emotional stability and women scored slightly higher on conscientiousness, extraversion and agreeableness. Gender differences of medium magnitude in emotional stability and agreeableness have been reported consistently in the literature. Gender differences in openness, extraversion and conscientiousness have either been inconsistent or negligible in magnitude (Chapman et al, 2007).

There were statistically significant differences in five of the six emotional ability scales and in the EQ measure. Consistent with personality differences in agreeableness and emotional stability, women scored higher on communicating, empathizing, understanding and using emotions and men scored higher on managing emotions. Women scored higher on the overall EQ measure. There was no significant difference on perceiving emotions. Stys and Brown (2004) report that studies in gender differences of emotional intelligence are inconclusive--some research has found that women are more emotionally intelligent than men but other studies have found no significant differences.

**Table 17. Means and Standard Deviations of Men and Women (N=6,000-25,000)**

Scale	Men		Women		Sig.
	Mean	SD	Mean	SD	
General Factor of Personality	104.86	22.72	104.88	22.31	0.94
Creative and Open to Change	18.73	6.32	17.38	6.16	0.00
Conscientious and Achieving	21.78	5.96	22.65	5.76	0.00
Extravert and Outgoing	19.96	6.82	20.40	6.81	0.00
Cooperative and Agreeable	21.42	5.28	22.49	5.03	0.00
Stable and Calm	22.97	6.04	21.95	6.24	0.00
Emotional Quotient	126.71	23.60	131.25	21.55	0.00
Perceiving Emotions	24.08	4.59	23.99	4.31	0.40
Communicating Emotions	18.63	6.92	20.48	6.61	0.00
Sympathizing with Emotions	24.06	4.91	25.70	4.10	0.00
Using Emotions	19.88	5.15	21.11	4.41	0.00
Understanding Emotions	19.63	6.23	21.12	5.43	0.00
Managing Emotions	20.43	6.08	18.86	6.02	0.00
Impression Management	15.83	5.07	16.17	4.65	0.00

N for personality scales is 25,000, No for emotional ability scales is 6,000.

**Age.** Table 18 shows the correlations between Synthesis scale scores and age. Although the differences are often small, they do reach statistical significance due to the large sample size. The magnitude of differences was small on both the personality and emotional ability scales. The mean difference in scale mean scores was 0.95 in the personality scales and 1.31 in the emotional ability scales.

The data indicates that as people get older, they become more stable, more conscientious, more open to change and more agreeable. Older people also have higher GFP scores suggesting that as you get older, you acquire more socially desirable personality tendencies and become easier to get along with. These changes in personality related to age are consistent with those reported by Srivastava *et al* (2003) where a very large sample of 132,000 respondents was used.

Table 18 also suggests that emotional intelligence increases with age though the relationship is less strong. The highest correlations are in the scales measuring the ability to communicate (0.16) and manage (0.13) feelings and emotions. As both gender and age differences are small relative to individual variation within genders and ages, it seems wholly appropriate to use combined gender and age norms.

**Table 18. Correlations of Synthesis scores with Age (N=6,000-25,000)**

Scale	Age	Sig.
General Factor of Personality	0.20	0.00
Creative and Open to Change	0.17	0.00
Conscientious and Achieving	0.20	0.00
Extravert and Outgoing	0.03	0.00
Cooperative and Agreeable	0.14	0.00
Stable and Calm	0.21	0.00
Emotional Quotient	0.11	0.00
Perceiving Emotions	-0.02	0.08
Communicating Emotions	0.16	0.00
Sympathizing with Emotions	0.08	0.03
Using Emotions	-0.03	0.00
Understanding Emotions	0.08	0.00
Managing Emotions	0.13	0.00
Impression Management	0.19	0.00

N for personality scales is 25,000, No for emotional ability scales is 6,000.



# Norms

## Personality Scales

The personality scale comparison group was created from an international sample of over 40,000 persons who completed the online assessment between December 2009 and May 2011. 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 25,000 cases was then created from two equally-sized gender data sets. The cases for the gender data sets were selected randomly using SPSS.

**Gender and Age.** The age distribution of the sample is shown in Table 19. About 40 percent of respondents were aged 16-25, about 30% were aged 26-35 and about 10% were aged 46-55. Only 2% of respondents were in the older 55+ age range. The mean age of the sample was 37.7 with a standard deviation of 12.9.

**Table 19. Age and Gender Distribution of Personality Subtest Comparison Group (N=25,000)**

Age Band	Male	Female	Total
16-25	4,618	5,699	10,317
	18.47%	22.80%	41.27%
26-35	4,212	3,493	7,705
	16.85%	13.97%	30.82%
36-45	2,259	2,055	4,314
	9.04%	8.22%	17.26%
46-55	1,161	1,065	2,226
	4.64%	4.26%	8.90%
56-65	250	188	438
	1.00%	0.75%	1.75%
Total	12,500	12,500	25,000
	50.00%	50.00%	100.00%

**Country of Origin.** We did not collect data about country of origin and ethnicity routinely. In order to provide an indication of the likely ethnic and nationality mix of the standardization group, we invited respondents to provide further information about these characteristics over a limited time period. About half of a sample of just over 3,000 respondents volunteered this information. Table 20 gives the country distribution of the sample—over 90 percent of 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 of Personality Subtest Comparison Group (N=1,519)**

Country	Male	Female	Total
United States	241	506	747
	15.87%	33.31%	49.18%
United Kingdom	152	210	362
	10.01%	13.82%	23.83%
Australia	63	104	167
	4.15%	6.85%	10.99%
Canada	43	82	125
	2.83%	5.40%	8.23%
Rest of the World	59	59	118
	3.88%	3.88%	7.77%
Total	558	961	1,519
	36.73%	63.27%	100.00%

**Ethnic Origin.** Table 21 shows the distribution by race and ethnicity. Seventy five percent described themselves as White, 4 percent said they were Asian, 8 percent reported that they were Black and 5 percent said they were Spanish/Hispanic/Latino.

**Table 21. Ethnic Origin of Respondents of Personality Subtest Comparison Group (N=1,513)**

Ethnic Origin	Male	Female	Total
Asian	30	33	63
	1.98%	2.18%	4.16%
Black	37	81	118
	2.45%	5.35%	7.80%
Chinese	4	4	8
	0.26%	0.26%	0.53%
Mixed	18	42	60
	1.19%	2.78%	3.97%
Other	19	28	47
	1.26%	1.85%	3.11%
Hispanic or Latino	28	48	76
	1.85%	3.17%	5.02%
White	417	724	1141
	27.56%	47.85%	75.41%
Total	553	960	1,513
	36.55%	63.45%	100.00%

### Emotional Ability Scales

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. 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 22. 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 22. Age and Gender Distribution of Emotional Ability Subtest 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 23 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 23. Ethnic Origin of Respondents In Emotional Ability Subtest 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 24 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 24. Country of Origin of Respondents In Emotional Ability Subtest 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 25 provides norms for the scales using the Standard Ten (sten) scoring approach.

**Table 25. Synthesis General Population Norms (\*N=6,000-25,000)**

Scale	1	2	3	4	5	6	7	8	9	10	Mean	SD
General Factor of Personality	0-55	56-68	69-81	82-93	94-106	107-117	118-127	128-136	137-144	145-160	104.87	22.51
Creative and Open to Change	0-5	6-8	9-10	11-14	15-17	18-21	22-23	24-27	28-29	30-32	18.06	6.28
Conscientious and Achieving	0-8	9-11	12-15	16-19	20-22	23-25	26-27	28-29	30-31	32	22.22	5.88
Extravert and Outgoing	0-4	5-8	9-12	13-16	17-20	21-23	24-26	27-29	30-31	32	20.18	6.82
Cooperative and Agreeable	0-10	11-13	14-16	17-19	20-21	22-24	25-26	27-28	29-30	31-32	21.95	5.18
Stable and Calm	0-6	7-11	12-15	16-19	20-23	24-25	26-27	28-29	30	31-32	22.46	6.17
Emotional Quotient	0-78	79-92	93-105	106-119	120-130	131-140	141-149	150-161	162-171	172-192	128.98	22.71
Perceiving Emotions	0-13	14-16	17-19	20-22	23	24-25	26-27	28-30	31	32	24.04	4.45
Communicating Emotions	0-4	5-7	8-11	12-15	16-20	21-23	24-25	26-28	29-30	31-32	19.55	6.83
Sympathizing with Emotions	0-12	13-17	18-20	21-23	24	25-26	27-28	29-30	31	32	24.88	4.60
Using Emotions	0-9	10-11	12-15	16-18	19-20	21-22	23-24	25-26	27-29	30-32	20.50	4.83
Understanding Emotions	0-7	8-10	11-13	14-17	18-20	21-23	24-25	26-27	28-30	31-32	20.37	5.89
Managing Emotions	0-5	6-9	10-12	13-16	17-19	20-22	23-25	26-27	28-29	30-32	19.64	6.10
Impression Management	0-5	6-8	9-10	11-13	14-15	16-17	18-20	21-22	23-25	26-32	16.00	4.87

\*N for personality scales is 25,000, N for emotional ability scales is 6,000

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