

Emotional intelligence, its measurement and implications for the workplace

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The concept of emotional intelligence (EI) has attracted a huge amount of interest from both academics and practitioners and has become linked to a whole range of outcomes, including career success, life satisfaction and health. Yet the concept itself and the way in which it is measured continue to fuel considerable debate. This paper takes a critical review of the methodologies and robustness of the validation and application studies that have used EI measures. In addition, the links between EI and other related theoretical perspectives such as emotional labour are considered.

Introduction

The concept of emotional intelligence (EI) has become immensely popular with organizations and provided a lucrative new market for test distributors and training consultancies. According to the American Society for Training and Development (Goleman 1998), four out of five companies are actively trying to raise the EI of their staff as a means of increasing sales, improving customer service (Cavelzani *et al.* 2003) and ensuring that their international managers perform successfully in global assignments (Gabel *et al.* 2005). There have been numerous claims as to the economic value in selecting personnel on the basis of their EI. For example, Goleman (1995), arguably one of the leading beneficiaries of the EI industry, has claimed that insurance sales agents who scored high on emotional competencies achieved sales figures which

were more than twice those of their less emotionally competent colleagues. Bachman *et al.* (2000) have similarly suggested that highly emotionally competent debt collectors recovered double the amount of revenues compared with their more typical co-workers.

The link between EI and increased performance is intuitively appealing to organizations, particularly to those in the service sector. However, the appeal and influence of EI in the USA can also perhaps be explained by understanding the social context in which the theory was presented and popularized. This occurred against a background of resurgent debate about the inheritability of intelligence and its link with class structure, which had been fuelled by the publication of *The Bell Curve* (Herrnstein and Murray 1994) in the mid-1990s, a provocative book restating the link between race, IQ and social mobility, which offended the principles of liberalism

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held by many Americans and for which the authors were accused of racism and elitism (Bouchard 1995) and criticized for using flawed data to argue against current fertility policies (Dorfman 1995). The publication of Goleman's book on EI a year later (Goleman 1995) presented a positive counterpoint to the message of *The Bell Curve* in arguing that life success was more dependent upon the way in which individuals handle their emotions and the emotions of others than how smart they were in terms of cognitive intelligence. This 'new yardstick' (Goleman 1995, 3) by which to assess ability, while described by some as absurd (Eysenck 2000) and weak on hard evidence (Zeidner *et al.* 2004), nevertheless reinforced an acceptable notion that being 'kind, warm and friendly' was an important pathway to success (Paul 1999), at a time when the profile of emotions in the workplace was increasing in prominence (Domagalski 1999).

In recent years, there has been an exponential growth in the EI literature, directed at both a popular and an academic readership. Consequently, it would seem that EI has an impact upon an ever increasing range of workplace behaviours from managing stress (Slaski and Cartwright 2002) to devising travel solutions for tourists (Cavelzani *et al.* 2003). For a variable to have such an apparently pervasive influence on human behaviour, one might wonder why it remained undiscovered for so long. Alternatively, perhaps it is merely the re-labelling and clever marketing of a concept that psychologists have long been able to measure under different guises.

While the validity and efficacy of EI has been scrutinized within the psychology literature (Law 2004; van Rooy *et al.* 2005; Zeidner *et al.* 2004), in the main, such reviews have focused on test construction and related psychometric properties. In contrast, the management literature has been rather less inclined to assess the concept critically and disentangle the hype from the hard evidence. As non-psychological management disciplines such as marketing, travel and tourism have

increasingly embraced the concept and developed their own interpretations of the skills associated with EI (Varca 2004), it would seem apposite to challenge some of the models and measurement tools associated with EI, their usefulness and the extent to which they overlap with more traditional concepts and measures relating to individual behaviour.

Theories of Individual Differences

Theories of individual differences have a long history in explaining human behaviour and the different ways in which individuals respond to similar events and circumstances. For almost a century, intelligence and personality tests have been used by organizations to assess and compare individuals on a range of factors as a means of informing selection and promotion decisions. According to the American Society for Personnel Administration, almost 60% of large organizations and 40% of smaller companies employing fewer than 100 employees regularly use personality tests for selection and other work-related purposes (Furnham 1992). The role of individual differences has also been emphasized in the study of more contemporary and emergent workplace issues such as occupational stress and organizational change. Research (Barling *et al.* 2005; Cartwright and Cooper 2004) has demonstrated that differences in personality, behavioural style and ways of coping account for the way in which individuals both appraise and experience stress. Individual differences have also been shown to relate to the extent to which individuals respond to and embrace organizational change (Kusstatscher and Cooper 2005).

Perhaps as a result of the growing recognition that organizational change and many other work-related experiences are emotion-eliciting events (Mossholder *et al.* 2000), interest in the role of emotions in the workplace has increased in prominence. In particular, growing attention has focused on the emotional demands of jobs in areas such as customer service which require role occupants to exercise

high levels of emotional labour (Hochschild 1983; Pugh 2001) and are typically experienced as highly stressful (Johnson *et al.* 2005). As a consequence, EI has become regarded as an important source of individual difference, as being more relevant (Goleman 1998) or at least as relevant as traditional cognitive intelligence (IQ) (Mayer *et al.* 1990) in determining workplace performance and organizational effectiveness.

Emotional intelligence is a difficult concept to define precisely and measure, and is the subject of much bitter debate and criticism (Paul 1999; Robertson and Smith 2001). Mayer (1990) differentiates between the 'popular' version as advanced by writers such as Goleman (1995) and the 'scientific' version put forward by himself and his colleagues. Whereas the scientific view suggests that EI is likely to account for between 2 and 25% of the individual variance in certain life outcomes, the popular view tends to over-exaggerate its contribution.

Traditional Intelligence

It has become widely accepted that intelligence, or at least what is measured by traditional intelligence tests, is a major predictor of academic performance and work success (Drasgow 2003; Furnham 2005). In the early part of the last century, two different views regarding the structure of intelligence were proposed. On the one hand, Spearman (1927) conceptualized intelligence as being a single factor 'g' or general intelligence which accounted for the differential performance between individuals in all areas of human ability. On the other hand, Thurstone (1938) argued that intelligence was best understood as being a set of seven loosely related primary mental abilities such as numerical reasoning, spatial abilities and verbal comprehension which explained various different aspects of performance. These differences about the structure of intelligence reflected the application of different statistical analysis techniques and have been reconciled by later more compromising hierarchical models (Vernon

1956). In contrast, there was no disagreement within this field as to the cognitive abilities and types of items that constituted a valid measure of an individual's intelligence. Hence the content of intelligence tests has traditionally reflected what is regarded as being rational problem-solving abilities or 'academic intelligence' (Furnham 2005).

Furnham (2005), among others (Gardner 1999; Harvey *et al.* 2002; Riggio *et al.* 2002), has argued that traditional IQ tests are too narrow in their focus and that 'other intelligences' are required to succeed in the workplace. Harvey *et al.* (2002) recently proposed eight different kinds of intelligences important for managers which include socio-cultural, political, innovative and EI. In particular, in an increasing global market, the concept of cultural intelligence as being 'the ability to construct innovative ways of conceptualising, data gathering and operating in a new culture' (Earley and Ang. 2003) has become increasingly influential in the selection and development of expatriate managers.

What is Emotional Intelligence?

Over time, emotions have been viewed under a number of lenses by a variety of disciplines, including psychology (Cornelius 1996), sociology (Williams 2001), biology (Damasio 1994) and management (Fineman 2000; Herriot 2001). Many researchers typically perceive emotions in a negative way as a disorganized interruption of mental activity that displaces rational thought (Fineman 2000). For many years, this view has been strongly inherent in the management literature, which has traditionally emphasized the rationality of business and has advocated the need for organizational leaders to 'manage' emotions out of the organization, or at least relegate them to some out of the way place, out of harm's way (Fineman 2000). For example, Young (1936) described emotions as having 'no trace of conscious purpose' and subsequently defined them as 'acute disturbances of the individual as a whole' (Young 1943).

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In contrast, other researchers have argued that emotions are essential to rational thinking (Damasio 1994) because they are tied to values (De Sousa 1987). Easterbrook (1959) similarly viewed emotions as positive in organizing responses which adaptively focus cognitive activities and subsequent action. Leeper (1948) draws attention to the motivating force of emotions and that emotions trigger processes which arouse, sustain and direct attention.

The notion that individuals differ in their mental capacity to process emotional information and use that information to act effectively is intuitively attractive as a specific form of social or 'other' intelligence. The idea of social intelligence can be traced back to Thorndike (1920) and his study of the emotional responses of individuals. He concluded from his findings that individuals differ in their ability to understand other people and act wisely in human relations. This specific and different form of intelligence he defined as 'the ability to understand and manage people', which could also be directed inwards to form the ability to understand and manage oneself as well (Thorndike and Stein 1937, 278).

However, for many years no research findings emerged to support the notion that social intelligence could easily be distinguished from other types of intelligence. Consequently, in 1960, it was concluded that, despite the volume of research on the subject, social intelligence remained unproven (Cronbach 1960). It was not until the early 1980s (Gardner 1983) that interest in the concept of social or 'personal' intelligence re-emerged. Based on studies of giftedness and the effects of brain damage, Gardner (1983) argued against the single 'g' factor and proposed a theory of multiple intelligences which, among others, included two distinct elements described as 'interpersonal' and 'intrapersonal' intelligence. Interpersonal intelligence was described as the ability to understand and discern the feelings and intentions of others; whereas intrapersonal related to the ability to understand one's own feeling and motivation. Around the

same time, Sternberg (1985) proposed a triarchic theory of intelligence, and distinguished between analytical, creative and practical intelligences. Whereas analytical intelligence was closely equated to general intelligence and academic problem-solving, practical intelligence represented 'real world' intelligence, including relational abilities.

Although the current popularity and interest in the concept of EI has become closely associated with Goleman (1995), the term EI first appeared in the psychological literature some years earlier (Salovey and Mayer 1990).

Models of Emotional Intelligence

From the discussion so far, the theoretical roots for the conceptual development of EI as a discrete and true form of intelligence connecting cognitive-emotional abilities seem relatively clear as firmly founded within the intelligence literature. Therefore, it would seem to follow that a set of mental abilities such as traditional intelligence should be capable of objective measurements, with right and wrong answers, and be distinct from personality.

Consistent with this view, Salovey and Mayer (1990) first defined EI as a type of social and personal intelligence involving 'the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions' (p. 189). According to their original thinking, Salovey and Mayer (1990), the set of mental processes which involve emotional information relate to:

- (i) the ability to appraise and express emotions in self and others
- (ii) the ability to regulate emotion in self and others
- (iii) the ability to use emotions in adaptive ways.

Mayer *et al.* (2000) have since slightly refined their definition of EI and moved from a three-branch to a four-branch hierarchical model (see Figure 1).

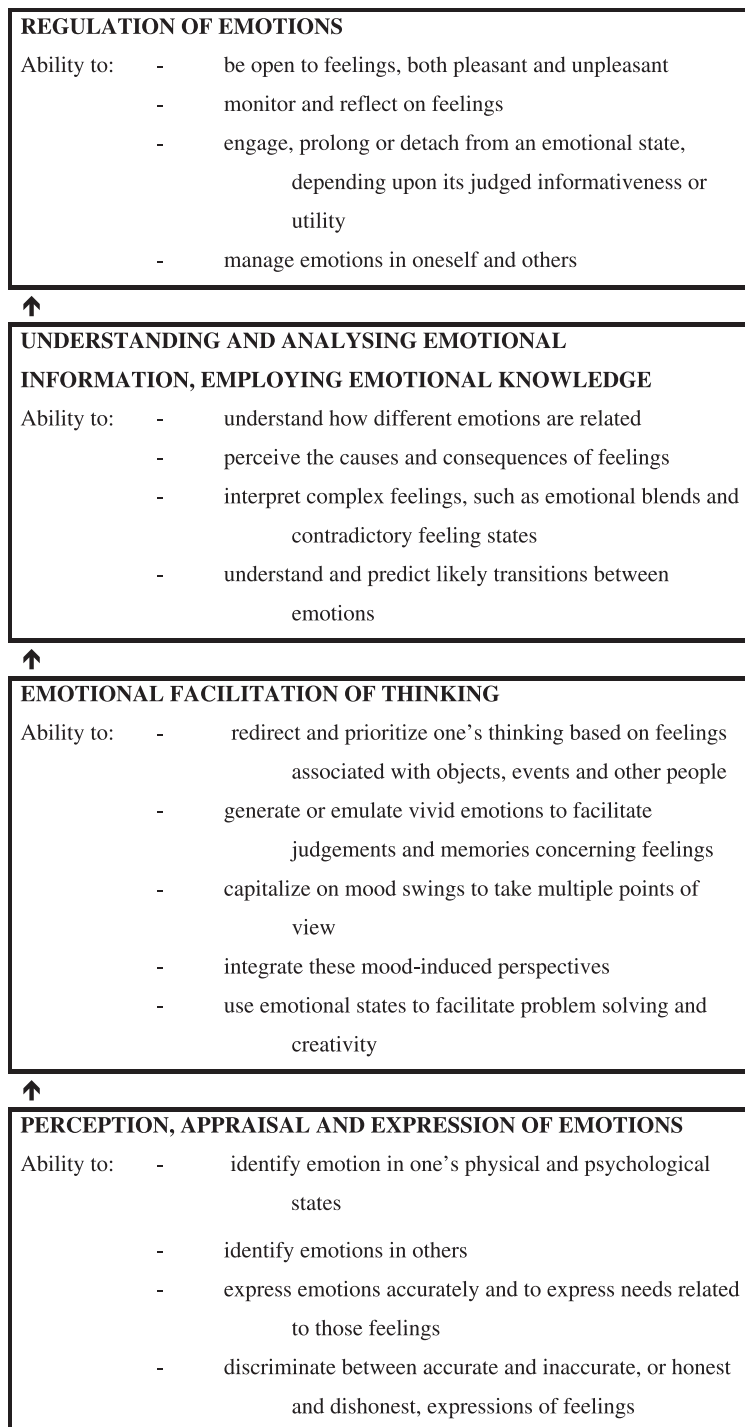


Figure 1. The revised Emotional Intelligence Framework (as described by Mayer and Salovey, 1997).

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However, they remain committed to the view that EI lies at the intersection between the mental processing of emotional information and its integration with cognitive information. This is consistent with ideas presented by other researchers (e.g. Isen *et al.* 1978; Russell 1980) who have argued for the existence of a 'cognitive loop' connecting mood and judgement, whereby good mood leads to positive thoughts and vice versa. Thayer (1989) has also argued that individuals are more positive and resourceful when they feel simultaneously energetic and pleasant and that this condition makes them more likely to make decisions based on experience rather than on intelligence. Evidence from the stress literature also suggests that anxious individuals are more likely to make decisions based on experience rather than on rationality. Furthermore, those who are able to regulate their emotions are more likely to appraise a potential threat positively and cope with the experience in adaptive ways (Cartwright and Cooper 1997).

The approach of Mayer *et al.* (2000) is considered by many to meet the necessary standards to be regarded as a true form of intelligence. According to Daus and Ashkanasy (2005), they have satisfactorily provided evidence to fulfil the three specific criteria that denote 'an intelligence'. These criteria are:

- (i) that the set of abilities are capable of being operationalized
- (ii) that these abilities are inter-correlated and relate to pre-existing intelligences, while at the same time exhibiting unique variance
- (iii) that the intelligence shows developmental effects with age.

Goleman (1995) has also asserted that his model of EI is placed at the intersection of emotional and cognitive processing. In his best-selling book, which has sold more than five million copies worldwide, he defines EI as consisting of:

abilities such as being able to motivate oneself and persist in the face of frustrations, to control

impulses and delay gratification, to regulate one's moods and keep distress from swamping the ability to think, empathise and to hope. (p. 34)

As part of his definition, he details over twenty-five different learned competencies, skills and abilities which constitute EI. Subsequent refinement of the model (Goleman 1998; Goleman *et al.* 2002) has further broadened the concept to accommodate a wider range of personality characteristics and behavioural competencies which compromise the criteria required of a pure ability model of intelligence. For this reason, unlike Salovey and Mayer (1990), it is regarded as a 'mixed' rather than an 'ability' model of EI and has been widely criticized for its absurdity in tending to class almost any type of behaviour as intelligence (Eysenck 2000).

An alternative but comparable 'mixed' model has been proposed by Bar-On (1997, 2000), who described EI as an 'array of non-cognitive capabilities, competencies and skills that influence one's ability to succeed in coping with environmental demands and pressures' (p. 14).

Similarly to Goleman, Bar-On (1997) argues that these non-cognitive abilities include five broad categories and sub-categories:

- (i) Intrapersonal Emotion Skills (including self-actualization and independence)
- (ii) Interpersonal Emotion Skills (including empathy and social responsibility)
- (iii) Adaptability (including reality testing and problem solving)
- (iv) Stress Management (including stress tolerance and impulse control)
- (v) General Mood (including characteristics such as optimism and happiness).

Both Goleman's (1998) and Bar-On's (1997) models draw strongly on the personality and competency literatures rather than the intelligence literature. Indeed, Sternberg (2001), an advocate of split intelligence, has strongly criticized Goleman's (1998) conceptualization of EI on the grounds that 'it differs little from personality and appears to be a general

lumping together of characteristics of a “good person”’.

Similarly, Cooper and Sawaf’s (1997) model of Executive EQ and Dulewicz and Higgs’ (1999) model of EI, which is based on UK rather than US research, conceptualizes EI in terms of a set of traits and competencies. According to Dulewicz and Higgs (1999), workplace EI is about ‘achieving one’s goals through the ability to manage one’s own feelings and emotions to be sensitive to and influence other key people and to balance one’s motives and drives with conscientiousness and ethical behaviours’. For them, EI is composed of a mixture of seven elements and incorporates personal characteristics and behaviours: self-awareness, emotional resilience, motivation, interpersonal sensitivity, influence, decisiveness, conscientiousness and integrity. These seven dimensions are further organized (Dulewicz and Higgs 2000, 343) into three factors namely ‘drivers’, ‘constrainers’ and ‘enablers’.

It is clear that these subsequent models have moved away from the original pure intelligence model and muddled the initial theoretical roots of the concept. The ability or information processing model strongly argues that EI constitutes an additional aspect of crystallized intelligence involving emotion, whereas the mixed model has blended EI with numerous other characteristics such as motivation, well-being and personality for which there are already a wide range of reliable and valid measures in existence. Daus and Ashkanasy (2005) believe that advocates of the mixed model are not even talking about the same construct as Mayer and colleagues; a point re-echoed by Murphy (2006), who considers that the definitions of EI need to be ‘cleaned up’ and not equate to a laundry list of positive qualities (Matthews *et al.* 2006). In contrast, Ciarrochi *et al.* (2000) suggest that there may be consensus across models in terms of four important shared areas: emotion perception, regulation, understanding and utilization.

Although the ability model has received significant theoretical support (Ciarrochi *et al.*

2001; Schutte *et al.* 1998), it is the mixed model that has been arguably more influential in the measurement of EI in the workplace. This may be because the model has received more media coverage and been more aggressively marketed in a way that better addresses the language and culture of modern-day business (Murphy and Sideman 2006).

However, before moving on to discuss the instruments that have been devised to measure EI, there is an interesting interpretation of EI which, paradoxically, is common to both approaches and represents a departure from the theoretical roots on which they draw. Theories of intelligence have traditionally emphasized that adult IQ is relatively fixed over time. Similarly, personality theorists consider that personality is composed of a set of stable traits. Yet, both Mayer and Salovey (1997) and Goleman (1998) maintain that EI is potentially incremental and can be developed through training and experience. Indeed, it is the idea that organizations can benefit by intervening to increase the EI of their workplace which has so engaged popular interest in the concept.

Measures of Emotional Intelligence

The Ability Model

The most comprehensive measure of the ability model is the Mayer, Salovey and Caruso Emotional Intelligence test or MSCEIT, Version 2.0 (Mayer *et al.* 2002), which is a refinement of an earlier test, the Multifactor Emotional Intelligence Scale (MEIS; Mayer *et al.* 2000). In common with traditional intelligence tests, it is a performance measure, based on the number of correct answers given, and assesses how well an individual solves emotion-laden problems across four domains (or branches), including the perception, use, understanding and management of emotions. The MESCEIT V2 consists of 141 items, which are divided between eight tasks (two for each of the four theoretical domains to yield four branch scores, together with an

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overall score of EI). Sample tasks include identifying emotions and feelings expressed in faces and pictures and identifying the appropriate behavioural response when presented with a range of emotionally laden scenarios. The MSCEIT is scored with both consensus and expert scoring methods. In consensus scoring, respondents are given credit for answers that match those provided by a normative sample of over 5000 individuals. Expert scoring relies on what researchers in the field regard as the correct response. There is a high level of convergence ($r > 0.90$) between the two methods (Mayer *et al.* 2003). According to the test authors, split half and test–retest reliabilities for the scale scores are in the range 0.70–0.93 and its factorial structure has been validated through a series of analyses (Brackett *et al.* 2006; Day and Carol 2004; Mayer *et al.* 2001).

Various studies (Brackett *et al.* 2006; Mayer *et al.* 2003; Peletti 2001) have found low–moderate correlations with IQ tests in the range 0.13–0.38. Other studies (Brackett *et al.* 2006; Salovey *et al.* 2003) have found low–moderate correlations with personality factors such as extraversion, agreeableness, neuroticism and openness in the range 0.04–0.33 with agreeableness consistently showing the strongest correlation with EI (Brackett *et al.* 2006). Evidence to date (Brackett and Mayer 2003; Brackett *et al.* 2006) shows low correlations between MSCEIT and other self-report measures of EI, based on both the ability model (Brackett *et al.* 2006) and the mixed model (Brackett and Mayer 2003). Collectively, this evidence supports the view that EI is a different and independent construct from personality and traditional intelligence and that performance and self-report tests of EI are largely unrelated.

Brody (2004) has questioned the predictive validity of MSCEIT and ability tests of EI more generally, on the basis that they assess knowledge about emotions which may not necessarily mean that an individual has the ability to behave in accordance with that knowledge in real-time social situations. In

response to this criticism, Brackett *et al.* (2006) recently conducted a study to assess whether scores on MSCEIT and a self-report measure of EI predicted observable behaviours in a social encounter, namely interacting with an ostensible stranger in a getting acquainted meeting. They found no relationship between the self-report measure and socially competent behaviour, whereas they found that MSCEIT was predictive of social competence for men, but was not predictive in the case of women.

Roberts *et al.* (2001) suggested that EI measures are measures of conformity rather than abilities, primarily because of the way in which they are scored, i.e. according to normative ideas as to what is the ‘right’ way to respond.

Although it is the MSCEIT measure which has tended to dominate the literature, there are several other ability-based measures. These include the Levels of Emotional Awareness Scale or LEAS (Lane *et al.* 1990) whereby respondents are presented with a series of scenarios designed to elicit four types of emotion: fear, anger, sadness and happiness. Respondents are rated on the basis of their perceptions of how they would feel if placed in each scenario and also how they perceive the other person involved would feel. The test shows acceptable reliability and validity with other EI measures (Ciarrochi *et al.* 2000) and is considered to be a good predictor of emotional recognition (Lane *et al.* 1998). Similar to the LEAS is the Emotional Accuracy Research Scale or EARS (Mayer and Geher 1996), which was developed to ‘afford the benefits of both self report and laboratory measures of EI’ (Geher *et al.* 2001, 376). However, this is a very short eight-item performance measure, which taps the ability to perceive emotions in others accurately. Both these measure focus on a narrower range of emotional abilities and hence are not as widely used as the MSCEIT measure.

More recently, Wong and Law (2002) developed the WLEIS measure (Wong and Law EI Scale) which is a short 16-item instrument

based on the Mayer and Salovey (1997) four-branch model.

However, generally ability-based tests of EI have poor reliability (Ciarrochi *et al.* 2000; Davies *et al.* 1998). Furthermore, because the scoring of the MESCIT is carried out by the test publisher (Multi-Health Systems Inc.), it is not possible for independent researchers to calculate the internal (split half) reliability coefficients for each scale for their own particular sample. In addition, Day and Carroll (2004), in comparing differences in MESCIT scores between men and women, found evidence of a gender bias and no evidence to support the developmental relationship between age and EI.

The Mixed Model Approach

One of the most widely used measures is Bar-On's Emotional Quotient Inventory or EQ-I (Bar-On 1997). It comprises 133 items rated on a five-point scale and takes about 40 minutes to complete. It provides an overall score of EI based on five composite scales. These scales are divided into 12 subscales and three facilitator scales. The scale structure is presented in Table 1.

The scales have high internal consistency reliabilities ranging from 0.69 to 0.86 and test-retest reliabilities ranging from 0.75 to 0.85 (Bar-On 1997). Many studies (Bar-On 1997; Dawda and Hart 2000; Newsome *et al.* 2000) have reported numerous high correlations between the EQ-I and established personality measures. Therefore, it has been argued (Davies *et al.* 1998; Mayer *et al.* 2000; Newsome *et al.* 2000) that the EQ-I is more a

measure of ego strength or social competence than EI.

Goleman (1995) has also developed an Emotional Quotient (EQ) questionnaire. However, the psychometric properties of this measure, particularly its reliability have been heavily criticized (Davies *et al.* 1998).

More recently, Boyatzis *et al.* (2000) developed the Emotional Competence Inventory (ECI), a 360-degree instrument consisting of 110 items which takes approximately 30 minutes to complete. The reliability coefficients range from 0.61 to 0.86 for the self-report version and from 0.79 to 0.94 for the other raters' form.

There are also a number of other instruments which measure aspects of emotionality but are less well used (e.g. the EQ map (Cooper and Sawaf 1997); Emotional Control Questionnaire (Roger and Najaran 1989); and the Style in the Perception of Affect (Bernet 1996)).

So far, all the measures discussed have been North American in origin and have been developed for use on diverse population samples in a variety of settings (Dulewicz *et al.* 2003). There are two notable exceptions, one being the SUEIT (Palmer and Stough 2001) a workplace measure of EI developed in Australia and the Emotional Intelligence Question (EIQ; Dulewicz and Higgs 1999) based on research conducted on UK managers. The EIQ, which consists of 69 items, demonstrates scale reliability coefficients in the range 0.51–0.77 and is considered to have greater job-related validity than other mixed model tests of EI (Dulewicz and Higgs 2000; Dulewicz *et al.* 2003).

Table 1. Dimensions and subscales of the EQ-i

Intrapersonal	Interpersonal	Adaptability	Stress management	General mood
Self-regard Emotional self-awareness Assertiveness Independence Self-actualization	Empathy Social responsibility Interpersonal relationships	Reality testing Flexibility Problem solving	Stress tolerance Impulse control Service	Optimism Happiness

The Problem of Competing Models and Measurement Tools: Comparing Apples with Pears

There is no shortage of available measures purporting to measure EI. Indeed, it would seem that an increasing number of researchers entering this field go on to develop their own particular instrument and subsequently market it for commercial use. This commercialization of EI and its associated measures is likely to create continuing problems for academic researchers, particularly doctoral students, who may find the cost of restricted access to such measures a significant constraint on their research endeavours. It is interesting to note that the two most widely used measures of EI are based on competing models, yet distributed by the same test publisher.

As these measures are based on competing models of EI, this brings into question the usefulness of the concept and the difficulties in reconciling what amounts to two very different ways of operationalizing the concept and creates a significant, if not impossible, challenge to develop a unitary body of research evidence. As Murphy and Sederman (2006, 234) point out 'if EI is defined too broadly, as in the mixed model approach then you are likely to create little more than a mountain of fluff'. However, if EI is defined too narrowly, the resultant product may be 'both pristine and useless'.

The purist view (Daus and Ashkanasy 2005) argues that EI can only be assessed by pristine tests of objective performance and are highly critical of self-report measures. The mixed model approach has initially been heavily reliant on the assessment of the perceived EI of respondents, although many proponents of this model have since developed measures which incorporate multi-rater assessments to circumvent the limitations of self-report (e.g. Dulewicz and Higgs 2000).

Self-report measures are considered to be limited through inaccurate self-knowledge and are also open to distortion by faking good or presenting a socially desirable self

(Woodruffe 2001). It has been observed that perceived (self-assessed) intelligence is not necessarily a good indicator of performance as measured by objective cognitive intelligence tests (Levenson and Ruef 1992; Paulhus *et al.* 1998). In a study of undergraduate students, Beloff (1992) demonstrated significant differences in the self-estimated intelligence of men and women. She found that, whereas men tend to overestimate their own intelligence as well as that of male relations, women tend to underestimate their own intelligence and are more generous in their rating of males. However, both objective ability tests and self-report tests have demonstrated linkages with actual work-related (Dulewicz and Higgs 2000) or academic performance (Schutte *et al.* 1998).

Like other psychometric tests, tests of EI may be culturally or gender biased. Most measures of EI have been developed on samples which are culturally similar, e.g. US, UK and Australian respondents. Recent research has extended to incorporate more diverse European and Asian samples and have, to date, demonstrated satisfactory psychometric properties and a degree of universality of the concept (e.g. Bar-On 2000; Nicholaou and Tsaousis 2003; Tsaousis 2003).

The consistent overlap between the mixed model measures of EI and personality traits and interpersonal competencies makes it difficult to ascertain the extent to which EI measures may contribute something over and above the established measures traditionally used in occupational settings. Indeed, in an earlier review, Davies *et al.* (1998) concluded that EI amounts to nothing more than 'the ability to perceive emotional information in visual and auditory stimuli'. However, a growing body of recent research evidence drawing on both the ability and mixed models of EI would seem to suggest an incremental validity of EI over and above traditional cognitive intelligence and personality tests (Petrides and Furnham 2000).

Finally, some instruments are generic, whereas others have been designed for use specifically in a workplace context; this raises

the question as to whether organizational culture may play a role in promoting or inhibiting the display of emotionally intelligent behaviours.

It is clear that the choice of measurement tool determines the model of EI that is being tested and therefore has to be taken into account when evaluating the research evidence which follows on the validity of EI and its implications for the workplace (Petrides and Furnham 2000).

Implications for the Workplace

EI and Performance

One of the earliest areas of research addressed in the EI literature was the link between performance and success, interest in which was generated by findings showing the very low predictive value of traditional IQ in work performance. For example, Hunter and Hunter (1984) estimated that, at best, IQ accounts for 25% of the variance in job performance. Sternberg (1996) suggested that 10% is a more realistic estimate. Similarly, Snarey and Vaillant (1985) reported the results of a 40-year longitudinal study of 450 boys, which found that IQ was little related to how well the boys performed at work as adults. Instead, work performance was more closely influenced by their abilities to handle frustration, control emotions and get along with other people. Several studies have been conducted demonstrating a relationship between EI and academic success (Nowicki and Duke 1992; Schutte *et al.* 1998; Shoda *et al.* 1990). In an organizational setting, Kelley and Caplan (1993) examined EI and the performance of research groups in the Bell Laboratories. Their findings supported the notion that EI differentiates between high and average performers. Even though all team members had high IQ scores, some individuals were rated by others as 'stars'. Kelley and Caplan (1993) showed that neither IQ nor past academic performance were good predictors of 'stars'. Instead, EI abilities seemed to differentiate and predict

the performance and 'star' ratings of such individuals better.

More recently, Dulewicz and Higgs (1998) compared the relative contribution of cognitive and EI competencies with work performance as measured by career advancement. They found that EI accounted for 36% of the total variance in organizational achievement, whereas IQ accounted for 27%. However, given the highly intelligent nature of the sample, this study suffers from a restriction of range. Rice (1999) measured the EI of 164 employees and their 11 team leaders in a US insurance company using the MEIS (Mayer *et al.* 2000). The leaders' MEIS scores significantly correlated ($r = 0.51$) with their effectiveness measures, as rated by their departmental manager. Furthermore, the average team MEIS scores and rating of team performance in customer service were significantly positively correlated ($r = 0.46$). Team leaders' EI scores were also found to correlate positively ($r = 0.58$) with their team's performance.

Jordan *et al.* (2002) investigated the relationship between EI and the performance of 44 Australian work teams over a period of nine weeks. It was found that, in the early weeks, the teams scoring high on EI performed significantly better than the lower scoring teams. However, by the end of the nine weeks, the performance levels of all the teams were similar. They concluded that emotionally intelligent individuals were able to form cohesive and effective work teams more quickly than less emotionally intelligent colleagues. Slaski and Cartwright (2003) also found a positive but weak correlation between EI scores and performance measures among a managerial group in the UK retailing sector. However, restriction of range may also be an inherent limitation of this study.

More recently, Day and Carroll (2004) found that only one scale of the MSECIT, Emotional Perception, was predictive of performance on a decision task in a sample of over 200 college students. In addition, they found that EI scores were not predictive of the level of organizational citizenship behaviour exhibited

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by individuals in relation to the task. In contrast, Law *et al.* (2004) found evidence that supervisor ratings of EI were predictive of job performance among Chinese workers. In a meta-analytical study, van Rooy and Viewesvaran (2004) found a significant but moderate correlation of 0.23 between EI and Performance. However, it should be noted that the meta-analysis included both ability-based and personality-based tests of EI.

Recent evidence (Semadar *et al.* 2006) using the SUEIT measure of EI (Palmer and Stough 2001) alongside more generic measures of social effectiveness found that measures such as political skill were more valid predictors of job performance than EI. In addition, evidence from Downey *et al.* (2006) suggests that there is an overlap between measures of intuition (Allinson and Hayes 1996) and some dimensions of EI.

Taken overall, there is some evidence that certain elements of EI do seem to influence performance. However, it may be that EI only becomes a differentiating factor in job performance when it is combined with above-average IQ.

EI and Leadership Effectiveness

Transformational Leadership (Bass 1990) is perceived to be different and more effective than the traditional transactional approach, because it engages the follower's emotions. There is a growing body of research evidence which has examined the relationship between EI and Transformational Leadership. Barling *et al.* (2000) assessed transformational leadership behaviours, using the Multifactor Leadership Questionnaire (MLQ: Bass and Avolio 1995), and EI using the EQ-i (Bar On 1997) among 49 managers in a large pulp and paper organization. Results indicated that high overall EI scores were associated with three out of four transformational leadership factors. These were Idealized Influence, Inspirational Motivation and Individualized Consideration. No relationship was found between EI and the fourth factor, Intellectual Stimulation.

Intellectual Stimulation involves presenting followers with an intellectual challenge: getting people to think about problems in novel ways. As the researchers note, this factor relies more on cognitive than emotional abilities, and therefore it is not surprising that there was no association with EI. An earlier study conducted by Sosik and Megerian (1999) had found rather similar results in a study of 63 managers.

In another study, Palmer *et al.* (2001) assessed the EI of 43 Australian managers, using an adapted version of the Trait Meta-Mood Scale (Salovey *et al.* 1990), and their leadership style, once again using the MLQ (Bass and Avolio 1995). The results were weaker but in a similar direction to Barling *et al.* (2000). More recently, Gardner and Stough (2002) found that EI, as measured by the 65-item self-report inventory, SUEIT (Palmer and Stough 2001) was positively related to all four component factors of transformational leadership.

Duckett and MacFarlane (2003) have also demonstrated a relationship between measured EI, transformational leadership and objective performance measures in a small sample of retail managers. Similar results have been upheld in simulated studies such as Barsdale (1998). While the results of these studies have interesting implications for the selection and development of leaders, the sample sizes on which the studies are based are very small. In the case of Duckett and MacFarlane (2003), the sample size was less than 20.

In a study of Chinese managers, Wong and Law (2002) found that EI was positively correlated with follower satisfaction and willingness to engage in extra-role behaviour but did not affect job performance. However, in a study also using the EQ-1 (Bar-On 1997), Brown *et al.* (2006) found no significant link between EI and effectiveness, satisfaction with supervisor and willingness to invest extra effort.

In contrast, Kerr *et al.* (2006) found a strong positive correlation between certain scales of the MSCEIT and leadership effectiveness in

a sample of 38 supervisors. This study is consistent with two earlier studies using MSCEIT (Leban and Zulauf 2004; Rosete and Ciarrochi 2005) which found linkages between EI and leadership effectiveness. In all three studies, the strongest predictor of leadership effectiveness was the ability to perceive emotion.

Overall, the research evidence concerning EI and leadership effectiveness is somewhat mixed, which may be an artefact of the measurement tool employed. However, it would seem that the ability to perceive emotion, perhaps not surprisingly, is a factor associated with effective leadership. In the context of international leadership, there is likely to be some overlap with what is now termed cultural intelligence (Earley and Ang 2003).

EI and Dysfunctional Behaviour

It has been suggested that EI plays a moderating role in aggressive behaviours and workplace stress (Slaski and Cartwright 2003). Mayer *et al.* (2000) found negative correlations between EI and violent, bullying and trouble prone behaviours. This is an interesting finding, given that workplace bullying is recognized to play a contributory role in poor work performance and negative workplace relations (Sheehan and Jordan 2002).

According to Martin *et al.* (1998), EI training can positively affect an organization which has a problem with bullying. Through increased understanding of the impact of their emotional outbursts on others, it is believed that bullies will be better able to address their negative behaviours. In addition, by increasing the EI of the victims of bullying, employees will reach a better understanding of the reasons for the bully's behaviour and its impact on them and their emotions. Furthermore, it is argued that they will become more able to manage their own emotions effectively and use them to respond to the situation more appropriately (Korth 2000). While such an approach has a certain intuitive appeal, implicit in such thinking is that high levels of emotional intelligent are 'good' and are always associated

with desirable outcomes. It could also be argued that emotionally intelligent individuals may abuse their powers of insight into the emotions and weaknesses of others to pursue their own self-interest in a manipulative way.

In the context of workplace stress, it is widely accepted that individual characteristics play a moderating role in the way individuals respond to and cope with stress (for a review, see Cartwright and Whatmore 2005). The stress response is associated with the release of a range of negative emotions, e.g. anger, panic, anxiety, which overwhelm the individual and affect their ability to cope with the demands of the situation. It has been suggested that EI plays a role in helping individuals to control and manage these negative emotions appropriately and so moderate both the appraisal and experience of stress. Slaski and Cartwright (2003, 2004) found evidence that highly emotionally intelligent individuals report significantly less stress and experience better physical and psychological health than less emotionally intelligent managers. Furthermore, they found that a programme of EI training resulted in an increase in EI scores, a reduction in stress levels and an improvement in health compared with a control group. The study included the EQ-I (Bar-On 1997) and the General Health Questionnaire (Goldberg and Williams 1998).

Another study by Bar-On *et al.* (2000) examined the differences in EI between two occupational groups, police officers and health-care professionals, in Germany using the EQ-i. Both groups had experienced increased work stress following organizational change. Results indicated that police officers scored significantly higher than health-care professionals on all the EQ-I scales, with the exception of Interpersonal Relationship, Independence and Flexibility. Bar-On *et al.* (2000) argued that the police officers demonstrated greater interpersonal capacity, i.e. increased self-awareness and self-respect, which enabled them to focus accurately on immediate situations and deal efficiently with problems, which meant that they were better able to adapt to

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change and cope more effectively with stress. More recently, Nikolaou and Tsaousis (2005) explored the relationship between EI, stress and organizational commitment among 235 mental health professionals in Greek institutions. Participants completed the EIQ (Tsaousis 2003) and the ASSET (Cartwright and Cooper 2002) measure of workplace stress and commitment. Employees who exhibited a high overall EI score, achieved low scores on those scales of ASSET assessing sources of stress and high on both scales of organizational commitment, i.e. perceived commitment of the organization towards the employee and commitment of the employee towards the organization. In the case of stress indicators, the largest correlation was between the Use of Emotions factor and overall stress levels ($r = -0.55, p < 0.01$). In the case of commitment, the Use of Emotions was significantly correlated with the commitment of the employees to the organization ($r = 0.58, p < 0.01$), whereas overall EI was strongly associated with organizational commitment. Abraham (2000) similarly addressed the relationship between EI and organizational commitment and found that EI predicted 15% of the variance in organizational commitment.

In a study of 139 students, using the first author's measure Workgroup EI, Jordan and Troth (2002) found that individuals with higher levels of EI were more likely or more able to engage in collaborative conflict resolution. In contrast, lower EI scores were associated with less effective strategies, i.e. handling conflict in a forceful way and avoidance behaviour. The researchers advocate the value of emotional management training as a means of equipping individuals to improve work relationships.

Overall, the regulation and use of emotions would seem to be a potential explanatory in understanding how individuals respond to their environment and increase their resilience to stressful situations. However, dispositional characteristics have a long history in stress research and have been addressed by a variety of pre-existing measures such as Type A behaviour, locus of control and positive and

negative affectivity (for a review, see Cooper *et al.* 2001). Similarly, the regulation and management of emotion involving techniques which draw upon rational emotive therapy (Cartwright and Cooper 1997) have been a traditional feature of stress management education and training.

EI and Organizational Change

It would seem to follow that emotions play an important role in the way in which employees respond and adapt to organizational change. Organizational change has been consistently associated with a range of negative behaviours, including reduced productivity, increased staff turnover, low levels of job satisfaction and organizational commitment (Feldman 1995; Rousseau and Parkes 1993) as well as increased stress (Cartwright and Cooper 1997).

Numerous researchers have attempted to identify the role of individual differences in the implementation and acceptance of change (King and Anderson 1995). McClelland and Boyatzis (1982) have suggested that successful change management requires high levels of activity inhibition and self-control. Schloemer (1995) concluded that 'idealists' were more open and tolerant towards change than 'analysts, pragmatists and realists'. Hogan *et al.* (1994), in a review of the personality literature, suggested that individuals who positively engaged in change were likely to score high on conscientiousness, extraversion and agreeableness, and low on neuroticism. Born and Jansen (1997) subsequently argued for the inclusion of an additional factor: openness to experience. Connor (1993) has drawn the distinction between 'O' personality types, who welcome change and see it as an opportunity, and inflexible 'D' personality types, who regard change as a danger or threat. Overall, the literature has keenly emphasized that the attitudes and responses of employees to change are the function of their personality.

Although there has been little empirical research investigating the relationship between EI and change, the most comprehensive

model integrating EI and emotions in the organizational change process is that proposed by Huy (1999). This model links individual emotions to three aspects of organizational change, namely receptivity, mobilization and learning. Receptivity refers to the willingness of employees to consider and engage in change and is considered to be the opposite of resistance to change. It represents a 'cognitive and emotional attitudinal state' which determines the acceptance and endorsement of the need for change. According to Huy (1999), receptivity is associated with the emotional energy initially required to engage with the change process and take a leap of faith into the unfamiliar, often in contradiction to traditional thinking.

Mobilization refers to the actual actions taken by individuals towards the direction of change. Finally, emotions also play a role in the 'learning' dynamic of change in that emotions provide feedback as to whether the change effort was successful. If goals are not successfully achieved, negative emotions will be experienced, which in turn will stimulate motivation to change (Huy 1999; Westen 1985). Huy (1999) argues that, if organizations encourage individuals to enact emotionally intelligent behaviours, they will facilitate receptivity to change, mobilization and learning. A study by Tsaoasis *et al.* (2004) attempted to test this theory on a sample of 137 managers and professionals in Greece. Scores on the Emotional Intelligence Questionnaire (EIQ; Tsaoasis 2003) were found to correlate positively and significantly with attitudes towards organizational change. A regression analysis incorporating personality data was also conducted, which found that EI factors predicted positive attitudes towards organizational change over and above personality variables with R^2 change = 0.13, $F(4,1270) = 6.69$, $p = 0.000$.

EI and Service Encounters

As services are largely intangible and tend to be similar within given sectors, the perceived

level of service quality is considered to be a critical factor in distinguishing one service provider from another. Research has suggested that emotions play an important role in service encounters (Menon and Dube 2000) and that the display of emotions by service employees influences customers' affect and judgement of service quality (Pugh 2001; Winsted 2000). According to Pugh (2001), the reciprocal nature of service encounters produces an emotional contagion effect whereby customers 'catch' the emotions displayed by the customer service agent. In a study of banking employees, he found that individual differences in the emotional expressiveness and the positive affect of service agents was predictive of customer affect and perceptions of service quality as assessed by a modified version of the SERVQUAL instrument (Parasuraman *et al.* 1998). In a study of service providers working in fast food outlets in Singapore (Tan *et al.* 2004), the display of positive emotions by service providers was also linked with customer satisfaction. Both studies also found that transaction or store busyness had a moderating influence on customer satisfaction.

The marketing literature has long recognized the importance of both customer segmentation and the appropriate personalization of responses (Johnston and Clark 2001). The necessity on the part of service agents to adapt their responses and to display appropriate emotions (which the employee may not feel) in order to satisfy the customer has been widely termed emotional labour (Hochschild 1983; Zeithaml and Bitner 2000).

Evidence from the personality literature has suggested that certain individuals have an inherent predisposition to perform well in service encounters. Hogan *et al.* (1984) proposed a personality construct, termed 'service orientation', which includes characteristics such as helpfulness and consideration, which correlates significantly with effective job performance. Service quality has also been shown to correlate highly with established personality measures on dimensions such as extroversion and conscientiousness (Furnham

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and Coveney 1996), agreeableness and emotional stability (Frei and McDaniel 1998). According to Cran (1994), service orientation may be an innate characteristic and, even with training, employees low on this trait may not be able to sustain improvements in performance and attitude over the longer term. In terms of improving service quality, the personality literature has emphasized the importance of selection over training.

Recent interest in the concept of EI has emphasized the potential link between EI and customer satisfaction, both as a criterion for selection (Barlow and Maul 2000) and a development tool as a means of improving service quality and reducing the stress associated with emotional labour (Spector *et al.* 1988). In particular, emotional recognition, empathy and the control and management of negative emotions are considered to be key skills that individuals can develop through EI training (Slaski and Cartwright 2002). Furthermore, it is suggested that such initiatives can create a positive organizational climate for service (Schneider *et al.* 1998). While this suggests some potential important implications for service organizations in providing training which may be more closely tailored to address the needs of different types of customers presenting different emotional states, the distinction as to the precise aspects of EI which can or cannot be developed through training has to be established by future research.

Conclusion

Emotions play a central role as guides to behaviour and the maintenance of an integrated self (Damasio 1994). However, until fairly recently, the role of emotions in the workplace has been underestimated and little researched beyond job satisfaction. This neglect owes much to the legacy of classical theories of organization which emphasize rationality as the guiding principle for management and the positive benefits of dehumanizing the workplace (Taylor 1911). As interest in workplace emotions has increased, EI has become an

emergent field of research in a business environment which is only too eager to embrace potential solutions to workplace problems and enhance performance.

Based on a growing number of studies, it would seem that EI may have implications for the selection and development of employees, particularly those involved in stressful jobs, e.g. nursing (Cadman and Brewer 2001). There is some limited evidence that EI may be associated with leadership effectiveness and readiness for change. Furthermore, the promotion and practice of emotionally intelligent behaviours may have a positive influence on client/customer interactions and lead to enhanced service quality as well as creating more satisfying organizational climates. Research on extended service transactions suggests that much could be gained from improving the abilities of employees to recognize customers' emotions and adapting the way in which service is designed and delivered in order to respond appropriately (Dube and Morgan 1998).

However, there are fundamental problems with the definition and operationalization of the concept of EI and the continuing war between the competing models which needs to be resolved. Ability-based models may be 'theoretically purer', yet the measures which translate dimensions of EI into a competency framework appear to have greater face validity with organizational test users and are arguably more valid predictors of work-related performance (Downey *et al.* 2006; Dulewicz *et al.* 2003).

Importantly, more research is needed to separate and isolate the core elements of what is variously described as EI, which are predictive of different outcomes and blow away some of the 'fluff'. In order to do this, it is also important to conduct further research which incorporates a wider range of alternate measures than just personality, where there may be potential overlap, and so establish clearer delineation. As highlighted in this review, measures of social effectiveness, cognitive styles and other dispositional

variables associated with emotional resilience seem to 'tap into' much of what is packaged as EI.

The resurgent interest in multiple intelligences, coupled with developments in the field of positive psychology are promising developments in emphasizing the need to consider the contribution of other forms of practical intelligences and the more social aspects of self which contribute to work performance and behaviours over and above traditional IQ and personality measures.

Research into EI has the potential to contribute to this research agenda, particularly in terms of the extent to which individuals who display high EI abilities and behaviours have a positive influence on those around them.

It almost goes without saying that research in this field would benefit from longitudinal studies with larger and more diverse samples, using more robust measures than self-report. But, without further and more rigorous research and a 'cleaner' product description it may soon become dismissed as old wine in new and very expensive bottles!

Note

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