CHAPTER EIGHTEEN

Models of Emotional Intelligence

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COMPETING MODELS OF EMOTIONAL INTELLIGENCE

Studies of emotional intelligence initially appeared in academic articles beginning in the early 1990s.* By middecade, the concept had attracted considerable popular attention, and powerful claims were made concerning its importance for predicting success. Emotional intelligence is the set of abilities that accounts for how people's emotional reports vary in their accuracy and how the more accurate understanding of emotion leads to better problem solving in an individual's emotional life. More formally, we define emotional intelligence 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 of now, the academic concept has been developed over several theoretical articles (e.g., Mayer & Salovey, 1997; Salovey & Mayer,

1990) and is based on a growing body of relevant research (e.g., Averill & Nunley, 1992; Buck, 1984; Lane, Sechrest, Reidel et al., 1996; Mayer, DiPaolo, & Salovey, 1990; Mayer & Geher, 1996; Mayer & Stevens, 1994; Rosenthal, Hall, DiMatteo, Rogers, & Archer, 1979; Salovey, Mayer, Goldman, Turvey, & Palfai, 1995; see also, Salovey & Sluyter, 1997).

Shortly after the academic work began, a popular book on the subject appeared (Goleman, 1995a). The book covered much of the literature reviewed in the aforementioned articles as well as considerable additional research on emotions and the brain, emotions and social behavior, and school-based programs designed to help children develop emotional and social skills. The book emphasized earlier comments we had made concerning how people with emotional intelligence might be more socially effective than others in certain respects (Salovey & Mayer, 1990). Particularly strong claims were made about emotional intelligence's contribution to the individual and society (Goleman, 1995a, p. xii). This combination of science and human potential attracted extensive media coverage, culminating, perhaps, when Time magazine asked the question "What's your EQ?,"on its cover, and stated, "It's not your IQ. It's not even a number. But emotional intelligence may be the best predictor of success in life, redefining what it means to be smart" (Time, 1995).

In short order, the general notion of emotional intelligence became widely known, appearing in many magazine and newspaper articles (e.g., Bennetts, 1996; Henig, 1996; Peterson, 1997), popular books (e.g., Cooper & Sawaf, 1997; Gottman, 1997; Salerno, 1996; Segal, 1997; Shapiro, 1997;

* The term *emotional intelligence* has been used for several decades at least before the present set of articles. Some use of the term stems from a Piagetian tradition (e.g., his book on affect and intelligence). Articles focused on Piaget's work, although noteworthy, are generally focused on a Piagetian stage or concept relatively unrelated to the present work (e.g., Leuner, 1966; Greenspan, 1989). Probably the most interesting development before 1990 was in a dissertation by Payne (1986) who wrote, in his abstract, that "the mass suppression of emotion throughout the civilized world has stifled our growth emotionally," and who reported the development of a rigorous theoretical and philosophical framework to explore and address this problem. To the best of our knowledge, however, the research we cite from 1990 forward marks the first development of the concept as an empirical research area of study.

Simmons & Simmons, 1997; Steiner & Perry, 1997; Weisinger, 1997), and even two popular comic strips, "Dilbert" (Adams, 1997) and "Zippy the Pinhead" (Griffith, 1996).*

The first portion of this chapter will review several competing concepts of emotional intelligence. Some attention will be paid to what is meant by the terms *emotion, intelligence,* and *emotional intelligence.* A distinction will be drawn between models of emotional intelligence that focus on mental abilities and those that mix mental abilities with personality attributes such as persistence, zeal, and optimism. Measures of emotional intelligence will be examined in the chapter's second section. Research work increasingly supports the existence of a mental-ability emotional intelligence that is somewhat distinct from standard analytical intelligence. Research work on mixed models of emotional intelligence is more preliminary to date but shows some progress. In the discussion section we will address in greater detail the claims about what emotional intelligence may predict and discuss the opportunities, real and imagined, that exist more generally in the fields of intelligence and personality for studying an individual's success.

THEORETICAL CONSIDERATIONS REGARDING EMOTIONAL INTELLIGENCE

The Terms Emotion and Intelligence

Theories should be internally consistent, make meaningful use of technical language, and make important predictions. One issue in studying emotional intelligence is that some theories under that name pertain to emotions and intelligence, whereas others seem far broader. Therefore, it is worth examining the constituent terms, emotion, intelligence, and their combination at the outset.

Conceptions of Emotion

Emotions are recognized as one of three or four fundamental classes of mental operations. These classes include motivation, emotion, cognition, and (less frequently) consciousness (Bain, 1855/1977; Izard, 1993; MacLean, 1973; Mayer, 1995a, 1995b; Plutchik, 1984; Tomkins, 1962; see Hilgard, 1980; and Mayer, Chabot, & Carlsmith, 1997, for reviews). Among the triad of motivation, emotion, and cognition, basic motivations arise in response to internal bodily states and include drives such as hunger, thirst, need for social contact, and sexual desires. Motivations are responsible for directing the organism to carry out simple acts to satisfy survival and reproductive needs. In their basic form, motivations follow a relatively determined time course (e.g., thirst rises until quenched) and are typically satisfied in a specific fashion (e.g., thirst is satisfied by drinking).

Emotions form the second class of this triad. Emotions appear to have evolved across mammalian species so as to signal and respond to changes in relationships between the individual and the environment (including one's imagined place within it). For example, anger arises in response to threat or injustice; fear arises in response to danger. Emotions follow no rigid time course but instead respond to external changes in relationships (or internal perceptions of them). Moreover, each emotion organizes several basic behavioral responses to the relationship; for example, fear organizes fighting or fleeing. Emotions are therefore more flexible than motivations, though not quite so flexible as cognition.

Cognition, the third member of the triad, allows the organism to learn from the environment and to solve problems in novel situations. This is often in service to satisfying motives or keeping emotions positive. Cognition includes learning, memory, and problem solving. It is ongoing and involves flexible, intentional information processing based on learning and memory (see Mayer et al., 1997, for a review of these concepts). These three basic classes of personality components are illustrated in the lower portion of Figure 18.1.

The next level up in Figure 18.1 depicts the interaction between motivation and emotion (on the left) and emotion and cognition (on the right). A great deal of research addresses how motivations interact with emotions and how emotions interact with cognition. For example, motives interact with emotion when frustrated needs lead to increased

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* We entered the popular arena as well with an educational CD-ROM version of an emotional intelligence test. We experienced first hand the lengths marketers will go to to capture people's attention. Our publisher put the quote, "The true measure of intelligence!" from Gibbs' (1995) *Time* magazine article on the box even though (as the CD-ROM itself makes clear) we do not view this as accurate.

PERSONALITY AND ITS MAJOR SUBSYSTEMS

	PURPOSE OF SUBSYSTEM	
	SATISFYING INTERNAL NEEDS	RESPONDING TO THE EXTERNAL WORLD

LEVEL OF SUBSYSTEM			
HIGH: *Learned Models*	INTRAPERSONAL QUALITIES *Example: Understanding oneself*		INTERPERSONAL QUALITIES *Example: Knowing how to socialize*
MIDDLE: *Interactive Functions*	MOTIVATIONAL AND EMOTIONAL INTERACTIONS *Example: Blocked motives lead to anger*		EMOTIONAL AND COGNITIVE INTERACTIONS *Example: Understanding emotions*
LOW: *Biologically-Related Mechanisms*	MOTIVATIONAL DIRECTIONS *Example: Needing to eat*	EMOTIONAL QUALITIES *Example: Being emotionally expressive*	COGNITIVE ABILITIES *Example: Ability to perceive patterns*

FIGURE 18.1. *An Overview of Personality and Its Major Subsystems.* A representation of personality components primarily according to lower versus higher-levels of processing (adapted from Mayer, 1995a; 1998b). Components at lower levels are generally divisible into motivational, emotional, and cognitive groups. For example, an urge to eat is motivational, whereas a feeling of generalized fear is emotional. Mid-level components, such as emotional intelligence, involve the interaction between lower level groups, such as the interactions between internal emotional feelings and cognitive understanding. High level components, such as self-esteem, are representations of the personal and social worlds that synthesize the lower-levels of processing in more complex, integrated fashions.

anger and aggression. Emotion interacts with cognition when good moods lead a person to think positively. One would expect that the interaction of emotion and cognition would also give rise to emotional intelligence.

It makes sense to distinguish among basic motivation, emotion, and cognition and their interactions. The three areas are integrated in more complex personality functioning, however, so we no longer speak of emotional, motivational, or cognitive elements separately. Rather, the focus turns to more general personality or social processes, which blend the three. For example, the self-concept entails a blended representation of oneself involving all three areas or modes of processing. The top of Figure 18.1 includes components that focus on these more general intra- and interpersonal qualities.

The term *emotional intelligence*, then, implies something having to do with the intersection of emotion and cognition. From our perspective, evaluating theories of, and related to, emotional intelligence requires an assessment of the degree to which the theory pertains to this intersection.

Conceptions of Intelligence

An intelligence researcher was invited mistakenly to a conference on military intelligence by someone who noticed he was an expert on intelligence but did not take note of the kinds of intelligence he studied. Gardner (1999) used this true story about himself to make the point that *intelligence* is used differently by different people.* Although we acknowledge different meanings of the term, we also believe intelligence possesses a core meaning in the sciences. Artificial intelligence, human intelligence, Offices of Military Intelligence, all imply gathering information, learning about that information, and reasoning with it – they all imply mental ability associated with the cognitive operations. The mental ability model was represented in pure form by Terman (1921, p. 128), who stated that, "An

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* The problem of intelligence's meaning is an old one in the field and should not discourage us. Spearman (1927, p. 24) noted the following:

> The most enthusiastic advocates of intelligence become doubtful of it themselves. From having naively assumed that its nature is straightway conveyed by its name, they now set out to discover what this nature really is. In the last act, the truth stands revealed, that the name really has no definite meaning at all; it shows itself to be nothing more than a hypostatized word, applied indiscriminately to all sorts of things.

individual is intelligent in proportion as he is able to carry on abstract thinking." In fact, symposia on intelligence over the years repeatedly conclude that the first hallmark of intelligence is high-level mental ability such as abstract reasoning (Sternberg, 1997).

Intelligence, conceptualized as abstract thinking, has often been demonstrated to predict one or another type of success, particularly academic success. But although it is a potent predictor, it is far from a perfect one, leaving the vast amount of variance unexplained. As Wechsler (1940, p. 444) put it, "individuals with identical IQs may differ very markedly in regard to their effective ability to cope with the environment." One way to regard this limitation is to view human life as naturally complex and subject both to chance events and complicated interactions. A second approach is to search for better ways to assess intelligence (e.g., Sternberg, 1997). A third approach is to attribute the difference to a combination of factors, such as non-intellective personality traits. These approaches are all complementary and have all been used with different degrees of effectiveness in enhancing psychological predictions of positive outcomes.

A fourth alternative to dealing with IQ's limited predictive ability is to redefine intelligence itself as a combination of mental ability and non-intellective personality traits. Thus, Wechsler (1943, p. 103) wondered, "whether non-intellective, that is, affective and conative [motivational] abilities are admissible as factors in general intelligence." In his next sentence, he concluded they were. A few sentences thereafter, however, he qualifies the notion: they predict intelligent *behavior* (as opposed to being a part of intelligence). Wechsler remained straddling the fence, as it were. On the one hand, he at times defined intelligence as involving "... the aggregate or global capacity of the individual to act purposefully, to think rationally and to *deal effectively with his environment."* (italics added; Wechsler, 1958, p. 7). On the other hand, the intelligence tests that carried his name focused on measuring mental ability.

Although most (if not all) intelligence researchers agree that traits other than intelligence predict success, many are quite vocal in their objections to considering those other characteristics *to be* intelligence. As noted above, there is a long theoretical tradition that distinguishes mental ability (i.e., cognition) from motivation and emotion. Labeling

nonintellectual characteristics intelligence potentially obscures their meaning (cf., Salovey & Mayer, 1994; Sternberg, 1997). Goodness in human relationships, athletic ability (i.e., kinesthetic ability), and certain talents in music, dance, and painting, have all been labeled intelligence at one time or another. Scarr (1989, p. 78) cautions, however, that "[t]o call them intelligence does not do justice either to theories of intelligence or to the personality traits and special talents that lie beyond the consensual definition of intelligence." Empirical findings illustrate repeatedly that mental abilities are generally unrelated to (i.e., uncorrelated with) other personality traits in any simple, strong fashion (although some modest and more complex connections are found; see, for example, Mayer, Caruso, Zigler, & Dreyden, 1989; Sternberg & Ruzgis, 1994).

Some models of emotional intelligence covered in this chapter do define emotional intelligence as a mixture of abilities and other personality dispositions and traits. The motivation for this appears to be the desire to label as a single entity what appear to be, in fact, a diverse group of things that predict success. Although we realize we cannot prevent such usage, it presents considerable difficulty for us. For example, does it make sense to label a trait such as optimism an "intelligence" because it predicts success (like intelligence)? We wonder whether this makes any more sense than labeling sleepiness an "alcoholic beverage" because, like alcohol, it leads to traffic accidents. Despite such reservations, we will cover all noteworthy models that use the term emotional intelligence. We will distinguish, however, between *ability models* of emotional intelligence, which focus on the interplay of emotion and intelligence as traditionally defined, and *mixed models*, which describe a compound conception of intelligence that includes mental abilities, and other dispositions and traits.

COMPETING MODELS LABELED "EMOTIONAL INTELLIGENCE"

Ability Models of Emotional Intelligence

In Western history and in psychology, emotions and reasoning sometimes have been viewed in opposition to one another (e.g., Schaffer, Gilmer, & Schoen, 1940; Payne, 1986; Publilius Syrus, 100 B.C.E./1961; Woodworth, 1940; Young, 1936). The

contemporary view that emotions convey information about relationships however, suggests that emotions and intelligence can work hand in hand. Emotions reflect relationships between a person and a friend, a family, the situation, a society, or more internally, between a person and a reflection or memory. For example, joy may indicate one's identification with a friend's success; sadness may indicate disappointment with one's self. Emotional intelligence refers in part to an ability to recognize the meanings of such emotional patterns and to reason and solve problems on the basis of them (Mayer & Salovey, 1997; Salovey & Mayer, 1990).

The domain of emotional intelligence describes several discrete emotional abilities. As we now view it,* these emotional abilities can be divided into four classes or branches, as shown in Table 18.1, Column 1. (The specific skills listed in Column 1 are meant to be representative; there are other skills that could be included on each branch as well as the ones shown). The most basic skills involve the perception and appraisal of emotion. For example, early on, the infant learns about facial expressions of emotion. The infant watches its cries of distress, or joy, mirrored in the parent's face, as the parent empathically reflects those feelings. As the child grows, he or she discriminates more finely among genuine versus merely polite smiles and other gradations of expression. Also important is that people generalize emotional experience to objects, interpreting the expansiveness of a dining hall, or the stoicism of a Shaker chair (cf., Arnheim, 1974).

The second set of skills involves assimilating basic emotional experiences into mental life, including weighing emotions against one another and against other sensations and thoughts and allowing emotions to direct attention. For example, we may hold an emotional state in consciousness so as to compare it with a similar sensation in sound, color, or taste.

The third level involves understanding and reasoning about emotions. The experience of specific emotions – happiness, anger, fear, and the like – is rule-governed. Anger generally rises when justice is denied; fear often changes to relief; dejection may separate us from others. Sadness and anger move according to their own characteristic rules, just as the knight and bishop on a chessboard move in different ways. Consider a woman who is extremely angry and an hour later ashamed. It is likely that only certain events may have intervened. For example, she may have expressed her anger inappropriately or discovered she falsely believed that a friend betrayed her. Emotional intelligence involves the ability to recognize the emotions, to know how they unfold, and to reason about them accordingly.

The fourth, highest level, of emotional intelligence involves the management and regulation of emotion in oneself and others such as knowing how to calm down after feeling angry or being able to alleviate the anxiety of another person. Tasks defining these four levels are described in greater detail in the section concerning scale development below.

The mental ability model of emotional intelligence makes predictions about the internal structure of the intelligence and also its implications for a person's life. The theory predicts that emotional intelligence is, in fact, an intelligence like other intelligences in that it will meet three empirical criteria. First, mental problems have right or wrong answers, as assessed by the convergence of alternative scoring methods. Second, the measured skills correlate with other measures of mental ability (because mental abilities tend to intercorrelate) as well as with self-reported empathy (for more complex reasons; see Mayer, DiPaolo, & Salovey, 1990). Third, the absolute ability level rises with age.

The model further predicts that emotionally intelligent individuals are more likely to (a) have grown up in biosocially adaptive households (i.e., have had emotionally sensitive parenting), (b) be nondefensive, (c) be able to reframe emotions effectively (i.e., be realistically optimistic and appreciative), (d) choose good emotional role models, (e) be able to communicate and discuss feelings, and (f) develop expert knowledge in a particular emotional area such as aesthetics, moral or ethical

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* For example, since our original theory was proposed we have more carefully distinguished between the intelligence and human effectiveness portions of our model, and each has been developed in important ways. The intelligence model has been clarified by (a) describing how and in what sense emotions convey information and by (b) adding explicit discussion of the fact that a central portion of emotional intelligence involves reasoning with or understanding of emotion (neither our own nor any other theory had mentioned this until recently; Mayer & Salovey, 1995). In addition, we have focused our social adaptiveness model so that it deals specifically with emotional effectiveness.

TABLE 18.1. Three Competing Models, all Labeled "Emotional Intelligence"

Mayer & Salovey (1997)	Bar-On (1997)	Goleman (1995a)
Overall Definition	Overall Definition	Overall Definition(s)
"Emotional intelligence is the set of abilities that account for how people's emotional perception and understanding vary in their accuracy. More formally, we define emotional intelligence 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" (after Mayer & Salovey, 1997).	"Emotional intelligence is . . . an array of noncognitive capabilities, competencies, and skills that influence one's ability to succeed in coping with environmental demands and pressures." (Bar-On, 1997, p. 14).	"The abilities called here *emotional intelligence*, which include self-control, zeal and persistence, and the ability to motivate oneself." (Goleman, 1995a, p. xii). [. . .and. . .] "There is an old-fashioned word for the body of skills that emotional intelligence represents: *character* " (Goleman, 1995a, p. 28).
Major Areas of Skills and Specific Examples	Major Areas of Skills and Specific Skills	Major Areas of Skills and Specific Examples

Perception and Expression of Emotion
  *Identifying and expressing emotions in one's physical states, feelings, and thoughts.
  *Identifying and expressing emotions in other people, artwork, language, etc.
Assimilating Emotion in Thought
  *Emotions prioritize thinking in productive ways.
  *Emotions generated as aids to judgment and memory.
Understanding and Analyzing Emotion
  *Ability to label emotions, including complex emotions and simultaneous feelings.
  *Ability to understand relationships associated with shifts of emotion.
Reflective Regulation of Emotion
  *Ability to stay open to feelings.
  *Ability to monitor and regulate emotions reflectively to promote emotional and intellectual growth (after Mayer & Salovey, 1997, p. 11).
	Intrapersonal Skills:
	  *Emotional self-awareness,
	  *Assertiveness,
	  *Self-Regard
	  *Self-Actualization,
	  *Independence.
	Interpersonal Skills:
	  *Interpersonal relationships,
	  *Social responsibility,
	  *Empathy.
	Adaptability Scales:
	  *Problem solving,
	  *Reality testing,
	  *Flexibility.
	Stress-Management Scales:
	  *Stress tolerance,
	  *Impulse control.
	General Mood:
	  *Happiness,
	  *Optimism.
		Knowing One's Emotions
		  *Recognizing a feeling *as it happens.*
		  *Monitoring feelings from moment to moment.
		Management Emotions
		  *Handling feelings so they are appropriate.
		  *Ability to soothe oneself.
		  *Ability to shake off rampant anxiety, gloom, or irritability.
		Motivating Oneself
		  *Marshalling emotions in the service of a goal.
		  *Delaying gratification and stifling impulsiveness.
		  *Being able to get into the "flow" state.
		Recognizing Emotions in Others
		  *Empathic awareness.
		  *Attunement to what others need or want.
		Handling Relationships
		  *Skill in managing emotions in others.
		  *Interacting smoothly with others

Model Type *Ability*	Model Type *Mixed*	Model Type *Mixed*

feeling, social problem solving, leadership, or spiritual feeling (Mayer & Salovey, 1995).

Mixed Models of Emotional Intelligence

Mixed models of emotional intelligence are substantially different than the mental ability models. In one sense, both kinds of models were proposed in the first academic articles on emotional intelligence (e.g., Mayer, DiPaolo, & Salovey, 1990; Salovey & Mayer, 1990). Although these articles set out a mental ability conception of emotional intelligence, they also freely described personality characteristics that might accompany such intelligence. Thus, emotional intelligence was

said to distinguish those who are "genuine and warm...[from those who] appear oblivious and boorish." Emotionally intelligent individuals were also said to "generate a larger number of future plans...and [better]...take advantage of future opportunities (p. 199)..., exhibit "...persistence at challenging tasks...," (p. 200); and have "positive attitudes toward life...that lead to better outcomes and greater rewards for themselves and others..."(Salovey & Mayer, 1990, pp. 199–200).

Almost immediately after these initial articles on emotional intelligence appeared, we recognized that our own theoretical work would be more useful if we constrained emotional intelligence to a mental ability concept and separated it from the very important traits of warmth, outgoingness, and similarly desirable virtues. By keeping them separate, it would be possible to analyze the degree to which they independently contributed to a person's behavior and general life competence. Although traits such as warmth and persistence are important, we believe they are better addressed directly and as distinct from emotional intelligence (Mayer & Salovey, 1993, 1997).

In contrast to honing this core conception of emotional intelligence, others expanded the meaning of emotional intelligence by explicitly mixing in nonability traits. For example, Bar-On's (1997) model of emotional intelligence was intended to answer the question, "Why are some individuals more able to succeed in life than others?" Bar-On reviewed the psychological literature for personality characteristics that appeared related to life success and identified five broad areas of functioning relevant to success. These are listed in Column 2 of Table 18.1, and include (a) intrapersonal skills, (b) interpersonal skills, (c) adaptability, (d) stress management, and (e) general mood. Each broad area is further subdivided. For example, intrapersonal skills are divided into emotional self-awareness, assertiveness, self-regard, self-actualization, and independence. Bar-On offered the following rationale for his use of the term emotional intelligence:

Intelligence describes the aggregate of abilities, competencies, and skills...that...represent a *collection of knowledge used to cope with life effectively*. The adjective *emotional* is employed to emphasize that this specific type of intelligence differs from cognitive intelligence...(Bar-On, 1997, p. 15).

Bar-On's theoretical work combines what may qualify as mental abilities (e.g., emotional self-awareness) with other characteristics that are considered separable from mental ability, such as personal independence, self-regard, and mood; this makes it a mixed model. (There is generally no consistent correlation between mood and intelligence, for example; Watson, 1930; Wessman & Ricks, 1966, p. 123).

Despite the breadth of his model, Bar-On (1997) is relatively cautious in his claims for his model of emotional intelligence. Although his model predicts success, this success is "the end-product of that which one strives to achieve and accomplish..." Moreover, his Emotional Quotient Inventory (EQ_i, reviewed below) relates to "the potential to succeed rather than success itself." At a broader level, he believes that EQ, along with IQ, can provide a more balanced picture of a person's general intelligence (Bar-On, 1997, p. 19).

A third view of emotional intelligence was popularized by Goleman (1995a). Goleman created a model that also was mixed and was characterized by the five broad areas depicted in Column 3 of Table 18.1, including (a) knowing one's emotions, (b) managing emotions, (c) motivating oneself, (d) recognizing emotions in others, and (e) handling relationships. His list of specific attributes under motivation, for example, include, marshalling emotions, delaying gratification and stifling impulsiveness, and entering flow states (Goleman, 1995a, p. 43). Goleman recognized that he was moving from emotional intelligence to something far broader. He states that "'ego resilience,'...is quite similar to [this model of] emotional intelligence"in that it includes social (and emotional) competencies (Goleman, 1995a, p. 44). He goes so far as to note that, "There is an old-fashioned word for the body of skills that emotional intelligence represents: *character*."(Goleman, 1995a, p. 285).

Goleman (1995a; 1998a,b) makes extraordinary claims for the predictive validity of his mixed model. He states that emotional intelligence will account for success at home, at school, and at work. Among youth, he says, emotional intelligence will lead to less rudeness or aggressiveness, more popularity, improved learning (Goleman, 1995a, p. 192), and better decisions about "drugs, smoking, and sex"(Goleman, 1995a, p. 268). At work, emotional intelligence will assist people "in teamwork, in cooperation,

in helping learn together how to work more effectively." (Goleman, 1995a, p. 163). More generally, emotional intelligence will confer "an advantage in any domain in life, whether in romance and intimate relationships or picking up the unspoken rules that govern success in organizational politics"(Goleman, 1995a, p. 36).

Goleman notes that "At best, IQ contributes about 20% to the factors that determine life success, which leaves 80% to other factors."(Goleman, 1995a, p. 34). That 20% figure, with which we agree, is obtained (by mathematical means) from the fact that IQ correlates with various criteria at about the $r = .45$ level.* "[W]hat data exist," Goleman writes of emotional intelligence, "suggest it can be as powerful, and at times more powerful, than IQ." (Goleman, 1995, p. 34) With this statement and others even stronger, (e.g., Goleman, 1998a, p. 94; 1998b, p. 31) Goleman suggests that emotional intelligence should predict success at many life tasks at levels higher than $r = .45$. It is hard not to conclude that at least part of the popular excitement surrounding emotional intelligence is due to these very strong claims. If there were truly a single psychological entity that could predict widespread success at such levels, it would exceed any finding in a century of research in applied psychology.[†]

Summary

There are both mental ability models and mixed models of emotional intelligence. The mental ability model focuses on emotions themselves and their interactions with thought (Mayer & Salovey, 1997; Salovey & Mayer, 1990). The mixed models treat mental abilities and a variety of other characteristics such as motivation, states of consciousness (e.g.,

"flow") and social activity as a single entity (Bar-On, 1997; Goleman, 1995a). Figure 18.2 projects the different makeup of emotional intelligence as described by these models onto the earlier diagram of personality components. There, as in Figure 18.1, personality components are divided among those primarily concerned with lower level, specific processing (motivation, emotion, cognition), midlevel functioning that concerns interactions between the lower level areas, and those that represent upper-level synthetic models of the intrapersonal self and interpersonal social world.

In this diagram, the three models represent emotional intelligence in different ways. Both the Bar-On (1997) and Goleman (1995a) models are distributed across the various levels. For example, Bar-On's adaptability skills (problem-solving, reality testing, and flexibility) primarily represent cognitive skills (lower right), whereas his interpersonal skills (interpersonal relationships, social responsibility, and empathy) primarily represent more synthetic interpersonal relatedness (upper right). By way of contrast, the Mayer & Salovey (1997) model fits within the emotion and cognitive interactions area. The diagram shows in yet another way that a central difference among models is that the mental ability models operate in a region defined by emotion and cognition, whereas mixed models label a multitude of components as emotional intelligence.

OTHER-NAMED CONCEPTS RELATED TO EMOTIONAL INTELLIGENCE

The mental ability and mixed models of emotional intelligence overlap to some degree with other concepts. The ability model of emotional intelligence overlaps with several other hypothesized intelligences. Mixed models, because of their breadth, overlap with dozens of other concepts.

Concepts Primarily Related to the Mental Ability Model of Emotional Intelligence

Some concepts related to the mental ability emotional intelligence focus on one or another of its specific skills such as nonverbal perception (e.g., Buck, 1984; Rosenthal et al., 1979) or empathic accuracy (Ickes, 1997). Other related concepts appear to be similar or complementary to emotional intelligence. For example, Saarni's emotional competence (Saarni, 1990; 1997; 1999) is

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* The correlation is the square root of the proportion of variance accounted for (i.e., $r = .447$ is the square root of .20 or 20% of the variance) under standard assumptions of statistical theory.

† After reviewing a draft of this manuscript, Dr. Goleman wished to clarify his position by stating that his general point has been that "...in some life domains emotional intelligence seems to be more highly correlated with a positive outcome than is a measure of IQ. The domains where this can occur are "soft" — those where, e.g., emotional self-regulation or empathy may be more salient skills than are purely cognitive abilities, such as health or marital success." That is, he noted, "In those cases where EI is more salient than IQ, the predicative power for IQ would be lower than usual (D. Goleman, Personal communication, July 22 and 27, 1999).

PERSONALITY AND ITS MAJOR SUBSYSTEMS

	PURPOSE OF SUBSYSTEM	
	SATISFYING INTERNAL NEEDS	RESPONDING TO THE EXTERNAL WORLD
HIGH: *Learned Models*	INTRAPERSONAL QUALITIES ● *Intrapersonal Skills* ▲ *Motivating Oneself*	INTERPERSONAL QUALITIES ● *Interpersonal Skills* ▲ *Handling Relationships*
MIDDLE: *Interactive Functions*	MOTIVATIONAL AND EMOTIONAL INTERACTIONS ● *Stress Management Skills*	EMOTIONAL AND COGNITIVE INTERACTIONS ■ *Perception/Expression of Emotion* ▲ *Knowing One's Emotions* ■ *Facilitating Emotion in Thought* ▲ *Recognizing Emotions* ■ *Understanding Emotion* *in Others* ■ *Regulating Emotion* ▲ *Managing Emotions*
LOW: *Biologically-Related Mechanisms*	MOTIVATIONAL DIRECTIONS	EMOTIONAL QUALITIES ● *General Mood* | COGNITIVE ABILITIES ● *Adaptability Skills*

LEVEL OF SUBSYSTEM (left vertical label)

● *Bar-On (1997)*   ▲ *Goleman (1995)*   ■ *Mayer & Salovey (1997)*
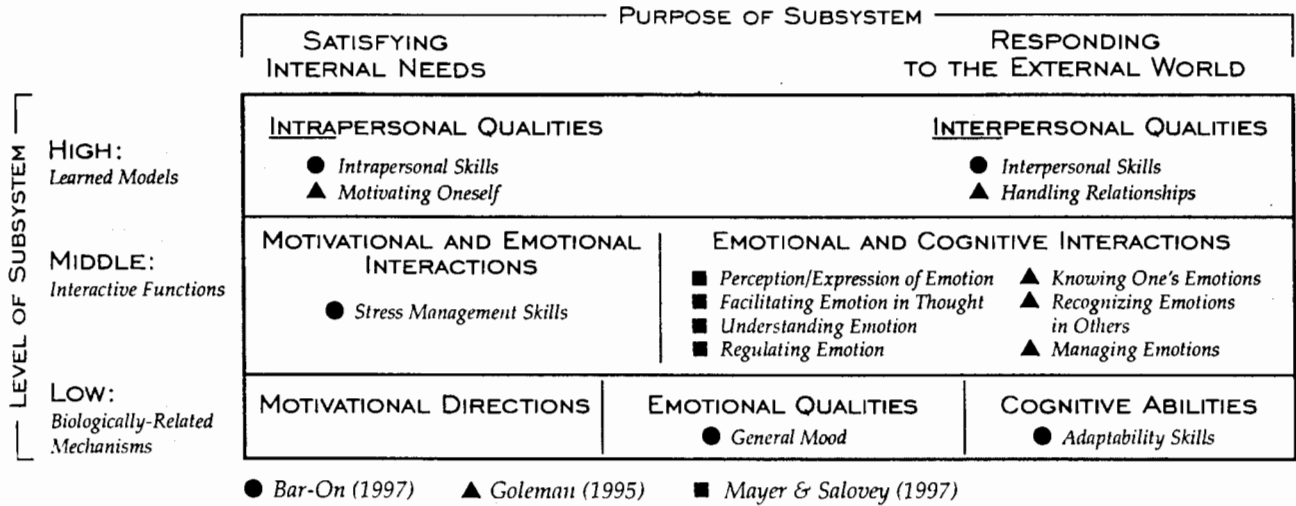
FIGURE 18.2. *An Overview of Personality and Its Major Subsystems with Three Models of Emotional Intelligence Embedded Within It.* Figure 2 retains the general arrangement of personality components depicted in Figure 1. Added to the picture, however, are specific personality components said (by three different theories) to be a part of emotional intelligence. Bar-On's (1997) five-part model is divided among intrapersonal qualities (e.g., intrapersonal skills), emotional states (e.g., general mood), and other areas. Goleman's (1995a) five-part model is split between both intrapersonal and interpersonal qualities (e.g., motivating oneself; handling relationships) as well as interactions between emotion and cognition (e.g., recognizing emotions in others). Mayer & Salovey's (1997) four-part model is located entirely within the area of emotional-cognitive interactions (e.g., perceiving emotions; understanding emotions).

defined as the demonstration of capacity and skills in emotion-eliciting social transactions (e.g., Saarni, 1997, p. 38). Emotional creativity (Averill & Nunley, 1992) emphasizes the divergent, unexpected, creative elements in thinking about feelings. Finally, there are intelligences defined in such a way as to overlap emotional intelligence partially. These include personal intelligence (Gardner, 1993), social intelligence (Cantor & Kihlstrom, 1987; Sternberg, 1988; Sternberg & Smith, 1985; Thorndike & Stein, 1937), and even Jung's feeling function (Jung, 1921/1971, p. 354).

Of the partly overlapping intelligences, only social intelligence has been operationalized satisfactorily as a mental ability (e.g., Legree, 1995; Sternberg & Smith, 1985; Wong, Day, Maxwell, & Meara, 1995). Others among the foregoing concepts have

been operationalized in more limited fashion, such as emotional creativity (Averill & Nunley, 1992). Still other intelligences, such as Gardner's (1993) personal intelligences or Jung's (1921, 1971, p. 354) feeling function have been left virtually unoperationalized as mental abilities (Sternberg, 1994).

Given the partial theoretical overlap among some of these concepts, there is likely to be some empirical overlap among them as well. The key to selecting which of these intelligences is "best" is to some degree a matter of personal theoretical preference. Ultimately, each may do the job of describing abilities that presently are omitted from intelligence tests. Emotional intelligence (as a mental ability) is our preferred theory because we believe it is theoretically defined as more distinct from traditional (i.e., verbal and performance) intelligences than some of these alternatives. For example, compared with social intelligence, emotional intelligence is broader in including internal, private emotions that are important for personal (as opposed to social) growth. On the other hand, emotional intelligence is also more focused than social intelligence in pertaining primarily to the emotional (as opposed to the social or political) aspects of problems. This makes it distinct from the social knowledge questions already found in many of today's tests of verbal intelligence (e.g., "Who was President Kennedy?"), although admittedly, social intelligence shows good psychometric distinctness from traditional intelligence measures (e.g., Sternberg & Smith, 1985). This increased theoretical breadth and focus of emotional intelligence

means that it may make a very good counterpart to traditional measurement scales when compared with the alternatives.

Concepts Related to the Mixed Models of Emotional Intelligence

The family of overlapping concepts for the mixed models of emotional intelligence is larger than that of the mental ability model. Like the mental ability model, the mixed models are a member of a family of concepts (e.g., Davies, Stankov, & Roberts, 1998; Feist, 1996; Goleman, 1995a). There are, first of all, often vast literatures on each of the parts of mixed models of emotional intelligence. These include literatures on achievement motivation (McClelland, Atkinson, Clark, & Lowell, 1953), alexithymia (Bagby, Parker, & Taylor, 1994), emotional-responsiveness empathy (Mehrabian & Epstein, 1972), openness (Costa & McCrae, 1985), optimism (Scheier & Carver, 1985), pleasant–unpleasant affectivity (Green, Goldman, & Salovey, 1993; Mayer & Gaschke, 1988; Russell, 1979), practical intelligence (Sternberg & Caruso, 1985; Sternberg, Wagner, Williams, & Horvath, 1995; Wagner & Sternberg, 1985), self-esteem (e.g., Blascovich & Tomaka, 1991), and subjective well-being (Andrews & Robinson, 1991).

Other concepts partially overlap the mixed models of emotional intelligence because, like them, they are composites of many characteristics thought to lead to life success. Recall that Goleman (1995a) acknowledged that his model is little different than Block and Block's (1980) model of ego strength. Other related concepts include general intelligence itself and also practical and creative intelligence (e.g., Sternberg, 1997; Sternberg & Caruso, 1985; Sternberg & Lubart; 1995a; 1995b; Wagner & Sternberg, 1985), constructive thinking (Epstein & Meier, 1989), the aforementioned ego strength (Block & Block, 1980), the motivation toward social desirability, (Paulhus, 1991) and social insight (Chapin, 1967). Moreover, the individual aspects of the mixed models overlap considerably with the specific areas of the Big Five personality dimensions (e.g., McCrae & Costa, 1985), including such Big Five subscales as warmth, assertiveness, trust, self-discipline, and others. (This overlap tells us a great deal about the mixed models' potential for predicting success, which will be considered in the discussion section). It will be desirable in the future for the mixed model theorists to compare and distinguish their own versions of emotional intelligence from these related concepts.

THE MEASUREMENT OF EMOTIONAL INTELLIGENCE

Mental ability models of emotional intelligence, as well as mixed models, have prompted the construction of instruments to measure emotional intelligence. These measures will be examined in this section of the chapter. Mental ability models of emotional intelligence are most directly assessed by ability measures, but self-reported ability provides an alternative approach. Ability measures have the advantage of representing an individual's performance level on a task. By contrast, self-report measures are filtered through a person's self-concept and impression management motives. For example, a bright student with low self-esteem may believe he or she is not very smart, and a not-so-bright student who needs to impress others may claim to be quite smart. Mental ability measures are typically both reliable and valid and often intercorrelate at the $r = .80$ level or better. Self-report measures seem far less valid, correlating rather poorly with actual performance levels. For example, in one study, people's scores on a self-report scale of problem-solving skills (e.g., "When trying to solve a problem, I look at each possibility and then decide on the best way") correlated only $r = .15$ with an actual test of mental ability (Bar-On, 1997, p. 138).* We begin by examining the ability measures of emotional intelligence, move to the self-report, and then look at the relation between the two.

Emotional Intelligence as a Mental Ability Measured with Ability Measures
Emotional Intelligence Measurement before Emotional Intelligence Theory

Recall that emotional intelligence, as we define it, consists of four broad areas of specific tasks: emotional perception, assimilation, understanding, and management. As of 1990, there were several studies describing measures of emotional (or, more accurately, nonverbal) perception but fewer or

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* This correlation may underestimate the relation a bit because it did not directly ask people how intelligent they believed themselves to be.

no ability-task studies related to the other areas. Concerning such emotional perception tests, the Affect Sensitivity Test presented videotaped interactions between pairs of individuals; respondents indicated the emotions and thoughts being expressed by the targets (Campbell, Kagan, & Krathwohl, 1971; Kagan, 1978). Other tests existed as well (e.g., the Profile of Nonverbal Sensitivity, PONS; Rosenthal et al., 1979; the CARAT; Buck, 1976).

Three methods were commonly employed to assess the participants' responses to these tests. The first, consensus method, compared a participant's answers to the remainder of the group (or to a prior criterion sample), and individuals received credit according to their agreement with the group consensus. The second, expert method, compared participants' answers to an expert criterion (e.g., Ekman's Facial Coding System). The third criterion, target method, compared participants' answers with those of the target they were judging. For example, members of a couple might be asked to identify what their partners reported feeling during videotaped conversation (Ickes, Stinson, Bissonette, & Garcia, 1990); other participants have been asked to predict what emotion an actor had been asked to portray (Buck, Miller, & Caul, 1974).

These early scales provided little evidence for an actual emotional intelligence. The scales themselves seemed to be unrelated to one another; the tests intercorrelated only slightly, leading one reviewer to conclude that either the early tests were sensitive to different aspects of nonverbal receiving ability, or nonverbal receiving ability was not a unidimensional construct (Buck, 1984, pp. 277, 282–283). Some interesting patterns emerged, however, including the existence of low correlations among socioemotional perception, intelligence scales, and self-reports of empathy, as well as the finding that women sometimes performed slightly better than men.

Early Research Explicitly Directed Toward Emotional Intelligence

In our initial work on measuring aspects of emotional intelligence, we suggested that emotional perception might be similar across a variety of stimuli that had been studied before in isolation (faces, abstract designs, and colors) and that prior tests may have masked a general emotion perception factor

by using overly simplistic response scales (Mayer, DiPaolo, & Salovey, 1990). For example, on the PONS, participants viewed a brief videotape and then were asked only one or two questions such as how pleasant or unpleasant the video character was. We reasoned that scales would be more reliable if the response alternatives were increased in number and specificity. For example, given a face, how angry is it? . . . sad? . . . happy? and so on. One hundred thirty-nine participants judged the specific emotional content of 18 stimuli including faces, abstract designs, and colors. Consensual accuracy in identifying emotion was reliable, and there was a single factor of emotional perception common to all those stimuli.

Davies, Stankov, and Roberts (1998, Study 1) replicated and extended these findings. They correlated four emotion perception measures: faces, colors, music, and sound intervals, and found they were unifactorial. In their study, emotional perception showed nonsignificant positive correlations with measures of analytical intelligence (crystalized intelligence, $r = .05$, fluid intelligence, $r = .15$), as measured by Cattell's matrices and letter cancellation tasks (Roberts, Beh, Spilsbury, & Stankov, 1991). Davies et al., also expressed serious reservation about the reliability of these individual performance tasks. This criticism has been addressed in more recent measures, as will be seen below.

The early 1990s also saw work related to the higher level skills of emotional intelligence: understanding emotions and managing them. For example, Mayer & Geher (1996) studied emotional perception in story passages. Preliminary to the main study, eight target individuals each described their thoughts in a brief passage. For example, one target wrote:

My best friend's father died this weekend. He had diabetes for a long time, and as he got older his health grew worse and worse. I went to his funeral on Monday. Many of my friends from high school were also there because we all wanted to be there for our friend and because we all knew and liked her father. It made me realize how lucky I am to have younger, healthy parents when I saw my friend standing there crying. Just watching her huge family come pouring into the synagogue also made me sad. (Mayer & Geher, 1996, p. 98).

Participants in the main study were asked to identify the targets' emotions or emotion-related thoughts in the passage by making a series of forced

choices between two alternatives (e.g., be by my-self–kick something; fearful–apart from others.) Skill at this task, measured by agreement with the group consensus, correlated significantly with self-reported SAT scores (a proxy measure of verbal intelligence), and with self-reports of trait empathy. Target agreement showed similar but weaker results. A closely related task was developed by Lane et al. (1996). In that study, participants read a sentence (e.g., "I want to hit someone") and were asked to match it to one of seven emotion words (e.g., happiness, sadness, fear, anger, surprise, disgust, and neutral).* In other parts of the task, they matched sentences to emotional faces, or emotional faces to emotion words, and so forth. Regrettably, no measures of intelligence or empathy were included in the latter study. A study using similar tasks to Lane et al.s', however, did find a correlation between task performance and intelligence among a group of mentally retarded adults (Simon, Rosen, & Ponpipom, 1996).

In another test of emotional understanding, Averill & Nunley (1992) presented participants with three emotions and asked them to write a brief description of a situation 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 on a mountaintop, the distress at imagining falling off, and the relief of not actually falling. Scoring was according to an expert criterion. Success at this task appears moderately correlated with general intelligence as well as with measures of creativity.

Another task that measured something between understanding and management (or at least, awareness) was also designed by Lane, Quinlan, Schwartz, Walker, and Zeitlin (1990). In this test, participants read stories such as

> You and your best friend are in the same line of work. 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?

The test-taker provides an open-ended response that is then compared, and matched, if possible, with

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* No examples are presented in the original study; we infer the sentences were similar to this.

various alternatives. For example, a low-awareness response to the preceding scenario is "I'd probably feel bad about it for a few days and try to figure out what went wrong. I'm sure my friend would be feeling really good." A high awareness response, by contrast, is "I'd feel disappointed that I didn't win but glad that if someone else did, that person was my friend. My friend probably deserved it! My friend would feel happy and proud but slightly worried that my feelings might be hurt."

Better performance at this task correlated positively with the emotional perception task developed by the same authors (see above), and negatively with the Toronto Alexithymia Scale (Taylor, Ryan, & Bagby, 1985), a self-report measure of difficulty at expressing emotion.

More Recent Measurement Work With Emotional Intelligence

THE MULTIFACTOR EMOTIONAL INTELLIGENCE SCALE (MEIS) STUDY. Our current research program has been devoted primarily to developing a full-fledged test of emotional intelligence as a set of mental abilities (Mayer, Caruso, & Salovey, in press). We have designed a Multifactor Emotional Intelligence Scale (MEIS) that consists of 12 ability measures of emotional intelligence divided into 4 classes or "branches" of abilities, including (a) perceiving, (b) facilitating, (c) understanding, and (d) managing emotion (Mayer & Salovey, 1997; Mayer, Caruso, & Salovey, in press; Mayer, Salovey, & Caruso, 1997). Branch 1 tasks measure emotional perception in Faces, Music, Designs, and Stories. The first three of these were similar to the emotional perception tasks described above (Mayer, DiPaolo, & Salovey, 1990), and the fourth Stories task, which is equally an understanding task was also discussed above (Mayer & Geher, 1996). The second, Facilitation branch, contains two tests that measure Synesthesia Judgments (e.g., "How hot is anger?") and Feeling Biases. Briefly, these taks were expected to measure emotion's facilitation of cognition but resulted in a weaker factor than the others and may be dropped for some purposes. Branch 3's four tasks examine the understanding of emotion. For example, one question asks, "Optimism most closely combines which two emotions?" and a participant has to choose "pleasure and anticipation" over less specific alternatives such as "pleasure and joy."

Branch 4's two tests measure Emotion Management in (a) the Self and (b) Others. These tasks ask participants to read a scenario such as the following and then rate five reactions to it according to how good they were: ·

One of your colleagues at work looks upset and asks if you will eat lunch with him. At the cafeteria, he motions for you to sit away from the other diners. After a few minutes of slow conversation he says that he wants to talk to you about what's on his mind. He tells you that he lied on his resume about having a college degree. Without the degree, he wouldn't have gotten the job.

(Please judge the value of the following reaction:)

Ask him how he feels about it so you can understand what's going on. Offer to help him, but don't push yourself on him if he really doesn't want any of your help.

Five hundred and three adults completed all the tasks as well as several criterion scales. An additional 229 adolescents also completed a slightly abbreviated version of the scales.

FINDINGS WITH THE MEIS. Work with the MEIS yielded a number of important findings (Mayer, Caruso, & Salovey, in press). First, consensus, expert, and target scoring methods for the same tasks converged on correct answers to a degree anticipated by theory. This adds confidence to any of the scoring approaches. Of these, consensus scoring appeared to be the best all-around method. As noted earlier, Davies et al. (1998) worried about early mental ability tasks in the area because they exhibited only modest reliabilities. The MEIS achieved a full-scale alpha reliability of $r = .96$.

The second major finding concerned the structure of emotional intelligence as represented by these 12 tasks. First, the tasks were generally positively intercorrelated with one another. A study of the test's factorial structure recommended two equally viable factorial models. The first was a three-factor solution that separated out factors of (a) emotional perception, (b) emotional understanding, and (c) emotional management. (An alternative, four factor model, including a weaker (d) Facilitation factor was also possible). The second factorial model involved a hierarchical factor analysis based on those three (or four) factors (equally well represented by the first unrotated factor of the whole test) that describes a general factor of emotional intelligence, g_{ei}.

The same study indicated that general emotional intelligence, g_{ei}, correlated both with measures of verbal intelligence ($r = .36$) and with measures of self-reported empathy ($r = .33$). Few other criterion scales were administered, but the same general factor also correlated with parental warmth ($r = .23$). The fourth major finding was that ability at emotional intelligence was age dependent, increasing between young adolescence and early adulthood.

Findings from the MEIS indicate that emotional intelligence may qualify as a conventional intelligence operationalized as a mental ability (Mayer & Salovey, 1993; Neisser, Boodoo, Bouchard, Boykin, Brody, Ceci, Halpern, Loehlin, Perloff, Sternberg, & Urbina, 1996; Scarr, 1989). Emotional intelligence, like other well-operationalized intelligences, show convergence among criteria for scoring correct answers. Emotional intelligence also "looks like" other intelligences, in that its tasks are intercorrelated. Findings also indicate that emotional intelligence is related to more traditional intelligence (i.e., analytical intelligence), but sufficiently distinct from it to represent new and unique variance. And finally, emotional intelligence, like other standard intelligences, develops with age (Binet & Simon, 1905/1916, pp. 320–321; Brown, 1997; Fancher, 1985, p. 71). Certain of these findings have now been replicated in other laboratories (Ciarrochi, Chan, & Caputi, in press).

EMOTIONAL INTELLIGENCE AS A MENTAL ABILITY BUT MEASURED WITH SELF-REPORT MEASURES

The mental ability model of emotional intelligence can be measured by self-report scales as well as by mental ability tasks. Self-report is a less direct way of assessing performance. It has its own merits, though, including being relatively easy to administer, tapping internal experiences difficult to obtain with performance measures, and assessing ongoing conscious processes related to emotional thinking. As with ability measures, there are several self-report scales that examine individual aspects of emotional intelligence, particularly Branch 1 (perception) and Branch 4 (management).

One of the most original and interesting approaches to measuring emotional perception (Branch 1) is the "BB" (based on body) scale of Bernet's (1996) Style in the Perception of Affect Scale (SIPOAS). The BB scale is intended to assess real connectedness to the (sometimes) slight bodily changes that accompany feelings and emotions. It is contrasted to two other ways of thinking about emotion. The "Emphasis on Evaluation" (EE) scale reflects effortful attempts to understand one's own emotions in terms of outsiders, ideals, or expectations and is related to neuroticism. The "Looking to Logic" (LL) scale involves favoring intellect and avoiding feeling. Bernet (1996) has found that (self-reported) gains in psychotherapy are highest among high BB scorers who experience a variety of treatment modalities, including talking therapies, but also physically-oriented therapies and spiritual approaches to difficulties. The exact relation of the SIPOAS scores to emotional intelligence is not yet clear, but it appears to be an interesting measure worthy of further study.

Many scales also measure the management of emotion (Branch 4). Mayer & Gaschke (1988) described a reflective experience of mood they termed meta-experience. This reflective experience is measured with such statements as, "I know exactly how I am feeling," or "I am confused about how I feel." Since then, a large number of both state and trait measures of emotional meta-experience have been developed and studied. Findings with such scales indicate, for example, that people higher in mood attention and clarity are better able to reduce their rumination over negative material (Salovey et al., 1995). Further details on the measurement properties and results obtained with such scales may be found in several recent articles and chapters (e.g., Mayer & Stevens, 1994; Salovey et al., 1995; Salovey, Bedell, Detweiler, & Mayer, in press). For that reason we will not repeat those reviews here. Instead, we will focus on a full self-report operationalization of the emotional intelligence model.

Tett and his colleagues (Tett, Wang, Fisher, Martinez, Griebler, & Linkovich, 1997; Tett, Wang, Gribler, Thomas, & Martinez, 1997) developed 10 scales based on the original model of emotional intelligence (Salovey & Mayer, 1990). Emotional appraisal was divided into four scales: (a) Emotional Perception of the Self–Verbal, (b) Emotional Perception in the Self–Nonverbal, (c) Emotion in Others–Nonverbal, and (d) Empathy. The regulation of emotion was divided into two: (e) Regulation of Emotion in the Self, and (f) Regulation of Emotion in Others. Lastly, the utilization of emotion was divided into four additional scales: (g) Flexible Thinking, (h) Creative Thinking, (i) Mood Redirected Attention, and (j) Motivating Emotions. Each of the scales was internally consistent, and coefficient alphas ranged between $\alpha = .60$ and .86. A factor analysis of these scales yielded four factors: (a) recognition and regulation of emotion in others, (b) the recognition of emotion in the self and the expression of emotion, (c) emotional stability, and (d) high self-reported intuition coupled with poor delay of gratification. This self-report measure plainly yielded results somewhat different from those obtained with the MEIS. The Tett et al. measures have not yet been correlated with other criteria.

EMOTIONAL INTELLIGENCE AS A MIXED MODEL MEASURED BY SELF-REPORT

Just as the ability model of emotional intelligence can be operationalized and measured, so too can the mixed models. To date, all mixed models have been measured via self-report approaches. A first test of mixed-model emotional intelligence drew its organization from Salovey & Mayer (1990). Schutte, Malouff, Hall, Haggerty, Cooper, Golden, & Dornheim (1998) purposefully interpreted the 1990 model as a mixed model so that it would include diverse attributes defined as emotional intelligence in popular works (specifically, Cooper & Sawaf, 1997; Goleman, 1995a). Using factor analytic techniques, the authors extracted 4 factors from 62 initial test items they examined but settled on a single factor solution because their factors 2 through 4 loaded few of those items. Items from all the areas of the 1990 model were fairly evenly represented on this single first factor, which had an alpha coefficient of $\alpha = .90$ and a test-retest reliability of $r = .78$.

A correlational analysis between their final 33-item scale and other measures suggested its overlap with positive affectivity and openness (Schutte et al., 1998). For example, the scale correlated highly (and negatively) with the Toronto Alexithymia Scale $(r(24) = -.65)$ and positively with attention and clarity subscales of the Trait Meta-Mood Scale

$(r(47) = .63, .52,$ respectively), as well as in expected directions with several scales that overlap with generally positive affect (e.g., Life Orientation Test–Pessimism, $r(23) = -.43,$ Zung Depression, $r(37) = -.37,$ Trait Meta-Mood Mood–Repair, $r(47) = .68$). It also correlated $r(22) = .54$ with Openness on the NEO scale (and at lower levels, positively with Extraversion and negatively with Neuroticism).

The work by Schutte et al. (1998) tested a uniquely important behavioral prediction. In their studies, 64 first-year college students completed the 33-item emotional intelligence scale at the outset of the academic year; SAT or ACT scores were also available for 42 of the participants. The emotional intelligence scale predicted end-of-year GPA for the students $(r(63) = .32)$ even though scores on the emotional intelligence scale were not related to SATs $(r(41) = -.06)$. This study provides some initial support for the idea that mixed models of emotional intelligence may predict academic success beyond that of general cognitive measures. Other research, however, has indicated that happier college students obtain higher grades in general (Wessman & Ricks, 1966, p. 123). Because the Schutte et al. scale (and other self-report measures of emotional intelligence) correlate highly with positive affect, future research will need to partial out the influence of general mood level from those self-report scales.

Bar-On's mixed model of emotional intelligence was designed and operationalized as his Emotional Quotient Inventory (EQ_i). A factor analysis of his EQ_i scale (Bar-On, 1997, pp. 98–108) yielded 13 factors more or less consistent with the individual attributes listed in Table 18.1 (Column 3) of this chapter. For example, a first, self-contentment factor, was measured by such items as "I feel sure of myself in most situations." The second, social responsibility factor was measured by such items as "I like helping people," and a third impulse control factor was measured by the statement "When I start talking it is hard to stop." The first three factors represented about 23, 5, and 4% of the variance, respectively. The remaining factors explained from between 3 to 1% of the test variance. The 13 subscales have intercorrelations hovering around $r = .50,$ and not surprisingly, given such interdependence, a one-factor solution of the test is also possible (Bar-On, 1997).

The overall test correlates negatively and highly (in the $r = .50$ to .75 range) with measures of negative affect such as the Beck Depression Inventory and the Zung Self-Rating Depression Scale. It also correlates positively with traits related to positive affect. A cross-national administration of the Bar-On and the 16PF indicated that the Bar-On was consistently positively correlated (mostly between $r = .40$ and .60) with emotional stability and with components of extraversion, including social boldness and social warmth (Bar-On, 1997, pp. 110–111). Notably, neither the overall scale, nor any of its subscales ever showed a significant correlation with the mental ability intelligence test – Scale B – embedded in the 16PF. Consistent with that, a study correlating the EQ_i with the WAIS–R yielded a negligible correlation of $r = .12$ (Bar-On, 1997, pp. 137–138).

The EQ_i has been correlated with several other scales as well (see Bar-On, 1997), but there are few reported predictions of actual behavioral outcomes. The closest to such a study concerns job performance and work satisfaction in which the EQ_i predicted a self-report measure of "sense of competence" on the job $(r = .51)$. It is difficult to interpret this finding because the EQ_i and sense of competence scale were given at the same time and would seem to share content and error variance. Hence, the correlation could reflect a general sense of positive affectivity and self-esteem at the time of testing; on the other hand, something more might be involved. Further research is needed in order to clarify the findings.

Finally, Goleman (1995b) also compiled a test of emotional intelligence for an article in the Utne Reader. The Goleman scale is composed of 10 items; for each item, people must state their response to a hypothetical situation. One item, for example, reads as follows:

Assume you're a college student who had hoped to get an A in a course, but you have just found out you got a C– on the midterm. What do you do?

a. Sketch out a specific plan for ways to improve your grade and resolve to follow through on your plans.
b. Resolve to do better in the future.
c. Tell yourself it really doesn't matter much how you do in the course and concentrate instead on other classes where your grades are higher.
d. Go to see the professor and try to talk her into giving you a better grade.

We doubted Goleman ever intended that this scale would be used for serious purposes, which he recently confirmed for us (D. Goleman, personal communication, July 22, 1999). Nonetheless, Goleman's scale does bear some content overlap with the third factor of the MEIS (which loads emotional management tasks) and has been studied by Davies, Stankov, & Roberts (1998). Goleman's scale, like the third MEIS factor, correlates highly with self-reported empathy (Davies, Stankov, & Roberts, 1998). Davies et al. found that the Goleman scale also correlated with a measure of emotional control (Roger & Najarian, 1989). The same authors also concluded, however, that the Goleman test has unacceptably low reliability ($\alpha = .18$; Davies, Stankov, & Roberts, 1998, pp. 33, 55).

Summary

Several self-report measures of the mixed models of emotional intelligence exist. As a group, the scales tend to be strongly related to both positive affect (and negatively to negative affect), as well as to emotional openness. Whether these self-report scales of emotional intelligence add unique variance above and beyond already-existing measures of personality has not yet been answered, but their item content seems sufficiently distinct that it is possible they do. In this regard, the findings by Schutte et al. (1998) that their measure may predict academic achievement independently of traditional measures of analytic intelligence is provocative.

DISCUSSION

This chapter first covered several competing models of emotional intelligence and compared them. The concepts of "emotion," "intelligence," and their combination were examined. A distinction was made between mental ability conceptions of emotional intelligence and mixed conceptions that combine abilities with nonability components of personality.

The chapter next reviewed some of the current research on emotional intelligence, which was quite supportive of the mental ability model of emotional intelligence. Some key findings include that (a) different methods for finding the correct answers to emotional intelligence questions appear to converge, (b) there is a clear general factor of emo-

tional intelligence, and (c) this general factor breaks down into three specific subfactors concerned with emotional perception, understanding, and management. Moreover, (d) findings from several different laboratories indicate that emotional intelligence correlates (low-to-moderately) with general intelligence and empathy. Finally, (e) the abilities involved appear to grow with age. There are further hints that emotional intelligence is related to self-report of warm parenting.

Matters with the mixed models are less clear. The Schutte et al. (1998) report suggests that emotional intelligence measured by their scale might predict the grades obtained by incoming college students somewhat independently of predictions made from SAT scores. The Bar-On EQ_i has been normed, factor analyzed, and correlated with many tests, but its predictions of academic or career success have not yet been ascertained. The Goleman scale has not been used much by researchers, and it appears to be unreliable.

Several issues remain to be concluded. A very central issue is whether, as some have claimed, emotional intelligence is a better predictor of success than intelligence. Is this claim serious and can it be supported? If not, what is the real excitement of emotional intelligence? What are its challenges (if any) to contemporary approaches to intelligence. And, finally, what will future research tell us?

Excitement over Emotional Intelligence: What Is Real and What Is Unreal?

At the outset of this chapter, we noted that emotional intelligence had attracted a great deal of attention and had generated a great deal of excitement. Although we are great fans of emotional intelligence, and we believe some of the enthusiasm is deserved, we must also say that some of the enthusiasm appears to be misplaced.

Misplaced Excitement over Emotional Intelligence

Earlier in the chapter, for example, we considered the popular claim that emotional intelligence predicts a variety of successful behaviors among children, at home, and at work at a level at or exceeding that of general intelligence. Such a claim appears misleading in several ways. The first way it

is misleading is with respect to how strong a prediction can be made. According to popular writing, if intelligence predicts 20% of the variance of some success, emotional intelligence can help fill in the 80% gap. To the unsophisticated reader, bringing up the "80% unaccounted-for variance" figure suggests that there may indeed be a heretofore overlooked variable that truly can predict huge portions of life success. Although that is desirable, no variable studied in a century of psychology has made much such huge contributions.

The unexplained 80% of success appears to be in large part the consequence of complex, possibly chaotic interactions among hundreds of variables playing out over time. Predicting a person's future success shares much in common with intermediate or long-range forecasts of such outcomes as earthquakes, hurricanes, stock market rallies, election outcomes, and geopolitics. For example, a person's career success is a product not only of personality components themselves but also economic forces (e.g., real estate booms), political forces (e.g., pork-barrel projects), scientific advances (e.g., automation of customer service), and swings in public sentiment (e.g., demand for Peruvian coffee). We can predict such outcomes at levels that are recognizably greater than chance but far less than certainty. For these reasons, a new variable's value for predicting success is more realistically compared with how much variance new variables typically explain rather than how much unexplained variance is yet to be explained. The best new variables typically increase predictions, for instance, of job performance by between 1 and 4%. That 1 to 4% can mean great savings when scientific methods of selection are employed for thousands of people, but it is far different than what was claimed for emotional intelligence.

A second way that such popular claims are misleading is that they suggest there is an integrated, single, psychological entity that combines such entities as "persistence," "zeal," "emotional perceptiveness," and "good social skills." There is nothing wrong with studying such assorted variables together and seeing how they collectively predict some criterion. But to call them a single entity, i.e., "emotional intelligence," – or even parts of a single entity, leaves the mistaken impression that all those different attributes come together as a package

when, in fact, they are more-or-less independent entities (recall how they are spread out in Figure 18. 2). In addition, calling them a single entity suggests that the "package" is somehow new and mysteriously powerful when, indeed, many of its elements have been studied for years and have no special predictive powers. Finally such claims suggest that this highly desirable package can be acquired or learned as a whole when, in fact, it consists of many different – perhaps even opposing – qualities.

Consider this analogy: It is perfectly acceptable, and even desirable, to study variables that, acting together, cause car accidents: alcoholism, poor eyesight, suicide-proneness, lead-footedness, and sleep deprivation. It is also justifiable to create mathematical composites of such variables to predict car accidents. To claim, however, that alcoholism, poor eyesight, suicide-proneness, and so forth are all part of a *unitary syndrome* of "car-accident-proneness" that some unfortunate people have and some lucky ones do not, is misrepresentation. Poor eyesight, alcoholism, and other unrelated variables each arise from different causes and are treated by different methods. Claiming that they are a single syndrome that defines a radical new understanding of driving skill is sensationalism, not science.

Finally, the most serious way that these popular claims are misleading is in seeming to present scientific studies that support their powerful claims but in fact fail to do so. For instance, Goleman (1995a; 1995c) referred to a study of Bell Laboratory engineers in which the top performers were equivalent in IQ to other engineers. The key difference, he claims, is that the top performers were more emotionally intelligent than were their peers. Unfortunately, this is conjecture, because the engineers were not tested for emotional intelligence explicitly using either mental ability or mixed model approaches to measurement (see Kelley & Caplan, 1993).

Extravagant claims as to the power of emotional intelligence to predict success in the workplace appear to fly in the face of our existing research base. For instance, Barrick and Mount (1991) conducted a meta-analysis of 117 criterion-related validity studies of how the Big Five personality dimensions predict job behavior. The 117 studies yielded 162 samples with a total N of 23,994 individuals. The Big Five dimensions include emotionality, extraversion, openness, agreeableness, and neuroticism. Each

dimension is a composite that itself includes several highly correlated subfactors or facets. Interestingly, many of these factors overlap with what Goleman and Bar-On described as emotional intelligence. For example, agreeableness overlaps in part with such mixed models in its facets of (a) trust, (b) straightforwardness, (c) altruism, (d) compliance, (e) modesty, and (f) tender-mindedness. What did agreeableness predict among the 23,994 individuals who were studied? Agreeableness, the authors concluded, "is not an important predictor of job performance, even in those jobs containing a large social component (e.g., sales or management)" (Barrick & Mount, 1991, p. 21).

Extraversion also contains mixed-model elements such as (a) warmth, (b) gregariousness, (c) assertiveness, (d) activity, (e) excitement-seeking, and (f) positive emotions. Extraversion fared a bit better, validly predicting success for people in management and sales, although not for those in professions (e.g., lawyers, accountants, teachers), in police work, or in skilled or semiskilled occupations (e.g., plumbers, farm workers, factory workers). And, a third dimension, conscientiousness, overlaps with mixed models a bit as well, including (a) competence, (b) order, (c) dutifulness, (d) achievement striving, (e) self-discipline, and (f) deliberation. Conscientiousness was found to be the best predictor, showing consistent predictions across all occupational groups (Barrick & Mount, 1991, pp. 17–18). What was the strength of such predictions? The overall correlations topped out at $r = .15$, or 2 to 3% of the variance – rather less than the 20 to 80% suggested in popular writings.

Justifiable Excitement over Emotional Intelligence

REAL EXCITEMENT INTRINSIC TO EMOTIONAL INTELLIGENCE. If emotional intelligence is not what Gibbs (1995, p. 60) referred to as the "true measure of intelligence," is it worth getting excited about? We certainly think so. The rigorous search for new intelligences can result in important, incremental predictive power over current measures of intelligence. We believe that emotional intelligence – as mental ability – identifies a previously overlooked area of ability critical to certain human functioning. These emotionally intelligent skills lay hidden in the boundary area between mental ability and noncog-

nitive dispositions. Many intelligence researchers were relieved when Scarr (1989) came to the defense of traditional intelligence with the statement that "human virtues . . . such as goodness in human relationships, and talents in music, dance, and painting" should not be called intelligent. Yet there is a borderland between the two. Musical ability, after all, is related to mathematical ability. Bar-On's (1997) search for "noncognitive competencies" represents this intuition that ability sometimes lurks amidst everyday traits and tendencies. Our own intuition was that there is something more than simple hyperemotionality among those sometimes labeled as touchy–feely, bleeding hearts, sensitive, or empathic souls. Emotional intelligence is the mental ability that lurks amidst the emotions.

"There is no right way to feel," is a battle cry of the human potential movement, and it obscures the fact that there may indeed by right ways to feel. Emotions are certainly evolved as a part of natural selection; consistent signal systems provide evolutionary advantages to those organisms that develop them over others (Darwin, 1872/1965; Ekman, 1973). Once evolved, these emotions are modified by culture as necessary. Thus, the correct feeling(s) to have at a funeral or elsewhere are the joint product of evolutionary developments in emotion and socially constructed rules of how to feel and behave.

A mental ability test of emotional intelligence will be the optimal tool for identifying people who truly understand emotions. Mental ability tests best distinguish between the person who is aesthetically minded but does not really understand feelings and the person who does really understand. Ability-based emotional intelligence measures can distinguish best the people who truly understand their own emotions from those who get lost in them. It is such ability-based emotional intelligence measures that can identify optimally those who may be mismatched with a given career (e.g., counseling and psychotherapy) because they lack the understanding of feelings necessary to listen empathically and to behave sensitively.

There is a social implication of this finding as well as an individual differences–career selection implication. Scarr (1989) believed that identifying an intelligence adjusts social behavior so as to value the entity more than before. She suspects this is one reason some have labeled nonintelligences such as

warmth, as intelligence. Identifying an actual intelligence, therefore, may readjust values. For example, people who have different skills and know it often can communicate more smoothly about their abilities and limitations. We have often noticed that people in cars readily say, "Oh, I can't read maps; you tell me where to go" (low spatial intelligence) and pass the map over to someone else. We look forward to the day when, rather than dismissing someone else as a "bleeding heart," or a "touchy feely type," or "oversensitive," a person will feel comfortable to exclaim, "Oh, I can't read emotions; you help me understand how to make my spouse feel better." Passing the job of emotional reading over to the individual who can perform it would be readjusting social values in a way that might make good sense for both parties.

REAL EXCITEMENT ABOUT EMOTIONAL INTELLIGENCE AND SUCCESS. The concept of emotional intelligence has also raised the issue of how success might be predicted. Although success may not be optimally predicted by emotional intelligence alone, the prediction of success is a relevant aspect of intelligence research, and more generally, personality psychology (Ford, 1994; Sternberg, 1996). A headlong rush to predict success was unleashed by the concept of emotional intelligence. Thus far, the science of prediction has been overwhelmed by wild claims and popular self-help writings. If this interest in success can be channeled more seriously, however, much good may come of the enthusiasm.
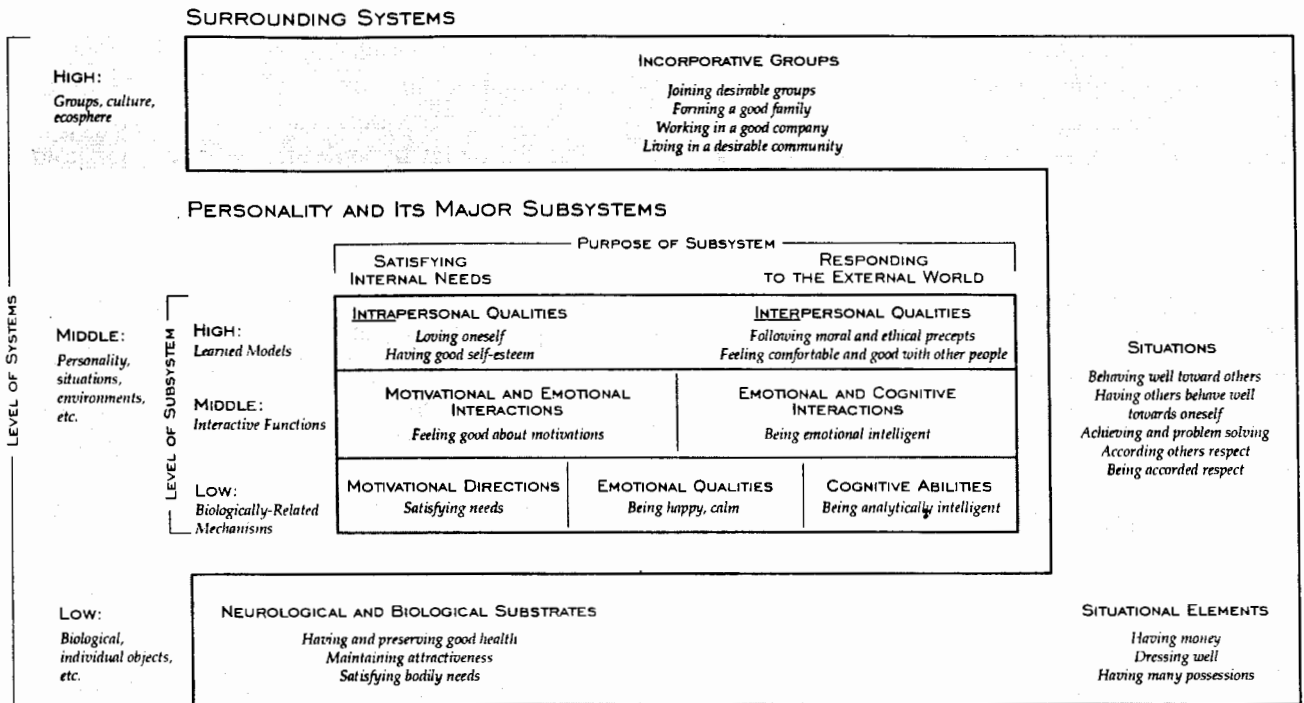
To us, studying personal success involves collecting measurable characteristics of personality and using them to predict measurable outcomes. Within the realm of cognition this may mean measuring a broader variety of intelligences than has been the case (e.g., Gardner, 1993; Sternberg, 1996); more generally, it means examining any part of personality that may contribute to a good life – as well as better defining what a successful life is. To some extent, the mixed models of emotional intelligence have initiated such a search. If we superimpose the predictive elements of these mixed models on a generic model of personality, as was done in Figure 18.2, however, it is apparent that the features selected do not cover intelligence or personality in a comprehensive or balanced fashion. Those studying success, in other words, may do better to sample

variables from a broader and more balanced fashion across the personality system. Over 400 parts of personality are commonly discussed in personality psychology (Mayer, 1995b), and these are unevenly sampled by mixed emotional intelligence models: Once variables are collected, it is necessary to remember that a systems' elements have unexpected and nonlinear relations with one another. High self-esteem may seem perfectly wonderful in itself, but in some personalities that are disconnected from normal human relations (e.g., Adolph Hitler, Joseph Stalin) such self-esteem may promote evil behavior (Baumeister, 1997; Mayer, 1993).

In addition to better variable selection, more attention needs to be paid to what kind of success we are talking about. There are many different sorts of success, which is a point that can be made quite clearly if we represent personality amidst its neighboring systems. Placing personality in context has been a major focus of contemporary integrations of personality psychology (Mayer, 1998). Personality and its neighboring systems can be arranged according to the two dimensions we employed earlier to arrange its internal components: the molecular–molar dimension, which separates basic level emotional and cognitive processing from more synthetic processing, and the internal–external dimension, which separates the intrapersonal from the interpersonal. Extending these two dimensions, as in Figure 18.3, we see personality surrounded by its own neurological underpinnings (below), its external situation (to the right), and the groups to which it belongs (above; Mayer, 1995a; 1998).

Looked at this way, success depends upon which system we are observing. Internal personality may attain success in the form of happiness or other private positive feelings. Biological success involves good health and longevity, situational success involves being treated well, and group-based success involves being a well-accepted member of a loving family and other desirable social organizations. Looked at this way, it seems unlikely that there will be a one-personality-fits-all sort of success. Rather, some personality features will assist with some sorts of success and other features will assist with other sorts of success. We share the desire with others to understand what leads to human success – that is one motive (among several) that turned us to the study of emotional intelligence in the first place.

PERSONALITY AND ITS SURROUNDING SYSTEMS
WITH EXAMPLES OF SUCCESS RELEVANT TO EACH SYSTEM

SURROUNDING SYSTEMS

HIGH:
Groups, culture,
ecosphere

INCORPORATIVE GROUPS

Joining desirable groups
Forming a good family
Working in a good company
Living in a desirable community

PERSONALITY AND ITS MAJOR SUBSYSTEMS

PURPOSE OF SUBSYSTEM

SATISFYING INTERNAL NEEDS	RESPONDING TO THE EXTERNAL WORLD

LEVEL OF SYSTEMS

MIDDLE:
Personality,
situations,
environments,
etc.

LEVEL OF SUBSYSTEM

HIGH:
Learned Models

MIDDLE:
Interactive Functions

LOW:
Biologically-Related
Mechanisms

INTRAPERSONAL QUALITIES	INTERPERSONAL QUALITIES
Loving oneself	Following moral and ethical precepts
Having good self-esteem	Feeling comfortable and good with other people
MOTIVATIONAL AND EMOTIONAL INTERACTIONS	EMOTIONAL AND COGNITIVE INTERACTIONS
Feeling good about motivations	Being emotional intelligent

MOTIVATIONAL DIRECTIONS	EMOTIONAL QUALITIES	COGNITIVE ABILITIES
Satisfying needs	Being happy, calm	Being analytically intelligent

SITUATIONS

Behaving well toward others
Having others behave well
toward oneself
Achieving and problem solving
According others respect
Being accorded respect

LOW:
Biological,
individual objects,
etc.

NEUROLOGICAL AND BIOLOGICAL SUBSTRATES

Having and preserving good health
Maintaining attractiveness
Satisfying bodily needs

SITUATIONAL ELEMENTS

Having money
Dressing well
Having many possessions

There is no reason that good scientific research should not have important practical applications in that regard, but it needs to take a more thoughtful turn than has been the case thus far.

Charting New Ground

Once upon a time in our discipline, there was a fairly active search for characteristics other than traditional analytical intelligence that predict success in life (e.g., McClelland et al., 1953). Some of these searches yielded mixed results but were forgotten; many other searches failed, or appeared to do so. To avoid unnecessary disappointments, we must look at what will be realistic and worthwhile; additional prediction over existing constructs in the 1–5% range should satisfy us for the time being. If we find variables that predict somewhat above that, all the better.

We must define success, and then we must develop good criteria for success carefully. As we only have come to understand in the last decade, measures of traditional intelligence look like wonderful predictors in part because the school performance they predict so well is a powerful criterion. People care about school performance, of course, but school

FIGURE 18.3. *Personality and Its Surrounding Systems With Examples of Success Relevant to Each System.* In Figure 3, personality is placed amidst its neighboring systems: biology (below), situations (to the right), and groups (above) so as to illustrate the multifaceted nature of success (modified from Mayer, 1998). Personal success is an aspect of personality and all its adjoining systems. For example, personal success might include good health (biology), a calm, happy mood (internal emotions), plenty of money (situational elements), or respect from others (situations), as well as success in forming a rewarding family environment (social groups).

performance is also unique as a variable because it aggregates so many behavioral observations. Consider that a person's grade point average is a reflection of her or his behavior over hundreds of days, over hundreds of quizzes, tests, and other assignments, as assessed by multiple independent observers (teachers). We now know that it is far more possible to predict records of aggregated behavior than it is to predict individual instances of behavior (Epstein, 1979).

What will be the aggregated criteria for emotional intelligence or other types of success? We need to find new such criteria to chart the predictors of success. There will be many directions to pursue.

Perhaps certain emotional disorders (i.e., psychiatric diagnoses) will distinguish otherwise emotionally intelligent individuals from the emotionally unintelligent. Perhaps the quality of social networks will be an important criterion, or retrospective reports of parenting. To aggregate such outcomes, some personality psychologists have been working on scales that aggregate external, behavioral, or life-space measures (e.g., Buss & Craik, 1983; Mayer, Carlsmith, & Chabot, 1998; Stokes, Mumford, & Owens, 1994). For example, life-space scales are basically a means of aggregating a wide variety of outcome variables, all external to personality, (e.g., "How many jars of vitamins do you own?" "Do you belong to the Young Republicans?") so as to create new, more powerful descriptions of a person's environment and, for those interested in it, new measures of their success.

So, there are reasons to be excited both about emotional intelligence and the search for variables that predict success. Naive approaches will, we suspect, run headlong into the disappointments of predicting success that have arisen in the past. There is, however, room for further sophisticated studies of intelligence, personality, and their predictions of success.

CONCLUSION

There now are two general models of emotional intelligence: a mental ability model and a mixed model that includes various personality dispositions. The mental ability model is probably the only one that is aptly called emotional intelligence. The other is somewhat more general than the meanings of "emotional" and "intelligence" would suggest. The use of the term "intelligence" to depict all varieties of human endeavor aside from mental ability is not new, however, and has merely reasserted itself in the present context.

Current research suggests that mental ability models of emotional intelligence can be described as a standard intelligence and empirically meet the criteria for a standard intelligence. This means that certain people previously called emotional may be carrying out sophisticated information processing. Emotional intelligence, carefully considered, also illuminates a boundary between cognitive intelligence and nonintellective dispositions. For example, emotional intelligence makes clear that socializing involves intellective and nonintellective aspects; only the intellective, we argue, should be referred to as intelligent.

The concept of emotional intelligence as ability is distinct from mixed models of emotional intelligence. Both may be useful in the study of human effectiveness and success in life. We believe it is useful to take a reasoned, thoughtful approach to studying human effectiveness under various conditions, and indeed much research does so. Calling any human variable related to personal success, "emotional intelligence," however, is likely to impede rather than promote progress in either area. More serious undertakings than can be orchestrated from the popular press are required.

The first mental ability measures of emotional intelligence now exist, and they appear reliable, content valid, and structurally valid. To some extent, the fate of emotional intelligence measures is connected to advances in personality psychology wherein better criteria of life activities (including success) are specified. There are few ready-made real-life criteria with which to correlate emotional intelligence at present. Questions such as What is an effective emotional life? or What is an effective, successful life? have only begun to be addressed in measurement psychology. Answering such questions will require a great deal of ingenuity on the part of both theorists and researchers. Clarification of the spheres of life activity will profit not only research on emotional intelligence but research on the intelligences and personality psychology more broadly.

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