Emotional intelligence

K.V. Petrides, Adrian Furnham *and* **Norah Frederickson** *argue for a trait approach to the misunderstood construct.*

FEW constructs have grabbed the attention of researchers, theorists, and practitioners with the intensity and suddenness of emotional intelligence (EI). Inevitably this has led to problems in the theoretical development of EI as well as in the way practitioners have sought to measure and apply it in various domains (Matthews *et al*., 2002). Nearly 15 years after the first formal definition and model of EI, scientific research in the field still lags behind popular, quasi-academic and commercial speculations.

It is clearly important that psychologists catch up. Specifically with respect to limitations at the applied end, qualified practitioners should try to keep abreast of relevant research findings in order to avoid involvement in unprofitable applications. This article seeks to make a germane contribution by outlining both the fundamentals and the latest research in the field of EI. We address several issues, including those of conceptualisation, measurement and application in the educational, occupational and clinical domains.

Origins of EI

The roots of EI can be traced back to E.L. Thorndike's (1920) social intelligence and Gardner's (1983) intrapersonal and interpersonal intelligences. The term EI itself was discussed in the literature several times before Salovey and Mayer proposed the first formal definition and model of the construct in 1990. This early model was soon followed by several alternative conceptions (e.g. Bar-On, 1997; Mayer & Salovey, 1997). The most influential, and the one mainly responsible for launching the field, was Goleman (1995).

Each of the various EI models in the literature comprised many different components. Petrides and Furnham (2001) identified via content analysis 15 distinct components common to more than one salient EI model. Table 1 presents a brief description of these components, which have provided the basis for the development of our operational definition of EI that we will discuss later.

Soon after the early models emerged, the first EI measures began to appear in the literature (e.g. Schutte *et al*., 1998).

However, the lack of a coherent operational framework, led to the haphazard development of the construct and numerous apparently conflicting findings. And there was another serious problem: early models and measures of EI did not consider the fundamental difference between 'trait EI' (using self-report measurement) and 'ability EI' (using maximum-performance measurement).

Trait EI versus ability EI

The type of measurement method – self-report (as in personality questionnaires) versus maximum-performance (as in cognitive ability tests) – has far-reaching implications for the operationalisation of any construct. Simply put, asking someone whether they believe they are good at abstract reasoning is very different from presenting them with an item from Raven's Progressive Matrices. If someone were interested in assessing actual cognitive

TABLE 1 Common facets in salient models of EI

Facets	High scorers perceive themselves as…
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 in to 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 of 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

abilities, they would not employ self-report questionnaires. Likewise, if someone were interested in assessing self-perceptions, they would not employ maximum-performance tests.

The measurement of EI through self-report questionnaires leads to the operationalisation of the construct as a personality trait ('trait EI' or 'emotional self-efficacy'). In contrast, the measurement of EI through maximum-performance tests, if possible, would lead to the operationalisation of the construct as a cognitive ability ('ability EI' or 'cognitive-emotional ability'). Trait EI and ability EI are two distinct constructs differing in many important ways. These differences are summarised in Table 2. As expected, the conceptual differences between the two constructs are directly reflected in emerging empirical findings, which reveal very low correlations between measures of ability and trait EI (O'Connor & Little, 2003).

With respect to ability EI, the inherently subjective nature of emotional experience presents a serious sticking point for the development of comprehensive tests based on truly objective scoring criteria. For example, much of the intrapersonal component of ability EI (i.e. those elements concerning people's internal emotional states) is not amenable to objective scoring, simply because the information required for such scoring is available only to the test taker. In some cases, it is possible to make use of physiological indices of emotion (e.g. electrodermal activity), but these have to be validated with reference to people's own reports of their feelings. Furthermore, when discrepancies arise, the self-reports must normally be accorded primacy (Watson, 2000).

We have chosen to focus primarily on the conceptual development and understanding of trait EI, which comprises emotion-related dispositions and self-perceived abilities and is measured through self-report. Note that this operationalisation of EI is congruent with the subjective nature of emotional experience and does not run into the aforementioned conceptual and psychometric challenges facing ability EI. We have sought to define trait EI operationally and empirically as well as to locate its position within established personality hierarchies. In doing so, we integrated scattered early findings into a comprehensive theoretical framework, which we labelled 'trait emotional

intelligence' in a clear effort to emphasise that our approach aligns the construct with personality traits rather than with cognitive abilities.

Even though intelligence is notoriously resistant to definition, especially following liberal interpretations like Gardner's (1983), trait EI cannot be classified as an intelligence in the traditional sense. This particular label emerged from the need to emphasise that most of the early work under the non-specific banner of 'emotional intelligence' was unwittingly and erroneously investigating a personality trait as if it were a cognitive ability (Petrides & Furnham, 2000, 2001). Although we have proposed 'emotional self-efficacy' as an alternative label that avoids the word 'intelligence', it must be understood that, in stark contrast to operational definitions, labels are scientifically unimportant.

Our research programme has led to the identification of the sampling domain of trait EI (see Table 1) and to its empirical definition as a constellation of emotion-related dispositions and self-perceived abilities representing a distinct composite construct at the lower levels of hierarchical personality structures (Petrides & Furnham, 2001). In addition, we, as well as others, have demonstrated the incremental validity of trait EI (how it compares with the predictive power of other measures) and its relevance both in the laboratory and in

various applied settings (e.g. Austin, 2004; Saklofske et al., 2003).

Measurement of EI
The popularity of EI resulted in an influx of measures, especially questionnaires. We now turn to a brief overview, but see Pérez et al. (in press) for more detail.

Trait EI measures There are many self-report measures of EI in the academic and commercial literatures. However, most have been developed without a clear theoretical framework, which is reflected in the fact that they purport to operationalise EI as a cognitive ability. Another limitation of early questionnaires is their incomplete coverage of the construct's sampling domain, as presented in Table 1. Most trait EI measures overlook core facets of the construct.

In an effort to address the conceptual shortcomings of early measures, we have embarked on the development of a comprehensive inventory predicated on the trait EI framework. The Trait Emotional Intelligence Questionnaire (TEIQue) provides several conceptual advantages over early trait EI measures and is available, free of charge, to academics for research purposes (see weblinks box for the research programme link). At this stage, however, it is not clear whether the conceptual advantages of the TEIQue translate into empirical advantages in terms

TABLE 2 Trait EI versus ability EI		
	Trait EI	**Ability EI**
Measurement	Self-report	Performance-based
Conceptualisation	Personality trait	Cognitive ability
Expected relationship to g	Orthogonal (i.e. uncorrelated)	Moderate to strong correlations
Construct validity evidence[a]	Good discriminant and incremental validity vis-à-vis personality	Limited concurrent and predictive validity
	Good concurrent and predictive validity with many criteria	Lower than expected correlations with IQ measures
Example measures	EQ-i	MSCEIT
	SEIS	
	TEIQue	
Properties of measures[a]	Easy to administer	Difficult to administer
	Susceptible to faking	Resistant to faking
	Standard scoring procedures	Atypical scoring procedures
	Good psychometric properties	Weak psychometric properties

Note: g = general cognitive ability; EQ-i = Emotional Quotient Inventory (Bar-On, 1997); SEIS = Schutte Emotional Intelligence Scale (Schutte et al., 1998); TEIQue = Trait Emotional Intelligence Questionnaire (e.g. Petrides & Furnham, 2003); MSCEIT = Mayer–Salovey–Caruso Emotional Intelligence Test (Mayer et al., 2002).

[a] Entries in these rows are generalisations and do not apply equally to all measures.

of predicting and, more importantly, explaining behaviour. A qualitative review of the existing evidence suggests that the various instruments tend to yield convergent findings. For example, as the theory would predict, trait EI measures consistently show very low correlations with IQ (e.g. Barchard, 2003). Nevertheless, indirect evidence of convergence must be complemented by a direct content analysis and quantitative assessment of the various measures in order to identify commonalities and discrepancies as well as relative strengths and weaknesses.

Ability EI measures There exist only a few measures of ability EI, most of which are iterations of pilot tests developed in the early 1990s. The latest version is the Mayer–Salovey–Caruso Emotional Intelligence Test (MSCEIT: Mayer *et al.*, 2002). Constructors of ability EI tests must grapple with the problem of developing a wide range of EI items that can be scored according to objective criteria and that can cover the sampling domain of the construct in its entirety. As discussed, this has proved difficult because the information that is necessary to assess central components of the construct (e.g. the intrapersonal component) is available only to the individual who is being assessed. In contrast to IQ tests, there are no clear right or wrong answers.

Figure 1 presents an abstract design of the type used in ability EI tests. In this example, participants are shown the abstract design and are asked to indicate, on a five-point Likert scale, the extent to which they believe that a series of distinct emotions (happiness, sadness, anger, etc.) are depicted in it. It should be clear that responses to such items cannot be objectively scored as correct or incorrect because there is no basis for determining the true emotional content of the items. For instance, participants may fiercely disagree about whether Figure 1 depicts sadness, as opposed to happiness, and there is no objective procedure for resolving such disagreements. To circumvent this problem, ability EI tests have employed alternative scoring procedures that attempt to create correct options among the various alternative responses. According to the general consensus scoring criterion, an item response is considered correct if it has been endorsed by the majority of participants in a normative sample, whereas

FIGURE 1 An abstract design of the type used in tests of ability EI to operationalise the construct as a cognitive ability.
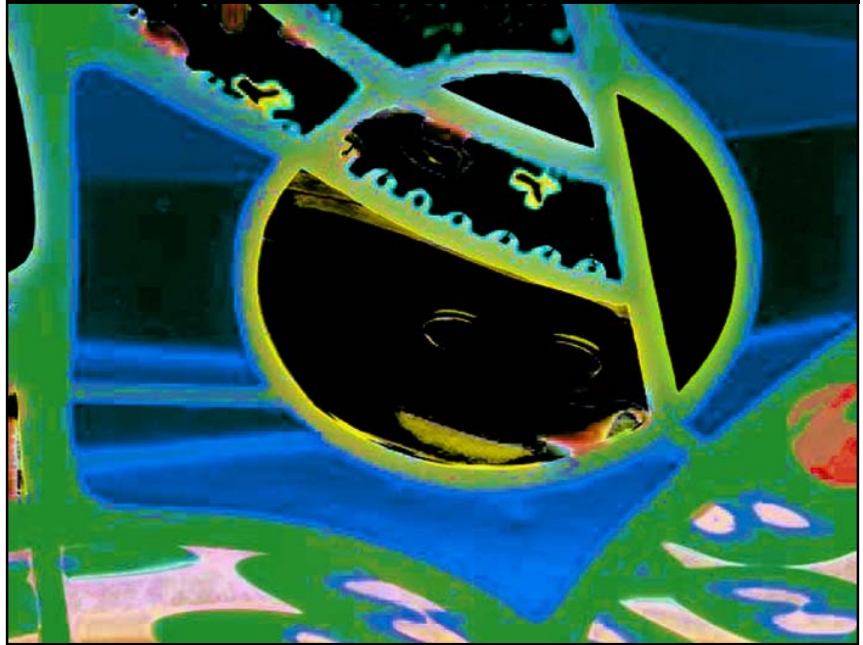
the expert consensus scoring criterion relies on consensus among experts in order to identify correct responses.

There are conceptual, psychometric, and empirical limitations in the application of these scoring methods (Roberts *et al.*, 2001). Furthermore, similar procedures have been used in the past to measure cognate constructs, such as social intelligence, without much success. The fact that ability EI tests, after over a decade of development and many iterations, continue to tackle issues of internal consistency and factor structure does not, in our view, augur well for the long term. Nevertheless, it must be stressed that these tests continue to be researched, and the jury is still out on their validity.

Criticisms of EI

EI research has been subject to intense criticism, some of which has been conducive to its progress (e.g. Matthews *et al.*, 2002). As regards warranted criticisms, a different set of questions faces the two EI constructs, which further highlights the need for their conceptual differentiation. Ability EI questions tend to focus on measurement issues, including the development of criteria for defining correct responses and the internal consistency, factor structure, and construct validity of the tests. In contrast, trait EI questions tend

to focus on the relationships of the construct to the major dimensions of personality, with special reference to issues of discriminant and incremental validity.

The criticism most frequently levelled against trait EI is that it is indistinguishable from the major personality dimensions. Recent work, however, has demonstrated the discriminant and incremental validity of trait EI against the Giant Three (psychoticism, extraversion, and neuroticism) and the Big Five (extraversion, neuroticism, agreeableness, conscientiousness and openness to experience) personality dimensions (e.g. Petrides & Furnham, 2003; Saklofske *et al.*, 2003).

Applications

The appetite for EI applications has been little short of voracious. It is somewhat surprising that the bulk of the interest has originated in work settings, given that the most directly relevant domain of application appears to be the clinical. With few exceptions, research in the clinical, educational and occupational domains has focused on trait EI. Perhaps the most concrete progress has been achieved in the educational domain, where evidence is accumulating that trait EI is implicated in academic performance and behaviour at school, with effects that are especially

relevant to vulnerable or disadvantaged individuals. More specifically, Reiff *et al.* (2001) found that college students with learning disabilities had lower trait EI scores compared with their peers without disabilities, and Petrides *et al.* (2004) showed that, among low-IQ pupils, those with high trait EI scores performed considerably better at school compared with their peers with low scores. We also found that low trait EI pupils had more unauthorised absences (truancy) and were more likely to have been excluded from school for antisocial behaviour.

With respect to organisational applications, the amount of empirical data available is in inverse proportion to the barrage of unsubstantiated claims. However, scientific research is beginning to emerge in this domain too. For example, Wong and Law (2002) provided evidence that trait EI may be positively related to job performance and job satisfaction.

In the clinical arena, the number of relevant studies is surprisingly small. Indeed, there is a pressing need for research in this domain, not only to elucidate how trait EI is implicated in emotional disorders, but also to extend the empirical basis of the construct.

As a general point, it is worth noting that the effect sizes in empirical studies of EI (both trait and ability) tend to be moderate and nowhere near the levels implied in various popular pieces (e.g. 'It's all about EQ not IQ').

Promising avenues

Much progress has been achieved in the few years since the early EI models were introduced. At least as far as trait EI is concerned, the conceptual basis of the construct is now established and several promising research avenues have opened up. These must be explored through cross-cultural, longitudinal, and developmental analyses, experimental studies of construct validity, and investigations of the sociobiological bases of the construct. Subject to the findings of ongoing studies, it may soon be possible to design, implement and, most importantly, evaluate the relevance and effectiveness of intervention programmes. In all cases, practitioners should scrutinise any intervention programmes they plan to use, because many do not seem to be predicated on scientific research.

Early research (Slaski & Cartwright, 2003) suggests that some interventions

may effect a moderate increase in trait EI scores, though the implications and duration of the gains are still unclear. The development programme used in that case was based on the work of Cherniss and Adler (2000) and involved a combination of techniques, including short lectures, discussions, role plays, and emotions diaries. Participating managers received training in groups of 12 for one day a week over a period of four weeks. The programme focused on how to regulate emotions, how to recognise them in others, and how to understand the impact of one's behaviour on other people's feelings.

Current research on EI is often worthwhile, interesting and of a high scientific standard. We believe this research will slowly, but fruitfully, develop into a distinct variation on classical personality theory. In other words, we believe that the future of EI lies in its conceptualisation as a personality trait (i.e. trait EI). In any case, the only route out of pre-paradigmatic

confusion entails recognising that trait EI and ability EI are two different constructs, conceptually, methodologically and empirically. Understanding this distinction and its attendant implications will help clarify misunderstandings, rectify problems and accumulate systematic research evidence in the field.

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