

Emotional intelligence: A promise unfulfilled?

GERALD MATTHEWS^{1*} *University of Cincinnati*

MOSHE ZEIDNER *University of Haifa*

RICHARD D. ROBERTS *Educational Testing Service*

Abstract: Emotional intelligence (EI) is a relatively new construct in differential psychology. Proponents of EI have made strong claims for its importance in basic and applied psychology. This article considers whether the promise of EI has been fulfilled. We examine various fundamental challenges to establishing EI as a major individual differences factor, including cross-cultural issues. We then examine strategies for assessing EI as a personal quality distinct from general intelligence and personality, and evaluate leading tests and scales for EI. Various sources of validity evidence demonstrate the value of research on EI, but we also identify various weaknesses of existing instruments. It appears that there is no strong, over-arching general factor of EI that shapes human emotional functioning across a range of diverse contexts. Instead, we advocate a “multipolar” conception of EI that discriminates temperament, information-processing, emotion-regulation and acquired skills. Focusing research on more narrowly defined but conceptually coherent research domains may be a more productive strategy than seeking to define an all-embracing general EI.

Key words: emotional intelligence, emotion, ability, personality, psychological assessment.

Emotional intelligence: A promise not fulfilled?

Emotional intelligence (EI) may be broadly defined as a set of aptitudes, competencies, and skills for managing emotion and emotive encounters (Zeidner, Roberts, & Matthews, 2009). From a Western philosophical perspective, the concept of EI may be framed within the unresolved tension between seeing emotions as inferior to reason versus valuing emotions as a guide to action. The Stoic philosophy of ancient Greece exemplifies the view that passionate emotions are dangerous, causing people to act foolishly in fits of anger or exuberance. Western thinking remains colored by the ratio-

nalist values of the Enlightenment, with an emphasis on reason as the principal means for guiding human affairs.

By contrast, other philosophical schools of thought, such as 18th century Romanticism, have valued emotion and inspiration over a reductionist analysis of the natural world. Emotions may provide a way of understanding the world that is inaccessible to logic: in Blaise Pascal’s phrase, “The heart has its reasons which reason knows nothing of.” The late 20th century seems to have seen a revival in the cultural fortunes of emotions, which are increasingly seen as critical for providing motivation, purpose, and meaning in everyday life (Leahy, 2007).

*Correspondence concerning this article should be sent to: Gerald Matthews, Department of Psychology, University of Cincinnati, Cincinnati, OH 45221-0376, USA. (E-mail: gerald.matthews@uc.edu)

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It is against this philosophical and cultural background that the new concept of EI has become increasingly prominent in psychology. Studies of EI may be seen as a development of conventional intelligence research. Some of the pioneers of IQ testing, including Edward Thorndike and David Wechsler, appreciated that intelligence, in the broader sense of insightful, purposeful adaptation to environmental demands and opportunities, requires more than abstract reasoning ability (Wechsler, 1974).

Howard Gardner's (1983) influential theory of multiple intelligences discriminated two types of intelligence that pre-date EI. *Interpersonal* intelligence refers to the ability to understand other people's thoughts, feelings and emotions (corresponding to social intelligence). *Intrapersonal* intelligence describes abilities related to self-understanding and wisdom in guiding the course of one's life. Another distinguished intelligence theorist, Robert Sternberg (1985), emphasized the importance of practical intelligence as a construct distinct from the general academic ability measured by IQ tests. Real-world success may depend on "tacit knowledge" that is implicit, intuitive, and dependent on experience.

Peter Salovey and Jack Mayer are generally credited with performing the first systematic program of research on EI in the 1990s (Salovey & Mayer, 1990). Their work presented a coherent conceptual model of EI, which differentiated multiple aspects or branches of emotional abilities, such as emotion perception and emotion management. They also developed a series of tests for assessment of EI, culminating in the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT; Mayer, Salovey, Caruso, & Sitarenios, 2003), which has been widely used in research. The MSCEIT is modeled on conventional ability tests, to the extent that items are considered to have right or wrong answers, so that it assesses a genuine ability.

Interest in EI has been inspired not just by academic research on the nature of intelligence, but also by practical concerns. It has been evident from the beginnings of the study of psychology that difficulties in managing emotions contribute to a wide range of

personal and societal woes, including mental disorders, delinquency, criminality and the breakdown of communal values (Zeidner et al., 2009). Programs were developed in education to address specific issues such as drug and alcohol abuse, and in organizational psychology to mitigate work stress. The origins of many of these interventions predate work on EI, but they may be reconfigured as efforts to enhance social-emotional functioning (Elias, Kress, & Hunter, 2006). An influential best-selling popular book, Goleman's (1995) *Emotional intelligence*, picked up on the possible social benefits of raising EI, arguing that training EI might be a remedy for all manner of social ills. Indeed, programs in education have been shown to be quite effective. A recent review and meta-analysis (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011) showed that such programs are quite effective in improving social and emotional skills, attitudes, social behaviors, and even grades.

The initial wave of enthusiasm for EI in both psychological science and popular culture was followed by both data and some skeptical reactions (Brody, 2004; Davies, Stankov, & Roberts, 1998; Landy, 2005). Our initial book on the topic (Matthews, Zeidner, & Roberts, 2002) highlighted various problematic issues:

- 1 *Lack of clarity of conceptualization.* In some authors' accounts, the concept of EI seemed to be stretched to include almost any positive quality that was not academic intelligence, such as having good moral character. The core qualities of EI seemed poorly defined.
- 2 *Lack of a "gold standard" for measurement.* One of the strengths of conventional intelligence testing is that different tests are typically highly correlated (convergent validity evidence), so that standardized assessment is possible. However, the various tests of EI that have emerged are not necessarily inter-related (Matthews, Zeidner, & Roberts, 2007). In particular, questionnaire measures of EI became popular, but they do not correlate substantially with ability-test

measures such as the MSCEIT (Van Rooy, Viswesvaran, & Pluta, 2005).

- 3 *Overlap with existing constructs.* If EI is a distinctive quality, tests should not correlate too highly with existing ability and personality constructs (discriminant validity evidence). The MSCEIT in fact shows good divergence from other constructs, but it soon became apparent that questionnaire measures failed this test, showing correlations as high as 0.6–0.7 with personality traits, such as those of the Five Factor Model (Dawda & Hart, 2000).
- 4 *Lack of theoretical understanding.* Much early work on EI was descriptive in nature, focusing on drawing up lists of relevant qualities rather than exploring underlying neurological and psychological processes in depth. By contrast, conventional intelligence may be shown to be supported by fundamental cognitive processes such as stimulus encoding, working memory, and executive control (and their neural substrates).
- 5 *Limitations in criterion-related validity evidence.* Tests for EI were shown to have some criterion validity in early studies (Mayer, Salovey, & Caruso, 2000; Schutte, Malouff, Hall, Haggerty, Cooper, Golden, & Dornheim, 1998), but this research also had limitations. Very often, the criteria linked to EI were questionnaire assessments (e.g. self-reported well-being or job satisfaction) leaving open the extent that EI predicts meaningful outcomes. In addition, much of the criterion validity of questionnaire measures of EI seemed to derive from their overlap with established personality traits such as emotional stability (low neuroticism) and extraversion, threatening the discriminant validity of EI.
- 6 *Uncertain practical relevance.* As noted already, there is solid evidence for the effectiveness of well-designed training programs for social-emotional learning (Durlak et al., 2011; Elias et al., 2006), although some interventions of this type are poorly designed and evaluated (Zeidner, Roberts, & Matthews, 2002). However, it is

unclear that increasing EI is central to the benefits of training. Often, some very specific skill such as “saying no” to drugs is targeted, and there may be no more general enhancement of social-emotional functioning.

- 7 *Cultural influences on EI.* In writing for *Japanese Psychological Research*, we wish particularly to highlight cultural issues. The extent to which EI, as a construct derived largely from Western psychology, could be universally applicable remains unclear. Although basic emotions are considered universal, display rules and other aspects of emotional functioning may be culture-bound (Mesquita, 2001). Thus, adaptive emotional behaviors may vary from culture to culture. Also, research on EI tends to focus on possible benefits for the individual such as personal well-being and social and career success. A concept of EI relevant to East Asian cultures may be different in several respects from the Western model.

First, such cultures have a more collectivist experience of both positive and negative emotions. For example, Japanese people appear to be more prone to socially engaging emotions, such as friendly feelings and guilt, whereas North Americans experience disengaging emotions, such as pride and anger, more intensely (Kitayama, Mesquita, & Karasawa, 2006). Furthermore, in Japan, general subjective well-being is more closely linked to engaging one’s positive emotions than to disengaging emotions, a pattern that tends to reverse in the USA (Kitayama et al., 2006). Thus, if EI is defined in relation to emotions that promote personal well-being, its conceptualization would be somewhat different in the two countries. At the same time, we should not ignore cross-cultural similarities in emotional functioning. For example, although Japanese and Chinese respondents obtain lower average scores on self-esteem scales, relative to the USA, self-esteem appears to have the same functional relationship to well-being in all these cultures (Yamaguchi, Lin, Morio, & Okumura, 2008).

Second, there may be cross-cultural differences in the intrinsic value placed on emotions. In Western thought, following Darwin, all emotions are seen as essentially adaptive, although sometimes subject to misregulation. By contrast, Ekman, Davidson, Ricard, and Wallace (2005) point out that Indo-Tibetan Buddhism sees certain emotions as being intrinsically beneficial or harmful. Examples of the latter are cravings for some desirable object, hatred, jealousy, and arrogance (compare, for example, Buss's, (2000) evolutionary account of jealousy). Interestingly, Ekman et al. (2005) also describe trait-like concepts from Buddhism that might loosely be seen as corresponding to high and low EI. The Sanskrit term "sukha" refers to a condition of happiness and flourishing that reflects mental equilibrium and awareness of the true nature of reality. Conversely, "duhkha" expresses a vulnerability to suffering resulting from basic misapprehensions of reality, including harmful emotional reactions.

Third, Western theories of emotion are prone to fractionate the construct into multiple psychological processes (or even brain systems). Much writing on EI is based on the idea of a sharp separation of cognition and emotion, expressed in the classical metaphor of the charioteer (cognition) steering the horses that pull the chariot (emotion) (Leahy, 2007), although some authors have argued for a more integrated perspective (Averill, 2007). By contrast, "Eastern healing traditions respect individuals as unique entities living in the fluid dynamics of complex personal-relational, environmental-physical and philosophical-moral interactions of men with the universe" (Chan, Ng, Ho, & Chow, 2006). Similarly, Ekman et al. (2005) point out that Buddhism does not make sharp distinctions between emotions and other mental processes. From these holistic perspectives on emotional and spiritual well-being, it may be difficult to sustain the Western notion of EI as a distinctive "thing in the head" of the individual.

Thus far, studies of EI have largely ignored such cultural factors. Typically, researchers have taken English-language tests for EI and translated them into other languages with the aim of comparing psychometric properties across cul-

tures, with rather mixed outcomes (Ekermans, Saklofske, Austin, & Stough, 2011; Sharma, Deller, Biswal, & Mandal, 2009). In Japan, psychometric studies include those reported by Fukunishi, Wise, Sheridan, Shimai, Otake, Utsuki, and Uchiyama (2001) and Toyoda and Kawahashi (2005). However, the mean differences in test scores sometimes reported are hard to interpret, in the absence of any theory relevant to interpreting cultural differences. Doubts about the construct validity of EI also make it difficult to perform meaningful cross-cultural comparisons.

In sum, EI is a construct that is promising as a way towards greater theoretical and practical understanding of emotional functioning. However, establishing a strong scientific case for its relevance to theory and practice faces a number of severe challenges and obstacles, including uncertainty over its cross-cultural generalization. In the remainder of this article, we first identify the problem of measurement as a key issue. Without reliable and valid assessment of EI, using standardized tests, research progress is unlikely. We then review attempts to develop ability tests for EI, with right or wrong answers similar to conventional intelligence tests. We focus primarily on the Mayer-Salovey tests (Mayer et al., 2003), but we will also discuss some alternative measurement strategies, including recent interest in situational judgment tests. Next, we consider whether EI can be measured by self-report items contained in questionnaires, and identify difficulties with this approach. In the final part of this article, we propose that EI may be best understood as a collection of rather different types of construct that may be only weakly inter-related, rather than as a unitary factor akin to general intelligence ("IQ"). This "multipolar" approach may resolve the various problematic issues just discussed.

Measurement strategies

Conventional intelligence tests have the advantage of veridical scoring. That is, an objective determination of the right answer can be made

for each test question, for example, by reference to the laws of geometry or the dictionary meaning of words. A central problem for the development of tests of EI is the lack of a clear rationale for scoring test items on a right or wrong basis. For example, test items might ask the respondent to indicate the best way to resolve an emotive situation, such as dealing with an angry colleague at work. We may informally judge that some responses (e.g. talk to the person calmly) are better than others (e.g. punch him in the face), but there is no independent criterion for making the judgment. Indeed, attempts to develop tests for social intelligence foundered in part because of this problem (Cantor & Kihlstrom, 1987).

There are several types of solution to the scoring problem. A popular approach has been to avoid the scoring issue altogether by relying on questionnaire assessments. Perhaps, people are able to report on various attributes of EI such as effective mood regulation and social skills, so that there is no need to test EI directly (Bar-On, 2000). Questionnaires have the advantage that we can probe real-life events (more accurately, memories of events), but self-reports of emotional functioning may be vulnerable to a variety of distortions and biases (Paulhus & John, 1998).

Other researchers have persisted in trying to develop objectively scored tests. The most easily justified approach is to use speeded tasks that require processing emotional stimuli, and recording response latency and accuracy. For example, Austin (2005) used an “emotional inspection time” test that required participants to discriminate briefly presented, masked facial emotion stimuli. Similarly, the emotional Stroop test (Mathews & MacLeod, 1985) provides an objective index of the person’s ability to ignore irrelevant emotional information. In addition, facial expressions of emotions are sufficient to develop objective tests of facial emotion recognition, such as the JACBART (Matsumoto, LeRoux, Wilson-Cohn, Raroque, Kooken, Ekman, Yrizarry, Loewinger, Uchida, Yee, Amo, & Goh, 2000). The strengths and weaknesses of using processing tasks are the obverse of those of questionnaires. They afford

objective performance measures, but their relevance to the complex social-emotional scenarios of real life is questionable.

In developing their initial ability test, the Multi-factor Emotional Intelligence Scale (MEIS; Mayer et al., 2000), Mayer and Salovey used neither of the scoring methods that we have described. Instead, they adopted two approaches that are novel for ability testing. The first scoring method was “consensus scoring.” The assumption is that groups possess a collective knowledge of emotion (Legree, Psotka, Tremble, & Bourne, 2005), sometimes called the “wisdom of crowds,” that can be used to assess the test taker’s responses. The test is administered to a large sample, representative of the population of interest, and the group response is determined. The individual then receives credit for accurate response to the extent that the individual’s answers to questions match the group consensus. An advantage of consensus scoring is that it may accommodate cultural differences in that the group consensus for response can be established separately for different cultures. Mayer and Salovey’s second scoring method was “expert scoring.” They recruited a panel of experts on emotion, such as academic psychologists, to use their professional judgment to determine the best answers to the test questions, providing a means for scoring the responses of the individual.

Both methods are open to criticism (MacCann, Roberts, Matthews, & Zeidner, 2004). It is questionable whether group consensus is necessarily correct: in many cultures consensus has historically included negative views of racial minorities, for example. In addition, consensus scoring penalizes the “emotional genius” who has an understanding beyond the norm. On a difficult intelligence test item, only a minority of respondents will select the correct response. Consensus scoring judges the most popular incorrect answer to be right, favoring conformity over unusual insights. Expert scoring also has its difficulties. Academics with expertise in emotion may have more knowledge of psychological theory than of emotion management in real-life settings. Experts may also be prone to the prejudices of their culture.

Table 1 The Mayer-Salovey four-branch model of emotional intelligence as represented within the Mayer-Salovey-Caruso Emotional Intelligence Test

Level	Abilities and indicators			
General	Emotional intelligence			
Areas	"Experiential EI" is the ability to perceive, respond, and process emotional information without necessarily understanding its meaning		"Strategic EI" assesses ability to understand and manage emotions without necessarily experiencing the feelings of emotion	
Branches	The ability to "Perceive Emotions" in faces and pictures	"Facilitating Thought" by cognitive processing of emotions	"Understanding Emotions" and how they blend and change over time	"Managing Emotions" by using feelings to create better outcomes
Tests	<ul style="list-style-type: none"> • Rating emotions in faces • Rating emotions in pictures 	<ul style="list-style-type: none"> • Judging the similarity of emotions to physical sensations • Rating the helpfulness of moods within specific scenarios. 	<ul style="list-style-type: none"> • Assessments of which combinations of emotions form complex, blends of emotions. • Assessments of which emotions are related to particular situations. 	<ul style="list-style-type: none"> • Ratings of effectiveness of various actions for managing one's own mood in various scenarios • Ratings of effectiveness of various actions for managing the moods of others in various scenarios

Note. EI = emotional intelligence.

The point here is that measurement of emotional competency is highly challenging. Indeed, in many real-life settings it is unclear that there is any one "correct" answer to an emotional dilemma. The various methods we have outlined may each be acceptable for certain aspects of emotional functioning, and, of course, each method can be evaluated in relation to the empirically demonstrated validity of test scores. For example, although self-reports appear highly suspect as a means for measuring ability, perhaps questionnaires will prove to have meaningful relations with valued outcomes such as work performance, personal well-being and satisfying social relationships. We will turn next to the success and failures of the different forms of assessment of EI, focusing particularly on the Mayer-Salovey ability tests, and questionnaire measures.

Ability tests for emotional intelligence

In this section, we provide a brief appraisal of the Mayer-Salovey tests (see Rivers, Brackett,

Salovey, & Mayer, 2007, and Roberts, Schulze, & MacCann, 2008, for more extended reviews), as well as surveying some alternate measurement approaches.

The Mayer-Salovey tests

Mayer and Salovey's (1993) four-branch model represents one of the more coherent conceptual accounts of EI (see Table 1). The first two branches, emotion perception and assimilation of emotion into thought, are sometimes grouped together as "Experiential EI." They form a foundation for the remaining branches, grouped together as "Strategic EI," which is emotion understanding and emotion management. In developing the MEIS and MSCEIT tests, Mayer and Salovey used the four-branch model as a means for developing tests representing each branch. The MSCEIT (Mayer et al., 2003) has two tests per branch. Fortunately, the branch scores tend to correlate positively, so that a total EI score can be justified. There are two kinds of issue to consider in evaluating the tests. The first is whether the basic psychometric properties of the tests, such

as reliability, are acceptable. The second is whether the test scores are supported by a range of validity evidence.

Psychometric properties. In fact, the MSCEIT provides highly reliable measurement of overall EI (Cronbach's $\alpha > 0.90$), and scores are stable over time. Most of the branch and subtest scores also have acceptable internal consistency. Although we questioned the rationales for consensus and expert scoring above, Mayer et al. (2003) showed that consensus and expert scores converged quite highly. Mayer et al. (2003) demonstrated that the factor structure of the MSCEIT fits the four-branch model. Where psychometric problems have emerged they have primarily concerned the Assimilating Emotions factor. The test scores for this branch may be somewhat low in reliability, and, contrary to the initial analysis of Mayer et al. (2003), it has proven difficult to recover Assimilating Emotions as a separate construct in factor analysis (Barchard & Hakstian, 2004; Roberts, Schulze, O'Brien, MacCann, Reid, & Maul, 2006).

Criterion-related validity evidence. On the one hand, quite extensive research has shown that the MEIS and MSCEIT are reasonably successful in predicting various indices of well-being (Rivers et al., 2007). On the other hand, in controlled laboratory settings, the MSCEIT appears to be only weakly related to more adaptive coping (Matthews, Emo, Funke, Zeidner, Roberts, Costa, & Schulze, 2006). The MSCEIT may relate particularly to interpersonal functioning. For example, Lopes, Brackett, Nezlek, Schütz, Sellin, and Salovey (2004) obtained self- and peer-ratings of the person's quality of social interaction with friends. The MSCEIT Managing Emotions branch (but not the other three branches) predicted higher ratings. There is also some evidence for the clinical relevance of MSCEIT scores. Test scores were lower in various patient groups, including those with major depression, borderline personality disorder (BPD), and substance abuse disorder (SAD) (Downey, Johnston, Hansen, Schembri, Stough, Tuckwell, &

Schweitzer, 2008; Hertel, Schütz, & Lammers, 2009). Lumley, Gustavson, Partridge, and Labouvie-Vief (2005) found small but statistically significant negative correlations are found between the MSCEIT and alexithymia. This term refers to difficulties in verbalizing, understanding and communicating emotion, and so overlaps conceptually with low EI. Various emotional disorders are associated with alexithymia.

High hopes have been expressed for the importance of EI in job performance, captured by claims that high EI may even be more important than IQ for success in business (Cooper & Sawaf, 1997). Such claims are justified by the importance of group interactions at work, and of coping with job stress (Goleman, 1998). The hypothesis that high EI is associated with superior job performance is harder to test than it seems. A fundamental difficulty is that objective measures of job performance are often lacking. Research on individual differences in performance at work often relies on indirect measures, such as supervisor ratings, or even self-ratings. Such ratings may be biased by other personal characteristics of the employee. Indeed, an employee who was emotionally intelligent in the sense of being charming and socially skilled might receive a high performance rating, even if, objectively, his or her performance was undistinguished. Furthermore, there is a lack of research on the specific processes, competencies and skills that may mediate associations between EI and job performance.

A number of studies have used the MSCEIT or MEIS as predictors of job performance. Van Rooy and Viswesvaran (2004) conducted a meta-analysis of studies that attempted to predict job performance using a variety of different measures of EI. Eight of these studies used the MEIS. The meta-analysis estimated the true correlation (ρ) between the MEIS and performance at 0.19. This correlation exceeds zero, but compared with findings for general mental ability is quite small in magnitude. By comparison, Schmidt and Hunter (1998) estimated that the true correlation between general intelligence and job performance was 0.53.

Subsequent studies using the MSCEIT present a rather mixed picture. Both Bradberry and Su (2006) and Harms and Crede (2010) failed to find any significant correlation between the MSCEIT and leadership job performance. However, a study of an insurance company showed that MSCEIT scores related positively to company rank and pay increases for merit (Lopes, Grewal, Kadis, Gall, & Salovey, 2006). A recent investigation of undergraduate students performing group project work related to business studies also substantiated that the MSCEIT was associated with leadership (Côté, Lopes, Salovey, & Miners, 2010).

More recent reviews of the relevance of EI to occupational psychology (Cherniss, 2010; Jordan, Ashkanasy, & Ascough, 2007) have tended to make more modest claims for the relevance of EI to the work environment, emphasizing its role in organizational commitment, job satisfaction, and morale. It is also plausible that EI is associated more strongly with performance in certain jobs and not others. Joseph and Newman (2010) focused on the role of emotional labor, that is, the need to regulate emotional expression. In some service jobs, employees are required to always appear friendly and cooperative (e.g. service jobs), whereas in others (e.g. accounting), such emotional displays may be viewed with suspicion. They updated the Van Rooy and Viswesvaran (2004) meta-analysis and also tested whether the relationship between EI and job performance varied with emotional labor. Overall, they confirmed that performance-based EI (measured by MEIS or MSCEIT) was only weakly related to job performance (estimated correlation, $\rho = 0.17$). Consistent with their prediction, the correlation was larger for high emotional labor jobs ($\rho = 0.23$) than for low emotional labor jobs ($\rho = 0.01$). With personality and general intelligence controlled, the association between EI and performance on high emotional labor jobs was reduced, but still significant. Joseph and Newman (2010) cautioned that the effect size for the association is modest, but it suggests the potential for further research to identify the exact work settings in which EI is most adaptive.

Construct validity evidence. Establishing construct validity for a test of EI begins with considering its convergence with conceptually related measures, and divergence from unrelated measures. Convergent evidence requires that the MEIS and MSCEIT correlate substantially with other alternate tests for EI. Here, problems arise. Two meta-analyses have concluded that ability tests are only minimally related to questionnaire assessments of EI (Joseph & Newman, 2010; Van Rooy et al., 2005). Indeed, on occasion, the two types of assessment may provide conflicting outcomes. Zeidner, Shani-Zinovich, Matthews, and Roberts (2005) examined EI in a sample of intellectually gifted children, selected for special classes. Confusingly, gifted children scored above the mean on the MSCEIT, but were relatively low in EI according to a questionnaire measure. As further discussed below, one might argue that questionnaires are simply not appropriate for measuring any kind of intelligence, in which case the lack of convergence is not problematic. More troubling are failures of MSCEIT scores to converge with objective tests of emotion processing, such as Matsumoto et al. (2000) the JACBART test and other performance tasks (Farrelly & Austin, 2007; Roberts et al., 2006).

In addition, MSCEIT scores should diverge from other ability or personality constructs, or we risk simply measuring an existing construct using a new label. The relations between the MSCEIT, general cognitive ability, and the Five Factor Model (FFM) of personality have been quite extensively investigated. Meta-analyses (Roberts et al., 2008; Van Rooy et al., 2005) have found that the Mayer-Salovey tests are moderately related to general ability, and more weakly associated with personality. For example, Van Rooy et al. (2005) reported a ρ of 0.33 for the association between EI and general ability. In the Roberts et al. (2008) study, the strongest association was between crystallized ability and the Emotion Understanding branch of the MSCEIT ($\rho = 0.38$). Other MSCEIT branches were only weakly related to ability (ρ s < 0.20). Fluid intelligence was not strongly related to any branch (ρ s < 0.20). In analyses of

personality, Roberts et al. (2008) also found only one $\rho > 0.20$ (agreeableness vs. MSCEIT Managing Emotion: $\rho = .27$). Most authors, such as Roberts et al. (2008), have concluded that the MSCEIT shows good discriminant validity; some level of association with general intelligence is to be expected on the basis that all mental ability tests should correlate positively to some extent (Spearman, 1923).

Construct validity also requires that we can develop interpretations of test scores based on theory. Here, the validity of the MSCEIT is open to question. The test provides a coherent descriptive scheme of different aspects or branches of EI, but the psychological meaning of the branches is less clear (Zeidner et al., 2009). For example, Fiori (2009) argues that the four branches of EI in the Mayer-Salovey model may depend on both explicit processes, accessible to consciousness, and implicit, “automatic” processes. Currently, it is difficult to say how someone who scores highly on the Emotion Management branch, for example, processes information about an emotional encounter differently from someone with a lower score.

Overall, we may arrive at a rather mixed appraisal of the Mayer-Salovey tests. Although some psychometric issues remain (Fiori & Antonakis, 2011), for the most part it seems that the MEIS and MSCEIT tests assess elements of emotional functioning beyond those picked up by conventional ability and personality measures. Furthermore, these ability tests have some incremental validity over general intelligence and the FFM in predicting criteria related to effective emotional and social functioning (Lopes et al., 2004; Martins, Ramalho, & Morin, 2010). The typically modest magnitudes of the validity coefficients (correlations are often less than 0.3) suggest that whatever qualities are assessed by the MSCEIT are helpful, but not of critical importance, in real-life settings. For further progress, it is also imperative that the bases of the MSCEIT at a processing level can be better specified.

Other ability tests

Before turning to questionnaire assessments, we also look briefly at other strategies for mea-

suring EI as a true ability or intelligence. In general, these approaches have been used to only a limited degree in research and practice, so it is difficult to provide any conclusive evaluation of their worth. We present them here with the aim of suggesting alternative directions for ability-based assessment. There are too many techniques that have been used to assess one or other aspect of emotional competence to review them all here, but we will identify three general themes.

Emotional information processing. We have already noted that there is a variety of tasks that assess the speed and accuracy of response on simple tasks requiring processing of emotional stimuli, such as Austin’s (2005) emotional inspection time task. The majority of efforts of this kind have focused on emotion perception (e.g. facial emotion). One of the more comprehensive tests of this kind is the Multimodal Emotion Recognition Test (MERT) developed by Bänziger, Grandjean, and Scherer (2009). They used actors to portray dynamic expressions of 10 emotions, in both visual and auditory sense modalities, as they deliver nonsense sentences, giving the impression of listening to an unknown foreign language. Respondents must identify the emotion portrayed. The test has quite good psychometric properties as a measure of emotion recognition. Scores correlate substantially with other emotion perception tests (convergent evidence) but only to a small degree with general intelligence and personality (discriminant evidence). Bänziger et al. (2009) found that the MERT assesses largely independent factors of visual and vocal emotion recognition. The separation of factors calls into question whether the emotion perception component of EI can be treated as a unitary dimension. The main limitation of the test (as with other information-processing tasks) is that its relations with real-world criteria for emotional competence are unknown.

Clearly, there are many other information-processing tasks that might be used in addition to those based on emotion perception. Atten-

tion, perception, decision making, and memory all appear to be promising fields for developing systematic tests that might measure specific emotional abilities. For example, the Stroop test has been widely used in attention research, and it may be administered as a systematic group test to measure individual differences in selective attention (Hakoda & Sasaki, 1990; Song & Hakoda, 2011). The standard Stroop forms the basis for the emotional Stroop test, which specifically measures selective attention to irrelevant emotional attributes of the stimulus, and may relate to EI (Hakoda, Komatsu, Koizumi, Tanaka, Sonoda, & Nakamura, 2009). Modern dimensional models of information-processing may be used as a basis for testing. For example, the Miyake, Friedman, Emerson, Witzki, Howter, and Wager (2000) model of executive processing has proved to be a useful framework for understanding effects of anxiety on information processing (Eysenck & Derakshan, 2011), and it may be of value to look at EI in relation to executive control of emotion.

The extent to which specifically emotional processing abilities exist remains unclear. For example, Fellner, Matthews, Funke, Emo, Zeidner, Pérez-González, and Roberts (2007) found that a single ability (correlated with fluid intelligence) appeared to account for individual differences in visual search for facial emotion and search for non-emotive target stimuli. However, the measurement of emotional abilities using speeded processing tasks appears to be a fruitful avenue for future research.

Emotion in language and thought. One of the key conceptual themes of EI research is that integrating emotions into thought using language is beneficial. For example, in several studies, Pennebaker (Pennebaker & Beall, 1986) found that writing about emotional, potentially distressing events leads to benefits in well-being and even in physical health. The person's use of emotion language may also be analyzed objectively, using computerized language analysis (Tausczik & Pennebaker, 2010).

Lane (2000) developed a language-based test of emotional awareness on this principle, the Levels of Emotional Awareness Scale (LEAS). Lane describes five levels of increasing sophistication in organizing emotional experience, ranging from physical sensations to complex blends of emotional experience. The LEAS presents respondents with emotive scenarios, and asks them to describe the feelings of both a protagonist in the scenario, and themselves. Computer scoring is now available to determine complexity and differentiation in the respondent's use of emotion words (Barchard, Bajgar, Leaf, & Lane, 2010). Scores on the LEAS have been shown to relate to clinical criteria in studies of patients with emotion disorders, including brain-imaging criteria (Frewen, Lane, Neufeld, Densmore, Stevens, & Lanius, 2008). One concern is that complexity of language use may simply reflect verbal ability rather than any emotional ability (Matthews et al., 2002). In addition, the LEAS seems to be poorly correlated with other measures of EI (Lumley et al., 2005).

Another language-based approach is through conditional reasoning tests (James, McIntyre, Glisson, Green, Patton, LeBreton, Frost, Russell, Sablinski, Mitchell, & Williams, 2005). On these tests, respondents answer questions that appear to require reasoning, such as selecting between various reasons for the decline in the US market share obtained by American car manufacturers. In fact, the test assesses not reasoning but the respondent's willingness to endorse justifications that include aggressive content (such as hostility towards foreign manufacturers in the example given). A recent meta-analysis (Berry, Sackett, & Tobares, 2010) showed that conditional reasoning tests for aggression were modestly but significantly correlated with counterproductive work behaviors. Although not a measure of EI per se, the conditional reasoning test appears to provide an innovative means of testing the extent to which the person's thought processes may be biased by emotions. In the content of aggression, such bias may indicate a lack of emotionally sound judgment.

Situation Judgment Tests (SJTs). A persistent issue for measurement is that it is difficult for test developers to simulate or represent the kinds of complex real-life dilemmas for which EI may be most important. SJTs are quite a well-established approach towards evaluating individual differences in responding to realistic scenarios (Motowidlo, Dunnette, & Carter, 1990). An SJT is linked to a specific context, such as contributing to team performance at work. Normally, experts on that context contribute to item development. Each item describes a critical incident, in some detail, and presents a set of response options. Experts in the domain of interest determine the optimal response. SJTs are a useful tool for personnel selection because they predict job performance over and above standard ability and personality measures (McDaniel, Hartman, Whetzel, & Grubb, 2007).

SJTs might be used for the measurement of EI, by assessing the person's responses to relatively complex emotional scenarios (Schulze, Wilhelm, & Kyllonen, 2007). Indeed, the MSCEIT subtests that assess emotion management in self and others take the form of rather simple SJTs, in that each item describes an emotionally challenging situation, and asks the person to rate different response options. MacCann and Roberts (2008) developed two new SJTs for facets of EI: the Situational Test of Emotional Understanding (STEU) and the Situational Test of Emotion Management (STEM). Both are based on theories of emotion, such as appraisal theory. They also sample systematically from personal and work-related contexts. In a series of studies, MacCann and Roberts (2008) showed that both STEU and STEM were appropriately correlated with a range of measures of emotional functioning, such as lower levels of alexithymia and distress. The two SJTs also predicted grades on a psychology course, even with vocabulary and personality controlled. The method appears promising.

A general limitation of the SJTs we have discussed so far is that they rely on verbal descriptions of critical incidents. Thus, they lack the richness of actual emotional

events in which we can view facial expressions and body postures, listen to vocal intonations, and follow the dynamic interchanges between different individuals. Recently, SJTs have appeared that use multimedia presentations, that is, videos with sound that portray realistic social interactions. The higher fidelity of multimedia may lead to greater validity in predicting criteria such as leadership and teamwork skills (Christian, Edwards, & Bradley, 2010). Recently, Roberts, Betancourt, Burrus, Holtzman, Libbrecht, MacCann, Matthews, Minsky, Naemi, and Schulze (2011) have developed a multimedia SJT for EI, using professional actors to follow emotional scenarios, such as dealing with an incompetent co-worker. Response options are also filmed. Initial findings suggest that scores on the SJT are related to appropriate criteria such as experiencing positive affect during social interactions. The research is still at an early stage, but it suggests the potential for assessing EI using the naturalistic simulations that are possible using technology. Eventually, tests may be based on immersive virtual realities.

Questionnaires for emotional intelligence

Next, we examine the other popular means for assessment of EI, using questionnaires that rely on the person's self-reports of their emotional functioning. Our coverage here will be relatively brief, because we believe that questionnaire assessments are more appropriate for measuring personality than for assessing true abilities or intelligences.

Early studies: "Mixed-model" assessments

Questionnaires for EI started to appear soon after Mayer and Salovey's pioneering work, such as those by Bar-On (2000) and Schutte et al. (1998). Early measures were based on what Bar-On (2000) termed the "mixed model" of EI. That is, emotional competence was said to reside in both conventionally defined abilities

and personality traits such as assertiveness that might facilitate the practical expression of abilities. On the face of it, using questionnaires to assess ability seems highly questionable. Research on conventional measures of intelligence shows that self-assessments of EI correlate approximately 0.3 with objective test scores (Chamorro-Premuzic, Moutafi, & Furnham, 2005). Research in occupational contexts (Dunning, Heath, & Suls, 2004) shows that people often have poor insight into their own social-emotional contexts, perhaps because of the lack of systematic standards for evaluating oneself. It is also paradoxical to expect individuals with low EI to have sufficient self-awareness to provide meaningful questionnaire responses (Zeidner et al., 2009).

Nevertheless, criterion validity evidence has been obtained for a range of “mixed model” questionnaires (see Matthews et al., 2002, for a review), particularly in relation to well-being and freedom from psychopathology. However, three problems are evident (Matthews et al., 2002; Zeidner et al., 2009). First, the factor structure of “questionnaire EI” is unclear. Different researchers identify differing dimensions of EI, which sometimes failed to replicate, such as Saklofske, Austin, & Minski (2003). These psychometric difficulties may reflect lack of conceptual clarity. Second, questionnaires for EI have proven considerably more effective in predicting other questionnaire criteria than objective outcomes, such as work performance (Van Rooy & Viswesvaran, 2004). Indeed, some EI questionnaires include items asking about the general mood of the respondent, which may partially account for their associations with well-being criteria.

Third, these questionnaires turn out to overlap highly with existing personality scales, such as those for the FFM. For example, Baron’s (2000) EQ-i is largely a mixture of extraversion, agreeableness, conscientiousness, and low neuroticism. Thus, much of the validity of this questionnaire simply reflects overlap with traits of the FFM. Indeed, any personality scale that is substantially correlated with low neuroticism will inevitably predict greater well-being and lower stress vulnerability (Matthews,

Deary, & Whiteman, 2009). A few studies, such as that by Saklofske et al. (2003), have shown modest incremental validity for EI scales over the FFM, suggesting that the scales may have some novel content.

Questionnaires for “trait EI”

As a result of the problems just discussed, the idea that any true ability can be measured using a questionnaire has fallen into disfavor (Murphy, 2006; O’Sullivan, 2007). However, a new perspective on questionnaire assessments is provided by the concept of “trait EI.” According to Petrides and Furnham (2003) we should see questionnaires for EI as a means for extending our understanding of personality. Specifying traits for emotional functioning elaborates existing personality models, such as the FFM. Petrides and Furnham (2003) developed a new questionnaire, the Trait Emotional Intelligence Questionnaire (TEIQue), which comprises 15 trait scales. It has been quite successful as a predictor of various well-being indices (Martins et al., 2010) and other relevant criteria (Petrides, Furnham, & Mavroveli, 2007). Some studies also show that the TEIQue is predictive of objective as well as subjective criteria, including cortisol response to stress (Mikolajczak, Roy, Luminet, Fillée, & de Timary, 2007), and emotional memory (Mikolajczak, Roy, Verstrynge, & Luminet, 2009).

In a recent appraisal of trait EI measures, we suggested that they share some of the weaknesses of their predecessors (Matthews, Zeidner & Roberts, 2011). For example, Petrides et al. (2007) state that the FFM explains 50–80% of the variation in the TEIQue, suggesting that the problem of overlap with existing personality measures has not been solved. It is worth emphasizing that much individual variation in emotional functioning can be quite well explained by existing personality models (Reisenzein & Weber, 2009), without any need to refer to EI. Indeed, the Big Five traits relate to distinct aspects of “EI” that may be better separated than lumped together (De Raad, 2005; McCrae, 2000), including sociability (extraversion), resilience under stress (low neuroticism), self-control (conscientiousness),

empathy and caring for others (agreeableness) and sensitivity to emotion (openness).

The issue then is whether recent trait EI studies add anything that is genuinely novel to existing personality models. Here, we may find some grounds for optimism. Although some dimensions of trait EI do no more than pin a new label on existing traits, others appear to be more original. For example, Vernon, Villani, Schermer, and Petrides (2008) identified four higher-level factors in the TEIQue, labeled as emotionality, self-control, sociability, and well-being. The well-being factor is an example of redundancy of measurement, and it appears to be largely a mixture of high extraversion and low neuroticism (Matthews et al., 2011). However, the emotionality factor correlated at only approximately 0.20–0.30 with the traits of the FFM in a large sample of North American respondents (Vernon et al., 2008), suggesting that it is distinct from existing personality constructs.

In fact, the term “emotionality” used by Vernon et al. (2008) is misleading. Usually, emotionality refers to the person’s tendencies to experience emotions frequently and intensely; typically, extraversion is linked to positive emotionality and neuroticism to negative emotionality (Matthews et al., 2009). The TEIQue primary scales that define “emotionality” are in fact emotion perception (in self and others), emotion expression, relationship skills, and empathy. The common element here may be regulating emotion in social settings through effective communication of emotion, which in turn requires sensitivity to one’s own emotional state.

More generally, we propose that what may be missing from the FFM is constructive emotion regulation. Some associations between the FFM and emotion regulation have been established, but they most commonly take the form of correlations between neuroticism and maladaptive regulative strategies such as rumination (Matthews et al., 2009). Individual differences in intrapersonal emotional regulation are assessed using the Trait Meta-Mood Scale (TMMS; Salovey, Mayer, Goldman, Turvey, & Palfai, 1995) which includes scales for Attention

to one’s emotions, Clarity of thinking about emotion, and Mood repair. The high scorer on the TMMS has awareness and insight into his or her emotions, and can use that understanding to regulate mood effectively. The TMMS appears to be acceptably distinct from the Big Five, and to have some validity as a predictor of objective stress responses (Extremera & Fernandez-Berrocal, 2005; Salovey, Stroud, Woolery, & Epel, 2002). Like the Vernon et al. (2008) “emotionality” factor, the TMMS may assess aspects of emotion regulation that are not well represented in standard personality models; although we should be hesitant to label these qualities as “abilities.”

Re-evaluating EI: What can the construct deliver?

More than 20 years have passed since Mayer and Salovey’s (Mayer & Salovey, 1993; Salovey & Mayer, 1990) studies first kindled interest in a psychological science of EI. This is still a fairly youthful field of inquiry, but there is now sufficient research to draw some tentative conclusions.

There are two respects in which the initial promise of EI has failed. Particularly in popular writings (Cooper & Sawaf, 1997; Goleman, 1995), the vision was of a major feature of human personhood, as or more important than general intelligence. For example, Bar-On (2000) put “EQ” on a par with IQ. This is a strong claim but one that could be straightforward to substantiate with evidence. In addition, the idea of an EQ suggests that there should be a strong general factor spanning the multifarious tests of EI, just as the robust intercorrelations of diverse mental ability tests may indicate a general factor of cognitive ability. Contrary to this prediction, we have seen that different methods of assessment of EI often fail to converge.

We would also expect to see substantial effect sizes for correlations between EI scores and relevant criteria for emotional functioning in the laboratory and real-life settings. Questionnaire measures of EI are quite effective in

predicting subjective well-being (Martins et al., 2010), but they owe much of this evidence for criterion validity to their overlap with standard personality factors. Otherwise, while tests for EI can add to our understanding of ability and personality, their criterion validities tend to be quite modest, particularly when overlaps with existing constructs are taken into account (Joseph & Newman, 2010; Van Rooy & Viswesvaran, 2004).

A second failure has been the mixed-model approach to EI advocated by Bar-On (2000). The hope was that the multifactorial array of abilities supporting social-emotional adaptation might be assessed using questionnaires. It has become clear that much of the variance in these questionnaire assessments simply reflects existing personality traits, including those of the FFM (Zeidner et al., 2009). Indeed, the use of EI scales spreads confusion by mixing together traits that are better understood as separate personal attributes (McCrae, 2000).

In response to such difficulties, some authors have expressed strong skepticism about the value of studies of EI (Landy, 2005). Our view is that extreme skepticism is not justified, and that empirical research has made real advances that should be acknowledged. For example, the MSCEIT does seem to be measuring personal qualities that are not well measured by existing personality and ability tests, and relate at least modestly to a variety of emotion-related outcomes (Rivers et al., 2007). Questionnaire studies have identified some novel traits, such as those for emotion regulation, that add to understanding of personality. The trait EI approach (Petrides et al., 2007) expresses the position that such traits are part of personality, not ability. In addition, practical studies of training programs in schools support the view that at least some aspects of social-emotional functioning can be improved, as evidenced by a recent meta-analysis (Durlak et al., 2011). The theoretical bases for these programs are often unclear (Zeidner et al., 2002), but further research may specify more clearly what kinds of knowledge and processing can be trained.

Thus, the new concept of EI remains promising, but a reconfiguration of research aims may be needed. Our contention is that better progress will be made if researchers abandon the untenable aim of establishing a major “EQ” factor akin to IQ. Instead, our review here has emphasized the diversity of the multiple constructs that have been labeled as “EI,” including true abilities, personality traits, and acquired knowledge and skills. In the final part of this article, we sketch out a “multipolar” perspective on EI that may guide future research. The core assumption is that EI has been used to refer to at least four, qualitatively different personal qualities that should be distinguished from one another.

The future of EI: Four fields of inquiry

Previously (Matthews, Zeidner, & Roberts, 2004; Roberts et al., 2007; Zeidner et al., 2009) we have suggested that at least four different kinds of construct should be differentiated. Table 2 lists these constructs and some of their core attributes.

- 1 “Temperament” corresponds to broad-based personality traits that are related to individual differences in emotionality, notably extraversion and neuroticism in the FFM. Much of the variance in questionnaire scales for EI can be attributed to temperamental qualities. Indeed, in a study of twins, Vernon et al. (2008) found that the TEIQue scales had heritabilities similar to those of standard personality traits.
- 2 “Information processing” refers to specific routines or modules for processing emotional information, such as encoding facial emotion. Several performance tasks used in EI research measure processing on the basis of accuracy or response time measures. Tests for EI are typically only weakly predictive of such processing measures at best (Austin, 2005; Fellner et al., 2007).
- 3 “Emotion regulation” refers to the cluster of traits measured by instruments such as the TMMS that relate to the person’s stable

Table 2 Four distinct types of constructs for research on emotional intelligence

Construct	Possible current measures	Key processes	Adaptive significance	Trainability
Temperament	Standard personality measures (e.g. Five Factor Model) Many trait EI scales	Systems of integrated neural and cognitive processes controlling arousal, attention and reinforcement sensitivity	Mixed: most temperamental factors confer a mixture of costs and benefits	Low: temperament is set by genes and early learning
Information-processing	Speeded facial emotion recognition tasks Tasks requiring implicit processing of emotional stimuli	Specific processing modules for processing emotional stimuli	Uncertain: Is speed of processing necessarily adaptive?	Low: except that fixed stimulus-response associations may become automatized through training
Emotion regulation	Selected trait EI scales - Trait Emotional Intelligence Questionnaire "emotionality" - Trait Meta-Mood Scale	Self-concept and self-regulation	Predominantly but not exclusively positive	Moderate: temperament has an influence, but specific strategies may be learnt, e.g., via modeling and directed practice
Context-bound emotional knowledge and skills	Mayer-Salovey-Caruso Emotional Intelligence Test (declarative skills) Situation Judgment Tests	Multiple acquired procedural and declarative skills	Adaptive within context for learning: may be irrelevant or counter-productive in other contexts	High: Learning of specific skills and knowledge

Note. EI = emotional intelligence.

beliefs about their own functioning and strategies for managing emotions. Emotion regulation is influenced by temperament, but is psychometrically distinct.

- 4 "Emotional knowledge and skills" describes various learned skills for understanding and dealing with emotive situations. Often these skills are linked to a specific context, although these constructs include the kind of general knowledge of emotions assessed by the MSCEIT. We can also distinguish explicit declarative knowledge (also measured by the MSCEIT) and implicit procedural skills, such as nonverbal expressions of emotion.

Rather than lumping these various qualities together as a unitary EI, our recommendation

is that each is studied separately, generating its own set of measures and theories. Better conceptualization and measurement within each domain will then support investigations of inter-relationships between them. In the introductory section of this article we listed six issues that have proved generally problematic in research on EI (Matthews et al., 2002). We will look briefly at how our multipolar conception of EI may help to resolve these issues.

- 1 *Lack of clarity of conceptualization.* As we have just argued, lack of clarity is a consequence of using the term "EI" to refer to multiple, distinct constructs. Each one of the four construct types can be defined more clearly than unitary EI.

2 *Lack of a “gold standard” for measurement.*

It follows that there is no single test that can assess each of the multiple constructs. Indeed, each domain calls for its own methods of assessment, including questionnaires for temperament and emotion regulation, simple performance tasks for information processing, and more complex assessments for skills. Declarative knowledge may be assessed using instruments such as the MSCEIT, but measuring procedural knowledge remains challenging. We have suggested that multimedia SJTs offer a promising approach.

3 *Overlap with existing constructs.* By definition, temperament overlaps with standard personality traits. Emotion regulation traits and knowledge should overlap with personality to a lesser degree. For example, studies of the MSCEIT (Roberts et al., 2008) and of personality (Jensen-Campbell, Knack, & Rex-Lear, 2009) suggest modest correlations between acquired social-emotional skills and agreeableness. We also expect associations between cognitive abilities and the two remaining constructs, information-processing and knowledge. It remains an open question whether there is any basic “fluid” aptitude for emotional processing that is distinct from general fluid ability. The relation between acquired emotional skills and crystallized intelligence also requires further investigation (although see Roberts et al., 2008).

4 *Lack of theoretical understanding.* The delineation of separate fields of inquiry also aids theorizing. Temperamental qualities can be explained using existing biological and cognitive personality theory (Matthews et al., 2009). Individual differences in information processing are accommodated within cognitive neuroscience theories of the types increasingly prevalent in research on ability (Neubauer & Fink, 2010) and personality (Eysenck & Derakshan, 2011). Emotion regulation can also be approached in terms of both cognitive (Wells, 2000) and neuroscience (Gross, 2002) theories. As in other respects,

explaining knowledge and skills is the most challenging construct to understand, although developmental perspectives may help (Zeidner, Matthews, Roberts, & MacCann, 2003). It may also be important to tie theory to the specific contexts in which skills are learned, such as the workplace and intimate relationships.

5 *Limitations in criterion-related validity evidence.* The problem here was that tests for EI are often only modestly predictive of criteria, particularly when overlaps with other constructs are taken into account. In experimental research, we would like each type of construct to be strongly related to key underlying processes. Stronger conceptualization, theory, and measurement may support this aim. In field research, it may well prove that some facets of EI are more important for real-life adaptation than others. For example, rapid processing of emotional stimuli may be less important than acquired context-bound skills (Matthews, 2008).

6 *Uncertain practical relevance.* Following on from the previous point, it is plausible that training specific skills is the most effective means for improving social-emotional functioning in education, industry, and other contexts, as suggested by the Durlak et al. (2011) review. An emphasis on skills is also consistent with the role of moderator factors, such as the need for emotional labor noted by Joseph and Newman (2010). Temperamental factors are, of course, less malleable than skills, but the assessment of temperament and personality has proven useful in clinical, educational, and occupational contexts (Hogan & Holland, 2003; Matthews et al., 2009; Zeidner & Matthews, in press). In practical settings, assessment of traits is useful in understanding the emotional issues that individuals may face, and in providing counseling or therapy. The practical relevance of emotion regulation and information processing constructs awaits further investigation.

7 *Cultural influences on EI.* Cross-cultural similarities and differences in EI may also

vary according to the facet of EI studied. Dimensions of temperament show some generality across cultures, although cultural factors may influence how traits are expressed in important ways (Draguns, 2009). One of the challenges here is evidence for differences in trait structure across cultures. Studies in China suggest that dimensions of “Chinese tradition” (e.g. honoring parents and ancestors: Bond, 2000) and interpersonal relatedness (Cheung, Leung, Zhang, Sun, Gan, Song, & Xie, 2001) may be as important for personality definition as the Western Five Factor Model. Such findings suggest that understanding of dispositional differences in emotional functioning cannot be fully separated from the cultural context. For example, the person’s style of managing family conflicts might be an aspect of EI, but understanding this aspect of individual differences would likely need to refer to Bond’s (2000) Chinese tradition dimension in this particular culture.

We would also expect basic information processing routines, such as those for facial emotion perception, to be somewhat robust across cultures, to the extent that they depend directly on brain structures such as the amygdala. However, some authors have suggested that people may find it easier to judge emotion in others of their own culture (Elfenbein & Ambady, 2003), and there appear to be other subtle “cultural dialects” in emotion perception (Wang, Toosi, & Ambady, 2009). There may also be cultural differences in the use of contextual information in emotion perception (Ko, Lee, Yoon, Kwon, & Mather, 2011).

Cross-cultural differences in emotion regulation have been neglected in research, although differences in use of strategies such as suppression and reappraisal have been demonstrated (Matsumoto, Yoo, & Nakagawa, 2008). Luomala, Kumar, Worm, and Singh (2004) argue that ease and efficiency of mood-regulation is higher in collectivistic cultures than in individualistic cultures, because emotional control is a strong normative value in the former. Failure to maintain control over one’s

moods causes shame, embarrassment, and loss of face. The broad philosophical differences in Western and Eastern conceptions of emotion that we discussed in the introduction to this article also imply cultural differences in “emotionally-intelligent” mood regulation. Implicit in Western accounts appears to be the need to attain personal mastery over one’s moods, in order to experience greater happiness. By contrast, Buddhist understanding emphasizes mindfulness of negative emotions, developing consciousness of inner states and living in the moment (Ekman et al., 2005). Correspondingly, the “Eastern mind-body-spirit model” (Chan et al., 2006) encourages a variety of therapeutic techniques such as breathing exercises and meditation that are intended to improve emotion regulation without promoting direct control of emotion. There are points of contact between Western and Eastern approaches. For example, Western metacognitive therapy (Wells, 2009) is based on attention-training techniques that promote detached mindfulness, so that patients can experience anxiety without the experience leading to dysfunctional worries or avoidant behaviors.

Finally, we might expect to see the largest cross-cultural differences in contextual skills for managing emotion, given the differences in social structures across cultures. For example, one area for SEL training (Durlak et al., 2011) is building personal assertiveness. However, the specific skills required to be assertive in a constructive manner are likely to be very different in individualist and collectivist cultures, for example, American self-confidence and directness is not always appreciated overseas.

Conclusion

The initial promise of research on EI has not been fulfilled, and it seems that the dream of establishing an “EQ” factor as important in human affairs as IQ will not be attained. Nonetheless, the new construct of EI has proved its worth in stimulating a variety of new and productive lines of research, including the potential for enhancing practice in several applied fields.

We have argued that all existing tests for EI have both strengths and weaknesses, although we believe that innovations in ability-based testing may have more long-term potential than personality trait questionnaires. We have proposed also that future progress may depend on abandoning the search for a single EI factor, and separating multiple fields of inquiry, each requiring its own theories and measures. Such a strategy may provide psychology with a richer understanding of individual differences in emotional functioning, and support practically useful techniques for assessing and enhancing “emotional intelligence” in real life.

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