
CHAPTER 1

What Is Emotional Intelligence?

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INTRODUCTION

A FOURTH-GRADE BOY was shivering on a school playground when a teacher asked him if he owned a warmer coat. He replied he did not (and his friend agreed). That afternoon, the teacher and the school nurse called the boy's home and offered to buy him a new coat. The boy's mother was delighted, and so the next morning, they outfitted the boy. Two boys noticed the child's new coat at recess and accused him of stealing it. When the boy denied it, the accusers launched such a venomous attack that none of the other children dared to defend the boy. Teachers and staff arrived and began to break up the confrontation. One of the accusers yelled "suck eggs" at the school nurse. "You suck eggs!" she replied. The teacher who had bought the coat was disturbed that her gift had caused such pain. The school nurse wondered how she could have said "suck eggs" to a child. The teacher whose class contained the troublemakers wondered how her boys could have acted that way. The staff members discussed what had happened and tried to determine what to do next.¹

Reasoning about this situation requires sophisticated problem solving: What social rules were followed or broken? What perceptions were logical or illogical? Does community support exist for disciplining the children?

How can such problems be avoided in the future? Implicit in each of these questions is also the need for information about feelings. Why were the accusers so angry? What can be done about the nurse's guilt? A feeling-blind response to the situation is possible: An administrator could declare that henceforth teachers should not give gifts to students. Such a response radically de-emphasizes feelings, however, in that it punishes those who care and would embarrass the boy who received the coat. Alternative courses of action deal better with the feelings intrinsic to this situation. Reasoning that takes emotions into account is part of what we have referred to as *emotional intelligence*.

The concept of emotional intelligence has recently received considerable attention in various books, magazines, and journals.² Each new discussion of the concept, however, seems to employ a different definition or make a different claim for its importance. This interest has prompted us to clarify further the concept of emotional intelligence. In the remainder of this chapter we discuss: the general scope and origin of emotional intelligence; the development of the concept of emotional intelligence; a revised definition and conceptualization of emotional intelligence; the assessment of emotional intelligence; and applications of emotional intelligence in the schools and beyond.

THE GENERAL SCOPE AND ORIGIN OF EMOTIONAL INTELLIGENCE

Understanding the concept of emotional intelligence requires exploring its two component terms, *intelligence* and *emotion*. Since the eighteenth century, psychologists have recognized an influential three-part division of the mind into cognition (or thought), affect (including emotion), and motivation (or conation).³ The cognitive sphere includes such functions as human memory, reasoning, judgment, and abstract thought. Intelligence is typically used by psychologists (and those who came before) to characterize how well the cognitive sphere functions. That is, intelligence pertains to abilities such as the "power to combine and separate" concepts, to judge and to reason, and to engage in abstract thought.^{4,5}

Emotions belong to the second, so-called affective sphere of mental functioning, which includes the emotions themselves, moods, evaluations, and other feeling states, including fatigue or energy. Definitions of *emotional intelligence* should in some way connect emotions with intelligence if the meanings of the two terms are to be preserved. Recall that motivation is a third sphere of personality. It refers to biological urges or learned goal-seeking behavior. To the extent that it is involved in emotional intelligence, it should be thought of as secondary.

Not everything that connects cognition to emotion, however, is emotional intelligence. Over the past 15 years or so, a great deal of study has been devoted to the mutual interaction of feelings and thought. This gen-

eral area of research is called *cognition and affect*. Emotion is known to alter thinking in many ways—but not necessarily in ways that would make a person smarter. For example, research indicates that moods generally bias people's thoughts: People in good moods think they are healthier than others, that the economy is improving, and that Paris is a better example of a city than Calcutta. People in bad moods tend to think they are sicker than others, that the economy is getting worse, and that Calcutta exemplifies the present-day urban condition fairly accurately.⁶ This mood-biasing effect, termed mood-congruent judgment, occurs when "an affective match between a person's moods and ideas increases the judged merit, broadly defined, of those ideas."⁷ Note that with mood-congruent judgment, mood and cognition interact without anyone being more or less smart. The field of cognition and affect also includes studies of emotional self-control, such as when a person buries her anger. Note that this doesn't necessarily improve the quality of the person's emotions or intelligence. It may be smart to be angry at times.

Emotional intelligence, as opposed to more general research, should in some way refer to heightened emotional or mental abilities. Although this criterion seems straightforward, some definitions of emotional intelligence don't really adhere to it. For example, one popular definition of emotional intelligence says it involves "self-control, zeal and persistence, and the ability to motivate oneself."⁸ This definition focuses on motivational characteristics such as zeal and persistence rather than on emotion. The concept of a motivational intelligence has been proposed to incorporate such alternative definitions.⁹

A slightly abbreviated version of the definition of emotional intelligence that we prefer is: "the ability to perceive emotions, to access and generate emotions so as to assist thought, to understand emotions and emotional knowledge, and to reflectively regulate emotions so as to promote emotional and intellectual growth." This definition combines the ideas that emotion makes thinking more intelligent and that one thinks intelligently about emotions. Both connect intelligence and emotion.

THE DEVELOPMENT OF THE CONCEPT OF EMOTIONAL INTELLIGENCE

Initial Work Relating Emotional Intelligence to Intelligence

The logic for identifying an intelligence within psychology is: (a) to define it, (b) to develop a means for measuring it, (c) to document its partial or complete independence from known intelligences, and (d) to demonstrate that it predicts some real-world criteria. Very simply, one might define a "vocabulary" intelligence, measure it with a vocabulary test, show that vocabulary intelligence is different from previously discovered intelligences, and demonstrate that it predicts success at, say, studying literature.

Each of these four steps is necessary. Because a great deal of research on intelligences exists, one of the most important steps in this series involves demonstrating that a new intelligence is different from those already known. Knowledge of vocabulary, for example, is typically indistinguishable from the already established verbal intelligence (to be discussed shortly).

Two intelligences are said to be the same if they are highly correlated with one another. A high correlation between two variables means that the two tend to rise and fall together. For example, the lengths of a person's right arm and left arm are highly correlated: some people have long right and left arms; some people have short right and left arms; and greatly dissimilar arms in the same person are unusual. Similarly, two intelligences are correlated if the intelligence levels correspond within each person: that is, both intelligences are high in person A, low in person B, medium in person C, and so forth. A complete lack of correlation would mean that one intelligence would tell you nothing about the level of the other. Most intelligences are moderately correlated with one another. That is, in a given individual, the intelligences will tend to operate at levels that are closer together than one would expect by chance. The correlation among intelligences is only moderate, as opposed to high (as in the arm length example), which allows for a moderate amount of difference among intelligences in the same person. This agrees with everyday experience, because we know people who are good at some mental tasks but less good at others.¹⁰

If two intelligences correlate highly then they are considered to represent the same intelligence. For example, vocabulary size and reading ability closely coincide in most people and as a consequence are usually considered part of one broader intelligence (in this case, *verbal-propositional* intelligence). Analogously, rather than discuss a person's right arm length and left arm length, one could refer simply to arm length. Ideally, a new intelligence should be low-to-moderately correlated with earlier intelligences. A low-moderate correlation (as opposed to a high one) means that the new intelligence is distinct from old ones and will tell you something new about a person; if it correlated too highly with the original intelligence, one might be overfishing the same water. At the same time, a low-to-moderate correlation is preferable to a nonexistent correlation; no correlation at all could suggest the new "intelligence" is so different that it is not an intelligence at all.

The idea of testing whether intelligences correlate (move up and down together) is the standard way of determining whether an intelligence exists; this method has been employed throughout the century.¹¹ A few alternative methods for establishing intelligence have been employed, and it is worth mentioning these before returning to the more influential correlational approach. Some people have tried to establish the existence of intelligence primarily through theoretical analysis. J. P. Guilford and R. Hoepfner proposed that 120 intelligences existed, on the basis that there

were roughly that number of combinations of basic mental processes. For example, they considered "memory for single words" as one such intelligence because it combined processes of memory, word recognition, and analyses of single units (i.e., words)—each of which they considered to be a discrete process. This potentially useful model lost favor because it was difficult to test with the correlational method (one problem was there were just too many intelligences to track).¹² More recently, Howard Gardner developed his elegant theory of multiple intelligences, including linguistic, musical, bodily kinesthetic, and personal intelligences (one of which resembles emotional intelligence). Gardner argues that his intelligences exist on the basis of their cultural significance and their correspondence to human brain structures. He avoids the correlational approach: Although he admits its utility for studying observed, expressed abilities, he notes that it provides only an indirect measure of internal brain processes. This is true, but so little is known about brain structure that Gardner's own conception has only modest support beyond its original formulation.¹³

The exceptions of Guilford, Gardner, and some others aside, the twentieth century has relied on the correlational approach to identifying intelligences.¹⁴ In fact, researchers have developed measures for as many intelligences as they could imagine, and there has been a free-for-all examination of different intelligences and their interrelations throughout the century. In the 1930s, Thurstone suggested the existence of about a dozen intelligences, including verbal comprehension, word fluency, associative memory, and perceptual speed.¹⁵ Later in the century, the Educational Testing Service published a reference kit that measured dozens of cognitive intelligences.¹⁶ Careful examination of the intelligences suggests that although there is an overall moderate correlation among them, some intelligences are more independent of one another than others. One empirically supportable idea earlier in the century was that the intelligences seemed to divide into two or three subgroups. The first of these is a verbal-propositional intelligence, which includes measures of vocabulary, verbal fluency, and the ability to perceive similarities and to think logically. The second of these is a spatial-performance intelligence, which includes abilities of assembling objects and recognizing and constructing designs and patterns. The third, more controversial intelligence, social intelligence, is concerned with people's skills in relating to one another.

Historically, there were serious difficulties in developing the concept of social intelligence because it seemed so highly correlated with the first two intelligences as to be indistinguishable from them. That is, people's reasoning about social situations rises and falls so closely with their verbal-propositional and spatial-performance skills that the justification for treating social reasoning as a separate intelligence seemed uncertain. So, there appeared to be little need for studying this third, more purely social, variety of intelligence.¹⁷ The major midcentury intelligence test, Wechsler's

intelligence scales, measured only the verbal-propositional and spatial-performance portions of general intelligence. Although both the verbal and performance measures included social reasoning, social intelligence was not measured as a distinct entity.

At the outset of our work, we thought that it might make sense to exchange emotional for social intelligence in this proposed triumvirate of intelligences. Emotional intelligence would combine a group of skills that were more distinct from both verbal-propositional and spatial-performance intelligence than social intelligence had been and at the same time would still be close enough to the concept of an intelligence to belong to the triad. We therefore expected emotional reasoning to be correlated with but distinct from other intelligences; the evidence to date supports this position (as we will describe in the section on measuring emotional intelligence).

One final issue was important to defining emotional intelligence: It had to be distinguished from traits and talents. Traits can be defined as characteristic or preferred ways of behaving (e.g., extroversion, shyness); talents as nonintellectual abilities (e.g., skill at sports). Certain recently proposed intelligences seemed more like valued traits or talents than legitimate intelligences. Scarr has written:

There are many human virtues that are not sufficiently rewarded in our society, such as goodness in human relationships. . . . To 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.¹⁸

We editorialized in the journal *Intelligence* that emotional intelligence could be considered an actual intelligence as opposed to, say, a highly valued social trait.¹⁹ Scarr's "goodness in human relationships" might indeed be composed of the traits of sociability, trustworthiness, and warmth. But in addition there might exist actual abilities, such as knowing what another person is feeling, that may involve considerable thinking and consequently could be considered an intelligence. In this way, we distinguished a mental skill that could legitimately be called emotional intelligence (e.g., being able to figure out one's own and others' emotions) from preferred ways of behaving (e.g., being sociable or warm).

Initial Work Relating Emotional Intelligence to the Emotions

The conceptual development of emotional intelligence required relating it not only to intelligence research but also to research on emotion. We began with the observation that emotion and intelligence have often been seen as adversaries, with emotions viewed as an intrinsically irra-

tional and disruptive force.²⁰ For example, the idea that the mind is “hijacked” by intense emotional experiences—although true in some instances—emphasizes how emotions disrupt thought. In many instances, however, extreme emotional reactions promote intelligence by interrupting ongoing processing and directing attention toward what may be important. In this sense they prioritize cognition.²¹ We view emotions of all sorts as potentially contributing to thought rather than disorganizing it.

Our concept of emotional intelligence is primarily focused on the complex, potentially intelligent tapestry of emotional reasoning in everyday life. For most healthy individuals, we assume that emotions convey knowledge about a person’s relationships with the world.²² For example, fear indicates that the person is facing a relatively powerful or uncontrollable threat. Happiness typically indicates one’s harmonious relations with others, and anger often reflects a feeling of injustice. According to this view, there are certain generalities and laws of emotions. These general rules and laws can be employed in recognizing and reasoning with feelings. For example, certain universals of emotional expression exist and people should be able to recognize them.²³ Emotional reasoning therefore extends into questions about relationships. For example, an insulted person might feel anger, or if the person was insecure and nonassertive, might feel shame, humiliation—or repressed anger. Recognizing these reactions requires some form of intelligence.

What we are getting at is that emotional intelligence requires at least some “right” answers as to feelings. Of course, some questions about emotions don’t have right answers. For example, the question “What is the best emotional response to shouting?” has no answer. If one’s parents plainly loved each other but often shouted at one another, then one may grow up comfortable with shouting. If one’s parents first yelled at one another on the day they decided to get a divorce, one may be uncomfortable with it. To the first person, shouting reflects frustration in the context of a loving relationship. To the second person, shouting represents adult hatreds. So, no right response exists. An answer to the question can be given, however, if more information is provided (e.g., if we know something about the person’s individual learning history). We also recognize the need to consider culture and subculture. For example, individuals in warmer climates are described and describe themselves as more emotionally demonstrative than those in colder climates.²⁴

Examining more complex manifestations of emotional intelligence (beyond that of the simple identification of emotion) often requires understanding the individual’s own cultural framework. Only by knowing the person’s standards can certain “emotional reactions and models . . . be assessed according to their logical consistency, and hence, their intelligence.”²⁵

A REVISED DEFINITION AND CONCEPTUALIZATION OF EMOTIONAL INTELLIGENCE

In our earlier work we defined emotional intelligence according to the abilities involved in it. One of our first definitions of emotional intelligence was "the ability to monitor one's own and others' feelings and emotions, to discriminate among them, and to use this information to guide one's thinking and action."²⁶ But this and other earlier definitions now seem vague in places and impoverished in the sense that they talk only about perceiving and regulating emotion, and omit thinking about feelings. A revision that corrects these problems is as follows:

Emotional intelligence involves the ability to perceive accurately, appraise, and express emotion; the ability to access and/or generate feelings when they facilitate thought; the ability to understand emotion and emotional knowledge; and the ability to regulate emotions to promote emotional and intellectual growth.

We have diagrammed these skills in Figure 1.1. The four branches of the diagram are arranged from more basic psychological processes to higher, more psychologically integrated processes. For example, the lowest level branch concerns the (relatively) simple abilities of perceiving and expressing emotion. In contrast, the highest level branch concerns the conscious, reflective regulation of emotion. Each branch has four representative abilities on it (in boxes). Abilities that emerge relatively early in development are to the left of a given branch; later developing abilities to the right. Because the developmentally early skills (to the left) are usually poorly integrated with one another, they most clearly illustrate the distinctions among branches. Later developing abilities (to the right) emerge within a more integrated adult personality and are consequently less distinct. Each ability applies to emotions internally and in others except where otherwise noted. People high in emotional intelligence are expected to progress more quickly through the abilities designated and to master more of them. In the following discussion we will examine each branch in turn, including the boxed abilities from left to right, referring to them as Boxes 1 through 4, respectively.

Perception, Appraisal, and Expression of Emotion

Figure 1.1's lowest branch concerns the accuracy with which individuals can identify emotions and emotional content. Infants and young children learn to identify their own and other's emotional states and to differentiate among those states. The infant distinguishes emotional facial expressions early on and responds to the parent's expressions. As she grows she will more accurately identify her own muscular and bodily sensations and social surroundings (Branch 1, Box 1). A mature individual can carefully monitor internal feelings. If we ask a grown person who

FIGURE 1.1

Reflective Regulation of Emotions to Promote Emotional and Intellectual Growth

Ability to stay open to feelings, both those that are pleasant and those that are unpleasant.	Ability to reflectively engage or detach from an emotion depending upon its judged informativeness or utility.	Ability to reflectively monitor emotions in relation to oneself and others, such as recognizing how clear, typical, influential, or reasonable they are.	Ability to manage emotion in oneself and others by moderating negative emotions and enhancing pleasant ones, without repressing or exaggerating information they may convey.
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Understanding and Analyzing Emotions; Employing Emotional Knowledge

Ability to label emotions and recognize relations among the words and the emotions themselves, such as the relation between liking and loving.	Ability to interpret the meanings that emotions convey regarding relationships, such as that sadness often accompanies a loss.	Ability to understand complex feelings: simultaneous feelings of love and hate, or blends such as awe as a combination of fear and surprise.	Ability to recognize likely transitions among emotions, such as the transition from anger to satisfaction, or from anger to shame.
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Emotional Facilitation of Thinking

Emotions prioritize thinking by directing attention to important information.	Emotions are sufficiently vivid and available that they can be generated as aids to judgment and memory concerning feelings.	Emotional mood swings change the individual's perspective from optimistic to pessimistic, encouraging consideration of multiple points of view.	Emotional states differentially encourage specific problem approaches such as when happiness facilitates inductive reasoning and creativity.
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Perception, Appraisal, and Expression of Emotion

Ability to identify emotion in one's physical states, feelings, and thoughts.	Ability to identify emotions in other people, designs, artwork, etc., through language, sound, appearance, and behavior.	Ability to express emotions accurately, and to express needs related to those feelings.	Ability to discriminate between accurate and inaccurate, or honest versus dishonest expressions of feeling.
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is staying up late how she feels, she might respond that she is partly full of energy, partly fatigued, and anxious about whether or not her thinking is still clear.

Feelings can be recognized not only in oneself but in other people and in other objects. As a child grows that child imaginatively attributes feelings to animate and inanimate objects. This imaginative thinking may help the child generalize from himself to others. For instance, he may connect times when he is personally anxious and has a constricted posture to physical constriction observed in pets, other children, objects, and pictures, enabling him to recognize anxious expressions in other people and things (Box 2). Suitably developed and abstracted, the developing person begins to evaluate emotion wherever it might be expressed—in other people, in architecture, in artworks, and so on.²⁷ So, when we see Munch's well-known painting *The Scream* (of a cartoonish figure howling), not only do we immediately recognize the face of anxiety but how right it is that in the painting's background, the world is dissolving into nothingness at the same time. The individual is also able to express feelings accurately and to express needs surrounding those feelings (Box 3). Because emotionally intelligent individuals know about the expression and manifestation of emotion, they are also sensitive to its false or manipulative expression (Box 4).

Emotion's Facilitation of Thinking

The next branch up, "Emotional Facilitation of Thinking," concerns emotion acting on intelligence; it describes emotional events that assist intellectual processing. Emotion serves as an alerting system essentially from birth. The infant cries when it needs milk, warmth, or other care, and laughs in response to smiles and other pleasures. Emotions thus operate from the start to signal important changes in the person and in the environment. As the person matures, emotions begin to shape and improve thinking by directing a person's attention to important changes. For example, a child worries about his homework while watching TV. A teacher becomes concerned about a lesson that needs to be completed for the next day. The teacher, with his better developed thinking, moves on to complete the task before his concern overtakes his enjoyment (Box 1).

A second contribution of emotion to thinking is to generate emotions "on demand" so that they can be better understood. When asked "How does the character in a story feel," or when deciding how another person feels, children may generate the feelings within themselves so as to put themselves in the other's place.²⁸ This permits an immediate, real-time inspection of the feeling and its characteristics. In the growing person, the ability to generate feelings assists with planning. The individual can anticipate how entering a new school, taking a new job, or encountering a social criticism might feel. Anticipating such feelings can help a person decide whether to take a job or make a criticism. There exists, in other

words, an “emotional theater of the mind,” or more technically, a processing arena in which emotions may be generated, felt, manipulated, and examined so as to be better understood. The more accurately and realistically such an emotional theater operates, the more it can help the individual choose alternative life courses (Box 2).²⁹

The remaining two abilities of Branch 2 are examples of a larger set of emotional contributions to more sophisticated, efficient thoughts. Emotionality may help people consider multiple perspectives. Recall that mood-congruent judgment involves good moods leading to optimistic thought; bad moods, to pessimistic thought. A sad high school senior may feel inadequate and consequently apply to a lot of colleges with easy admissions standards. Then, as her mood improves, she might apply to more selective colleges. This individual’s shifting moods led her to consider more possibilities, which will be an advantage in conditions of uncertainty (Box 3). Close relatives of manic-depressives are likely to have more mood swings than others, assisting them to change perspective often. This may explain why such relatives are rated as exhibiting higher creativity in both their occupational and nonoccupational activities.³⁰ The final ability on this branch recognizes that different kinds of work and different forms of reasoning (e.g., deductive versus inductive) may be facilitated by different kinds of moods (Box 4).³¹

Understanding and Analyzing Emotions; Employing Emotional Knowledge

The third branch up of Figure 1.1 concerns the ability to understand emotions and to use emotional knowledge. Soon after the child recognizes emotions he begins to label them and perceive relations among those labels. For example, many emotions form sets along continua of intensity. The child begins to recognize similarities and differences between liking and loving, annoyance and anger, and so on (Box 1).³² The child is simultaneously learning what each feeling means in terms of relationships. Parents teach children about emotional reasoning by linking emotions to situations. For example, they teach the connection between sadness and loss by helping a child recognize she is sad because her best friend won’t spend time with her anymore. A formal philosophy of feelings has developed over the centuries. For example, Spinoza defined shame as “pain accompanied by the idea of some action of our own, which we believe to be blamed by others.”³³ Some consensus exists as to these meanings, with anger frequently viewed as arising from the perception of injustice, sadness arising from loss, fear from threat, and so forth.³⁴ Emotional knowledge begins in childhood and grows throughout life, with increased understanding of these emotional meanings (Box 2).

The growing person also begins to recognize the existence of complex, contradictory emotions in certain circumstances. The child learns that it is possible to feel both love and hate toward the same person.³⁵ Probably

also at this level of development, blends (or combinations) of emotions are acknowledged. For example, awe is sometimes viewed as a combination of fear and surprise; hope as a combination of faith and optimism (Box 3).³⁶ Emotions tend to occur in patterned chains: Anger may intensify to rage, be expressed, and then transform to satisfaction or guilt, depending upon the circumstance. The person goes on to reason about sequences of emotion: An individual who feels unlovable might reject another's care for fear of later rejection. Reasoning about the progression of feelings in interpersonal relationships is central to emotional intelligence (Box 4).

Reflective Regulation of Emotions to Promote Emotional and Intellectual Growth

The highest branch of Figure 1.1 concerns the conscious regulation of emotions to enhance emotional and intellectual growth. Emotional reactions must be tolerated—even welcomed—when they occur, somewhat independently of how pleasant or unpleasant they are. Only if a person attends to feelings can something be learned about them. For that reason, this highest level branch begins with openness to feelings (Box 1).

As the child grows, her parents teach her not to express certain feelings: to smile in public even if feeling sad, to go to her room if angry. Gradually, the child internalizes these divisions between feeling and acting: The child begins to learn that emotions can be separated from behavior.³⁷ Parents teach rudimentary emotion control strategies ("Count to 10 when you are angry"). As a consequence, the child learns to engage and disengage from emotion at appropriate times. Rage against another or against an injustice may be useful in reasoning about the situation, but probably less so when the feeling is at its climax. At those times the emotionally mature individual will know to draw back and discuss matters with more cool-headed confidants. Later, the emotional insight and energy provided by such experiences may be applied to the reasoning process, and may both motivate it and provide a means by which to, for example, elicit others' anger in opposition to the injustice (Box 2). As the individual matures, there also emerges a consistently reflective or meta-experience of mood and emotion. These feelings involve experiences of mood such as "I don't fully understand the way I'm feeling," or "This feeling is influencing how I'm thinking."³⁸ Such thoughts are conscious reflections on emotional responses, as opposed to simple perceptions of feelings. The meta-experience of mood seems divisible into two parts: meta-evaluation and meta-regulation. The evaluations include how much attention one pays to one's mood, and how clear, typical, acceptable, and influential one's mood is (Box 3). The regulation concerns whether the individual is trying to improve a bad mood, dampen a good one, or leave the mood alone. The meta-experiences of mood appear to be related to important phenomena, such as how long one dwells on

traumatic experiences. The laws of meta-experiences are not as of yet well understood, but new measures have been developed to assess both their ongoing dynamics and dispositional qualities. One quality that seems important is that emotions are understood without exaggerating or minimizing their importance (Box 4).

Emotional Intelligence, Emotional Achievement, and Emotional Competencies

Up to now we have been discussing a concept of emotional intelligence that is reflected in a set of abilities. Consideration of emotional intelligence raises the issue of whether there exists emotional achievement and emotional competence, just as, say, academic intelligence can be compared to academic achievement and academic competence.³⁹ In the sphere of academic intelligence, intelligence is the aptitude, achievement represents what one has accomplished, and competency indicates that one's achievement meets a particular standard. Analogous to such concepts, emotional intelligence represents the core aptitude or ability to reason with emotions. Emotional achievement represents the learning a person has attained about emotion or emotion-related information, and emotional competence exists when one has reached a required level of achievement. All things being equal, a person's emotional intelligence determines her emotional achievement. But things are rarely equal, and the family in which one grew up, the lessons about emotions one was taught, the life events one has undergone—all influence how much one has achieved in learning about emotions.

Many educational psychologists prefer speaking in terms of competencies rather than intelligences, and the idea of emotional competencies has already been introduced by Saarni.⁴⁰ It focuses on the knowledge and skills the individual can attain in order to function adequately across situations rather than on the more difficult to assess and, in some ways educationally less relevant, issue of emotional intelligence. Some advocates of competency testing view it as a safeguard against the misuse of haphazardly administered group intelligence tests.⁴¹ It is plainly more focused on the educational process than on psychological aptitude. From at least a theoretical standpoint, it makes sense to develop the ideas of emotional intelligence, emotional achievement, and emotional competencies together.

At least part of the excitement with which the concept of emotional intelligence has been greeted, we think, has been the definite implication that we understand emotions well enough to speak in terms of specific emotional abilities and competencies at those abilities. Without the concept of emotional intelligence, teaching about emotion must be geared toward the institutionally sanctioned requirement of behaving "well" or "nicely." Emotional intelligence provides a more flexible (if less easily defined) criterion for emotional competence: One increases one's emo-

tional abilities to an agreed-upon level. Emotional intelligence is a good goal for a democratic culture. It does not dictate the outcome of a person's emotional behavior but rather encourages a process of personal investigation that can occur in the context of the person's own politics, ethnicity, religion, and other characteristics.

THE ASSESSMENT OF EMOTIONAL INTELLIGENCE

Now that we have described emotional intelligence, it is worth considering the evidence that it exists. As noted at the outset, understanding the form emotional intelligence takes will require demonstrating that the abilities included under the term "emotional intelligence" are meaningfully different from general intelligence and yet related enough to it to qualify as an intelligence. The media depiction of a monolithic EQ is without question premature. The determination of whether emotional intelligence is, say, one true intelligence, multiple skills unrelated to general intelligence, or something in between will depend upon its measurement and assessment.

The Measurement of Emotional Intelligence

Earlier we reviewed a great deal of psychological literature that suggests that some of the abilities on the branches of Figure 1.1 can be measured.⁴² When we turn to studies that actually speak to the existence of emotional intelligence, only a small minority of the studies directly inform us of its existence or nonexistence. This small number of studies must meet three criteria. First, an ability of the type described in Figure 1.1 must be measured. Note that this excludes a great number of important personal qualities, such as optimism and motivation, which do not specifically involve emotional contributions to intelligence or intellectual understanding of emotion.⁴³ A second criterion is that the studies directly measure an ability rather than a person's self-description of how emotionally intelligent he or she is. Self-descriptions of intelligence can be of some research value but are not dependable enough to demonstrate that the concept exists. In the realm of academic intelligence, every instructor is familiar with the bright student who believes she isn't very smart and the not-so-smart student who believes she is much smarter than she is. Asking people to solve a problem produces a more valid sample of behavior for study. The third criterion is that such studies should connect multiple abilities from Figure 1.1 to one another, or one or more emotionally intelligent abilities to an important criterion.

Only a few studies meet the aforementioned criteria. In one study with Maria DiPaolo,⁴⁴ we found evidence supporting the idea that there is a basic skill that accounts for individual differences in recognizing (consen-

sual) emotion not only in faces but in abstract designs and even in colors. That is, skills at decoding faces, designs, and colors were either generally high, medium, or low in a given individual. Moreover, people higher in these skills also obtained higher scores on a scale of self-reported empathy, a skill also envisioned as part of emotional intelligence. These findings argue for the existence of emotional intelligence as described in the first branch of the diagram (perception of emotion), in that they point to a unity of emotional recognition in faces, colors, or designs. Mayer and Geher further found that emotional perception of characters in situations correlates with SAT scores (a measure of intelligence), with empathy, and with emotional openness (from the highest, "regulatory" branch). At the time this chapter went to press, these findings were replicated and extended using a new scale that measures skills from all four branches of Figure 1.1.⁴⁵

Important additional information concerning the third, "understanding emotions," branch comes from work by Averill and Nunley on emotional creativity.⁴⁶ In one of their tasks, participants are asked to write a brief description of a situation in which they might feel three emotions together (e.g., joy, relief, and distress). As our conceptualization of emotional intelligence (or theirs of emotional creativity) would predict, success at this task appears related to but independent of general intelligence. These few studies suggest that many of the abilities in Figure 1.1 intercorrelate with one another and are partly independent of general intelligence. Development of tasks requires caution because serious theoretical and empirical issues must be considered. These include, most pressingly, "How do we find the right answer to a test item in emotional intelligence?"—especially as those answers become more sophisticated. A more detailed discussion of this issue can be found in the article by Mayer and Geher (1996).

What Emotional Intelligence Predicts

Given that emotional intelligence has been studied so little, not much is known about what it predicts. Psychologists recognize that general intelligence predicts some aspects of success—defined as academic achievement and occupational status. General intelligence is often said to account for between 10% and 20% of such success, leaving about 80% to 90% of it to be explained by other factors.⁴⁷ So there is certainly room for emotional intelligence to predict a portion of such achievement. Generally speaking, a single personality factor explains only a small portion of life outcomes, so even a 10% contribution of emotional intelligence would be considered very large indeed. Some observers believe they have identified such contributions in the workplace. For example, some have argued that emotional intelligence contributed to success among engineers at Bell Laboratories, in particular their ability to network effectively.⁴⁸ In the Bell Labs study "networking" meant that engi-

neers found answers from one another by bartering with information. This meant:

first becoming a technical expert in a particularly sought-after area, then letting people know of your expertise, then making yourself available to others. Once an engineer has developed his or her bargaining chips, it's possible to gain access to the rest of this knowledge network.⁴⁹

Such bartering seems to us to depend more on understanding the unwritten demands of the job than on emotional intelligence.⁵⁰ Although the bartering might involve emotional intelligence, we just do not know because no measures were taken of it. We do believe that emotional intelligence can contribute to success, at least when success is defined broadly.

More emotionally intelligent individuals might succeed at making their workers feel better, at communicating in interesting ways, and at designing projects that involve infusing products with feelings and aesthetics. Emotional intelligence may make the difference between constructing the Brooklyn Bridge, with its renowned beauty, and the more mundane Fifty-ninth Street Bridge.⁵¹

As more research is carried out, we can better evaluate what emotional intelligence contributes to achievement. In the meantime, the potential gains from teaching emotional intelligence will need to be considered with caution. It is to those applications we turn next.

APPLICATIONS OF EMOTIONAL INTELLIGENCE IN THE SCHOOLS AND BEYOND

Emotional intelligence as described here is expected to be involved in the home, in school, in work, and other settings. In many of these settings, emotional problems frequently are solved well. The story that opened this chapter, about the boy who was given a coat, was resolved with emotional intelligence. At the end of the fight some of the teachers and staff were already saying something like, "There are often fights between middle-class and poorer children in this school. Perhaps it was good that all this is out in the open because now it can be dealt with." The school principal called in the boys who started the fight, talked to them, and had them write letters of apology to the boy who received the coat. The principal chose to have them write letters of apology, he said, because it required them to think about what happened for a while. He also decided to devote a staff development day to what had happened so that the teachers could further understand what was going on in the school. The boy with the new coat wrote a letter of thanks to the teacher and the nurse. When the teacher received it, she said, "I understand it created some problems for you." The boy replied, "Oh, it's okay, they apologized . . . and I really like

the coat." This doesn't totally take care of the problem, of course, but then, human problems are complex.

Acquiring Emotional Intelligence

If one wanted to improve emotional skills, how would that be done? Most skills can be improved through education, and it is likely this will hold true for at least some of the skills related to emotional intelligence. Emotional skills begin in the home with good parent-child interaction. Parents help children identify and label their emotions, to respect their feelings, and to begin to connect them to social situations. This process may succeed to a greater or lesser degree in each home. We have come to realize over the course of our study that individuals operate from different emotional starting places. These can be considered their emotional knowledge base.⁵² The opportunities for learning emotional skills are not always equal. Parents may suffer from psychological limitations so severe that they are unable to initiate an emotional-cognitive learning process. A child may learn incorrect lessons about emotions: Parents may avoid feelings, or a parent may deny he is angry even while behaving with hostility. As a consequence, children sometimes develop disorders in which they become far removed from their feelings or misunderstand them. Sometimes a psychotherapist will be necessary to correct the problem. Psychotherapists are trained in empathic listening, reflection of feeling, and searching for lost emotions that need to be constructed, recovered, or acted on in better ways. For example, a therapist may see a client who is consistently taken advantage of, exploited, and yet denies any anger. The therapist may inquire as to whether anger is there and help the individual to channel it productively for the purposes of self-protection and placing limits on others' inappropriate behavior. It is also possible for some remedial learning to take place in the schools. Some of the most important learning takes place in the informal relationships between child and teacher; teachers often serve in the role of an important and potentially wise adult model. Another place where emotionally intelligent skills are taught is in the standard curriculum—a point to which we turn next.

The Incorporation of Emotional Intelligence in the Standard Curriculum

Particularly useful, we believe, is the natural emotional teaching that comes with many of the liberal arts and with various value systems as well. In school reading lessons that involve engaging stories, children begin to learn about feelings of characters. Story characters have an inescapable tendency to become happy, afraid, jealous, and so forth, and children can observe both what makes those characters feel as they do and also how the characters cope in response to the feelings. This learn-

ing proceeds throughout the educational system, and as stories become more complex, so does emotional learning. The ways in which the feelings of characters motivate their actions, which in turn moves forward the plot, is a lesson in emotional perception for young adults as much as it is in plot construction. In fact, one cannot evaluate a plot without asking "What does this character, with his history and personal style, feel in this situation," and then, "How reasonable is it that someone feeling this way would act as the character does?" Literature is probably the first home of the emotional intelligences. But so, too, are art programs, music, and theater.

Nor is the importance of values to be overlooked, as these determine in part the person's more conscious knowledge of the emotions. Values are often discussed and taught in such liberal arts subjects as history, citizenship, and (more often in private schools) religion. From these we learn about the value systems within which emotional responsiveness occurs. Different styles of emotionality exist within different systems. One prevalent Western tradition esteems individual life, democracy, equality among individuals, and education, while it abhors destruction of life and property, discrimination, and ignorance. Such values define expected emotional responses. Cultural and/or religious observances further define expected emotions. The Jewish holiday of Yom Kippur requires those who worship to traverse cycles of repentance for sins during the year. The repentance begins with a critical self-appraisal with accompanying regret, guilt, and shame. Next, the person takes action to remedy those mistakes that can be repaired. After sincere repentance, there will follow solemnity, calmness, relief, and perhaps joyousness.⁵³ Making available these resources does not always work. The student may not read much, art courses may be curtailed, the student may reject religious, ethical, or national value systems. In such cases, should the school system step in directly with programs focused on emotional competencies?⁵⁴

We think it is worth exploring this issue. Keep in mind that courses directly focused on the topic should be approached cautiously, as there is little scientific guidance about how they should be designed. To discuss the "correct" response(s) to a complex social event seems to stretch our knowledge. We cannot be sure we know all the right answers. But some discussion of such issues seems reasonable.

Educational Programs Directly Concerning Emotional Intelligence

Emotions have been taught in the schools before the concept of emotional intelligence was developed. We are impressed with the inventive ways in which some instructors have arranged affective curricula, but we also have concerns about them. In some schools and some programs where such materials are carefully worked out and the staff is well trained, a unique and potentially valuable program is undoubtedly being implemented. Just the same, as we examine details of some programs, we

are at times uncomfortable. For example, programs that seem to adopt an "emotions are good" philosophy untempered by the fact that emotions exist in the context of other personal characteristics and interpersonal relationships are troubling to us.

Presumably, those students who need emotional education most desperately have come from households in which emotional communication is skewed in some way or another. These individuals already employ maladaptive emotional responses. We are not sure such severely damaged children profit from, say, being required to share their emotions in a class discussion, or whether they will be overwhelmed by it, or feel coerced.

Another concern is that individuals from different subcultures approach emotions differently. Although most share Western values, some will have been taught to "let it all hang out," whereas others may take a more "stoical" view. Some may emphasize a Christian attitude of turning the other cheek when confronted, so as to emphasize peace; others may emphasize a more Jewish attitude of employing anger to expose injustice and hence repair the world. (These are simplifications that cannot do justice to the more complete religious teachings.) In some instances, individuals may be members of discriminated-against groups and the target of such serious but covert hatred as to feel unable to participate in exercises that assume a degree of interpersonal trust.

A more promising starting point is exemplified by some conflict resolution programs we have seen. For example, Linda Lantieri, who runs the Resolving Conflicts Creatively Program in the New York City public school system, argues that conflict resolution is based on learning the skills of an emotionally intelligent person. Her program teaches how to identify the feelings of your adversary, your own feelings, and the feelings of others involved.⁵⁵ Violence reduction is an important and central goal in schools, where its threat is so salient as to greatly interfere with learning and concentration. It is more concrete and easier to agree upon implementing a conflict resolution curriculum (from our perspective) than a program devoted to increasing emotional intelligence (should such be possible) *per se*. The more focused goals of such a program also prevent it from being misinterpreted as teaching the "right" (or "best") way to feel.

Teaching basic social skills, or even basic socioemotional skills, if you prefer, is different from teaching an intelligence. Most beginning cooks who carefully follow a recipe can produce a good-tasting meal without necessarily knowing about all the ingredients. Similarly, any student enrolled in these programs can learn the social recipes without necessarily learning emotional intelligence. In our experience, many such school-based programs seem focused on these basic recipes, and this is to their credit. It makes assessing their outcomes relatively easy, and it avoids difficult issues like whether emotional intelligence can be assessed or taught, and by which cultural or multicultural criterion it will be evaluated. Might these programs teach a bit of emotional intelligence? Per-

haps; just as gaining experience around the kitchen might help someone begin to develop as a chef. But whether or not it occurs doesn't matter. If the program reduces maladaptive interpersonal distress, we are happy about it.

CONCLUSION

Emotional intelligence is the ability to perceive emotions, to access and generate emotions so as to assist thought, to understand emotions and emotional meanings, and to reflectively regulate emotions so as to promote both better emotion and thought. It is our belief that the adaptive use of emotion-laden information is a significant aspect of what is meant by anyone's definition of intelligence, yet it is not studied systematically by investigators of intelligence nor included in traditional school curricula. As we have argued, using the emotions as one basis for thinking, and thinking with emotions themselves, may be related to important social competencies and adaptive behavior. Presently, we are at the beginning of the learning curve about emotional intelligence; the coming years should bring exciting research that contributes to our understanding of the concept.

GLOSSARY

Achievement—The level at which a person has learned to perform a particular skill.

Affect—One of three traditional spheres of mental activity (along with motivation and cognition), involving emotions, moods, and other associated feeling states such as liveliness and tiredness.

Cognition—One of three traditional spheres of mental activity (along with motivation and affect), involving learning, thought, judgment, memory, and other forms of thinking.

Competence—The condition of meeting a standard of achievement.

Conation—see Motivation.

Correlation—A statistical measure of the degree to which two variables are related. Correlation coefficients typically take on values from 1.0 to -1.0. A correlation of 1.0 means that variables rise and fall together with an exact correspondence. When variables are said "to be correlated," it more often means they rise and fall together according to a loose pattern; this pattern is represented by a number between 0.0 and 1.0, where a higher value

close to 1.0 indicates a stronger association. Negative correlations involve movements of the variables in opposite directions (i.e., one rises as the other falls) and are represented by numbers between 0.0 and -1.0.

Emotion—Short-term feeling states including happiness, anger, or fear, that mix varying amounts of pleasantness-unpleasantness and arousal-calm, among other sensations.

Emotional Intelligence—This intelligence involves the ability to perceive accurately, appraise, and express emotion; the ability to access and/or generate feelings when they facilitate thought; the ability to understand emotion and emotional knowledge; and the ability to reflectively regulate emotions in ways that promote emotional and intellectual growth.

Intelligence—Traditionally, a characterization of how well the cognitive sphere operates, e.g., how quickly someone can learn, how well they can judge and think, and so on.

Meta-Experience (or Meta-Mood Experience)—A reflective thought or feeling about an emotion or mood, such as "I don't like this feeling."

Motivation (or Conation)—One of three traditional spheres of mental activity (along with affect and cognition) that concerns both basic urges such as hunger and thirst, and more complex goal-directed activities such as the pursuit of friendship, achievement, or power.

Talent (and Nonintellectual Talent)—A talent is any human skill or ability. A nonintellectual talent is an ability that does not involve (or only minimally involves) human cognition or intelligence, such as the ability to walk long distances, to eat hot peppers, etc.

Trait—Any fairly consistent behavior or set of behaviors an individual tends to exhibit such as enjoying being with people, being conscientious, or trying new things.

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1. This is a true story in which a few details have been changed to protect the privacy of those involved. Similarly, the aftermath reported later in the chapter is what occurred.
2. Discussion of the concept has occurred in academic research settings (Enmons & Colby, 1995), in popular news magazines such as *Time* (Gibbs, 1995), and in a popular book (Goleman, 1995b).
3. This three-part division is basic to the modern enterprise of psychology. Historical reviews can be found in Hilgard (1980) and Mayer (1995); the origins of the system date from Mendelssohn (1755/1971).
4. Wechsler (1958), for example, defined intelligence as related not only to cognition but to general adaptation as well. In Mayer and Salovey (1995), we have examined the distinction between adaptation and intelligence. Although adaptation is plainly involved in intelligence, it is in-

sufficient by itself to characterize intelligence. Many organisms, such as ants, are well adapted without necessarily being highly intelligent in the sense employed here.

5. "The power to combine and separate" was suggested by the philosopher Thomas Aquinas, 1225–1274 (cited in Walsh & Betz, 1995); the importance of reasoning and judgment was evident in the early Binet tests (see Sattler, 1982); Spearman (1927) emphasized the importance of abstract reasoning.
6. A number of research laboratories have examined mood-congruent judgment. A few key publications include: Bower (1981); Forgas (1995); Isen, Shalke, Clark, and Karp (1978); Mayer and Salovey (1988); Mayer, Gaschke, Braverman, and Evans (1992); Salovey and Birnbaum (1989).
7. Mayer et al. (1992, p. 129).
8. This brief definition forms one of the several definitions employed by Coleman (1995b, p. xii). A second definition is similar to ours; a third definition says that emotional intelligence is "character" (1995b, p. 285).
9. Motivational intelligences are discussed briefly in the introduction to Mayer and Geher (1996). The view that intelligences might be divided into cognitive, affective, and motivational sets rather than the social (and intrapersonal) intelligences, most recently popularized by Gardner, has been studied under different names by earlier researchers.
10. When psychologists speak about intelligence they are keeping in mind the full range of the variable, from its lowest manifestations in the severely retarded, where most individuals possess very few skills, to the level of the extremely gifted, where individuals can do many things with at least some skill. (For example, Einstein played the violin in a chamber group, although always a bit stiffly.)
11. Some psychologists were interested in further interpreting this cohesion among the various intelligences (i.e., that they rose and fell together). For example, Spearman (1927) believed that their movement together occurred because they drew on a common mental resource that, if possessed in quantity, helped a person excel, and if possessed in poverty, limited a person's abilities. This general common resource, termed *g* for general intelligence, could be estimated for a person according to various mathematical models that were developed for that purpose. Although there exists consensus that all the intelligences are empirically interrelated (i.e., rise and fall together across individuals), the *g* model of intelligence was more controversial. Alternative explanations for this collective rise and fall of abilities exist (see, e.g., Detterman, 1982). Whether one believed in *g*, or not, the mathematical models developed with it provided an accurate and convenient means for keeping track of the degree to which the intelligences cohered.
12. One of us recalls this critique of Guilford and Hoepfner's (1971) model: If everyone in the field of personality testing joined in, it could still take 100 years to establish so many intelligences. Although it attracted some attention in the 1970s, interest in the theory dropped off. In fact, we could find no coverage of their model in several contemporary volumes on psychological testing.
13. Gardner's theory (1983, 1993) is beautifully described and intuitively compelling. Although he recognizes that all intelligences intercorrelate

(Gardner, 1993, p. xx), he wonders whether this may be an accident of the experimental methods employed (Gardner, 1993, p. xi). Other theorists join him in maintaining a skepticism concerning the obtained correlations among intelligences (e.g., Detterman, 1982). Still, it leaves no way to test the theory of multiple intelligences, and the theory is regarded by many experts in the field (including ourselves) as appealing but lacking in empirical support as of now (Sternberg, 1994).

14. Another plausible exception is Sternberg's (1988) triarchic theory of intelligence. Sternberg does sometimes employ the correlational method, however. The centrality of correlational methods is supported by a recent task force summary of the status of intelligence research, reported in the *American Psychologist* (Neisser et al., 1996, p. 78).
15. Thurstone (1938).
16. Ekstrom, French, Harman, and Derner (1976).
17. Thorndike and Stein (1937) contributed some of the empirical findings; Cronbach (1960) presented an influential review arguing that further examination of social intelligence was unwise.
18. Scarr (1989, p. 78).
19. Mayer and Salovey (1993).
20. For example, Schaffer, Gilmer, and Schoen (1940, pp. xii, 521); Young (1936, pp. 457–458; 1943, p. 263).
21. George Mandler (1984) first popularized this idea as a component of human information processing.
22. Many philosophers and psychologists have said this before us; our reasoning is presented in Mayer and Salovey (1995).
23. See Frijda (1988), for the lawfulness of emotions; also, see Ekman, Friesen, O'Sullivan, Chan et al. (1987).
24. The original hypothesis concerning this dates to Montesquieu; the modern test was conducted by Pennebaker, Rimé, and Blankenship (1996).
25. Mayer and Salovey (1995, p. 197).
26. For example, Salovey and Mayer (1990, p. 189).
27. For example, Arnheim (1954/1974); Clynes (1977).
28. For example, Piaget and Inhelder (1969, pp. 120–122) consider interpersonal perspective taking as emerging partially within the concrete-operations stage. See also Gerrig (1993).
29. The *arena* is a memory location within which symbols are manipulated by one or more intelligences (Mayer & Mitchell, in press). In emotional intelligence, the individual would generate a feeling—sadness, for instance—on command so as to think about its facets, meanings, and associated thoughts. Having the emotions in this processing arena can presumably reduce the requirements on memory for processing.
30. A more elaborate description of how mood swings affect the college planning process is outlined in Mayer (1986); relevant evidence for mood-congruent judgment over time is in Mayer and Hanson (1995); information about the first-degree relatives of manic-depressives can be found in Richards, Kinney, Lunde, Benet, and Merzel (1988).
31. Palfai and Salovey (1993) present evidence that specific moods enhance specific forms of mental processing.
32. Plutchik (1984).
33. Spinoza (1984, p. 83).

34. For recent reviews of these ideas, see Lazarus (1991); Plutchik (1984); Roseman (1984); Scherer (1993); Smith and Ellsworth (1985).
35. Nannis (1988) considers full understanding of multiple feelings as requiring fairly sophisticated thoughts—that is, arising late in development.
36. Plutchik (1984).
37. The parent's ability to suppress feelings in the child is described in Alice Miller's (1990) book, *The Drama of the Gifted Child*. Miller emphasizes, in terms somewhat different from the argument here, that some children will deny negative feelings in themselves altogether as a consequence of parental disapproval.
38. Nannis (1988) refers to introspection and levels of consciousness concerning emotion as occurring very late in development. The original discussion of meta-experience can be found in Mayer and Gaschke (1988). The concept is developed more recently in both Mayer and Stevens (1994) and Salovey, Mayer, Goldman, Turvey, and Palfai (1995). Some actual approaches to mood regulation are examined by Tice and Baumeister (1993).
39. Anastasi (1988) presents a good introduction to these concepts.
40. Saarni (1988), this volume.
41. Anastasi (1988, p. 264); additional discussion can be found in Anastasi (1967) and Sundberg, Snowden, and Reynolds (1978).
42. See in particular Salovey and Mayer (1990); Salovey, Hsee, and Mayer (1993).
43. Research on delay of gratification, an example of which is the popularly reported "marshmallow test" (see Gibbs, 1995), is fascinating. We view it, however, as more closely related to motivation than emotion. The studies in question are by Mischel, Shoda, and Peake (1988) and Shoda, Mischel, and Peake (1990).
44. Mayer, DiPaolo, and Salovey (1990).
45. A replication and extension of the Mayer and Geher work using a new scale based on the Figure 1.1 model is reported in Mayer, Caruso, and Salovey (1997). The new scale is a computer-based testing instrument (Mayer, Salovey, & Caruso, in press). The Mayer and Geher (1996) article illustrates many of the complexities that will arise in measuring emotional intelligence and that tend to be swept aside in the present wave of enthusiasm for the concept. Several criteria were used for the "correct" answer as to what a character was feeling in a story. One criterion involved the character him or herself who was in the particular situation (real situations were used). A second criterion was the overall consensus of the participants in the study as to what the person was feeling. These two criteria behaved differently in the study. Interestingly, however, they both supported the existence of an actual emotional intelligence. Another replication and extension of the work is described in Mitchell and Mayer (1997).
46. Averill and Nunley (1992).
47. Howard Gardner (1995, pp. 26–27) has suggested this range, which seems consistent with the current literature.
48. This was the central illustration employed in the *New York Times* coverage of the topic, and appeared in *Time* and a popular book as well

- (Gibbs, 1995; Goleman, 1995a, 1995b). The original study was reported by Kelley and Caplan (1993) in the *Harvard Business Review*.
49. Kelley and Caplan, 1993 (p. 132).
 50. Incidentally, "tacit intelligence" refers to the ability to recognize the implicit demands of a job. It has been studied in some depth by Wagner and Sternberg (1985).
 51. We do recognize, however, that the Fifty-ninth Street Bridge has inspired its own musical lore, notably, "The 59th Street Bridge Song (Feelin' Groovy)," by Paul Simon of the musical group Simon and Garfunkel.
 52. See Mayer and Salovey (1995) for a more extensive discussion of the emotional knowledge base.
 53. Peli (1984).
 54. It does not seem, to our ear, appropriate usage to talk about teaching an intelligence. The definition of an ability is that it is a capacity rather than a topic to be taught. To teach intelligence sounds to us like exercising a person's sports ability. One exercises muscles to build strength; similarly, one teaches emotional skills to build emotional intelligence.
 55. This program is described in Goleman (1995b).

AUTHORS' NOTE

The authors gratefully acknowledge the support of the Fetzer Institute, which sponsored several conferences on emotional literacy that we attended. Many of the conferees, including the other authors and commentators of this volume, made valuable suggestions that improved this chapter. Other educators, psychologists, and like-minded individuals contributed their comments as well. We are especially indebted to David Caruso, Kevin M. Carlsmith, Deborah Davis, Karol DeFalco, Deborah Hirsch, Dan Smith, and Chip Wood. Kevin M. Carlsmith also helped design and construct Figure 1.1.

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