

Ability and Trait Emotional Intelligence

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History and Background

The distal roots of emotional intelligence (EI) can be traced back to the concept of “social intelligence,” coined by E. L. Thorndike (1920) to refer to the ability to understand and manage people and to act wisely in human relations. Its proximal roots lie in Gardner’s work on multiple intelligences and, more specifically, in his concepts of intra-personal and interpersonal intelligence. According to Gardner (1999), “*interpersonal intelligence* denotes a person’s capacity to understand the intentions, motivations, and desires of other people and, consequently, to work effectively with others” (p. 43). By contrast, “*intrapersonal intelligence* involves the capacity to understand oneself, to have an effective working model of oneself—including one’s own desires, fears, and capacities—and to use such information effectively in regulating one’s own life” (p. 43).

As a phrase, EI has been present in the literature for a relatively long time (Leuner, 1966), although it was not until later that the construct was introduced in a form that resembles one of its current manifestations (Payne, 1985; Salovey & Mayer, 1990). EI was propelled into prominence by Goleman’s (1995) best-selling book and by a subsequent lead article in *Time* magazine (Gibbs, 1995).

Theoretical accounts were soon followed by attempts to devise measures to assess the new construct (Bar-On, 1997; Mayer, Caruso, & Salovey, 1999; Schutte et al., 1998). The process of test construction, however, did not consider the fundamental psychometric distinction between measures of typical and maximum performance (Cronbach, 1949; Hofstee, 2001). Consequently, some measures were based on self-report (e.g. Schutte et al., 1998), whereas others attempted to develop items that can be responded to correctly or incorrectly (Mayer et al., 1999).

Petrides and Furnham (2000, 2001) noted this was problematic because different measurement approaches would almost certainly produce different results, even if the

underlying model being operationalized is one and the same. It has since been demonstrated, in each and every empirical study investigating this issue, that the various methodologies used in the measurement of EI do not converge (Van Rooy, Viswesvaran, & Pluta, 2005; Warwick & Nettelbeck, 2004) and that it is imperative to draw a distinction between typical and maximal performance measurement in the field (Freudenthaler & Neubauer, 2007).

Trait EI versus ability EI¹

Two different EI constructs can be differentiated on the basis of the method of measurement used to operationalize them (self-report, as in personality questionnaires, or maximum performance, as in IQ tests; see Petrides & Furnham, 2000, 2001). *Trait EI* (or trait emotional self-efficacy) concerns emotion-related self-perceptions measured via self-report, whilst *ability EI* (or cognitive–emotional ability) concerns emotion-related cognitive abilities that ought to be measured via maximum-performance tests.

Table 25.1 summarizes the conceptual differences between the two constructs. Trait EI is defined as a constellation of self-perceptions located at the lower levels of personality hierarchies (Petrides, Pita, & Kokkinaki, 2007), whereas ability EI is defined as “the ability to perceive and express emotion, assimilate emotion in thought, understand and reason with emotion, and regulate emotion in the self and others” (Mayer & Salovey, 1997). As mentioned, correlations between measures of trait EI and ability EI are invariably low, thereby supporting the explicit distinction between them (Brannick, Wahi, Arce, & Johnson, 2009). The former belongs within the realm of personality, whereas the latter (theoretically, if not empirically) belongs within the domain of cognitive ability.

The distinction between trait EI and ability EI is now standard in the scientific literature, which helps to organize its development and the accumulation of knowledge in the field. Research that does not heed the distinction does, of course, exist, and there have also been cases where the distinction was acknowledged, but explicitly misinterpreted (e.g. Devonish & Greenidge, 2010 misconstrued a trait EI questionnaire as a measure of ability EI, thus undermining the interpretation of their own data). In any case, it is now generally acknowledged that trait EI and ability EI are different constructs. Their literatures are developing independently, and it is accepted that the operationalization of one does not have implications for the operationalization of the other.

Problems with Ability EI: Why Emotional Intelligence Is Not a Real Intelligence

Maximum-performance measurement is a *sine qua non* for the assessment of genuine intelligence (Jensen, 1998). The operationalization of ability EI is problematic because the subjectivity of emotional experience (Matthews, Zeidner, & Roberts, 2007; Robinson & Clore, 2002) undermines the development of maximum-performance tests. The heart of the problem is the inability to create items or tasks

Table 25.1 Trait EI versus ability EI

<i>Construct</i>	<i>Measurement</i>	<i>Conceptualization</i>	<i>Expected relationship to g</i>	<i>Construct validity</i>	<i>Measures</i>
Trait EI	Self-report	Personality trait	Orthogonal Unimportant for construct validity	Consistent with models of differential psychology Discriminant and incremental validity vis-à-vis personality Concurrent and predictive validity with many criteria	<i>TEIQue^a</i>
Ability EI	Maximum performance	Cognitive ability	Moderate to strong correlations Crucial for construct validity	Inconsistent with models of differential psychology Awkward scoring procedures Limited concurrent and predictive validity	<i>MSCEIT</i> <i>TEMNIIT^b</i> <i>STEU/STEM^b</i>

^aThe TEIQue is the only instrument that is explicitly based on trait EI theory and that covers the sampling domain of the construct comprehensively, but it is certainly not the only self-report measure of EI (see main text for details).

^bObservations in the construct validity column do not necessarily apply to these measures, since they are relatively new and their properties are not yet fully established.

that can be scored according to truly objective criteria and that can cover the sampling domain of ability EI comprehensively. The use of alternative scoring procedures, such as “consensus” and “expert” scoring, to create correct responses among a number of equally logical alternatives leads to a host of problems repeatedly noted in the literature (Ortony, Revelle, & Zinbarg, 2007; O’Sullivan & Ekman, 2004; Roberts, Zeidner, & Matthews, 2001). These procedures yield scores that are not only foreign to cognitive ability, but also psychologically meaningless, as it is unclear whether they reflect confounding with vocabulary size (Wilhelm, 2005), conformity to social norms (Matthews, Emo, Roberts, & Zeidner, 2006), theoretical knowledge about emotions (Austin, 2010; Freudenthaler, Neubauer, & Haller, 2008), stereotypical judgments (O’Sullivan, 2007), or some unknown combination, or interaction, of some, or all, of these factors.

Conceptual challenges like the foregoing (see also Brody, 2004; Locke, 2005) also give rise to a bewildering range of empirical limitations. For readers wishing to explore these issues, the following references can provide a starting point: Austin (2010), Follesdal and Hagtvet (2009), Keele and Bell (2008, 2009), Rossen, Kranzler, and Algina (2008), and Zeidner and Olnick-Shemesh (2010). These publications describe in some detail the obstacles that arise from ignoring the inherently subjective nature of emotions. Emotional experience cannot be artificially objectified in order to be made amenable to IQ-style testing.

The core problem with the Mayer–Salovey–Caruso Emotional Intelligence Test (MSCEIT; Mayer, Salovey, & Caruso, 2002), as the most widely used test of ability EI, is not simply that it does not measure intelligence of any kind—as is constantly, albeit erroneously, claimed by its authors—but that it does not measure any coherent dimension of psychological interest. This is why it is scientifically barren to persist in the efforts to improve its psychometric properties and weak nomological net; for, even if these were to reach acceptable standards one day, the resultant scores would still be uninterpretable due to the nature of the underlying scoring system (Barchard & Russell, 2006; Brody, 2004; Keele & Bell, 2009; O’Sullivan & Ekman, 2004).

The avalanche of scientific criticism and negative findings on the MSCEIT has prompted the development of alternative measures of ability EI (Amelang & Steinmayr, 2006; MacCann & Roberts, 2008; Warwick, Nettelbeck, & Ward, 2010), whose empirical bases have not yet been fully developed (see Austin, 2010). Before proceeding with a full evaluation of the construct validity of any new ability-EI test, we must answer two questions: (1) Is it based on truly veridical scoring criteria (as opposed to novelty psychometrics)? (2) Does it provide comprehensive coverage of the sampling domain of the construct (as opposed to a handful of convenient facets)? Unless these two questions can be answered in the affirmative, it is not worthwhile to embark on the psychometric journey to establish criterion, discriminant, predictive, and incremental validity, because ultimately construct validity will remain elusive.

What can be said with relative certainty is that the model of ability EI (Mayer & Salovey, 1997) with the MSCEIT as its operationalization vehicle is a scientific cul-de-sac, for the reasons previously discussed. Instead, a tendency is unfolding to relabel almost any test with emotional content that does not rely on self-report methodologies as a measure of ability EI. Not only are these tests often inadequate in terms of

their coverage of the content domain of this construct, focusing as they do on a few narrow and specific facets, but they do not even seem to correlate strongly, either with the MSCEIT or among themselves (Austin, 2010; Matthews, Emo, Funke et al., 2006). Another important issue that will need to be addressed is that of the often intentional blurring of the difference between *intelligence*, *behavioral effectiveness*, and mere *declarative knowledge*, which plagues tests of ability EI (for promising research on this front, see Freudenthaler & Neubauer, 2005, 2007; Freudenthaler, Neubauer, & Haller, 2008).

Trait Emotional Intelligence

As noted, trait emotional intelligence concerns a constellation of emotional self-perceptions located at the lower levels of personality hierarchies (Petrides, Pita et al., 2007). An alternative label to describe the construct is *trait emotional self-efficacy*. Simply put, trait EI concerns people's perceptions of their own emotional abilities. Trait EI theory provides an operationalization that recognizes the inherent subjectivity of emotional experience.

Most research in the field is conducted within the broader domain of trait EI. We hasten to add that not all of this research is interpreted accordingly. Indeed, it remains common for researchers to use self-report questionnaires and then to go on to interpret their findings with reference to concepts of ability, competencies, and skills from the pop-psychology perspective of "EQ is good for you." Useful as documents of such research may be from an empirical point of view, the only way in which they can be connected to mainstream science in differential psychology is if they are interpreted with full reference to trait EI theory.

The trait EI label reflects the fact that the various notions that have been discussed in the literature under the descriptions "emotional intelligence" or "EQ" (Bar-On, 1997; Goleman, 1995; Payne, 1985; Salovey & Mayer, 1990) invariably describe permutations of personality traits, such as empathy, emotional expression, adaptability, and self-control, which are psychometrically orthogonal (unrelated) to mental ability. It should be clear by now that, in the case of models that are operationalized via pseudo maximum-performance tests, this claim is invalid, while in the case of models that are operationalized via self-report questionnaires the claim is absurd. Trait EI theory offers a way to redefine the latter models in order to link them, and the measures based on them, to scientific theories of psychology.

Right and wrong answers: adaptive value of trait EI

Trait EI theory maintains that certain emotion profiles will be advantageous in some contexts, but not in others. For example, being reserved and non-supportive is not a mark of emotional dimness, but is a personality trait that happens to be more adaptive than sociability and emotional expression in, say, research contexts (Rushton, Murray, & Paunonen, 1983). Assessment in the field of emotional and other *intelligences fausses* will not be dramatically different from assessment in the field of personality, where individuals' profiles have to be matched to specific job descriptions,

with different job descriptions calling for different personality profiles (Pervin, 1968). It follows that no magic profile of the “emotionally intelligent” individual, who will excel in all aspects of life, exists.

The notion that there is some archetypal “emotionally intelligent” individual who can be identified by proprietary tests and whom all leaders, managers, and employees should strive to emulate in order to succeed is, in all likelihood, a myth. Emotions are known to distort human judgment and decision-making (Shafir & LeBoeuf, 2002), as well as basic reasoning processes (Oaksford, Morris, Grainger, & Williams, 1996). The simplistic notion that “EQ is good for you” is also likely a myth. Emotion-based thinking tends to be intuitive, automatic, with low scientific rigor and low detail in judgment, in contrast to a more consciously analytic thinking, which is low in emotional valence (Croskerry & Norman, 2008).

It is vital to remember that high trait EI scores are not necessarily adaptive and low scores are not necessarily maladaptive. First, very high scores on trait EI instruments may be indicative of hubris and self-promotion. Beyond this, there are contexts in which high scores can have undesirable consequences. For example, in Petrides and Furnham (2003) participants with high trait EI scores showed greater mood deterioration following the presentation of a short distressing video segment when compared to participants with low scores, while in Sevdalis, Petrides, and Harvey (2007) high scorers showed greater mood deterioration following the recall of a poor real-life decision. Moreover, low trait EI scorers are more likely than their high-scoring counterparts to be straightforward and less likely to be afflicted by a need for self-verification and image management. Especially when it comes to predicting behavior, the desirability of particular trait EI profiles will always depend on the context and type of behavior that one seeks to predict.

The sampling domain of trait EI

Table 25.2 presents the sampling domain of trait EI (i.e. its constituent elements) that was derived from a content analysis of early models of EI and related constructs, such as alexithymia, affective communication, emotional expression, and empathy (Petrides, 2009). The aim was to include core elements common to more than a single model, but to exclude peripheral elements appearing in only one specific conceptualization. This is analogous to procedures used in classical psychometric scale development, whereby the commonalities (shared core) of the various items comprising a scale are carried over into a total (internally consistent) score, their random or unique components (noise) being cancelled out in the process. The systematic nature of this method is to be contrasted with the haphazard procedures on which other models are based, whereby the inclusion or exclusion of facets is typically the outcome of unstated decisions.

Trait EI theory as a general interpretative framework

Self-report questionnaires of EI and cognate variables operationalize a construct that is unrelated to capabilities, competencies, and skills. Rather, as we have argued in Petrides, Pita et al. (2007), these questionnaires provide coverage, of variable quality

Table 25.2 The sampling domain of trait EI in adults

<i>Facets</i>	<i>High scorers view themselves as ...</i>
<i>Adaptability</i>	... flexible and willing to adapt to new conditions.
<i>Assertiveness</i>	... forthright, frank, and willing to stand up for their rights.
<i>Emotion expression</i>	... capable of communicating their feelings to others.
<i>Emotion management (others)</i>	... capable of influencing other people's feelings.
<i>Emotion perception (self and others)</i>	... clear about their own and other people's feelings.
<i>Emotion regulation</i>	... capable of controlling their emotions.
<i>Impulsiveness (low)</i>	... reflective and less likely to give in to their urges.
<i>Relationships</i>	... capable of maintaining fulfilling personal relationships.
<i>Self-esteem</i>	... successful and self-confident.
<i>Self-motivation</i>	... driven and unlikely to give up in the face of adversity.
<i>Social awareness</i>	... accomplished networkers with superior social skills.
<i>Stress management</i>	... capable of withstanding pressure and regulating stress.
<i>Trait empathy</i>	... capable of taking someone else's perspective.
<i>Trait happiness</i>	... cheerful and satisfied with their lives.
<i>Trait optimism</i>	... confident and likely to "look on the bright side" of life.

and adequacy, of emotion-related personality traits. In other words, we view these questionnaires as measures of trait EI, in contrast to their authors, who claim that they assess intelligence, competencies, or skills.

Trait EI theory is general and provides a platform for the correct interpretation of data from any EI questionnaire that would otherwise be interpreted through the homespun "EQ is good for you" accounts underpinning many EI models. We emphasize that EI-related questionnaires can be considered measures of trait EI *only in so far as their results are interpreted through the lens of trait EI theory*. Consequently, we urge researchers and practitioners to abandon the mushrooming number of models emanating from commercial test user manuals, in favor of trait EI theory.

We also urge caution in relation to the instruments chosen to operationalize trait EI. Although any EI-related questionnaire can (and should) be interpreted from the perspective of trait EI theory, the designated vehicle for operationalizing the construct is the Trait Emotional Intelligence Questionnaire (TEIQue). This is important for two reasons. First, investigations of the criterion and predictive validity based on measures that provide incomplete coverage of trait EI (e.g. Bar-On, 1997; Schutte et al., 1998; Wong & Law, 2002) can be misleading, usually underestimating the true validity of the construct (Martins, Ramalho, & Morin, 2010). Second, the use of instruments with proven psychometric flaws (Grubb & McDaniel, 2008) and

messy factor structures (Gignac, Palmer, Manocha, & Stough, 2005; Palmer, Manocha, Gignac, & Stough, 2003) impedes the accumulation of evidence and the development of a nomological network, even when the results are appropriately interpreted with reference to trait EI theory.

Trait emotional intelligence questionnaire (TEIQue)

The explosion in the number of trait EI measures may have given the impression that the construction of psychometrically sound instruments is an easy business. Anyone cognizant of the basic elements of psychometrics, particularly those relating to the validation process, understands that this is not the case. The fact is that few trait EI measures have been developed within a clear theoretical framework, and even fewer have solid empirical foundations. Indicative of the confusion in the field is the fact that most self-report questionnaires purport to measure EI as a cognitive ability. Such instruments are suitable neither for scientific inquiry nor for use in applied settings.

The TEIQue is predicated on trait EI theory, as described above. The latest version of the full form of the instrument comprises 153 items, providing scores on 15 facets, 4 factors, and global trait EI (see Plate 7). The TEIQue should be preferred over other EI-related questionnaires for three main reasons: first, it offers a direct route to the underlying theory of trait emotional intelligence; second, it provides comprehensive coverage of the trait EI sampling domain; and, third, it has greater predictive validity. Indeed, every study that has compared the TEIQue to other EI questionnaires has concluded that it has superior predictive validity and superior psychometric properties more generally (Freudenthaler, Neubauer, Gabler, & Scherl, 2008; Gardner & Qualter, 2010; Martins et al., 2010).

The TEIQue is based on a combination of the construct-oriented and inductive approaches to scale construction (Hough & Paullin, 1994) and has hitherto been translated into over 15 languages. It was designed to be factor-analyzed at the facet level in order to avoid the problems associated with item factor analysis (Bernstein & Teng, 1989). Its higher-order structure is explicitly hypothesized as oblique, in line with conceptions of multifaceted constructs. Consequently, factor overlap as well as cross-loadings are to be expected, and indeed they provide the justification for aggregating factor scores into global trait EI. According to the hierarchical structure of the TEIQue, the facets are narrower than the factors, which, in turn, are narrower than global trait EI.

Detailed psychometric analyses of the full form of the TEIQue are presented in Freudenthaler, Neubauer, Gabler et al. (2008; German adaptation), in Mikołajczak, Luminet, Leroy, and Roy (2007; French adaptation), and in Petrides (2009; English original). In addition to the full form, there are other TEIQue instruments, which we briefly describe below.

TEIQue-short form This 30-item form is based on the full form and includes two items from each of the 15 facets of the TEIQue. Items were selected primarily on the basis of their correlations with the corresponding total facet scores, which ensured broad coverage of the sampling domain. The -SF can be used in research designs with limited experimental time, or wherein trait EI is a peripheral variable. Although

it is possible to derive scores on the four trait EI factors, in addition to the global score, these tend to have lower internal consistencies (around .69) than in the full form. The –SF does not yield scores on the 15 trait EI facets. An Item Response Theory analysis of the short form of the inventory is presented in Cooper and Petrides (2010).

TEIQue 360° and 360°-short These forms are used for collecting observer ratings and are available for both the full and the short forms of the TEIQue. They are especially useful for deriving rated (observation-based) trait EI profiles.

TEIQue-adolescent form The –AF is modeled on the full form of the TEIQue and is intended to yield scores on the same facets and factors. The main target audience is adolescents between 13 and 17 years. Preliminary data (Petrides, 2009) suggest that its internal consistencies are strong at the facet, factor, and global level, although they are somewhat lower than the corresponding values of the full form.

TEIQue-adolescent short form This is a simplified version, in terms of wording and syntactic complexity, of the adult short form of the TEIQue. The –ASF comprises 30 short statements, two for each of the 15 facets in Table 25.2 designed to measure global trait EI. In addition to the global score, it is possible to derive scores on the four trait EI factors; however, these tend to have considerably lower internal consistency than in the adolescent full form. This form does not yield scores on the 15 trait EI facets. The main target audience is adolescents between 13 and 17 years; however, the –ASF has been successfully used with children as young as 11 years. Example applications of the –ASF can be found in Mavroveli, Petrides, Rieffe, and Bakker (2007) and in Ferrando et al. (2010).

TEIQue-child form The main aim of the –CF is to assess the emotion-related facets of child personality. Rather than a simple adaptation of the adult form, this variant is based on a sampling domain that has been specifically developed for children aged between 8 and 12 years. The children's sampling domain is presented, along with brief descriptions of the facets, in Table 25.3. It comprises 75 items, responded to on a 5-point scale, and measuring nine distinct facets (see Mavroveli, Petrides, Shove, & Whitehead, 2008).

Location of trait EI in personality factor space

Petrides, Pita et al. (2007) carried out studies in order to locate trait EI in Eysenckian “Giant Three” and in Big-Five factor space. Locating trait EI in personality space is important, not least because we can thus connect the construct to the personality literature. Theorists who propose new individual differences constructs must demonstrate how these relate to extant knowledge in the field. This has been a major objective of our definition and development of trait EI. Furthermore, establishing the location of trait EI within existing taxonomies can provide empirical support for the construct's discriminant validity vis-à-vis the higher-order traits. If a distinct trait EI factor can be isolated in personality space, it means that a sufficient number of trait EI facets share enough common variance to define a separate factor in joint

Table 25.3 The sampling domain of trait EI in children

<i>Facets</i>	<i>Brief description</i>	<i>Example items</i>
<i>Adaptability</i>	Concerns children's self-perceptions of how well they adapt to new situations and people.	"I find it hard to get used to a new school year."
<i>Affective disposition</i>	Concerns children's self-perceptions of the frequency and intensity with which they experience emotions.	"I'm a very happy kid."
<i>Emotion expression</i>	Concerns children's self-perceptions of how effectively they can express their emotions.	"I always find the words to show how I feel."
<i>Emotion perception</i>	Concerns children's self-perceptions of how accurately they identify their own and others' emotions.	"It's easy for me to understand how I feel."
<i>Emotion regulation</i>	Concerns children's self-perceptions of how well they can control their emotions.	"I can control my anger."
<i>Low impulsivity</i>	Concerns children's self-perceptions of how effectively they can control themselves.	"I don't like waiting to get what I want."
<i>Peer relations</i>	Concerns children's self-perceptions of the quality of their relationships with their classmates.	"I listen to other children's problems."
<i>Self-esteem</i>	Concerns children's self-perceptions of their self-worth.	"I feel great about myself."
<i>Self-motivation</i>	Concerns children's self-perceptions of their drive and motivation.	"I always try to become better at school."

analyses with the "giant three" or the Big Five, which constitutes evidence of discriminant validity.

The results of the factor location analyses in Petrides, Pita et al. (2007) demonstrate that trait EI is a *distinct* (because it can be isolated in personality space) and *compound* (because it is partially determined by several personality dimensions) construct that lies at the *lower levels* of personality hierarchies (because the trait EI factor is oblique, rather than orthogonal to the Giant Three and the Big Five). This conclusion enables us to connect the trait emotional self-efficacy conceptualization of EI to the differential psychology literature: a major conceptual advantage, which integrates the construct into established models of personality. Moreover, this conceptualization appears to be consistent not only with hierarchical, but also with circumplex models of personality. Thus De Raad (2005) located trait EI within the abridged Big-Five circumplex and found that it comprises scattered aspects of the Big-Five domain and correlates with at least four of the five higher-order dimensions, conclusions that are fully in line with trait EI theory.

Recent research has established that the phenotypic correlations between trait EI and the Big-Five personality dimensions are attributable, primarily, to correlated genetic factors and, secondarily, to correlated non-shared environmental factors (Vernon, Villani, Schermer, & Petrides, 2008). This means that many of the genes that are responsible for the development of individual differences in the Big Five are also responsible for the development of individual differences in trait EI. Related studies have estimated the heritable proportion of global trait EI at about 40 percent, which is very similar to the estimates obtained for other broad bandwidth personality traits (Johnson, Vernon, & Feiler, 2008). Taken together, these findings provide solid support for the conceptualization of EI as a personality trait.

Trait EI theory is also relevant to the emerging literature on the general factor of personality (GFP; Figueredo & Rushton, 2009; Hofstee, 2001; Rushton & Irwing, 2009). In relation to research with the TEIQue, it has been shown that a general factor can be extracted from joint data sets with the HEXACO (Veselka, Schermer, Petrides, Cherkas et al., 2009) as well as with the NEO PI-R (Veselka, Schermer, Petrides, & Vernon, 2009). The fact that a GFP can be extracted from TEIQue data sets corroborates the view that EI ought to be integrated into multi-level personality hierarchies, somewhere between the highly specific traits at their base and the broad general factor at their apex (Petrides, Pita et al., 2007; Rushton et al., 2009).

Applications of Trait Emotional Intelligence

Trait EI research has expanded significantly during the last few years. Recent data from children, adolescent, and adult samples show that trait EI scores predict teacher and peer ratings of prosocial and antisocial behavior (Mavroveli et al., 2007; Petrides, Frederickson, & Furnham, 2004; Petrides, Sangareau, Furnham, & Frederickson, 2006), adaptive coping styles and depressive affect (Mavroveli et al., 2007), leadership (Villanueva & Sanchez, 2007), happiness (Chamorro-Premuzic, Bennett, & Furnham, 2007), emotion regulation (Mikolajczak, Nelis, Hansenne, & Quoidbach, 2008), and affective decision-making (Sevdalis et al., 2007). A growing number of studies have revealed incremental trait EI effects over and above the higher-order personality dimensions (e.g. Kluemper, 2008; Petrides, Pita et al., 2007; Van Der Zee & Wabeke, 2004) and other emotion-related variables, such as alexithymia, optimism, and mood (Mikolajczak, Luminet, & Menil, 2006; Petrides, Pérez-González, & Furnham, 2007).

In the section that follows, we briefly discuss example applications of trait EI theory in organizational, clinical, health, educational, and social settings. A surge in the use of TEIQue specifically, and in the interpretation of other questionnaires from the perspective of trait EI theory more generally, means that it is now impossible to provide anything but a sketchy outline of relevant research in applied contexts. For continually updated material and developments, see www.psychometriclab.com.

Organizational

One of the primary drivers of the initial spontaneous excitement about EI was the promise that it may be even more important than IQ in its ability to predict job

performance (Goleman, 1995). On the basis of research conducted since then, it seems clear that its role in the workplace has been exaggerated in popular literature (Caruso & Salovey, 2004; Goleman, 1998). What little robust research has been carried out on this topic has revealed trait EI effects that are narrow and specific rather than broad and general, in line with the effects that other personality traits have in such contexts (Chamorro-Premuzic & Furnham, 2010). In organizational as in other domains, the relevance of trait EI in general and, more specifically, of the particular profile that will be conducive to superior performance will vary as a function of the context, and will therefore ideally require customized task analysis (Petrides & Furnham, 2003; Zeidner, Matthews, & Roberts, 2004).

In an early meta-analysis, Van Rooy and Viswesvaran (2004) reported a sample weighted mean correlation between EI and job performance of $\rho = .24$, although that research was not conducted in the context of the trait- versus ability-EI distinction. More recent studies have found that high trait EI is associated with lower levels of stress and higher levels of perceived job control, job satisfaction, and job commitment (Petrides & Furnham, 2006; Platsidou, 2010; Singh & Woods, 2008). Other research has suggested that high trait EI may be conducive to entrepreneurial behavior (Zampetakis, Beldekos, & Moustakis, 2009), protects against burnout (Platsidou, 2010; Singh & Woods, 2008), and predicts internal work locus of control (Johnson, Batey, & Holdsworth, 2009).

Perhaps more than any other topic, that of the links between trait EI and organizational performance requires more research, which should be predicated on theoretically driven hypotheses and comprehensive measures of the construct. Such research could also address the relevant topic of improving (from the perspective of trait EI theory, *optimizing*) EI, which is of particular interest in organizational contexts and on which there is a dearth of evidence (see Nelis, Quoidbach, Mikolajczak, & Hansenne, 2009, for an exception).

Clinical

Trait EI, as operationalized by the TEIQue, is a very strong predictor of clinical variables. A lot of research is being carried out in clinical settings, and in this section we present indicative findings from only a few relevant studies. Petrides, Pérez-González et al. (2007) examined the possibility that very low trait EI levels may have psychopathological consequences. This study was conducted with reference to the personality disorders (PDs) in the 10th revision of the International Classification of Diseases (ICD-10; WHO, 1992). It was found that trait EI scores were negatively related to PDs, the relationships holding up after partialing out individual differences in dispositional mood (positive and negative affect), which are linked to psychopathology (Watson, 2000).

Other research along this line has corroborated the negative relationships between trait EI and various indicators of psychopathology (Leible & Snell, 2004; Malterer, Glass, & Newman, 2008). A notable recent study employed a small-scale longitudinal research design examining the effects of EI on psychopathology across the transition from primary to secondary school. The results showed that measures of trait EI were strong predictors of psychopathology (in contrast to measures of ability EI),

concurrently as well as prospectively (notwithstanding an erroneous interpretation in the abstract; Williams, Daley, Burnside, & Hammond-Rowley, 2010a).

Mikolajczak, Petrides, and Hurry (2009) investigated the relationships between trait EI and self-harm in adolescence. Adolescents who deliberately harm themselves have become the focus of concerted research because of their greatly increased risk of suicide (Hawton & Zahl, 2003), but also because of the association between self-harm and a range of psychological disorders (Hurry, 2000).

The correlation between trait EI and self-harm in Mikolajczak et al.'s (2009) sample, which comprised 490 high-school students (mean age = 16.65 years; 57.3 percent girls), was negative and highly significant ($r = -.31, p < .01$). A probit regression analysis indicated that the likelihood of a self-harming adolescent is 75 percent if their TEIQue score is below 2.47, 50 percent if their TEIQue score is above 3.47, and only 25 percent if their TEIQue score is above 4.50.

Health

There are many theoretical reasons to expect that trait EI will be related to both psychological and physical health (Austin, Parker, Petrides, & Saklofske, 2008). This is reflected in the large number of studies conducted in this area, which have been summarized in two meta-analyses (Martins et al., 2010; and Schutte, Malouff, Thorsteinsson, Bhullar, & Rooke, 2007). Overall, trait EI is a strong positive predictor of mental health and well-being (Johnson et al., 2009; Platsidou, 2010; Saklofske et al., 2003) and a negative predictor of psychopathology (Gardner & Qualter, 2009; Williams, Daley, Burnside, & Hammond-Rowley, 2010b).

Trait EI has been implicated in physical health, including in positive relationships with self-rated physical health (Tsaousis & Nikolaou, 2005) and in negative relationships with somatic complaints (Mavroveli et al., 2007). A range of associations has also been reported with health-related behaviors (for example, Saklofske, Austin, Rohr, & Andrews, 2007 found that trait EI has a significant, albeit weak, correlation with taking exercise). Related research has revealed links with addictive behaviors, ranging from gambling and Internet addiction (Parker, Taylor, Eastabrook, Schell, & Wood, 2008), to alcohol dependency (Austin, Saklofske, & Egan, 2005; Uva et al., 2010), and ecstasy use (Craig, Fisk, Montgomery, Murphy, & Wareing, 2010).

Educational

Trait EI affects, directly or indirectly, a very wide range of variables in educational contexts. For example, high trait EI pupils tend to have fewer unauthorized absences and are less likely to have been expelled from school due to rule violations, in comparison to their low trait EI peers (Mavroveli et al., 2008; Petrides et al., 2004). Trait EI also influences children's peer relations at school (Petrides et al., 2006) and decreases the likelihood of aggressive and delinquent behavior (Santesso, Reker, Schmidt, & Segalowitz, 2006).

Trait EI theory posits that the construct will not show strong direct associations with cognitive ability or its close proxies, for instance academic performance. Indeed,

Petrides et al. (2004) did not find any such associations, although they demonstrated a moderating effect, according to which trait EI was positively related to performance in low-IQ pupils only. On this basis, they suggested that such effects as trait EI might have on academic performance are likely to assume prominence when the demands of a situation outweigh a pupil's intellectual resources. In contrast to their high-IQ counterparts, low-IQ pupils are more likely to be forced to draw on resources other than their cognitive ability in order to cope with the demands of their courses, which is why high trait EI may be an important asset for them.

Parker and colleagues (Parker, Summerfeldt, Hogan, & Majeski, 2004; Parker, Creque et al., 2004) reported modest correlations (e.g. $r = .20$, $p < .05$) between trait EI and academic performance in high school and university samples, raising the possibility that trait EI effects may vary across educational levels as well as across subjects, like the effects of other personality traits (e.g. Heaven, Ciarrochi, & Vialle, 2007). For example, Laidra, Pullmann, and Allik (2007) showed that agreeableness was an important predictor of academic performance (Grade Point Average) in primary school, but not in secondary school children. In contrast, neuroticism in their study predicted academic performance in secondary, but not primary, school-children. Overall, the picture emerging so far is consistent with the postulates of trait EI theory, indicating that the construct's impact on academic achievement is modest and likely to be more relevant to specific groups of vulnerable children (see Mavroveli & Sanchez-Ruiz, in press, for a comprehensive review).

Social

Petrides et al. (2006) found that high trait EI facilitated prosocial and prevented antisocial behavior in children of primary school age. They also reported that pupils with high scores received more nominations from their classmates for being cooperative and for having leadership qualities, and fewer nominations for being disruptive, aggressive, and dependent. Similar results have been obtained in samples from different countries and age groups (Mavroveli, Petrides, Sangareau, & Furnham, 2009; Mavroveli et al., 2007).

Significant research looking into the links between trait EI and interpersonal relationships in adults has also been conducted. Examples include positive relationships with marital satisfaction, relationship quality, and constructive communication between partners, and negative relationships with detrimental communication patterns, including mutual avoidance and withholding (Schutte et al., 2001; Smith, Ciarrochi, & Heaven, 2008; Smith, Heaven, & Ciarrochi, 2008).

Experimental Studies in Trait EI

Research has increasingly explored the role of trait EI in laboratory contexts, contributing toward the ultimate goal of integrating the experimental and correlational approaches to psychological science. Such is the level of activity that it cannot be meaningfully reviewed in this chapter. Rather, we briefly summarize promising findings from a few representative studies.

Mikolajczak, Bodarwe, Laloyaux, Hansenne, and Nelis (2010) provided impressive evidence of a relationship between individual differences in trait EI and differential frontal cortex activation. More specifically, high trait EI individuals showed significantly greater resting left frontal activation, which accords well with findings that left-frontal asymmetry is positively related to social competence and negatively related to shyness (Schmidt, 1999).

A number of studies have also demonstrated protective effects of trait EI vis-à-vis stress. For example, Mikolajczak and Luminet (2008) showed that high trait EI individuals are both more likely to appraise stressful events as challenges (as opposed to threats) and more confident that they can deal with such events. Furthermore, Mikolajczak, Roy, Luminet, Fillee, and de Timary (2007) found that high trait EI participants showed both less psychological reactivity (mood deterioration) and less physiological reactivity (salivary cortisol) in comparison with their low trait EI counterparts when exposed to a stressor (public speech task; see also Ciarrochi, Deane, & Anderson, 2002; Mikolajczak, Menil, & Luminet, 2007).

Austin (2004) explored the relationships between trait EI and performance on various experimental tasks, showing that certain (interpersonal) aspects of the construct correlated with performance on inspection time tasks involving emotional content. Within the same experimental paradigm, but using a different criterion, Austin (2009) found that global trait EI has an inverted U relationship with reaction times for responses to questionnaire items.

As noted, much more experimental research than we have been able to summarize has been conducted. Most of it has a strong theoretical basis, and its results have virtually always identified significant and meaningful trait EI effects. Going into the future, the sheer number of different criteria and the variations in the experimental methodologies across the various studies necessitate a two-fold focus on replication and on the systematic selection of criteria, in order to remove, as far as is possible, gratuitous sources of variation between studies.

Extending the theory of trait emotional intelligence

Trait EI theory explains how the various EI models, where they are meaningful, mainly refer to established personality traits. It can be extended to cover other *intelligences fausses*, including in the first instance the intra-personal, interpersonal, and social. Focusing on personality traits related to emotions yields emotional “intelligence,” focusing on traits related to social behavior yields social “intelligence,” and so on. Through this strategy, the *intelligences fausses* can be integrated into existing personality taxonomies, which is where they belong conceptually.

In addition to linking the *intelligences fausses* to mainstream differential psychology, the trait intelligences framework offers concrete predictive and especially explanatory advantages. Carving up personality variance across specific content domains helps contextualize it, thus increasing its explanatory power. Instead of trying to explain findings on the basis of five broad and theoretically—yet not necessarily empirically—orthogonal personality dimensions, one relies on domain-specific, content-coherent constructs (see Petrides & Furnham, 2003).

The *trait intelligences* label emphasizes the aim of integrating the *intelligences fausses* into personality hierarchies, while the alternative, and in some respects preferable, labels of *trait self-efficacies* and *trait self-concepts* emphasize the aim of integrating the social-cognitive (Bandura, 2001) and self-concept literatures (Marsh, Trautwein, Ludtke, Koller, & Baumert, 2006) into the said hierarchies. Hitherto our research has focused on the former aim, even though the integration of the latter two literatures is possibly of greater interest, on account of their scientific origins and broader scope (Pervin, 1999).

Emotions are but a single, albeit fundamental, domain of personality, and it will be necessary to extend trait EI theory to encompass other important domains (e.g. social, personal, and meta-cognitive). The realization of this aim holds promise for the integration of self-concept, self-efficacy, and *intelligences fausses* models into the mainstream taxonomies of personality.

Note

- 1 The distinction between trait EI and ability EI is based on the method used to measure the construct and *not* on the elements (facets) that the various models are hypothesized to encompass. It is, therefore, unrelated to the distinction between “mixed” and “ability” models of EI (Mayer, Salovey, & Caruso, 2000), which is based on whether a theoretical model “mixes” cognitive abilities and personality traits. Mayer et al.’s (2000) distinction is at odds both with psychometric theory, because it ignores the importance of measurement, and with the data, which clearly show that measures of trait EI intercorrelate strongly, irrespective of whether or not they are based on “mixed” or “ability” models. Also worth noting is that there is little evidence that some of the sub-scales of these measures have ability characteristics, while others have trait characteristics; in fact, all subscales clearly and consistently operate as personality traits.

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