Chapter Eleven

Emotional Intelligence: Conceptualization and Measurement

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The emotions are of quite extraordinary importance in the total economy of living organisms and do not deserve being put into opposition with “intelligence.” The emotions are, it seems, themselves a higher order of intelligence.

(Mower, 1960, p. 308)

Given recent popular interest in the idea of an emotional intelligence, including mentions by comic strip characters from Zippy-the-Pinhead to Dilbert, it is hard to believe that the term emotional intelligence was first formally defined in a 1990 article that appeared in a relatively obscure journal (Salovey & Mayer, 1990). Salovey and Mayer described emotional intelligence as a form of social intelligence that involves the ability to monitor one’s own and others’ feelings and emotions, to discriminate among them, and to use this information to guide one’s thinking and action. They used this term to provoke intelligence theorists to contemplate an expanded role for the emotional system in conceptual schemes of human abilities and to challenge traditional approaches in the emotions field that view the arousal of feelings as disrupting normal cognitive activity. In the spirit of Charles Darwin, who in his 1872 book The Expression of the Emotions in Man and Animals viewed the emotional system as necessary for survival and as providing an important signaling system within and across species, Salovey and Mayer emphasized the functionality of feelings and described a set of competencies that might underlie the adaptive use of affectively charged information. After the publication of a best-selling trade book on the topic of emotional intelligence by New York Times science writer Daniel Goleman in 1995, the concept of emotional

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intelligence gained enormous popular appeal and attracted considerable media attention.

This chapter first presents a framework that organizes the skills and abilities relevant to a theory of emotional intelligence. The challenges of measuring emotional intelligence are described next, along with a review of ability-based instruments and self-report scales. We conclude with a brief discussion of the growing interest in emotional intelligence among educators and business executives.

A Framework

A person’s ability to adapt and cope in life depends on the integrated functioning of his or her emotional and rational capacities. “Out of the marriage of reason with affect there issues clarity with passion. Reason without affect would be impotent; affect without reason would be blind” (Tomkins, 1962, p. 112). Interpersonal success depends on one’s ability to reason about emotional experiences and other affect-laden information and to respond in emotionally adaptive ways. In our most recent theorizing, we have described emotional intelligence as the ability to perceive and express emotions, to understand and use them, and to manage emotions in oneself and other people (Mayer & Salovey, 1997; Salovey & Mayer, 1990). More formally, however, we define emotional intelligence by the specific competencies it encompasses, including the ability to perceive, appraise, and express emotion accurately; the ability to access and generate feelings when they facilitate cognitive activities; the ability to understand affect-laden information and make use of emotional knowledge; and the ability to regulate emotions to promote emotional and intellectual growth and well-being. This model of emotional intelligence is presented in table 11.1. The model is composed of four branches, each of which represents a class of skills, ordered hierarchically according to their complexity. The subskills of each branch are further organized according to their complexity, such that the more sophisticated subskills of each branch increasingly depend on skills of the other branches of the model.

Perception, appraisal, and expression of emotion

The following competencies represent some of the abilities associated with the first branch of emotional intelligence: perceiving, appraising, and expressing emotions.

Appraising and expressing one’s own emotions. Individuals can be more or less skilled at attending to, appraising, and expressing their own emotional states. These competencies are basic information-processing skills in which the relevant information consists of feelings and mood states. For example, some individuals, called alexithymic, are unable to express their emotions verbally, presumably because they have difficulty identifying those feelings (Apfel & Sifneos, 1979). Alexithymic individuals have difficulty distinguishing between different emotions, verbally expressing emotions, and realizing that some physical sensations can be the manifestation of emotions (Kooiman, 1998). They are thought to have limited imagination and fantasy life and a concrete, externally-oriented cognitive style.

| Table 11.1 The Emotional Intelligence Framework (adapted from Mayer & Salovey, 1997) |
|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Perception, appraisal, and expression of emotion | Identifying emotions in one’s own subjective states | Identifying emotion in other people | Expressing emotions accurately | Discriminating between feelings: between honest and dishonest expressions of feelings | Emotional facilitation of cognitive activities | Redirecting and prioritizing thinking based on feelings |
| Using emotions to facilitate judgment | Capitalizing on feelings to take advantage of the perspectives they offer | Using emotional states to facilitate problem solving and creativity | Understanding and analyzing emotional information and employing emotional knowledge | Understanding how different emotions are related | Understanding the causes and consequences of various emotions | Interpreting complex feelings, such as blends and contradictory states |
| Understanding transitions between emotions | Regulation of emotion | Being open to feelings that are pleasant and unpleasant | Monitoring and reflecting on emotions | Engaging with or detaching from emotional states | Managing emotions in self | Managing emotions in other people |

Alexithymia has been assessed with numerous measures, which vary greatly in the degree to which they have demonstrated reliability and validity. In a comprehensive review of most of these measures, Linden, Wen, and Paulhus (1995) concluded that the Toronto Alexithymia Scale (TAS) and the Beth Israel Hospital Questionnaire (BIQ) are psychometrically the best alexithymia measures; other measures (e.g., the Schalling Szifneos Personality Scale, the Revised Schalling Szifneos Personality Scale, and the MMPI Alexithymia Scale) have less well established psychometric properties (see also Bagby, Parker, & Taylor, 1993a, 1993b; Taylor, Ryan, & Bagby, 1985).

Original conceptions of alexithymia focused on deficiencies in handling symbols and abstractions and the presumed neurological abnormalities underlying these deficits. Nemiah and Sifneos (1970) posited that the overt manifestations of alexithymia reflect an abnormal affective style; the alexithymic individual experiences emotion but provides only limited and undifferentiated descriptions of his or her inner state. Some investigators have speculated that this deficiency has been attributed to inefficiencies in the interhemispheric transfer of information (Hoppe & Bogen, 1977; Zeitlin, Lane, O'Leary, & Schrift, 1989). A more recent view, and one that complements our model of emotional intelligence, is that alexithymia represents a deficit in emotional information processing and, subsequently, the conscious experience of emotion (Lane, Ahern, Schwartz, & Kasznia, 1997).
Lane and Schwartz (1987) propose that the ability to recognize and describe emotion in oneself and others, which they call emotional awareness, develops in interaction with cognitive capacities. Their model posits five ascending levels of emotional awareness: physical sensations, action tendencies, single emotions, blends of emotion, and the capacity to appreciate complexity in the emotional experience of self and others. Alexithymia is associated with impaired verbal and nonverbal recognition and understanding of emotion (Lane, Sechrest, Reidel, Weldon, Kasznia, & Schwartz, 1996). Lane et al. (1997) describe alexithymia as the emotional equivalent of blindness. Environmental events trigger emotional responses that alexithymic individuals cannot consciously experience fully; they manifest behavioral and autonomic responses, but either say that they do not feel anything or do not know how they feel. There is a dissociation between emotional experience and the visceral concomitants of emotional arousal (Friedlander, Lumley, Farchione, & Doyal, 1997; Wehmer, Brejnig, Lumley, & Stettner, 1995).

Some researchers have suggested that alexithymia might affect the course of various illnesses. Kauhanen, Kaplan, Julkunen, and Salonen (1994) found that alexithymia predicted all-cause mortality after five years, even controlling for demographic and medical risk factors. Associations between alexithymia and hypertension have been reported (Kauhanen, Kaplan, Cohen, Salonen, & Salonen, 1994; Nordby, Ekeberg, & Knardahl, 1995; Osti, Trombini, & Magnani, 1980). Alexithymic individuals have high and stable levels of autonomic reactivity both at baseline and under stress, a pattern of arousal that may be associated with the internalization of emotional experiences (Infrasca, 1997). Although this evidence points to an association between alexithymia, autonomic reactivity, and illness, it does not explain whether reactivity results from unregulated affect or from unhealthy behaviors associated with alexithymia. Alexithymia may influence illness behavior, including the experience and reporting of symptoms and the tendency to seek medical care, rather than disease-relevant physiology (Goldman, Kraemer, & Salovey, 1996; Lumley, Stettner, & Wehmer, 1996; Lumley, Tomakowsky, & Torosian, 1997). The undifferentiated arousal associated with affect may be sensed, amplified, and reported as physical symptoms, as, for example, when the anxious individual perceives butterflies in the stomach as cramps signifying a likely ulcer (Strettan & Salovey, 1998).

Other recent studies support a link between alexithymia and immunocompetence. Highly alexithymic men, for example, had significantly lower numbers of natural killer cells, a measure of immune system functioning, even when controlling for possible effects of smoking and alcohol intake (Dewaraja et al., 1997). These findings suggest that the negative modulation of cellular immunity, combined with other factors that have negative effects on the immune system such as stress, results in the association between alexithymia and illness.

Appraising the emotions of others. For adaptive social interaction, individuals also must appraise the emotions of others accurately. There are individual differences in people's ability to perceive accurately, understand, and empathize with others' emotions (reviewed in Buck, 1984). Individuals who are best able to do so may also respond flexibly to changes in their social environments and build supportive social networks (Salovey, Bedell, Detweiler, & Mayer, 1999).

Various measures of individual differences in non-verbal receiving of others' emotion have been developed. The Affect Sensitivity Test (Campbell, Kagan, & Krathwohl, 1971; Kagan, 1978) presents videotaped interactions between pairs of individuals; individuals respond by indicating the emotions and thoughts that targets are expressing. This test has moderate internal consistency and a good test-retest reliability, although different versions of it have had surprisingly low intercorrelations (Kagan, 1978). The Communication of Affect-Receiving Ability Test (CARAT) consists of a videotape of people watching scenic, unpleasant, unusual, or sexual slides (Buck, 1976). Participants must guess what the target is observing by studying the target's facial expressions. The Profile of Nonverbal Sensitivity (PONS; Rosenthal, Hall, DiMatteo, Rogers, & Archer, 1979) has one of the best item samples of emotional expression, including face, body, and face and body combined. Another scale oriented to a more general class of stimuli combines faces, colors, and designs, and finds they define a unifactorial construct of emotional receiving (Mayer, DiPaulo, & Salovey, 1990). Several other scales or procedures exist including, for example, measures of the recognition of tachistoscopically presented facial expressions (e.g., Archer & Akert, 1977; Ekman & Friesen, 1975).

Differences in nonverbal perceptions of emotion have been associated with various criteria. CARAT scores are higher among artists than scientists, and they correlate with Rotter's (1966) interpersonal trust scale. More accurate perceptions may relate to effective mental health counseling (Campbell et al., 1971). The unifactorial faces, colors, and designs scale correlates moderately with self-reported empathy (Mayer et al., 1990). A number of investigators have found that women are generally better in recognizing emotions (other than anger) in facial expressions than are men (Boucher & Carlson, 1980; Ekman, 1982; Hall, 1978; Kirouac & Doré, 1983, 1985; Wagner, MacDonald, & Manstead, 1986).

A particularly exciting communality between emotional appraisal and expression is that they both appear related to empathy, the ability to comprehend another's feelings and to re-experience them oneself. Empathy seems to depend on subsidiary abilities similar to appraising and expressing emotion (cf. Batson, Fultz, & Schoenrade, 1987; Wispé, 1986): understanding another person's point of view (Dymond, 1949; Horgan, 1969), identifying accurately another's emotions (Buck, 1984), experiencing the same or other appropriate emotion in response to them (Batson & Coke, 1981, 1983; Mehrabian & Epstein, 1972), and finally, communicating and/or acting on this internal experience (Batson, O'Quin, Fultz, Vanderplas, & Isen, 1983; Krebs, 1975).

Empathy may be a central characteristic of emotionally intelligent behavior. As social support researchers have made clear, a person's relatives, friends, and neighbors are critical contributors to his or her well-being (Kessler, Price, & Wortman, 1985; Thoits, 1986). When people relate positively to one another, they experience greater life satisfaction, and lower stress (Mayer, Gottlieb, Hernandez, Smith, & Gordis, 1988). Empathy is also a motivator for altruistic behavior (Batson, 1987). People who behave in an emotionally intelligent fashion should have sufficient social competence to surround themselves with supportive interpersonal relations. Clearly, the greater the number of emotionally intelligent friends, relatives, and coworkers, the more empathic and supportive one's social structure.

Much of the work on empathy has treated it as a dispositional variable (Chopkan, McCain, Carbonell, & Hagen, 1985). Two scales examining empathy were developed by Hogan (1969) and Mehrabian and Epstein (1972). Hogan's scale was constructed according to
judges' ratings of California Q-sort items that were intended to reflect empathic and unempathic individuals. The complexity of the scale development techniques reported in Hogan (1969) make it clear that broad attributes other than empathy were considered as part of the criterion including humor, imaginative play, and insight into motives. Although we are sympathetic to this approach, which is similar to emotional intelligence in its generality, the scale may for this reason lack discriminant validity for empathy, as more narrowly considered here. A scale developed by Mehrabian and Epstein more specifically measures emotional responsiveness to others and includes such subscales as emotional contagion, appreciation of distant others' feelings, and being moved by others' positive and negative emotional experiences (e.g., "It makes me sad to see a lonely stranger in a group"; "I like to watch people open presents"). Other empathy scales have been reported but are less widely used (e.g., Dymond, 1949; Kerr & Speroff, 1954), and there is growing concern that all of these self-reported empathy scales are not strongly related to actual empathic abilities (Iles, 1993).

Another concept that seems to have important implications for the ability to understand the emotions of other people is ambivalence over emotional expression (King, 1998; King & Emmons, 1990). Ambivalent individuals experience conflict over their style of emotional expression; they may be inexpressive because they inhibit the desire to express, or expressive and regretful of their expressiveness (King, 1998). Such individuals are more likely to experience psychological distress and negative affect than people who are comfortable with their emotional expression (King & Emmons, 1990). Especially relevant here is that ambivalent individuals report confusion reading others' emotions. Ambivalent individuals who are inexpressive tend to overinterpret emotional scenarios and facial expressions (King, 1998). These individuals seem to have multifaceted yet confused perceptions of emotion; their confusion is intensified by the fact that they cannot receive effective social feedback about the accuracy of their interpretations because they do not express themselves. Such confusion may prevent ambivalent inexpressive people from being sensitive to the needs of others and gauging their emotional reactions accurately. Consequently, they have problems in their interpersonal relationships. It appears that ambivalence over emotional expression places individuals at risk for problems with alcohol consumption, marital dissatisfaction, and discontent with social support (King, 1998).

Emotions facilitate cognitive activities

Emotions can facilitate cognitive activities in a number of ways. The arousal of emotions can redirect attention to problems deserving greatest priority (Easterbrook, 1959). Individuals can capitalize on mood swings to view situations in a new way and avoid functional fixedness. People might even simulate emotional states in order to gain access to particular autobiographical memories. The greatest research attention in this area, however, has been focused on the ways in which emotions influence problem-solving and creative activities.

A number of investigators have argued that various emotions create different mental sets. These different sets may be more or less adaptive for solving certain kinds of problems (e.g., Chaiken, Wood, & Eagly, 1996; Isen, 1987; Palfai & Salovey, 1993; Schwarz, 1990; Schwarz, Bless, & Bohner, 1991; Schwarz & Cleere, 1996). That is, different emotions create different information processing styles. Happy moods facilitate a mental set that is useful for creative tasks in which one must think intuitively or expansively in order to make novel associations. Sad moods generate a mental set in which problems are solved more slowly with particular attention to detail using more focused and deliberate strategies. Palfai and Salovey (1993) argued that these two different information processing styles (i.e., intuitive and expansive versus focused and deliberate) should be effective for two different kinds of problem-solving tasks: inductive problems like analogical reasoning and deductive logical tasks, respectively.

Mood may also assist problem solving by virtue of its impact on the organization and use of information in memory. For example, individuals may find it easier to categorize features of problems as being related or unrelated while they experience positive mood (Isen & Daubman, 1984). This clarity in categorizing information may have a positive impact on creative problem solving (Isen, Daubman, & Nowicki, 1987). Standard creativity tasks such as the remote associates task and cognitive categorization tests have commonly been used as the dependent variables in this research. For example, Isen, Daubman and Nowicki (1987) demonstrated that positive mood can facilitate more creative responses to Duncker's (1945) candle task. It seems that people experiencing positive mood are more likely to give especially unusual or creative first associates to neutral cues (Isen, Johnson, Mertz, & Robinson, 1985). Moreover, happy individuals may be more likely to discover category-organizing principles and use them to integrate and remember information (Isen, Daubman, & Gorgogline, 1987).

Emotionally intelligent individuals may also be able to harness the motivational qualities of emotion. For example, a student may focus purposefully on the negative consequences of failing to submit a term paper on time in order to self-induce a state of fear that will spur him to get an early start on the paper. Another student may remind herself of all her successes before sitting down to write the paper. The self-induced positive mood that results bolsters her confidence in writing the paper, and she may be more likely to persevere when faced with a particularly challenging section of it.

Emotional states can be lessened by individuals toward other ends. For example, positive moods make negative outcomes appear more likely, whereas negative moods make negative outcomes appear more likely (e.g., Johnson & Tversky, 1983; Mayer, Gaschke, Braverman, & Evans, 1992). Thus, addressing a problem while in different moods may enable individuals to consider a wider range of possible actions and outcomes (Mayer & Hanson, 1995). Mood swings may assist people in breaking set when thinking about the future and consider a variety of possible outcomes. As a consequence, they may be more likely to generate a larger number of future plans for themselves and thereby be better prepared to take advantage of future opportunities (Mayer, 1986).

Understanding and analyzing emotional information and employing emotional knowledge

A third branch of emotional intelligence concerns essential knowledge about the emotional system. The most fundamental competency at this level concerns the ability to label emotions with words and to recognize the relationships among exemplars of the affective
lexicon. The emotionally intelligent individual is able to recognize that the terms used to
describe emotions are arranged into families and that groups of emotion terms form fuzzy
sets (see Ortony, Clore, & Collins, 1988). For instance, individuals learn that words such as
rage, irritation, and annoyed can be grouped together as terms associated with anger.
Perhaps more importantly, the relations among these terms are deduced — that annoyance
and irritability can lead to rage if the provocative stimulus is not eliminated, or that envy is
often experienced in contexts that evoke jealousy, but jealousy is less likely to be part of
envy-provoking situations (Salovey & Rodin, 1986, 1989).

To understand the emotions, individuals must learn what emotions convey about rela-
tionships. Lazarus (1991), for example, describes how core relational themes — the central
harm or benefit in adaptive anticipation that underlies each emotion — are associated
with different kinds of feelings. Anger results from a demeaning offense against the self,
guilt from transgressing a moral imperative, and hope from facing the worst but yearning
for better (Lazarus, 1991).

Increased complexity in this domain of emotional intelligence is represented by knowl-
edge that emotions can combine in interesting and subtle ways. At a high school reunion,
nostalgic conversation can give rise to wistful feelings, a blend of both joy and sorrow.
Startled surprise at the wonders of the universe combined with fear about one's insignific-
ance place in it may give rise to awe.

Finally, understanding and analyzing emotions includes the ability to recognize transi-
tions among emotions. For example, Tangney and her colleagues have written extensively
about how shame but not guilt can turn quickly to rage. The loss of self-esteem in situa-
tions that evoke shame can induce anger, as a kind of coping response and attempt to
reestablish a sense of self. These transitions are rare to observe with guilt. Individuals can
literally be shamed into rage (Tangney & Salovey, 1999; Tangney, Wagner, Fletcher, &

Regulation of emotion

Emotional knowledge also contributes to the fourth component of emotional intelligence,
emotion regulation. However, individuals must develop further competencies in order to
put their knowledge into action in this domain. They must first be open to the experience of
mood and emotion and then practice and become adept at engaging in behaviors that
bring about desired feelings. These emotion-regulatory skills enable individuals to engage
in mood-repair strategies such as avoiding unpleasant activities or seeking out activities
that they typically find rewarding. Individuals who are unable to manage their emotions
are more likely to experience negative affect and remain in poor spirits.

Self-regulation of emotion. Through the self-reflective experience of emotion, individuals
acquire knowledge of the correlates and causes of their emotional experiences. Knowledge
of emotion thus enables individuals to form theories of how and why emotions are elicited
by different situations. This ability to understand and analyze emotional experiences trans-
lates into the ability to understand one's self and one's relation to the environment better,
which may foster effective emotional regulation and greater well-being. In the psycho-
therapy literature, this has been termed emotional literacy (Steiner & Perry, 1997).

Individuals often react emotionally toward their direct experiences of various feelings,
and these meta-emotional experiences either can facilitate or impede functioning (Gottman,
1997; Mayer & Gaschke, 1988). For example, a person can feel ashamed for having felt or
expressed anger toward a loved one. The meta-emotion in this case is shame, which takes
as its object the individual's direct experience of anger, and it may motivate the individual
to inhibit anger or at least suppress angry behavior in the future. This type of learned
emotional restraint can be highly advantageous to parents, children, between lovers, and in
most other social relationships. To date, there have been very few investigations of meta-
emotion (although see Gottman, 1997), in part because studying emotional responses to
direct emotional experiences is a complex affair. However, meta-emotion is a fascinating
instance of how humans take themselves and their experiences as objects and respond to
these objects in a higher-order manner.

The emotionally intelligent individual can repair her negative moods and maintain posi-
tive moods when doing so is appropriate (it is sometimes desirable to maintain negative
moods). This regulatory process comprises several steps. Individuals must (1) believe that
they can repair negative moods when they arise (self-efficacy of regulation), (2) monitor
their mood states accurately, (3) identify and discriminate those mood states that require
regulation, (4) employ strategies to alleviate negative moods and maintain positive ones,
and (5) assess the effectiveness of those strategies. Individuals differ in the expectation
that they can alleviate negative moods. Some people believe that when they are upset they
cannot do something that will make them feel better; others insist that nothing will improve
their negative moods. Individuals who believe they can successfully repair their moods engage
in active responses to stress, whereas people low in self-efficacy of regulation display avoidance
responses, as well as depressive and mild somatic symptoms (Catanzaro & Green-
wood, 1994).

Although people must attend to their moods in order to identify those moods that
require regulation, the mere act of attention may not always be adaptive. Attention to
one's mood correlates positively with physical symptom reporting, depression, and neuroti-
cism (Goldman et al., 1996; Nolen-Hoeksema, Morrow, & Fredrickson, 1993; Salovey,
Mayer, Goldman, Turvey, & Palfai, 1995). High mood monitors have lower self-esteem
and tend to experience more intense affective states and greater negative affect (Swinkels &
Giuliano, 1995). These people agree that their moods are important and influence their
behavior, but they report less success at mood regulation. Although monitoring in general
may be a neutral activity, it can lead to increased rumination and subsequent prolonged
negative affect when an unpleasant mood is encountered (Nolen-Hoeksema, 1991).

People differ in how well they can identify, discriminate, and understand their moods
(Salovey et al., 1995). Whereas some people claim that they can clearly describe their
feelings, other people report that they never know how they feel. Clarity in discriminating
moods is associated with lower social anxiety, depression, and physical symptom reporting,
as well as optimism and satisfaction with interpersonal and family relationships (Salovey
et al., 1995; Salovey, Stroud, Woolery, & Epel, 2000). Individuals who can discriminate
clearly among their emotions are less responsive to laboratory stressors, as measured by
salivary cortisol secretions (Salovey et al., 2000). They also ruminate less following a nega-
tive event than individuals who report being unclear about their moods (Salovey et al.,
Individuals who know what they are feeling tend to be extraverted and less socially anxious, seek and are satisfied with social rapport, experience higher self-esteem, and express greater global life satisfaction (Swinkels & Giuliano, 1995).

Whereas mood monitoring promotes rumination, mood labeling allows people to develop productive strategies for dealing with their moods. People must attend to their moods in order to discriminate among them. Once people can categorize and know their moods, they can work to prolong or change them. Without this process of discrimination, attending to moods becomes a maladaptive process that can lead to rumination—people focus excessively on their mood states and are unable to understand why they are experiencing them. Such rumination may intensify depression and, in turn, lead to difficulties in coping with stressful events. Most recent research has focused on attempts to repair bad moods, rather than maintain positive ones. Individuals who report that they attempt to repair negative moods are less likely to experience social anxiety, depression, and physical symptoms, but are more optimistic and satisfied with interpersonal and family relationships than individuals who do not attempt to repair their moods (Goldman et al., 1996; Salovey et al., 1995).

When individuals do attempt to regulate their moods, they employ a broad range of techniques. Thayer, Newman, and McClain (1994) believe that physical exercise is the single most effective strategy for changing a bad mood, among those under one's own control. Eighty-five percent of the studies on the acute mood effects of participation in a single session of exercise found some degree of improved mood (Yeung, 1996). Exercise also alleviates laboratory-induced anxiety (Yeung, 1996). Other commonly reported mood regulation strategies include listening to music, social interaction, and cognitive self-management, such as giving oneself a "pep talk." Pleasant distractions (chores, hobbies, fun activities, shopping, reading, and writing) are also effective. Less effective strategies include passive mood management (e.g., television viewing, caffeine, food, and sleep), direct tension reduction (e.g., drugs, alcohol, and sex), spending time alone, and avoiding the person or thing that caused a bad mood. In general, the most successful regulation methods involve expenditure of energy; active mood management techniques that combine relaxation, stress management, cognitive effort, and exercise may be the most effective strategies for changing bad moods (reviewed by Thayer et al., 1994).

A major aspect of emotional self-regulation is the ability to reflect upon and manage one's emotions; emotional disclosure provides one means of doing so. Pennebaker (1989, 1993, 1997) has studied the effects of disclosure extensively and finds that the act of disclosing emotional experiences in writing improves individuals' subsequent physical and mental health. The benefits of disclosure include fewer visits to the doctor (Pennebaker, Colder, & Sharp, 1990), enhanced immunological functioning (Pennebaker, Kiecolt-Glaser, & Glaser, 1988), and decreases in self-reported physical symptoms, distress, and depression (Greenberg & Stone, 1992). Text analyses based on these studies indicate that those individuals who benefit most from writing tend to use relatively high rates of positive emotion words, a moderate number of negative emotion words, and an increasing number of cognitive or thinking words from the first to last days of writing (Pennebaker & Francis, 1996; Pennebaker, Mayne, & Francis, 1997). Pennebaker (1997) suggests that these improvements result from the mediating role of language. When individuals experience trauma, they seek to understand the meaning and significance of their events.

If they can label their emotions, they will impose structure on their experiences. This structure helps people assimilate and understand their experiences, thus reducing associated emotional arousal.

Regulating the emotions of others. The ability to help others enhance their moods is also a valued skill as individuals often rely on their social networks to provide not just a practical but emotional buffer against negative life events (Stroebe & Stroebe, 1996). Moreover, individuals appear to derive a sense of efficacy and social worth from helping others feel better and by contributing to the joy of loved ones. The ability to manage others' emotional experiences also plays a significant role in impression management and persuasion (Goffman, 1959). Although this skill sometimes is employed unscrupulously by sociopaths, cult leaders, and advertisers, impression management and persuasion often are employed prosocially as well. Thus, individuals who are able to regulate effectively the emotions of others are better able to act prosocially and build and maintain solid social networks. One literature that may provide a helpful starting point to investigators in this area is that concerning charismatic leadership (e.g., Wasielewski, 1985), which points out some of the strategies used by especially influential individuals to motivate others toward common goals.

Measuring Emotional Intelligence

Although the construct of emotional intelligence has generated considerable interest, the measurement of it is emerging rather slowly, and validity data are especially scarce. There is a converging sense among researchers of what emotional intelligence is—a set of competencies concerning the appraisal and expression of feelings, the use of emotions to facilitate cognitive activities, knowledge about emotions, and the regulation of emotion. There is less consensus on how best to measure emotional intelligence. Although there are distinct advantages to task-based measures and behavioral assessments, various self-report scales have also appeared that may measure important aspects of individuals' perceptions of their competencies in this domain. Such self-assessments may or may not correlate with actual skills and abilities. Some tests available commercially claim to measure emotional intelligence, but their content usually reflects a more generic focus on social skills, self-esteem, or personality characteristics.

Some investigators in the area of emotional intelligence have become demoralized at the primitive state of measurement in this domain at present. A recent article by Davies, Stankov, and Roberts (1998) concluded, after reviewing extant measures, most of which were earlier versions of instruments and some of which were gleaned from websites and articles in the popular press (e.g., Goleman, 1995b), that there is nothing empirically new in the idea of emotional intelligence—that these measures have no discriminant validity. Our view is that such a conclusion is incredibly premature. We are reminded of how during the Enlightenment, scientists wished to distinguish their thinking from a more medieval, superstitious, style of interpreting facts. In 1769, these scientists directed their skepticism toward the idea, within astronomy, that meteorites are small objects that enter the earth's
## Table 11.2

Summary of Measures that have been Used to Assess Emotional Intelligence

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<thead>
<tr>
<th>Scale</th>
<th>Citation</th>
<th>Subscales</th>
<th>Number of items</th>
<th>Alpha</th>
<th>Convergent validity reported</th>
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<tr>
<td>Task-based scales</td>
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<tr>
<td>Levels of Emotional Awareness</td>
<td>Lane, Quinlan, Schwartz, Walker, &amp; Zeitlin (1990)</td>
<td>Emotional Creativity Inventory</td>
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<td>.81</td>
<td>Loewinger Sentence Completion Task (r = .40)</td>
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<td>Emotional Triads Test</td>
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<td>.89</td>
<td>Parental Descriptions Scale (r = .35)</td>
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<td>Emotional Consequences Test</td>
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<td>Openness to Experience (r = .33)</td>
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<td>Denied Emotions (DES) (r = -.27)</td>
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<tr>
<td>Emotional Creativity</td>
<td>Averill &amp; Nunley (1992)</td>
<td>SAT-V (r = -.21)</td>
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<td></td>
<td>Averill &amp; Thomas-Knowles (1991)</td>
<td>SAT-M (r = .04)</td>
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<td>Affective Communication (r = .47)</td>
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<tr>
<td>Thoughts and Emotions</td>
<td>Mayer &amp; Geher (1996)</td>
<td></td>
<td>8</td>
<td>.53</td>
<td>Empathy (r = .24)</td>
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<td>Marlow-Crowne (r = -.14)</td>
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<td>Mayer, Caruso, &amp; Salovey (1998), Mayer, Salovey, &amp;</td>
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<td>42</td>
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<td>II. Using emotions</td>
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<td>III. Understanding emotions</td>
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<td>1. blends</td>
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<td>2. progressions</td>
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<td>24</td>
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<td>4. relativity</td>
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<td>IV. Regulation of emotion</td>
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<td></td>
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<td>1. others</td>
<td>24</td>
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<td>2. self</td>
<td>24</td>
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<td>EI scale</td>
<td>Tett, Wang, Thomas, Griebler &amp; Martinez (1997)</td>
<td>1. Recognition of emotion</td>
<td>146</td>
<td>.77 to .88</td>
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<td></td>
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<td>2. Nonverbal emotional expression</td>
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<td>3. Empathy</td>
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<td>4. Regulation of emotion</td>
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<td>5. Flexible planning</td>
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<td>6. Creative thinking</td>
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<td>7. Mood redirected attention</td>
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<td>8. Motivating emotions</td>
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<td>9. Delay of gratification</td>
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<td>10. Emotional appropriateness</td>
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<td>Scale</td>
<td>Citation</td>
<td>Subscales</td>
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<td>Schutte EI</td>
<td>Schutte, Malouff, Hall, Haggery, Cooper, Golden &amp; Dornheim (1998)</td>
<td>1. Appraisal and expression</td>
<td>33</td>
<td>.87 to .90</td>
<td>TAS ($r = -.65$)</td>
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<tr>
<td></td>
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<td>2. Regulation</td>
<td></td>
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<td>TMMS</td>
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<td>3. Utilization for cognition</td>
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<td>Attention ($r = .63$)</td>
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<td>Clarity ($r = .52$)</td>
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<td>Repair ($r = .68$)</td>
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<td>Life Orientation Test</td>
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<td>optimism ($r = .52$)</td>
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<td>Zung Depression ($r = -.37$)</td>
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<td>Goleman EI</td>
<td>Goleman (1995b)</td>
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<td>Emotional Quotient Inventory (EQI)</td>
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<td>133</td>
<td>.79</td>
<td>Beck Depression ($r = -.56$)</td>
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<td></td>
<td></td>
<td>2. Assertiveness</td>
<td></td>
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<td>Zung Depression ($r = -.66$)</td>
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<td>3. Self-regard</td>
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<td>Emotional stability ($r = .51$ to .72)</td>
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<td>4. Self-actualization</td>
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<td>Apprehension ($r = -.47$ to -.55)</td>
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<td>5. Independence</td>
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<td>Social boldness ($r = .49$ to .51)</td>
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<td>Social warmth ($r = .26$ to .51)</td>
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<td>7. Interpersonal relationships</td>
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<td>8. Social responsibility</td>
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<td>9. Problem solving</td>
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<td></td>
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<td>10. Reality testing</td>
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<td>11. Flexibility</td>
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<td>12. Stress tolerance</td>
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<td>13. Impulse control</td>
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<td>14. Happiness</td>
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<td>2. Interpersonal intelligence</td>
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<td>3. Judgment abilities</td>
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<td>(these 3 domains further broken into 8 abilities and 24 subcategories)</td>
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<td>Style in the Perception of Affect Scale (SIF/OAS)</td>
<td>Bernet (1996)</td>
<td>1. Body-Based</td>
<td>93</td>
<td>Body-based: improved mental health, awareness of small bodily changes, social skill, contentment, creativity</td>
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<td></td>
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<td>2. Emphasis on Evaluation</td>
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<td>3. Looking to Logic</td>
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<td>Trait Meta-Mood Scale (TMMS)</td>
<td>Salovey, Mayer, Goldman, Turvey, &amp; Palfai (1995)</td>
<td>1. Attention</td>
<td>48</td>
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<td>Ambivalence Over Emotional Expression ($r = -.25$)</td>
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<td></td>
<td>3. Repair</td>
<td></td>
<td>CES depression ($r = -.27$)</td>
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<td></td>
<td>A:</td>
<td>Attention:</td>
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<td>Private self-consciousness ($r = .42$)</td>
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<td>.78-.86</td>
<td>Public self-consciousness ($r = .36$)</td>
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<td></td>
<td></td>
<td></td>
<td>C:</td>
<td>Repair:</td>
<td></td>
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<td>.80-.88</td>
<td>CES depression ($r = -.37$)</td>
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<td>R:</td>
<td>Optimism (LOT) ($r = .57$)</td>
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<td></td>
<td>.62-.85</td>
<td>Negative Mood Regulation ($r = .53$)</td>
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<td>Scale</td>
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<td>Subscales</td>
<td>Number of items</td>
<td>Alpha</td>
<td>Convergent validity reported</td>
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<td>Trait Meta-Mood Scale for</td>
<td>Rockhill &amp; Greener (1999)</td>
<td>1. Attention</td>
<td>16</td>
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<td>Elementary School Children</td>
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<td>Children's Depression Inventory (r = -0.26) and (-0.17)</td>
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<td>(TMMS-C)</td>
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<td>3. Repair</td>
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<td>Optimism (LOT) (r = 0.38) and (0.37)</td>
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<td>1. Mood monitoring</td>
<td>10</td>
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<td>Empathy (r = 0.34)</td>
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<td>2. Mood labeling</td>
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<td>Negative Mood Regulation</td>
<td>Catanzaro &amp; Mearns (1990)</td>
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<td>30</td>
<td>0.86–0.92</td>
<td>Self-consciousness (r = 0.44)</td>
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<td>Affect intensity (r = 0.26)</td>
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<td>Emotional Expressiveness</td>
<td>King &amp; Emmons (1990)</td>
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<td>16</td>
<td>0.70</td>
<td>Sadness (DES) (r = -0.28)</td>
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<td>Questionnaire</td>
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<td>Beck Depression men (r = -0.58), women (r = -0.39)</td>
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<td>Ambivalence Over</td>
<td>King &amp; Emmons (1990)</td>
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<td>28</td>
<td>0.91</td>
<td>Positive affect (r = 0.40)</td>
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<td>Emotional Expression</td>
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<td>Confusion in reading emotion (r = -0.20)</td>
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### Table of Values

**Level of Emotional Awareness**

One approach to measuring emotional intelligence is to observe how individuals describe their feelings in response to standard stimuli.Lane, Quinlan, Swarts, Walker, and Zeitlin (1990) developed the Levels of Emotional Awareness Scale (LEAS) as a measure of the articulation of emotional experiences. Participants are asked to describe their own anticipated feelings and those of another person in each of 20 scenarios such as:

- Your best friend and your worst enemy are in the same line of work. There is a prize given annually to the best performance of the year. There is a prize given annually to the best performance of the year. The two of you work hard to win the prize. One night, the winner is announced: your friend. How would you feel? How would your friend feel?

Standardized scoring criteria are used to evaluate the degree of differentiation and interpretation of the language used to describe the emotional response. Inter-rater reliability has been consistently high. The rating procedure is based on the differential scores assigned by raters and the degree of variance between the ratings.

 Emotional intelligence is likely to be measured with greatest validity when it is assessed as a set of competencies or skills. Self-reported assessments in this domain may not be practically accurate or easily available to conscious introspection. It is unlikely that even the most brilliant person would be able to rate their own emotional intelligence such as "I think I'm pretty smart, but I can't be sure about my emotional intelligence." Therefore, the construct of emotional intelligence self-efficiency must be defined by the researchers engaging the assessment.

Despite the skepticism, measures of emotional intelligence have begun to emerge though studies of predictive validity have yet to fully mature. In their influential work, Bar-On (1997) and Schutte, Bar-On, either of the competencies do not exist, neither essentially, nor because of being "heavenly bodies," and heaven did not create them, nor of the researchers engaging the assessment.

No data with respect to their psychometric properties including concurrent and discriminant validity.
Emotional creativity. In another test of emotional understanding, Averill and Nunley (1992) presented participants with three emotions and asked them to write brief descriptions of situations in which they would feel the three emotions together. For example, in response to the emotional triad "joy/relief/distress," one participant wrote about the joy of being at the top of a mountain, the distress at imagining falling off, and the relief of not actually falling. Scoring is according to an expert criterion. Success at this task is moderately correlated with analytic intelligence as well as creativity (see also Averill & Thomas-Knowles, 1991).

Connecting thoughts and emotions. Mayer and Geher (1996) created a test that specifically measures individual differences in the ability to connect thoughts to emotions. Participants read eight thought samples from a target group of people and estimated what these individuals were likely feeling. Various criteria were used to evaluate the participants' emotional recognition abilities, including agreement with the group consensus and agreement with the targets' report. Participants who agreed more highly with the group consensus and target scored higher than other participants on self-reported empathy and on the Scholastic Aptitude Test, but lower on a measure of emotional defensiveness.

The Multifactor Emotional Intelligence Scale (MEIS). Arguably the most comprehensive task-based measure of emotional intelligence is the Multifactor Emotional Intelligence Scale (Mayer, Caruso, & Salovey, 1998). The MEIS comprises twelve ability measures that are divided into four branches, reflecting the model of emotional intelligence presented earlier: (1) perceiving emotions, (2) using emotions to guide thought and other cognitive activities, (3) understanding emotion, and (4) regulating emotion (Mayer & Salovey, 1997). Branch 1 tasks measure emotional perception in Faces, Music, Designs, and Stories. The second branch measures Synesthesia Judgments (e.g., "How hot is anger?") and Feeling Biases. Branch 3's four tasks examine the understanding of emotion. Sample questions include, "Optimism most closely combines which two emotions?" A participant should choose "pleasure and anticipation" over less specific alternatives such as "pleasure and joy." Branch 4's two tests measure Emotion Management in the Self and in Others. These tasks ask participants to read scenarios and then rate reactions to them according to how effective they are as emotion management strategies focused on the self or on others.

Investigations using the MEIS are in rather preliminary stages, but some findings have emerged. In general, the data collected support the theoretical model of emotional intelligence described earlier (Mayer, Salovey, & Caruso, 1999). In a normative sample of 503 adults, MEIS tasks were generally positively intercorrelated with one another, but not highly. As well, the test's factorial structure recommended two equally viable factorial models: (a) a three- to four-factor solution that separated out factors of emotional perception, understanding, management, and, at times, using emotions in cognitive activities, or (b) a hierarchical structure that first describes a general factor, e.g., The MEIS as a whole correlates positively with verbal intelligence, self-reported empathy, and parental warmth, and negatively with social anxiety and depression. Controlling for verbal intelligence (i.e., vocabulary), MEIS scores were associated with verbal Scholastic Achievement Test (SAT) - Verbal scores among students at an Ivy League college. A refined and better normed successor to the MEIS, called the Mayer, Salovey, and Caruso Emotional Intelligence Test (MSCEIT) is presently being prepared for publication.

Self-report scales

In recent years, many self-report instruments purporting to measure aspects of emotional intelligence have appeared in the literature. Some of these scales are based on Salovey and Mayer's (1990) original conceptualization of emotional intelligence, others attempt only to operationalize one or another facet, and still others represent general measures of beliefs about social competencies now repackaged under the emotional intelligence rubric.

Scales based on Salovey and Mayer (1990). Several researchers have developed self-report measures based on the original model of emotional intelligence. For example, Tett, Wang, Thomas, Griebler, and Martinez (1997) devised a 146-item measure with 10 scales representing explicitly the original model components and subcomponents: recognition of emotion in the self and others, nonverbal emotional expression, empathy, regulation of emotion in the self and others, flexible planning, creative thinking, mood redirected attention, and motivating emotions (Salovey & Mayer, 1990). In addition, subscales measuring delay of gratification and emotional appropriateness, constructs not described by Salovey and Mayer (1990), were included. The scales have reasonable internal consistency and show moderate to strong associations with conceptually related personality measures and relatively weak relations with conceptually unrelated measures, as indicated in table 11.2.

As with all of the measures described in this section, Tett et al.'s (1997) scale is limited by its self-report nature. Moreover, several items lack face validity with respect to the constructs that they are attempting to operationalize, for example, "I design and make my own furniture" (Motivating Emotions) and "I waste my time sleeping" (Delay of Gratification). Other items seem particularly prone to self-presentational biases, such as, "I am not a very creative person" and "I have an inventive mind" (Creative Thinking).

Schutte et al. (1998) have also developed a self-report measure of emotional intelligence based on the three most general dimensions delineated by Salovey and Mayer (1990): appraisal and expression of emotion, regulation of emotion, and utilization of emotions in problem solving and other cognitive activities. The 33-item scale is internally consistent and has high test-retest reliability. The Schutte et al. scale correlates with measures of theoretically related constructs, including the Toronto Alexithymia Scale, the Attention, Clarity, and Repair subscales of the Trait Meta-Mood Scale, the Life Orientation Test, the Zung Depression Scale, and measures of openness to experience from the Big Five model of personality. Scores on the scale are positively associated with first-year college grades and were higher for therapists than for therapy clients or prisoners. Females score more highly on this scale than males. Emotional intelligence scores on this measure were associated with supervisor ratings of student counselors working at various mental health agencies (Malouff & Schutte, 1998). The strengths of the Schutte et al. scale include promising reliability, some reported validity, and concise representation of three aspects of emotional intelligence in just 33 items. However, the scale is limited by the small number of negatively-keyed items (3 out of 33).
Scales based on other models of emotional intelligence. There are numerous measures of emotional intelligence not based on the original Salovey and Mayer (1990) framework. The most intensely marketed of these measures is the Emotional Quotient Inventory (EQI) developed by Bar-On (1996, 1997). Bar-On’s personal effectiveness model of emotional intelligence is intended to represent personality characteristics that are associated with life success, including: Problem Solving, Self Regard, Interpersonal Relationships, Social Responsibility, Independence, Self-Actualization, Assertiveness, Flexibility, Happiness, Stress Tolerance, Impulse Control, and Reality Testing. In general, subscales based on these characteristics have adequate internal consistency and good test-retest reliability (Bar-On, 1997).

A cross-national administration of the EQ and the 16PF indicated that the EQ is positively correlated with emotional stability, social boldness, and social warmth, and negatively correlated with apprehension (Bar-On, 1997, pp. 110–111). In cross-national samples, the EQ differentiates among individuals high or low in subjective well-being (Bar-On, 1997, p. 26). Neither the overall scale nor any of its subscales are associated with the intelligence test embedded in the 16PF; a study correlating the EQ with the WAIS (Wechsler Adult Intelligence Scales) yielded a negligible correlation (Bar-On, 1997, pp. 137–138). Total EQ scores are negatively correlated with depression.

Goleman (1995b) has compiled a rather different test of emotional intelligence for articles in the popular media and elsewhere. The Goleman scale is composed of 10 items; for each item, people state their response to a hypothetical situation. Although the scale was probably never intended for scientific use, it does bear some content overlap with the fourth branch of our model (Emotional Regulation). Goleman’s scale correlates highly with self-reported empathy (Davies et al., 1998). The scale also correlates with a measure of emotional control (Roger & Najarian, 1998). However, the psychometric properties of this scale, especially its internal consistency, are unacceptably weak (Davies et al., 1998).

A new measure of self-reported emotional intelligence was developed in Japan, the Emotional Quotient Inventory (EQI) (EQ Japan, Inc., 1998). The EQI operationalizes emotional intelligence in three domains: (1) intrapersonal intelligence (self-concept), (2) interpersonal intelligence (social skills), and (3) judgment intelligence (monitoring ability). These three intelligences are further subdivided into a set of eight abilities, which in turn yield 24 “types of [emotion] knowledge” (EQ Japan, Inc., 1998). For example, self-recognition of emotion is one of the abilities that comprise intrapersonal intelligence; the specific “types of knowledge” that contribute to self-recognition are personal self-awareness, social self-awareness, depression, and anxiety. The EQI provides a detailed guide to interpreting individual profiles, as well as “hints for self-development” for people who score high, average, or low on the various scales (EQ Japan, Inc., 1998). Like Bar-On’s EQI (Bar-On, 1997), EQ Japan’s EQI measures a broad range of perceived personal attributes that extend beyond what is conventionally understood to comprise emotional intelligence. Depression, anxiety, self-assertion, and optimism are important aspects of personal effectiveness, certainly, but they are constructs that transcend emotional intelligence as we have defined it.

In contrast to these scales that measure a broad array of attributes that are then described as emotional intelligence, there are some narrower-gauge measures concerned with aspects of emotion-relevant information processing. An interesting approach to measuring emotional perception, for example, is Bernett’s (1996) 93-item Style in the Perception of Affect Scale (SIPoAS), developed on the premise that being able to attend rapidly, appropriately, and effortlessly to feelings is the basis of emotional intelligence. The SIPoAS measures respondents’ preferences for three styles. The “Body-Based” (BB) scale assesses attention to the bodily changes that accompany feelings and emotions. The “Emphasis on Evaluation” (EE) scale reflects effortful attempts at understanding one’s own emotions in terms of outsiders, ideals, or expectations. The “Looking to Logic” (LL) scale involves favoring intellect and avoiding feeling. Body-based perception has been associated with better mental health, awareness of small bodily changes, social skill, contentment, and creativity (Bernett, 1996).

Other self-report scales measure reflective aspects of affective experiences. The Trait Meta-Mood Scale (TMMS) is a 48-item self-report measure designed to assess a person’s general beliefs about attending to moods, the clarity of their own experiences of mood, and their efforts to repair mood states (Salovey et al., 1995). It consists of three subscales: Attention to Mood (Attention), Clarity in the Discrimination of Feelings (Clarity), and Mood Repair (Repair). In several studies involving six independent samples (Salovey et al., 1995; Salovey et al., 2000), internal consistency of the three scales was adequate, and intercorrelations among the subscales were relatively low.

High scores on Repair and Clarity have been associated with lower social anxiety, depression, and physical symptom reporting, as well as optimism and satisfaction with interpersonal and family relationships. Clarity and Attention have been associated with less intense physiological reactions to laboratory stressors, as measured by cortisol release and blood pressure changes (Salovey et al., 2000). Individuals high in Clarity tend to show greater declines in ruminate thought over time following a negative event than individuals who report being unclear about their moods (Salovey et al., 1995).

A recent variation on the TMMS is the Trait Meta-Mood Scale for Elementary School Children (TMMS-C) (Rockhill & Greener, 1999). The TMMS-C includes items adopted from the TMMS and the Life Orientation Test (LOT), which measures the tendency to have optimistic expectancies about future events (Scheier & Carver, 1985). The language of both the items and the rating scales have been simplified from the original measures. In a representative sample of 691 third- through seventh-grade elementary school students, children were reliable reporters of their own emotional Attention, Clarity, and Repair. Cronbach’s alphas for these subscales were reasonably good. Correlations among subscales were similar to those found in the adult measures (Salovey et al., 1995). Clarity and Repair correlated-negatively with depression and positively with dispositional optimism.

Another scale measuring the experience of reflecting on one’s moods was developed by Giuliano and Swinkels (1992). Their 10-item Mood Awareness Scale (MAS) is composed of two factors, mood monitoring ("I find myself thinking about my mood during the day") and mood labeling ("Right now I know what kind of mood I'm in"). Across 12 independent samples, internal consistency was very good. The full scale is positively associated with empathy, extraversion, private self-consciousness, and affect intensity, and negatively associated with social anxiety and alexithymia. Mood labeling is positively associated with extraversion, nonverbal expressiveness, and positive affect, and negatively associated with neuroticism and social anxiety. Mood monitoring is associated with...
neuroticism, negative affect, low self-esteem, and rumination thinking (Swinkels & Giuliano, 1995).

The MAS dimensions of mood monitoring and labeling are very much like the TMMS Attention and Clarity subscales. Another measure, the Negative Mood Regulation (NMR) scale (Catanzaro & Mearns, 1990) resembles the TMMS Repair subscale. The NMR scale is a 30-item questionnaire that asks participants to indicate the strength of their belief that they can alter negative moods. All items begin with the stem “When I’m upset, I believe that...” and refer to expectancies regarding the outcomes of attempts to alleviate a negative mood state (“I can do something to feel better”; “I’ll feel okay if I think about more pleasant things”). The NMR scale has demonstrated good internal consistency and test-retest reliability. Depression and somatic symptoms and the use of avoidant coping responses are associated with low NMR scores. Higher scores are positively associated with active coping responses (Catanzaro & Greenwood, 1994).

Other scales have been developed to measure aspects of emotional expression. The Emotional Expressiveness Questionnaire (EEQ: King & Emmons, 1990) includes 16 items that pertain to the tendency to express a variety of positive and negative emotions (“People can tell from my facial expressions how I am feeling”). Items are rated on a 7-point scale, with high scores indicating a tendency to express emotion. The scale demonstrates good internal consistency and has been found to correlate with peer ratings of expression and with other measures of emotional expressiveness (King & Emmons, 1990).

The Ambivalence Over Emotional Expressiveness Questionnaire (AEQ: King & Emmons, 1990), is a 28-item scale that measures conflict over one’s emotional style. Items pertain to wanting to express emotion and being unable to do so, as well as expressing emotion and later regretting it (“I want to express my emotions honestly but I am afraid that it may cause me embarrassment or harm”; “After I express anger at someone, it bothers me for a long time”). The scale has excellent internal consistency and correlates with measures of negative affect and confusion in reading emotion. Individuals who are both inexpressive and ambivalent over emotional expression have great difficulty making accurate inferences about the emotions conveyed to them (King, 1998).

The need for studies of predictive validity

This chapter has summarized a model of emotional intelligence and then described various ways that emotional intelligence has been operationalized. This story, however, does not have a typical ending – we know what emotional intelligence is, we have some idea how to measure it, but we do not yet understand whether it matters. At present, there are precious few studies showing that these competencies are related directly to life success, despite exaggerated claims in popular media reports to the contrary. Occasionally, one hears emotional intelligence discussed rather dismissively in scientific circles (e.g., Davies et al., 1998), because there are so few data establishing its predictive validity. As far as we are aware, prospective studies of the relation between emotional intelligence and outcomes that matter in the world – career success, marital satisfaction, subjective well-being, physical health – controlling for potentially related constructs like analytic (traditional) intelligence and Big Five personality attributes simply have not been published. This is where future effort must be directed.

Implications for Education and Business

Despite the paucity of studies measuring the predictive validity of emotional intelligence, in recent years, there is increasing interest in applying this construct in educational and business settings. In schools, the popularity of programs designed to encourage social and emotional learning (Cohen, 1999; Eilat et al., 1997) or character education (Lickona, 1991) has led to the search for a unifying idea bridging interest in the development of morality and acquisition of social problem-solving skills. For some, emotional intelligence has provided this unifying framework. Similarly, individuals interested in encouraging managers in corporate settings to cultivate a broader range of skills than just those relevant to the technical aspects of one’s job, have seized on emotional intelligence as the construct capturing these diffuse competencies (Cooper & Sawaf, 1996; Goleman, 1998; Ryback, 1998; Salerno, 1996; Weisinger, 1998).

While we cannot help but be pleased by the attention paid to emotional intelligence by forward-thinking educators and managers, we are a bit troubled by the profusion of concepts now thought to be captured by the term. The refining of theory and measurement is derailed by the attempt to include any construct anyone feels is important to success (and not measured by standard intelligence tests) under the emotional intelligence rubric (e.g., optimism, zeal, conscientiousness, innovation, service orientation). Human competencies must be defined separately from the uses to which those competencies can be applied. Emotional intelligence may be a building block of good character or be used effectively in management, but mere possession of these skills does not guarantee honesty and altruism in our children or higher earnings for shareholders.

Conclusion

The notion of an emotional intelligence provides a provocative challenge to traditional descriptions of intelligence as a set of analytic abilities and to the idea that the arousal of passion is incompatible with the maintenance of reason. Now that this gauntlet has been thrown down, however, we must begin to be more precise about the competencies that are encompassed by the concept of emotional intelligence and how to measure them. Our view is that it will be difficult to continue conceptualizing emotional intelligence as a kind of intelligence and impossible to demonstrate its discriminant validity from personality constructs if the field continues to rely on self-report instruments as the way to assess it (Mayer, Caruso, & Salovey, 2000). At the same time, the development of a psychometrically sound set of ability scales to assess emotional intelligence has been rather slow in coming, and even now that it is available, predictive validity data are scarce. Nonetheless, these research challenges have not attenuated the interest in emotional intelligence among educators and human resource managers and consultants. Nor have they inhibited the making of rather outrageous claims in trade books and the popular press. There is a pressing need for high-quality, prospective research on this construct to determine with more confidence what it predicts and what it does not predict. We hope that this chapter inspires others to join us in this endeavor.


Malouff, J., & Schute, N. (1998, August). Emotional intelligence scale scores predict counselor per-