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# Emotional Intelligence

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*“Emotional intelligence is an organising framework for categorising abilities relating to understanding, managing and using feelings (P SALOVEY & J MAYER 1994)*

*“Emotional Intelligence: long neglected core component of mental ability or faddish and confused idea massively commercialised” (A. FURNHAM 2001)*

## 1. Introduction

It has been suggested that there are now well over 10,000 scholarly books, chapters and papers on emotional intelligence. This is remarkable given that it has only been 21 years since the topic first appeared under that name in the psychological literature. If you Google Amazon you will find around 20 books with Emotional Intelligence in the title and three to five times that number dealing with the concept in one form or another.

The history of emotional intelligence is this: In 1920 the concept of “Social Intelligence” was first introduced; in 1990 the first published scientific paper on the topic using this term; in 1995 Goleman wrote the best seller “Emotional Intelligence”; in 1997 the first popular self-report questionnaire was developed; in 2003 the first ability measure devised. There is now a comprehensive Wikipedia entry on the topic and various very serious handbooks and reviews.

A few authors are very well known. One very well known model is that of Bar-On (1988). According to the Bar-On model, *emotional intelligence consists of interrelated emotional and social competencies, skills and facilitators that determine how well we understand and express ourselves, understand others and relate with them, and cope with daily demands, challenges and pressures.* The emotional and social competencies, skills and facilitators included in this broad definition of the construct are based on the 5 meta-factors: intrapersonal EQ, interpersonal EQ, Stress management EQ, Adaptability EQ and General Mood EQ. Other models, notably that of Petrides and Furnham (2000 ab, 2003) is given below.

Since first coined by Thorndike (1920) and echoed later by Guilford (1967) psychologists have been interested in the “social intelligences”. These are nearly always put in “inverted commas” because, strictly speaking, they are not intelligences but conceived of as social skills, even dispositions/traits that have both multiple causes and multiple consequences.

There are many explanations for the long standing interest in the “social intelligences”. Cognitive ability/intelligence rarely explains more than a third to a half of the variance in

any outcome measure, be it academic achievement, job performance or health. The question is, do the social intelligences account for incremental variance over IQ test results? A second reason is that it is difficult to improve or teach cognitive ability. Third, for over twenty years new advocates of “multiple intelligence” have been enormously successful in persuading people both of their existence and importance, despite the quality of their empirical evidence.

The question is what is social intelligence? Eysenck (1985) conceived of a useful model that differentiated three types of intelligence - biological, psychometric and social - and what factors influenced it. As we shall see there remains debate and discussion as to whether EI is a “real” intelligence or rather a social intelligence.

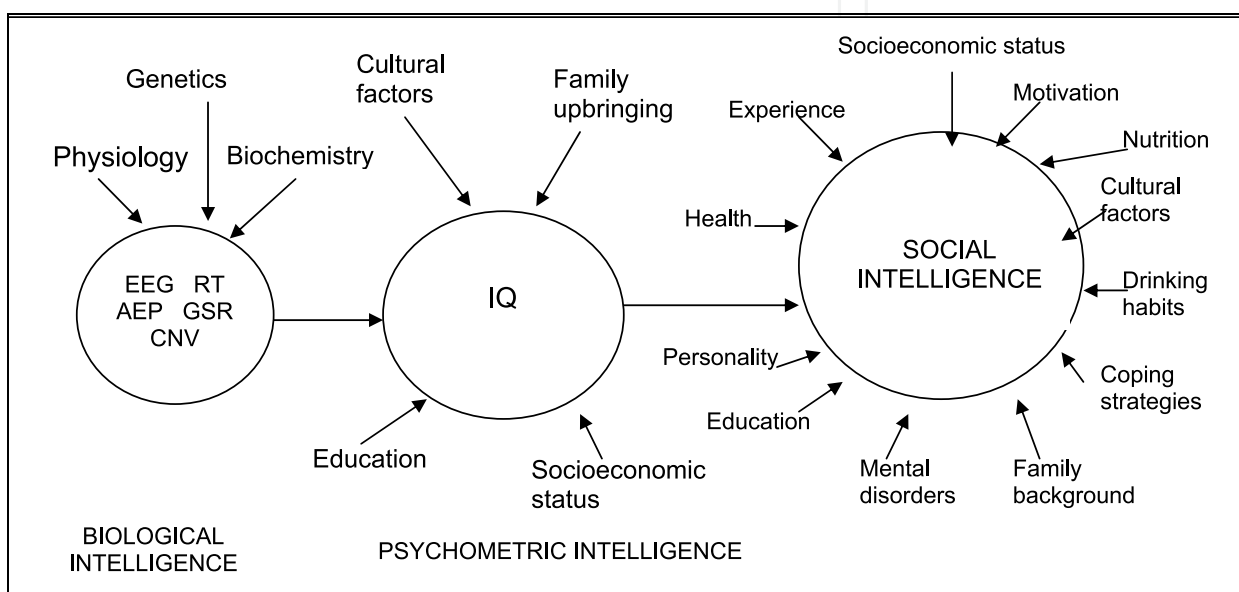


Fig. 1. Eysenck's representation of three different conceptions of "intelligence". In this model many things, like cognitive ability, predict social intelligence.

Mackintosh (1998) argued that social intelligence was social competence and success in social interaction that is adaptive and can be seen in other animal species. It allows individuals to understand others' hopes, fears, beliefs and wishes. He noted that it is not too difficult to define social intelligence (mainly in terms of social skills) nor devise tests to measure it. He doubted two things: first, if these many social and interpersonal skills actually load on a single dimension, and second whether they are uncorrelated with, and therefore related to, standard IQ measures of cognitive ability.

Various researchers have reviewed the concept of social intelligence including its discriminant validity, relationship to personality and classic cognitive ability, its role in “life tasks” and how it develops over time. They believe it is multifunctional, relating to such issues as social sensitivity, social insight and social communication. In other words it is much more of a social or personality variable than a cognitive variable which is more about information processing and accumulation. Hence trait emotional intelligence (Petrides & Furnham, 2001, 2003, 2006). Others like Landy (2006) are much more circumspect about the concept. This is nicely described in the title of his chapter heading: “The long, frustrating and fruitless search for social intelligence”.

## 2. Multiple intelligences

Over the past decade or so there has been an explosion in the number of “multiple intelligences” discovered. Hardly a year goes by before yet another is discovered. The following table shows 14 ‘different intelligences’.

	Multiple Intelligence	Author	Year
1.	Analytical	Sternberg	1997
2.	Bodily-kinesthetic	Gardner	1999
3.	Creative	Sternberg	1997
4.	Emotional	Salovey and Mayer	1990
5.	Interpersonal	Gardner	1999
6.	Intrapersonal	Gardner	1999
7.	Mathematical	Gardner	1999
8.	Musical	Gardner	1999
9.	Naturalistic	Gardner	1999
10.	Practical	Sternberg	1997
11.	Sexual	Conrad and Milburn	2001
12.	Spatial	Gardner	1999
13.	Spiritual	Emmons	2000
14.	Verbal	Gardner	1999

Table 1. The many identified multiple intelligences

Among academic researchers social intelligences are not usually considered part of cognitive ability and “intelligences” is always put in inverted commas. There are two reasons for this: *first*, there is very little good, empirical evidence supporting the idea that these are separate, distinguishable factors from each other; *second*, they seem unrelated to traditional measures of intelligence. More interesting, in a variety of studies, Furnham (2001) has shown lay people believe many of the multiple intelligences (i.e. musical, bodily-kinesthetic, emotions) are *not* linked to traditional ideas of intelligence.

The two figures most powerfully involved with the multiple intelligence world are Sternberg (1997) and Gardner (1983, 1999). Gardner (1983) defined intelligence as “the ability to solve problems or to create products that are valued within one or more cultural settings” (p.11) and specified seven intelligences. He argued that *linguistic/verbal* and *logical/mathematical intelligences* are those typically valued in educational settings. Linguistic intelligence involves sensitivity to the spoken and written language and the ability to learn languages. Logical-mathematical intelligence involves the capacity to analyse problems logically, solve maths problems and investigate issues scientifically. These two types of intelligence dominate intelligence tests.

Three other multiple intelligences are arts based: *musical intelligence* which refers to skill in the performance, composition and appreciation of musical patterns; *bodily kinaesthetic intelligence* which is based on the use of the whole or parts of the body to solve problems or to fashion products; and *spatial intelligence* which is the ability to recognise and manipulate patterns in space. There are also two personal intelligences: *interpersonal intelligence* which is the capacity to understand the intentions, motivations and desires of other people and to

work effectively with them; and *intrapersonal intelligence* which is the capacity to understand oneself and to use this information effectively in regulating one's life. It is these latter two intelligence that *combined* make up emotional intelligences.

However, in his later book Gardner (1999) defines intelligence as a "biopsychological potential to process information that can be activated in a cultural setting to solve problems or create products that are of value in a culture" (p.33-34). In it, he introduces three possible new intelligences although he notes: "The strength of the evidence for these varies, and whether or not to declare a certain human capacity another type of intelligence is certainly a judgement call" (p.47). However, he only added one new intelligence, namely *naturalistic intelligence* which is "expertise in the recognition and classification of the numerous species – the flora and fauna – of his or her environment" (p.43). It is the capacity to taxonomise: to recognise members of a group, to distinguish among members of a species and to chart out the relations, formally or informally, among several species. The other two were spiritual and existential intelligences. *Spiritual intelligence* is the ability to master a set of diffuse and abstract concepts about being, but also mastering the craft of altering one's consciousness in attaining a certain state of being. This has recently become an issue of considerable debate (Emmons, 2000). *Existential intelligence* is yet more difficult to define: "the capacity to locate oneself with respect to the furthest reaches of the cosmos – the infinite and infinitesimal – and the related capacity to locate oneself with respect to such existential features of the human condition as the significance of life, the meaning of death, the ultimate fate of the physical and the psychological worlds and such profound experiences as love of another person or total immersion in a work of art" (p.61).

Despite its popularity in educational circles, Gardner's theory has been consistently attacked and criticised by those working empirically in the area (Allix, 2000; Klein, 1997; Morgan, 1996; White, 2005). Visser, Ashton and Vernon (2006) tested 200 participants giving them eight tests of the Gardner intelligences. Factor analysis reveal, against the Gardner theory, a large g factor. The highest loading tests on this g factor were Linguistic (Verbal), Logical/Mathematical, Spatial, Naturalistic and Interpersonal intelligences. The authors concluded: "Results support previous findings that highly diverse tests of purely cognitive abilities share strong loadings on a factor of general intelligence and that abilities involving sensory, motor or personality influences are less strongly g-loaded". (p.487). Later they conclude: "The substantial g-loadings of all purely cognitive tests in the current study contradict Gardner's assertion that there are at least eight independent intelligence domains. Although Gardner has acknowledged the existence of g and has conceded that the eight intelligences might not be entirely independent, his contention that positive correlations between various cognitive tasks are largely due to verbal demands was clearly not supported in this study, in which those verbal demands were minimized. Instead, measures of Linguistic, Spatial, Logical-Mathematical, Naturalistic, and Interpersonal intelligences showed a positive manifold of correlations, substantial loadings on a g factor, and substantial correlations with an outside measure of general intelligence. The common element that saturated the highly g loaded tests most strongly was their demand on reasoning abilities, not their specifically verbal content.

Sternberg (1997) has also developed a multi-dimensional model also known as the "triarchic" theory of "successful" intelligence. This posits that human intelligence comprises three aspects, that is, componential, experiential and contextual. The *componential* aspect



refers to a person's ability to learn new things, to think analytically and to solve problems. This aspect of intelligence is manifested through better performance on standard intelligence tests, which require general knowledge and ability in areas such as arithmetic and vocabulary. The *experiential* aspect refers to a person's ability to combine different experiences in unique and creative ways. It concerns original thinking and creativity in both the arts and the sciences. Finally, the *contextual* aspect refers to a person's ability to deal with practical aspects of the environment and to adapt to new and changing contexts. This aspect of intelligence resembles what lay people sometimes refer to as "street smarts". Sternberg (1997) popularised these concepts and refers to them as analytic, creative and practical intelligence. However, practical intelligence theory has also attracted very serious criticism. Gottfredson (2003) in an extremely exhaustive review of all the work in the area disputes Sternberg's central claim that there exists a general factor of practical intelligence (made up of the three intelligences) that is distinct from academic intelligence as usually conceived.

Interest in emotional intelligence began at the same time as an interest in the multiple intelligences. Throughout this period there was disillusionment with orthodox intelligence (cognitive ability) testing. It was believed that IQ tests were devised and discriminatory and that most people knew of very clever people who were quite obviously not very successful at work. The concept of EI seemed to "arrive" just at the right time to become very popular.

### 3. Defining emotional intelligence

Despite its popularity, and the fact that most people claim to have heard of it, very few can accurately define emotional intelligence. Sceptics claim that "charm and influence" became "social and interpersonal skills" which has become "emotional intelligence". The new term and concept chimed with the zeitgeist and became very popular. It spawned a huge industry particularly with those interested in success at work. Many books make dramatic claims: for instance that cognitive ability or traditional academic intelligence contributes only about 20% to general life success (academic, personal and work) while the remaining 80% is directly attributable to EI.

Below is a simple 2x2 way of conceiving on EI: self vs other; emotional awareness vs management.

Goleman's (1995) book told a simple and interesting story about emotional intelligence that helped explain its appeal. Technical training in the essential job knowledge of any career is easy compared to teaching IQ skills. That is, as an adult it is comparatively more straightforward to teach a person the technical aspects of the job than the soft skills. The idea is that there is a critical period to acquire the basis of EI which is probably during early to late adolescence. The young person, often a male, may experience social anxiety, discomfort and rejection while attempting to interact with and influence others (specifically those they are attracted to, which is most often people of the opposite sex).

Hence they may over time find solace in computers and other activities with a high skills/low contact basis. Thus, in early adulthood, they appear to be technically competent in certain areas (IT, engineering) but still rather undeveloped in people skills and more specifically emotional awareness and regulation. They may even be 'phobic' about emotional issues and resistant to (social skills) training. It is also assumed that people are less able to pick up EI 'skills' as well as less willing to try. To acquire technical skills often

requires considerable dedication so opportunities to acquire social skills (EQ) are, therefore, reduced. Then the low EQ person chooses technology rather than people for fun, comfort, a source of ideas because they do not understand emotions.

## Emotional Competencies

<p style="text-align: center;"><u>Self Awareness</u></p> <ul style="list-style-type: none"> <li>• Emotional Self-Awareness</li> <li>• Self Confidence</li> <li>• Accurate Self-Assessment</li> </ul>	<p style="text-align: center;"><u>Social Awareness</u></p> <ul style="list-style-type: none"> <li>• Empathy</li> <li>• Organisational Awareness</li> <li>• Service Orientation</li> </ul>
<p style="text-align: center;"><u>Self Management</u></p> <ul style="list-style-type: none"> <li>• Emotional Self-Control</li> <li>• Adaptability</li> <li>• Achievement Orientation</li> <li>• Optimism</li> <li>• Initiative</li> <li>• Transparency</li> </ul>	<p style="text-align: center;"><u>Relationship Management</u></p> <ul style="list-style-type: none"> <li>• Influence</li> <li>• Conflict Management</li> <li>• Ins. Leadership</li> <li>• Change Catalyst</li> <li>• Developing Others</li> <li>• Teamwork and Collaboration</li> </ul>

Some adults often tend to be rigid, with poor self-control, poor social skills and are weak at building bonds. Understanding and using emotions/ feelings are at the heart of business and indeed being human. Often business people prefer to talk about emotional competencies (rather than traits or abilities) which are essentially learned capabilities. Emotional competencies include: emotional self-awareness, emotional self-regulation, social-emotional awareness, regulating emotions in others: understanding emotions, etc. If one is to include older related concepts, like social skills or interpersonal competencies, it is possible to find a literature dating back thirty years showing these skills predict occupational effectiveness and success. Further, there is convincing empirical literature that suggests these skills can be improved and learnt.

### 4. Emotional intelligence as a management fads

The application of EI in the work place seems the virtual prototype of a fad. Furnham (2006) suggested that all management fads have a similar natural history which has seven separate identifiable phases: One question is whether EQ will follow this trajectory, and if so, where is it now?

- a. *Academic Discovery*: Faddish ideas can often be traced to the world of academia. A modest discovery may result in a paper in a specialist journal. These papers show the

causal link between two factors relevant to work situations. These papers are not only complicated and heavily statistical but they are cautious and preliminary. Academics often call for replications, more research, they are hesitant and underline the complexity of all the actual and possible factors involved. The early social and emotional intelligence papers are a little like this. However, it is difficult to trace the concept to one study or paper.

- b. *Description of the Study*: This process can last a long time, and usually involves a lot of elaboration and distortion in the process. Someone reads the paper and provides a summary. Others hear it and repeat it. But with every repetition, the findings become stronger and the complexity weaker. In this sense effect size estimates go up and criticisms about experimental technique go down. The crucial findings are recorded and embellished.
- c. *Popularisation in a Best Seller*: The next stage is a business writer/guru takes up the call, hears about the finding, gives them a catchy title and before you know what the fad is about to begin. That one single, simple idea/finding/process soon becomes a book. This is where the Goleman (1998) book plays such an important role. It is very widely reviewed in the media around the world. It is at this stage that the fad becomes a *buzzword*.
- d. *Consultant Hype and Universalisation*: It is not the academic or the author that really powers the fad but an army of management consultants trying to look as if they are at the cutting edge of management theory. Because the concepts are easy to understand and are said to have wide application, the consultants seek to apply them everywhere. What made the EQ phenomena different? Two things: first the web which now has a very big impact on the rapid and universal popularisation of ideas. The second was the rapid development of measures of EQ. The concept not only struck home but it could be (supposedly) efficiently and validly measured very easily. It was the measurement of EQ that really appealed to the management consultants.
- e. *Total Commitment by "the believers"*: At this point, the evangelists move from the consultants to the managers. For a small number of companies, the technique *seems* to have brought quick, massive benefits. They become happy and willing product champions, which only serves to sell more books and fan the fires of faddishness. EQ champions are paraded at conferences. EQ awareness, courses and training improve performance and make people into better managers.
- f. *Doubt, Scepticism and Defection*: After pride comes the fall. After a few years of heavy product selling, the appetite for the fad becomes diminished. The market is saturated. Various 'new and improved'; or just as likely 'shorter and simpler'; versions of the fad are introduced. But it is apparent that the enthusiasm is gone. Managerial doubt follows academic scepticism, followed by journalistic cynicism, and finally consultant defection. It may be that the whole process starts with people pointing out the poor cost-benefit analysis of introducing the fad. Or it may occur because someone goes back to the original finding and shows that the gap has widened so much between what was initially demonstrated and what is now done, that the two are different species.
- g. *New Discoveries*: The end of one fad is an ideal time for trainers, writers and consultant to spot a gap in the market. They know there is an incurable thirst for a magic bullet, fix-all solutions, so the whole process starts again. The really clever people begin to sense when the previous fad is reaching its sell-by-date, so that they have just enough time to write their new best seller to get the market just right.



Is EI a management or educational fad? Has it passed through the above phases? And if so where is it now? Certainly the academics are only now beginning to respond with careful, considered research that attempts to unpick the concept. Suddenly the academic journals, particularly in differential psychology, are bursting with papers that take (hopefully) a disinterested scientific and measured look at EI (Austin, 2004; Chan, 2004; Roberts, Zeidner & Matthews, 2001). There has also appeared a serious, thoughtful and balanced review of work in the area (Matthews, Zeidner & Roberts, 2002). Academic researchers are not immune to fad and fashion. However the lag time is longer and thus what interests the two worlds of science and practice may easily be out-of-synchrony.

## 5. The components of EQ

There remains still no agreement about what features, factors, abilities or skills do or do not form part of EI. As more and more tests of, and books about EI appear on the market the situation gets worse rather than better. Most, but not all theories and systems include ideas about emotional awareness and regulation. Some distinguish between intra and interpersonal emotional skills. Some use the concept of ability, others of skills, and some of competencies.

Facets	High Scorers perceive themselves as being or having.....
Adaptability	Flexible and willing to adapt to new conditions
Assertiveness	Forthright, frank and willing to stand up for their rights
Emotion expression	Capable of communicating their feelings to others
Emotion management (others)	Capable of influencing other people's feelings
Emotion perception (self-and others)	Clear about their own and other people's feelings
Emotion regulation	Capable of controlling their emotions
Impulsiveness (low)	Reflective and less likely to give into their urges
Relationship skills	Capable of having fulfilling personal relationships
Self-Esteem	Successful and self-confident
Self-Motivation	Driven and unlikely to give up in the face of adversity
Social competence	Accomplished networkers with excellent social skills
Stress management	Capable of withstanding pressure and regulating stress
Trait empathy	Capable to taking someone else's perspective
Trait happiness	Cheerful and satisfied with their lives
Trait optimism	Confident and likely to 'look on the bright side' of life.

Table 2. Common facets in salient models of EI

This lack of agreement is typical at the beginning of the academic exploration of a new concept. Indeed disagreement can continue for decades as big egos slog it out both conceptually and empirically to prove the validity and veridicality of their system. It does however make it particularly frustrating and confusing for the interested lay person.

A central unresolved question is what are the facets or components of EI. Thus early models distinguished between the perception, appraisal and expression of emotion in self and others; using emotion to facilitate thinking; the use of emotional knowledge to understand

and analyse emotions as well as the reflective regulation of emotions to promote growth. Some writers talk of *emotional literacy* (which involves the knowledge and understanding of one's own emotions and how they function), *emotional fitness* (which involves trustworthiness and emotional hardiness and flexibility), *emotional depth* (which involves emotional growth and intensity), and *emotional alchemy* (which involves using emotions to discover creative opportunities).

Others "divide up" EI into factors like self-awareness, self-regulation, self-motivation, empathy, and social skills. One more popular conception has 15 components (Petrides & Furnham, 2003)

These fifteen scales can be combined into four related, but independent, factors labelled well-being, self-control skills, emotional skills and social skills.

Another measure, less impressive psychometrically, but well marketed, has different scales and dimensions

#### **Intrapersonal** (self-awareness and self-expression)

- **Self-Regard:** To accurately perceive, understand and accept oneself
- **Emotional Self-Awareness:** To be aware of and understand one's emotions
- **Assertiveness:** To effectively and constructively express one's emotions and oneself
- **Independence:** To be self-reliant and free of emotional dependency on others
- **Self-Actualization:** To strive to achieve personal goals and actualize one's potential

#### **Interpersonal** (social awareness and interpersonal relationship)

- **Empathy:** To be aware of and understand how others feel
- **Social Responsibility:** To identify with one's social group and cooperate with others
- **Interpersonal Relationship:** To establish mutually satisfying relationships and relate well with others

#### **Stress Management** (emotional management and regulation)

- **Stress Tolerance:** To effectively and constructively manage emotions
- **Impulse Control:** To effectively and constructively control emotions

#### **Adaptability** (change management)

- **Reality-Testing:** To objectively validate one's feelings and thinking with external reality
- **Flexibility:** To adapt and adjust one's feelings and thinking to new situations
- **Problem-Solving:** To effectively solve problems of a personal and interpersonal nature

#### **General Mood** (self-motivation)

- **Optimism:** To be positive and look at the brighter side of life
- **Happiness:** To feel content with oneself, others and life in general

Other scales have yet different dimensions depending on how EI is defined and measured. This makes life rather complicated for the practitioner who is not always clear as to what measure to use and why.

## 6. Measurement

Dispute about what to measure when trying to ascertain a person's EI is paradoxically clearer but much more passionate when it comes to EI. Psychometricians make a basic distinction between measures of *maximum* performance (e.g. IQ tests – right or wrong answers) and measures of *typical* response (e.g. personality questionnaires, preference answers) which has far-reaching implications. Self-report measurement leads to the idea of EI as a personality trait ('trait EI' or 'emotional self-efficacy'), whereas potential maximum-performance measurement would lead to ideas of EI as a cognitive ability ('ability EI' or 'cognitive-emotional ability').

Thus trait EI and ability EI are two *different constructs*. The primary basis for discriminating between trait EI and ability EI is found in the type of measurement approach one chooses to employ. Many dispute the more fundamental point that EI could ever be actually measured by cognitive ability tests. That is, EI concepts, like emotional regulation, can never be reliably and validly measured by an objective ability test because of the subjective nature of emotional experience.

A major difficulty with the measurement of ability EI is that emotional experiences are inherently subjective and, consequently lack the objectivity required to make them amenable to robust, valid and reliable maximum performance measurement. There is no simple way of applying truly veridical criteria in the objective scoring of items relating to the intrapersonal component of ability EI (e.g. "I am aware of my emotions as I experience them") simply because the application of such scoring procedures would require direct access to privileged information, such as inner feelings and private cognitions, that is available only to the individual who is being assessed.

This dispute has not prevented many people developing both types of tests. There currently exists well over a dozen trait EI type tests which look essentially like personality tests. On the other hand, there are those who see EI as a "real" intelligence or ability that needs to be measured as such. The most well established measure is called the MSCEIT. It measures four factors: perceiving and identifying emotions (the ability to recognise how you and those around you are feeling), using emotions to facilitate thought (the ability to generate emotion, and then reason with this emotion), understanding emotions (the ability to understand complex emotions and emotional 'chains', and how emotions evolve), and managing emotions (the ability to manage emotions in yourself and in others)

The eight task-level scores are reported for research and qualitative use only. The MSCEIT asks test takers to:

**Identify** the emotions expressed by a face or in designs.

**Generate** a mood and solve problems with that mood.

**Define** the causes of different emotions. Understand the progression of emotions.

**Determine** how to best include emotion in our thinking in situations that involve ourselves or other people.

The 'objective' scoring is based on two types of scoring systems. The first is called consensus scoring which is based on popular agreement. So, show a large group a photo and/or play

music and ask them to identify the emotion of the person in the photo and the emotion engendered by the music. If 82% think the photo shows the person is angry then that becomes the correct answer for the question. Equally if 73% say the music makes one maudlin then that is the correct answer. The second way in which it is hoped to achieve objective scoring is through expert scoring. Here various researchers whose specialty is the emotions are asked to make judgements: i.e. do the test. Their scores are thought of as best. Both methods are used in conjunction to determine test scores.

Measure	Authors	Reliability $\alpha$	Reliability test-retest	Predictive Validity	Incremental Validity	Convergent/Discriminant Validity	Factor Structure
<b>EARS.</b> Emotional Accuracy Research Scale	Mayer & Geher, 1996	Low (.24 for target scoring, and .53 for consensus scoring)	?	?	?	Small and unstable correlations with self-report empathy	Unclear (4 factors?)
<b>EISC.</b> Emotional Intelligence Scale for Children	Sullivan, 1999	Low to moderate	?	?	?	?	?
<b>MEIS.</b> Multifactor Emotional Intelligence Scale	Mayer, Caruso & Salovey, 1999	Good for global ability EI (.70-.85), but low (.35-.66) for branches 3 & 4 (better for consensus than for expert scoring)	?	Unclear	?	Small to moderate correlations with crystallized intelligence (Gc) Low correlations with the Big Five	Unclear (3 factors?)
<b>MSCEIT.</b> Mayer Salovey Caruso Emotional Intelligence Test	Mayer, Salovey, & Caruso, 2002	Better for version 2 than version 1 (.68-.71)	?	Well-being, verbal SAT scores.	Social deviance (over personality and verbal intelligence)	Convergence between general consensus and expert scoring. Very low correlations (<.30) with trait EI measures	Unclear (4 factors?)
<b>FNEIPT.</b> Freudenthaler & Neubauer Emotional Intelligence Performance Test	Freudenthaler & Neubauer, 2003	Moderate: .69 for "managing own emotions," and .64 for "managing others' emotions"	?	?	?	"Managing own emotions" correlated with self-reported intrapersonal EI (.51) and, "managing others' emotions" correlated with self-report interpersonal EI (.25). Both subscales correlated with the Big Five (.18 to -.51)	Unclear (2 factors?)

*Note:* Information in this table is necessarily succinct and readers are encouraged to consult the original sources for specific details. Entries designated 'unclear' do not necessarily indicate conflicting evidence, as they may also refer to lack of adequate data. Question marks indicate that we have been unable to obtain data for the relevant entry.

Table 3. *Summary of Ability EI Measures*

There are thus two very different ways to measure EI. One looks like a personality test and indeed see EI as a type of personality trait. The other is more like an ability test. The former is much easier and cheaper to administer than the latter. But the real question is which is the more *accurate and reliable measure*. Studies have shown that scores from the two tests are modestly positively correlated. Researchers still argue which is the better measure, but at the very heart of the debate is whether EI is just another personality trait or conceptualised more accurately as a real part of intelligence.

Perez et al (2005) did an excellent comprehensive review of the extant measures in the area. No doubt more have appeared since then.

Three things are interesting about the attached tables. First, how very many tests exist which suggests many have been rather rushed.

Second, how very little data exists to demonstrate their validity which is the gold standard for psychometricians. Third, that there does not seem to be any attempt to look at the relationship between these measures in a systematic review.

Measure	Authors	Reliability $\alpha$	Reliability test-retest	Predictive Validity	Incremental Validity	Convergent/Discriminant Validity	Factor Structure
TMMS. Trait Meta Mood Scale	Salovey et al., 1995	.70-.85	?	Depression, mood recovery, goal orientation	?	Moderate correlations with the Big Five	3 factors, but no global score
EQ-i. Emotional Quotient Inventory	Bar-On, 1997	Generally good (about .85)	Good	Mental health, coping, work and marital satisfaction	?	Moderate to high correlations with the Big Five	Unclear
SEIS. Schutte Emotional Intelligence Scales	Schutte et al., 1998	.70-.85	?	Social support, life and marital satisfaction, depression, performance on cognitive tasks	Some evidence vis-a-vis the Big Five	Medium-to-high correlations with the Big Five	Unclear (3 or 4 factors), global score
EI-IPIP. Emotional Intelligence-based IPIP Scales	Barchard, 2001	.70-.85	?	?	?	?	?
ECI. Emotional Competence Inventory	Boyatzis, Goleman, & Hay/McBer, 1999	.70-.85 for global score >.85 for social skills	Adequate, but based on small samples	Moderate correlations with managerial styles and organizational climate. Low correlations with career success	?	Unclear (small samples); uncorrelated with critical thinking and with analytical reasoning	Unclear (4 factors?)



Measure	Authors	Reliability $\alpha$	Reliability test-retest	Predictive Validity	Incremental Validity	Convergent/Discriminant Validity	Factor Structure
<b>EISRS.</b> Emotional Intelligence Self-Regulation Scale	Martinez-Pons, 2000	.75-.94	?	Depression, life satisfaction, positive affect	?	Unclear	Unclear (1 factor?)
<b>DHEIQ.</b> Dulewicz & Higgs Emotional Intelligence Questionnaire	Dulewicz & Higgs, 2001	Low to moderate (.54-.71)	?	Organizational level advancement	?	Unclear	Unclear
<b>TEIQue.</b> Trait Emotional Intelligence Questionnaire	E.g., Petrides, 2001; Petrides, Pérez, & Furnham, 2003	Generally good (about .85)	Good (.50 to .82; global score .78; 12-month period)	Mental health (depression, personality disorders, dysfunctional attitudes), adaptative coping styles, job stress, job performance, organizational commitment, deviant behaviour at school, sensitivity to mood induction	Good vis-a-vis Giant Three, Big Five, and positive and negative affect space	The TEIQue can be isolated in Giant Three and Big Five factor space	4 factors, global score
<b>SPTB.</b> Sjöberg Personality Test Battery (EI Scale)	Sjöberg, 2001	.70-.85	?	Anti-authoritarian attitudes, emotion identification skills, social orientation	?	Moderate correlations with extraversion (.37) and neuroticism (-.50)	?
<b>TEII.</b> Tapia Emotional Intelligence Inventory	Tapia, 2001	.70-.85	Good (.60 to .70)	?	?	?	4 factors, global score
<b>SUEIT.</b> Swinburne University Emotional Intelligence Test	Palmer & Stough, 2002	Generally good (about .85)	Good (.82 to .94; 1-month period)	Well-being, occupational stress	?	Moderate correlations with neuroticism (-.41), extraversion (.44), openness (.27)	?
<b>WEIP-3.</b> Workgroup Emotional Intelligence Profile (version 3)	Jordan et al., 2002	.70-.85	?	Self-monitoring, empathy	?	Small to moderate correlations with TMMS	Unclear (7 factors?)

Measure	Authors	Reliability $\alpha$	Reliability test-retest	Predictive Validity	Incremental Validity	Convergent/Discriminant Validity	Factor Structure
EIS. Emotional Intelligence Scales	Van der Zee et al., 2002	Adequate for 'other-ratings' (.70-.85). Low for self-ratings (<.60).	?	Academic performance, social success	Some evidence vis-a-vis the Big Five	Low correlations with IQ. Moderate to high correlations with the Big Five	Unclear (3 factors?)
WLEIS. Wong & Law Emotional Intelligence Scales	Wong & Law, 2002	.70-.85	?	Job performance and satisfaction. Organizational commitment, turnover intention	?	Small negative correlations with IQ	4 factors, global score
LEIQ. Lioussine Emotional Intelligence Questionnaire	Lioussine, 2003	.70-.85	?	?	?	Moderate correlations with the Big Five	Unclear (7 factors?)

*Note:* Information in this table is necessarily succinct and readers are urged to consult the original sources for specific details. Entries designated 'unclear' do not necessarily indicate conflicting evidence, as they may also refer to lack of adequate data. Question marks indicate that we have been unable to obtain data for the relevant entry.

Table 4. *Summary of Trait EI Measures*

## 7. Emotional intelligence at work

It was no doubt Goleman's book that electrified the public and popularised the term. He has retried to capture attention more recently with *Social Intelligence* (Goleman, 2006). In his *second* book he extended his ideas to the workplace. Now he has over 25 facets subsumed under five domains. Any one inspecting this system (see below) would be astounded by the conceptual muddle at both levels. Thus personality traits, like Conscientiousness, are subsumed under the domain of self-regulation. Equally unrelated psychological concepts like initiative and optimism, are classified under motivation. It seems difficult, in fact to determine, what is not a facet of EQ. That is: does it have any divergent validity?

But the book seems to have an over inclusive view of what EQ is. There are lists of facets and features, some derivative of each other, some quite unrelated to anything about emotion (see Table 5). It does echo themes in the zeitgeist; hence its popularity. The book is also easy to dip into; with many summaries and précis. Hence, there were, and indeed still are, a rash of magazine and newspaper articles that popularised the book and the concept. This is not "trickle down" economics, rather a waterfall of publicity. The sheer amount of positive publicity given to the book must be one of the factors involved in its success and the popularity of the concept at the heart of it.

<p>Personal Competence</p> <p>Self-Awareness: <i>Knowing one's internal states, preferences, resources and intuitions</i></p> <ul style="list-style-type: none"> <li>• <b>Emotional Awareness:</b> recognising emotions and their effects</li> <li>• <b>Accurate self-assessment:</b> knowing own strengths and limits</li> <li>• <b>Self-confidence:</b> strong sense of self-worth and capabilities</li> </ul> <p>Self-Regulation: <i>managing one's internal states, impulses and resources</i></p> <ul style="list-style-type: none"> <li>• <b>Self Control:</b> keeping disruptive emotions and impulses in check</li> <li>• <b>Trustworthiness:</b> maintaining standards of honesty and integrity</li> <li>• <b>Conscientiousness:</b> taking responsibility for personal performance</li> <li>• <b>Adaptability:</b> flexibility in handling change</li> <li>• <b>Innovation:</b> being comfortable with novel ideas, approaches and new information</li> </ul> <p>Motivation: <i>Emotional tendencies that guide or facilitate reaching goals</i></p> <ul style="list-style-type: none"> <li>• <b>Achievement drive:</b> striving to improve or meet a standard of excellence</li> <li>• <b>Commitment:</b> aligning with the goals of the group or organisation</li> <li>• <b>Initiative:</b> readiness to act on opportunities</li> <li>• <b>Optimism:</b> persistence in pursuing goals despite obstacles or setbacks</li> </ul> <p>Personal Competence</p> <p>Empathy: <i>Awareness of others' feelings, needs and concerns</i></p> <ul style="list-style-type: none"> <li>• <b>Understanding others:</b> sensing others' feelings and perspectives and taking an active interest in their concerns.</li> <li>• <b>Developing others:</b> sensing others' development needs and bolstering their abilities</li> <li>• <b>Service orientation:</b> anticipating, recognising and meeting customer needs</li> <li>• <b>Leveraging diversity:</b> cultivating opportunities through different kinds of people</li> <li>• <b>Political awareness:</b> reading a group's emotional currents and power relationships</li> </ul> <p>Social Skills: <i>Adeptness at inducing desirable responses in others</i></p> <ul style="list-style-type: none"> <li>• <b>Influence:</b> wielding effective tactics for persuasion</li> <li>• <b>Communication:</b> listening openly and sending convincing messages</li> <li>• <b>Conflict management:</b> negotiating and resolving disagreements</li> <li>• <b>Leadership:</b> inspiring and guiding individuals and groups</li> <li>• <b>Change catalyst:</b> initiating or managing change</li> <li>• <b>Building bonds:</b> nurturing instrumental relationships</li> <li>• <b>Collaboration and co-operation:</b> working with others toward shared goals</li> <li>• <b>Team capabilities:</b> creating group synergy in pursuing collective goals.</li> </ul>
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Table 5. The Emotional Intelligences at work

In his 1995 book, Goleman claimed that cognitive ability (i.e. intelligence) contributed around 20% toward life success but the remaining 80% is directly attributable to emotional intelligence. In a later book, Goleman (1998) lists 25 social competencies from conflict management to self-control all of which make-up social competencies that lead success at work.

Equally in their book entitled "Executive EQ", Cooper and Sawaf (1997) put forth the four cornerstones of emotional intelligence at the executive level: *emotional literacy* (involves the knowledge and understanding of one's own emotions and how they function), *emotional fitness* (involves trustworthiness and emotional hardiness and flexibility), *emotional depth*

(involves emotional growth and intensity), and *emotional alchemy* (involves using emotions to discover creative opportunities).

But how to explain how EQ works: the process to explain why EQ is correlated with or essential for business success. Consider some of the explanations for how EQ operates in the workplace and why people with higher EI are supposed to be more successful. First, high EQ people are better at communicating their ideas, intentions and goals. They are more articulate, assertive and sensitive. Second, EQ is closely associated with team-work social skills which are very important at work. Next, business leaders, high in EQ, build supportive climates which increase organisational commitment which in turn leads to success. Fourth, high EQ leaders are perceptive and know their own and their teams' strengths and weaknesses which enable them to leverage the former and compensate for the latter. Fifth, EQ is related to effective and efficient coping skills which enable people to deal with demands, pressure and stress better. Sixth, high EQ leaders can accurately identify what followers feel and need, as well as, being more inspiring and supportive. They generate more excitement, enthusiasm and optimism. Seventh, high EQ managers, unlike their low EQ companions, are less prone to negative, defensive and destructive coping and decision-making styles.

There is no doubt that social skills and emotional sensitivity of managers at work is very important. Emotional perceptiveness, sensitivity and management is more important in some jobs than others. More than 20 years ago after a study of airline steward staff, Hochschild (1983) wrote a book, *The Managed Heart: Commercialisation of Human Feeling*. In it she argued for a new concept: *emotional labour*. She said many jobs require physical and mental labour but some, uniquely, require emotional labour.

The idea is that service staff are required to express emotions they do not necessarily feel. They are required to smile, be positive and appear to be relaxed regardless what they are actually experiencing. Hochschild called this *surface acting*. However, in some jobs you are almost required to feel these emotions. This is called *deep acting*. The idea is that (canny) customers can spot the false display of emotion, so you have to learn the "inside-out smile".

Service staff have to learn to become method actors. Karl Marx said workers were alienated from the products of their labour. Equally, Hochschild believed service workers, whose emotions are "managed and controlled" by their employers, become alienated from their real feelings. Hochschild argued that this cost too much, in that it caused psychological damage in the long term. Yet there remains controversy, not so much about the concept but whether it is essentially damaging in the way it alienates workers from their true feelings (Seymore, 2000).

Since the start of the Millennium there have been a stream of empirical papers on EQ (Lopes et al., 2003; Petrides & Furnham, 2000ab, 2001, 2003). Some have focused very specifically on *EQ at work*. Thus Jordan et al (2002) developed a workgroup EQ scale to test hypotheses about the relationship between EQ, team process effectiveness and team goal focus. They did indeed find some evidence that low EQ teams did perform at lower levels than high EQ teams. Critics however would probably simply want to relabel EQ as social skills or emotional awareness.

Quebbeman and Rozell (2002) defined emotional intelligence in terms of self-awareness, self-regulation, motivation, empathy and social skills. They tested a model that suggested that work experiences trigger responses that are mediated by EQ and Neuroticism to produce affective outcomes, and thence behavioural outcomes. Similarly, Petrides and Furnham (2006) looked at the relationship between EQ, job stress, control and satisfaction as well as organisational commitment. EQ predicted perceived job control which predicted job satisfaction and thence commitment. However, they found significant sex differences in the whole process.

Many have subsequently discussed and tested the idea that emotional intelligence is related to work success. Some papers have been theoretical, others empirical. Thus, Quebbeman and Rozell (2002) propose a model that posits how emotional intelligence is related to workplace aggression. Dulewicz and Higgs (2001) developed, and part tested, a model that puts EQ at the centre of the predictors of job performance. Thus, they believe that cognitive ability and specified management competencies contribute to a person's EQ (self-awareness, interpersonal sensitivity, etc). EQ is modified by other factors called drivers (decisiveness) and constrainers (lack of emotional resilience), but directly predicts performance. They argue that they have evidence to suggest that EQ is directly related to leadership through specific leadership competencies like creating the case for change, engaging others, as well as implementing and sustaining change.

Jordan et al (2002) looked at the work related performance of low vs high EQ work groups. They found high emotional intelligence teams operated at high levels of performance throughout the study period while low emotional intelligence teams, initially performed at a low level, but equalled the performance of the high emotional intelligence teams by the end of the study period. This suggests the power of EQ is rather limited.

Petrides and Furnham (2006) found in a study of British working adults that emotional intelligence was related to perceived job control, which predicted job satisfaction. They found, however, evidence of sex differences such that in males EQ was negatively predictive of perceived job stress while there was no significant relationship in females.

Zeidner, Matthews and Roberts (2004) provided a useful *critical overview of the role of EQ in the workplace*. As they note, often business people prefer to talk about emotional competencies (rather than traits or abilities), which are essentially learned capabilities. In this sense, EQ is "the potential to become skilled at learning certain emotional responses" (p.377). It, therefore, does not ensure that individuals will (as opposed to can) manifest competent behaviours at work. Thus, EQ is an index of potential. However, emotional competence does, it is argued, assist in learning (soft) interpersonal skills. They tried to specify these emotional competencies. They include: emotional self-awareness, emotional self-regulation, social-emotional awareness, regulating emotions in others, understanding emotions, etc. If one is to include older related concepts like social skills or interpersonal competencies then it is possible to find a literature dating back thirty years showing these skills predict occupational effectiveness and success. Further, there is convincing empirical literature that suggests these skills can be improved and learnt.

However Zeidner et al (2004) are quite rightly eager to squash the IQ vs EQ myth. They note (my italics) "*several unsubstantiated claims* have appeared in the popular literature and the media about the significance of EI in the workplace. Thus, EI has been claimed to validly



predict a variety of successful behaviours at work, at a level exceeding that of intelligence... Of note, however, Goleman is unable to cite empirical data supporting any causal link between EI and any of its supposed, positive effects" (p.380).

The authors point out that EQ measures must demonstrate criterion, discriminant, incremental and predictive validity to be cost effective in business and scientifically sound. We know that general ability (IQ) predicts around 20 - 30 % of the variance in (higher) job performance across all jobs, all criteria, but more for complex jobs.

They review studies which provide positive, mixed and negative results. Quite rightly they offer critiques of the studies which purport to show EQ linked to work success. Typical problems include: The psychometric properties of the EQ measure; Not controlling for intelligence (cognitive ability) or personality factors; not having very robust measures of work-related behaviour; Not being able to disentangle the direction of causality through using longitudinal studies; and having too many impressionistic, anecdotal studies, too few of which are published in peer review journals.

The authors are also interested in the explanation for the process. Thus *if* EQ does predict satisfaction, productivity, team work etc. the question is what is the *process* or *mechanism* that accounts for this? It seems in the literature, there are various speculations to account for this:

- High EQ people are better at communicating their ideas, intentions and goals. They are more articulate, assertive and sensitive.
- EQ is closely associated with team-work social skills, that are very important at work.
- Business leaders, high in EQ, build supportive climates which increase organisational commitment, which in turn leads to success.
- High EQ leaders are perceptive and know their own and their teams' strengths and weaknesses, which enables them to leverage the former and compensate for the latter.
- EQ is related to effective and efficient coping skills, which enable people to deal with demands, pressure and stress better.
- High EQ leaders can accurately identify what followers feel and need, as well as, be more inspiring and supportive. They generate more excitement, enthusiasm and optimism.
- High EQ managers, unlike their low EQ companions, are less prone to negative, defensive and destructive coping and decision-making styles.

Zeidner et al (2004) end with an evaluative summary and guidelines to do good research in the area: "Overall, this section of our review suggests that the current excitement surrounding the potential benefits from the use of EI in the workplace may be premature or even misplaced. Whereas EI appears related to performance and affective outcomes, the evidence for performance is very limited and often contradictory. Much of the predictive validity of questionnaire measures of EI may be a product of their overlap with standard personality factors. Furthermore, the literature is replete with unsubstantiated generalisations, with much of the existing evidence bearing on the role of EI in occupational success either anecdotal or impressionistic and/or based on unpublished or in-house research. Thus, a number of basic questions still loom large: Do emotionally intelligent employees produce greater profits for the organisation? Does EI enhance well-being at the workplace? Are the affects of training in EI likely to result in increases in job performance and/or work satisfaction?" (p.380).

In order to provide both good theory and evidence to support the use of EQ in organisational settings, Zeidner et al (2004) recommend the following:

- The measure of EQ used needs to have reliability and validity and be clearly differentiated from related constructs. "A science of EI requires specifying the definition, number, type and range of primary emotional abilities within a formal psychometric model" (p.390).
- Researchers need to match the test to the job and specify precisely the context and process by which it works. They recommend an emotional task analysis to understand how EQ works in different jobs.
- Researchers need good measures of the criterion job behaviour; they need to look at facets or components of EQ and they need to measure other variables like IQ or personality traits. In short, despite some rather fantastic claims to the contrary, the guiding principle appears presently as "caveat emptor"." (p.393).

A special issue of the *Journal of Organisational Behaviour* (Vol 26) in 2005 was dedicated to EI in the workplace. This included a review of measures (Conte, 2005), but also a conceptual critique by Locke (2005) who concluded robustly that: "EI's extension into the field of leadership is even more unfortunate. By asserting that leadership is an emotional process, Goleman denigrates the very critical role played by rational thinking and actual intelligence in the leadership process. Given all the add-ons to the concept proposed by Goleman et al. (2002), any associations between leadership effectiveness and an EI scale that included these add-ons would be meaningless.

However, Ashkansy and Daus (2005) argue the concept and its measurement is sound and worthy of attention. They assert four things: Emotional intelligence is distinct from, but positively related to, other intelligences. It is an individual difference, where some people are more endowed, and others are less so. It develops over a person's life span and can be enhanced through training. It involves, at least in part, a person's abilities to identify and to perceive emotion (in self and others), as well as possession of the skills to understand and to manage those emotions successfully.

Daus and Ashkansy (2005) also identified and refuted three claims by their critics namely: Emotional intelligence is dominated by opportunistic "academics-turned-consultants" who have amassed much fame and fortune based on a concept that is shabby science at best. The measurement of emotional intelligence is grounded in unstable, psychometrically flawed instruments, which have not demonstrated appropriate discriminant and predictive validity to warrant/justify their use. There is weak empirical evidence that emotional intelligence is related to anything of importance in organisations.

The area is thus alive and well with vigorous debate about concepts, measurement and usefulness. From an academic perspective it seems very important to establish the independence of either trait or ability emotional intelligence from related concepts and provide robust measures of it. More importantly there remains a great deal of work to be done on demonstrating how, when and why emotional intelligence impacts work related behaviour. If the area has done nothing else, it has succeeded in making emotions at work a topic worth of investigation.

## 8. Conclusion

If you “google” emotional intelligence you will notice that there are over 7 million hits. This is true testament to the popularity of the concept that has come of age. The academics are now catching up and there are now reviews and meta-analyses which show the predictive power of EI. Thus, for instance, Martins, Ramalho and Morin (2010) in a comprehensive meta-analysis showed EI was clearly, strongly and explicably linked to mental and physical health. Mavroveli & Sanchez-Ruiz (2011) showed EI related to academic behaviour and school achievement. In a masterly review one of the most important researchers in the area Petrides (2011) noted how the applications of EI have been to organizational, clinical, health, educational and social psychology.

However it should not be thought that the area has escaped criticism and debate. Still some wonder if EI adds anything beyond traditional personality and cognitive ability variables (Bastian, Burns & Nettelbeck, 2005). There is accumulating evidence that EI does indeed add incremental evidence over classic personality and ability measures to predict career-making decision difficulties (Di Fabio & Palazzeschi, 2009a) and scholastic success (Di Fabio & Palazzeschi, 2009b).

Another issue of great interest and importance is whether EI can be trained: that is whether EI is in some sense a trainable skill. Recent evidence by Di Fabio and Kenny (2011) suggests that specific training can have significant beneficial success. However we need to know more what type of training is most successful and why.

There also remains a bitter war between those who hold an ability vs a trait conception of EI. (Petrides, 2010). Yet the field has come a long way in 20 years. Academics are still trying to test the claims of the early enthusiasts and beginning to understand where EI “fits in” with what we know about individual differences. It remains an exciting time for all those working in this area.

## 9. Acknowledgements

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## 10. References

- Allix, N. (2000). The theory of multiple intelligences: A case of missing cognitive matter. *Australian Journal of Education*, 44, 272 – 293.
- Ashkanasy, N., & Daus, C. (2005). Rumours of the death of emotional intelligence is organisational behaviour are vastly exaggerated. *Journal of Organisational Behaviour*, 26, 441 – 452.
- Austin, E. (2004). An investigation of the relationship between trait emotional intelligence and emotional task performance. *Personality and Individual Differences*, 36, 1855 – 1864.

- Austin, E. J., Saklofske, D. H., Huang, S. H. S., & McKenney, D. (2004). Measurement of trait emotional intelligence: Testing and cross-validating a modified version of Schutte et al.'s (1998) measure. *Personality and Individual Differences, 36*, 555 – 562.
- Barchard, K.A.(2001) Seven components potentially related to emotional intelligence. <http://ipip.ori.org>
- Bar-On, R. (1988) *The development of a concept of psychological well-being*. Unpublished Doctoral Dissertation: Rhodes University, South Africa
- Bar-On, R. (1997). *BarOn Emotional Quotient Inventory (EQ-i): Technical manual*. Toronto, Canada: Multi-health Systems.
- Bastian, V., Burns, N., & Nettelbeck, T. (2005) Emotional intelligence predicts life skills, but not as well as personality and cognitive abilities. *Personality and Individual Differences, 39*, 1135-1145.
- Boyatzis, R.E., Goleman, D.F., & Hay/McBer, (1999) Emotional competence inventory. Boston: HayGroup
- Brackett, M. A., & Mayer, J. D. (2003). Convergent, discriminant and incremental validity of competing measures of emotional intelligence. *Personality and Social Psychology Bulletin, 29*, 1147 – 1158.
- Brody, N. (2005). What cognitive intelligence is and what emotional intelligence is not. *Psychological Inquiry, 15*, 234 – 238.
- Chamorro-Premuzic, T., & Furnham, A. (2005). *Intellectual Competence*. London: Lawrence Erlbaum.
- Chan, D. (2004). Perceived emotional intelligence and self-efficacy among Chinese secondary school teachers in Hong Kong. *Personality and Individual Differences, 36*, 1781 – 1795.
- Ciarrochi, J., Chan, A. Y. C., & Caputi, P. (2000). A critical evaluation of the emotional intelligence construct. *Personality and Individual Differences, 28*, 539 – 561.
- Conrad, S., & Milburn, M. (2001). *Sexual Intelligence*. Crown Publishers, New York.
- Conte, J. (2005). A review and critique of emotional measures. *Journal of Organisational Behaviour, 26*, 433 – 440.
- Cooper, R. K., & Sawaf, A. (1997). *Executive EQ: Emotional intelligence in leadership and organisations*. New York: Grosset, Putnam.
- Daus, C., & Ashkanasy, N. (2005). The case for the ability-based model of emotional intelligence in organisational behaviour. *Journal of Organisational Behaviour, 26*, 453 – 466.
- Di Fabio, A., & Kenny, M. (2011) Promoting emotional intelligence and career decision making among Italian high school students. *Journal of Career Assessment, 19*, 21-34.
- Di Fabio, A., & Palazzeschi, L. (2009a) Emotional intelligence, personality traits and career decision difficulties. *International Journal for Educational and Vocational Guidance, 9*, 135-146.
- Di Fabio, A., & Palazzeschi, L. (2009b) An indepth look at scholastic success: Fluid intelligence, personality traits or emotional intelligence? *Personality and Individual Differences, 46*, 581-585.
- Dulewicz, S. V., & Higgs, M. J. (2001). *EI general and general 360 user guide*. Windsor, UK.
- Emmons, R. (2000). 'Is spirituality an intelligence?' *International Journal for the Psychology of Religion, 10*, 3-26.
- Eysenck, H. (1998). *Intelligence: A New Look*. New Brunswick, NJ. Transaction Publishers.



- Eysenck, H. (Ed). (1985). *A model for intelligence*. Berlus: Springer-Verlag.
- Freudenthaler, H. H., & Neubauer, A. C. (2003, July). *The localisation of emotional intelligence within human abilities and personality*. Poster presented at the 11<sup>th</sup> Biennial Meeting of the International Society for the Study of the Individual Differences (ISSID), Graz, Austria.
- Furnham, A. (2001). Self-estimates of intelligence: Culture and gender differences in self and other estimates of both general (g) and multiple intelligences. *Personality and Individual Differences*, 31, 1381 – 1405.
- Furnham, A. (2004). 'Are lay people lumpers or splitters'. *Learning and Individual Differences*, 14, 153 – 168.
- Furnham, A. (2005). Gender and personality difference in self and other ratings of business intelligence. *British Journal of Management*, 16, 91 – 103.
- Furnham, A. (2006). Explaining the popularity of emotional intelligence. In K. Murphy (Ed). *A Critique of Emotional Intelligence*. New York: LEA, p.141 – 159.
- Furnham, A., & Bunclark, K. (2006). Sex differences in parents' estimations of their own and their children's intelligences. *Intelligences*, 39, 1-14.
- Furnham, A., & Petrides, K. V. (2004). Parental estimates of five types of intelligence. *Australian Journal of Psychology*, 56, 10 – 17.
- Furnham, A., & Petrides, K. V. (2003). Trait emotional intelligence and happiness. *Social Behaviour and Personality*, 31, 815 – 823.
- Gardner, J. (1983). *Frames of mind: The theory of multiple intelligences*. New York: Basic Books.
- Gardner, J. (1999). *Intelligence reframed: Multiple intelligence for the 21<sup>st</sup> century*. New York: Basic Books.
- Goleman, D. (1995). *Emotional Intelligence: Why it can matter more than IQ*. New York: Bantam Books.
- Goleman, D. (1998). *Working with emotional intelligence*. New York: Bantam Books.
- Goleman, D. (2006). *Social Intelligence: The New Science of Human Relationships*. New York: Bntum Books.
- Gottfredson, L. (2003). Dissecting practical intelligence theory. *Intelligence*, 31, 343 – 397.
- Greenspan, S. I. (1989). Emotional intelligence. In K. Field, B. J Cohler, & G. Wood (Eds). *Learning and education: psychoanalytical perspectives* (pp. 209 – 243). Madison, CT: International Universities Press.
- Guilford, J. (1967). *The Nature of Human Intelligence*. New York: McGraw-Hill.
- Harvey, M., Novicevic, M., and Kiessling, T. (2002). Development of multiple IQ maps for the use in the selection of impatriate managers: a practical theory'. *International Journal of Intercultural Relations*, 26, 493 – 524.
- Higgs, M. J., & Dulewicz, S. V. (1999). *Making sense of emotional intelligence*. Windsor, UK: Nfer-Nelson.
- Hochschild, A. (1983). *The Managed Heart: Commercialisation of Human Feeling*. Berkeley: University of California Press.
- Jensen, A. (1998). *The g Factor: The Science of Mental Ability*. Praeger, New York.
- Jordan, P. J., Ashkanasy, N. M., hartel, C. E. J., & Hooper, G. S. (2002). Workgroup emotional intelligence scale development and relationship to team process effectiveness and goal focus. *Human Resource Management Review*, 12, 195 – 214.
- Klein, P. (1997). 'Multiplying the problems of intelligence by eight: A critique of Gardner's Theory'. *Canadian Journal of Education*, 22, 377 – 394.



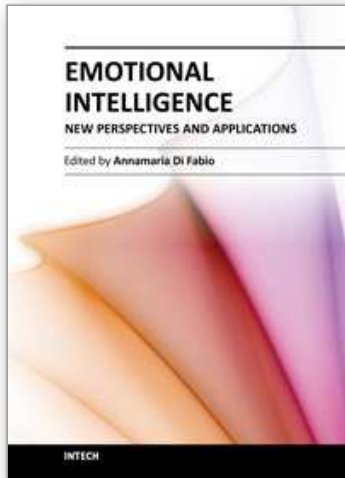
- Landy, F. (2006). The long, frustrating and fruitless search for social intelligence: A cautionary tale. In K. Murphy (Ed) *A Critique of Emotional Intelligence*. Mahwah NJ: Erlbaum, pp.81-123
- Leuner, B. (1966). Emotionale Intelligenz und Emanzipation (Emotional Intelligence and Emancipation). *Praxis der Kinderpsychologie und Kinderpsychiatrie*, 15, 196 – 203.
- Lioussine, D. V. (2003, July). *Gender differences in emotional intelligence*. Poster presented at the 11<sup>th</sup> Biennial Meeting of the International Society for the Study of the Individual Differences (ISSID), Graz, Austria.
- Locke, E. (2005). Why emotional intelligence is an invalid concept. *Journal of Organisational Behaviour*, 26, 425 – 431.
- Lopes, P., Salovey, P., & Straus, R. (2003). Emotional intelligence, personality and the perceived quality of social relationships. *Personality and Individual Differences*, 35, 641 – 658.
- MacCann, C., Matthews, G., Zeidner, M., & Roberts, R. D. (2004). The assessment of emotional intelligence: On frameworks, fissures and the future. In G. Geher (Ed.). *Measuring emotional intelligence: common ground and controversy* (pp.21 – 52. Hauppauge, NY: Nova Science.
- Mackintosh, N. (1998). *IQ and human intelligence*. Oxford: Oxford University Press.
- Martinez-Pons, M. (2000). Emotional intelligence as a self-regulatory process: A social cognitive view. *Imagination, Cognition and Personality*, 19, 331 – 350.
- Martins, A., Ramalho, N., & Morin, E. (2010) A comprehensive meta-analysis of the relationship between emotional intelligence and health. *Personality and Individual Differences*, 49, 554-564.
- Matthews, G., Zeidner, M., & Roberts, R. D. (2002). *Emotional intelligence: Science and myth*. Cambridge, MA: MIT Press.
- Matthews, G., Zeidner, M., & Roberts, R. D. (2008). Measuring emotional intelligence: promises, pitfalls, solutions? In A. D. Ong, & M van Dulmen (Eds.), *Handbook of methods in positive psychology*. Oxford, UK: Oxford University Press.
- Mavroveli, S., Sanchez-Ruiz, M.J. (2011) Trait emotional intelligence influences on academic achievement and school behaviour. *British Journal of Educational Psychology*, 81, 112-134.
- Mayer, J. D., & Geher, G. (1996). Emotional intelligence and the identification of emotion. *Intelligence*, 22, 89 – 113.
- Mayer, J. D., & Salovey, P. (1997). What is emotional intelligence? In P. Salovey & D J. Sluyter (Eds.), *Emotional development and emotional intelligence: Educational implications* (pp.3 – 31). New York: Basic Books.
- Mayer, J. D., DiPaolo, M., & Salovey, P. (1990). Perceiving affective content in ambiguous visual stimuli: A component of emotional intelligence. *Journal of Personality Assessment*, 54, 772 – 781.
- Mayer, J. D., Salovey, P., & Caruso, D. R. (2000). Models of emotional intelligence. In R. J. Sternberg (Ed.). *The Handbook of Intelligence* (pp. 396 – 420). New York: Cambridge University press.
- Mayer, J. D., Salovey, P., & Caruso, D. R. (2002). *The Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT): user's manual*. Toronto, Canada: Multi-Health Systems.
- Mayer, J.D. Caruso, D.R., & Salovey, P. (1999). Emotional intelligence meets traditional standards for an intelligence. *Intelligence*, 27, 267-298.

- Morgan, H. (1996). An analysis of Gardners theory of multiple intelligence. *Roeper Review*, 18, 263 – 269.
- Nardi, D. (2001). *Multiple intelligences and personality type*. New York, Telog.
- Neisser, U. (1976). General academic and artificial intelligence. In L. Resnick (Ed.). *The Nature of Intelligence*. Erlbaum: Hillsdale, NJ.
- O'Connor, R. M., & Little, I. S. (2003). Revisiting the predictive validity of emotional intelligence: Self-report versus ability-based measures. *Personality and Individual Differences*, 35, 1893 – 1902.
- Palmer, B. R., & Stough, C. (2002). *Swinburne University Emotional Intelligence Test (Workplace SUEIT). Interim technical manual (Version 2)*. Victoria, Australis: Swinburne University of Technology.
- Palmer, B. R., Manocha, R., Gignac, G., & Stough, C. (2003). Examining the factor structure of the Bar-On Emotional Quotient Inventory with an Australian general population sample. *Personality and Individual Differences*, 35, 1191 – 1210.
- Perez, J., Petrides, K. V., & Furnham, A. (2005). Measuring trait emotional intelligence. In R. Schulze & R. Roberts (Eds). *Emotional Intelligence: An International handbook*. Gottingen: Hogrefe, pp. 181 – 201.
- Petrides, K. V. (2001). *A psychometric investigation into the construct of emotional intelligence*. University College London: Doctoral dissertation.
- Petrides, K. V., & Furnham, A. (2000a). Gender differences in measured and self-estimated trait emotional intelligence. *Sex Roles*, 42, 449 – 461.
- Petrides, K. V., & Furnham, A. (2000b). On the dimensional structure of emotional intelligence. *Personality and Individual Differences*, 29, 313 – 320.
- Petrides, K. V., & Furnham, A. (2001). Trait emotional intelligence: psychometric investigation with reference to established trait taxonomies. *European Journal of Personality*, 15, 425 – 448.
- Petrides, K. V., & Furnham, A. (2003). Trait emotional intelligence: behavioural validation in two studies of emotion recognition and reactivity to mood induction. *European Journal of Personality*, 17, 39 – 57.
- Petrides, K. V., & Furnham, A. (2006). The role of trait emotional intelligence in a gender-specific model of organisational variables. *Journal of Applied Social Psychology*, 36, 552-569..
- Petrides, K. V., Frederickson, N., & Furnham, A. (2004). The role of trait emotional intelligence in academic performance and deviant behaviour at school. *Personality and Individual Differences*, 36, 277 – 293.
- Petrides, K. V., Furnham, A., & Frederickson, N. (2004). Emotional intelligence. *The Psychologist*, 17, 574 – 577.
- Petrides, K. V., Furnham, A., & Mavroveti, S. (2006). *Trait emotional intelligence: Moving forward in the field of EI*. In G. Matthews, M. Zeidner, & R. Roberts (Eds) *Emotional Intelligence: Known and Unknowns*. Oxford: OUP.
- Petrides, K. V., Perez, J. C., & Furnham, A. (2006). On the criterion and incremental validity of Trait Emotional Intelligence, *Emotion and Cognition*.
- Petrides, K.V. (2010). Trait emotional intelligence theory. *Industrial and Organizational Psychology*, 3, 136-139.

- Petrides, K.V. (2011) Ability and trait emotional intelligence. In T. Chamorro-Premuzic, S. Von Stumm & A. Furnham. (Eds). *The Wiley-Blackwell Handbook of Individual Differences*. Oxford: Blackwell.
- Quebbeman, A., & Rozell, E. (2002). Emotional intelligence and dispositional affectivity and moderators of workplace aggression. *Human Resource Management Review*, 12, 125 – 143.
- Riggio, R., Murphy, S., & Pirozzolo, F. (2002). *Multiple Intelligences and Leadership*. Lawrence Erlbaum, London.
- Roberts, R., Zeidner, M. R., & Matthews, G. (2001). Does emotional intelligence meet traditional standards for an intelligence. Some new data and conclusions. *Emotion*, 1, 243 – 248.
- Saklofske, D. H., Austin, E. J., & Minski, P. S. (2003). Factor structure and validity of a trait emotional intelligence measure. *Personality and Individual Differences*, 34, 707 – 721.
- Sala, F. (2002). *Emotional Competence Inventory: Technical manual*. Boston: Hay/McBer Group.
- Salovey, P., & Mayer, J. D. (1990). Emotional intelligence. *Imagination, Cognition and Personality*, 9, 185 – 211.
- Salovey, P., & Mayer, J.D. (1994). Some final thoughts about personality and intelligence. In R.J. Sternberg & P. Ruzgis (Eds) *Personality and Intelligence*. Cambridge; CUP, pp 303-318.
- Salovey, P., Mayer, J. D., Goldman, S., Turvey, C., & Paflai, T. (1995). Emotional attention, clarity and repair: Exploring emotional intelligence using the Trait Meta-Mood Scale. In J. W. Pennebaker (Ed.), *Emotion, disclosure, and health* (pp. 125 – 154). Washington, DC: American Psychological Association.
- Salovey, P., Woolery, A., & Mayer, J. D. (2001). Emotional intelligence: Conceptualisation and measurement. In G. Fletcher & M. Clark (Eds.), *The Blackwell Handbook of Social Psychology* (pp.279 – 307). London: Blackwell.
- Schutte, N. S., Malouff, J. M., Hall, L. E., Haggerty, D. J., Cooper, J. T., Golden, C. J., et al. (1998). Development and validation of a measure of emotional intelligence. *Personality and Individual Differences*, 25, 167 – 177.
- Schutte, N. S., malouff, J. M., Bobik, C., Coston, T. D., Greeson, C., Jedlicka, C., et al. (2001). Emotional intelligence and interpersonal relations. *Journal of Social Psychology*, 141, 523 – 536.
- Seymore, D. (2000). Emotional labour. *Hospitality Management*, 19, 159 – 171.
- Sjoberg, L. (2001). Emotional intelligence: A psychometric analysis. *European Psychologist*, 6, 79 – 95.
- Spain, J. S., Eaton, L. G., & Funder, D. C. (2000). Perspectives on personality: The relative accuracy of self versus others for the prediction of emotion and behaviour. *Journal of Personality*, 68, 837 – 867.
- Sternberg, R. (1985). *Beyond IQ: A Triarchic Theory of Human Intelligence*. Cambridge University Press, New York.
- Sternberg, R. (1997). *Successful Intelligence*. Plume, New York.
- Sullivan, A. K. (1999). The emotional intelligence scale for children. *Dissertation Abstracts International*, 60, 68.
- Tapia, M. (2001). Measuring emotional intelligence. *Psychological Reports*, 88, 353 – 364.
- Thorndike, E. L. (1920). Intelligence and its use. *Harper's Magazine*, 140, 227 – 235.

- Van der Zee, K., Schakel, L., & Thijs, M. (2002). The relationship of emotional intelligence with academic intelligence and the big five. *European Journal of Personality, 16*, 103 – 125.
- Visser, B., Ashton, M., & Vernon, P. (2006) Beyond g: Putting multiple intelligence theory to the test. *Intelligence, 34*, 487-502.
- Warwick, J., & Nettelbeck, T. (2004). Emotional intelligence is.....? *Personality and Differences, 37*, 1091 – 1100.
- Watson, D. (2000). *Mood and temperament*. New York: Guilford.
- Weisinger, H. (1998). *Emotional intelligence at work: The untapped edge for success*. San Francisco: Jossey-Bass.
- White, J. (2005). Howard Gardner: The myth of multiple intelligences. *Viewpoint, 16*, 1 – 11,
- Wong, C-S., & Law, K. S. (2002). *The effects of leader and follower emotional intelligence*.
- Zeidner, M., Matthews, G., & Roberts, R. (2004). Emotional intelligence in the workplace: A critical review. *Applied Psychology, 33*, 371 – 399.

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Emotional intelligence is an emerging construct for applied research and possible interventions, both in scholastic, academic and educational contexts, organizational contexts, as well as at an individual level in terms of people's well-being and life satisfaction. From the presented contributions, it emerges how this volume is characterized by an interest to give an international overview rich of stimuli and perspectives for research and intervention, in relation to a promising variable of current interest, such as emotional intelligence. The goal is that this book further contributes to the affirmation of a particularly promising variable, such as emotional intelligence, which requires a greater interest and attention in both research and application field.

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