

The Value of Emotional Intelligence

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In this chapter we assess the value of emotional intelligence (as originally described by Mayer & Salovey, 1997, and Salovey & Mayer, 1990) as a psychological theory. We argue that emotional intelligence is beneficial for the following reasons: First, emotional intelligence provides an organizing framework that enables the field to synthesize a large body of research on affective phenomena. Second, emotional intelligence reaches beyond traditional views of intelligence by incorporating the emotional system, thus providing a theory of individual differences in emotional competencies. Before we do so, however, we define emotional intelligence and briefly review the history of the concept.

In its broadest sense, emotional intelligence can be understood not only as the possession of tacit knowledge of how emotions work but also as having an ability to use this knowledge in one's own life. More specifically, *emotional intelligence* is defined as the ability to perceive and express emotion accurately and adaptively, the ability to understand emotion and emotional knowledge, the ability to use feelings to facilitate thought, and the ability to regulate emotions in oneself and in others (Mayer & Salovey, 1997; Mayer, Salovey, & Caruso, 2000b; Salovey & Mayer, 1990; Salovey, Mayer, & Caruso, 2002; Salovey, Woolery, & Mayer, 2000). In the time since its introduction, the idea of an emotional intelligence has received widespread attention, most notably from books that popularized the construct (Cooper & Sawaf, 1996; Goleman, 1995, 1998; Gottman & DeClaire, 1997; Ryback, 1998; Shapiro, 1997; Weisinger, 1998), as well as from attention by the popular media and Internet sites. However, as often happens with ideas that capture popular interest, it has become increasingly difficult to keep track of the various senses in which the term *emotional intelligence* is used (Mayer, Salovey, & Caruso, 2000a), complicating any evaluation of the value and utility of the original idea.

In short, we describe emotional intelligence as having the following four branches: (a) perceiving emotions, (b) using emotions to facilitate thought, (c) understanding emotions, and (d) managing emotions (Mayer & Salovey, 1997).

Preparation of this chapter was facilitated by grants from the American Cancer Society (RPG-93-028-05-PBP), the National Cancer Institute (R01-CA68427), the National Institute of Mental Health (P01-MH/DA56826), and the Donaghue Women's Health Investigator Program at Yale to Peter Salovey. The authors thank the graduate students, undergraduates, and research staff associated with the Health, Emotion, and Behavior Laboratory in the Department of Psychology at Yale University.

Table 16.1. Overview of the Four-Branch Model of Emotional Intelligence

Branch	Brief description of skills involved
Perceiving emotion (Branch 1)	The ability to perceive emotions in oneself and others, as well as in objects, art, stories, music, and other stimuli
Using emotion to facilitate thought (Branch 2)	The ability to generate, use, and feel emotion as necessary to communicate feelings, or employ them in other cognitive processes
Understanding emotion (Branch 3)	The ability to understand emotional information and how emotions combine and progress through relationship transitions and to appreciate such emotional meanings
Managing emotion (Branch 4)	The ability to be open to feelings and modulate them in oneself and others so as to promote personal understanding and growth.

These branches are outlined in Table 16.1. These four branches are discussed in depth later in this chapter, but a brief summary of the abilities is included here.

Perceiving emotions is the ability to recognize how individuals and those around them are feeling. It involves paying attention to and accurately decoding emotional signals in facial expressions, tone of voice, or artistic expressions. Accurate appraisal of emotions starts with attending to emotional expressions. If a person is uncomfortable with others' expression of negative emotions, for instance, and she turns away every time she senses another's discomfort, she may not perceive accurately that other person's emotional states. The ability to perceive emotions accurately within oneself is related to the ability to assess it in others (Zuckerman, Hall, DeFrank, & Rosenthal, 1976; Zuckerman, Lipets, Koivumaki, & Rosenthal, 1975).

Using emotions to facilitate thought includes a person's ability to take feelings into account when reasoning and problem solving. These abilities are focused on how emotion affects the cognitive system and, as such, how emotions can be harnessed for more effective decision making and creative endeavors. Of course, cognition can be disrupted by emotions such as anxiety and fear, but emotions also can prioritize the cognitive system to attend to what is important (Easterbrook, 1959; Mandler, 1975; Simon, 1982) and even to focus on what cognitive tasks are done best in particular moods (Palfai & Salovey, 1993; Schwarz, 1990). The changes in viewpoint fostered by different mood states also force us to view things from different perspectives. Harnessing these shifting mood-induced viewpoints may foster creative thinking (Goodwin & Jamison, 1990; Mayer, 1986; Mayer & Hanson, 1995).

Understanding emotions is based on the idea that emotions are represented as a rich and complexly interrelated symbol set forming, in a sense, an emotional language. The skills included here are the ability to label emotions and recognize that there are groups of related emotional terms or families (Ortony, Clore, & Collins, 1988). Understanding the antecedents of various emotions is a critical component of emotional intelligence. For instance, annoyance and irri-

tation can lead to rage if the cause of the irritation continues and intensifies. Knowledge of how emotions combine and change over time is important in dealings with other people and in self-understanding.

Managing emotions is the fourth branch of emotional intelligence. Managing emotions includes the idea that it is often adaptive to experience feelings rather than repress them, work with one's feelings and the feelings of others, and regulate feelings. For example, reacting out of anger can be instrumental in the short run, but anger that is directed toward motivating goal accomplishments may be more effective in the long run. Optimal emotional regulation likely will neither minimize nor eliminate emotions completely.

In the article that first posited whether emotional intelligence exists (Salovey & Mayer, 1990), the authors had the following three primary goals: (a) to provide a model for the way in which reason and emotion interacted; (b) to develop a framework that unified rapidly growing research on emotion at the physiological, cognitive, and social levels; and (c) to develop a theory of individual differences in emotional competencies. Although all three goals were important, it was the third one, mapping individual differences in emotional competencies, that received immediate attention from the general public. For many people, emotional intelligence held the promise that there was another way to be smart (Goleman, 1995). As the idea of emotional intelligence grew in popularity, however, the construct itself began to morph. No longer thought of as a narrow set of emotional abilities, emotional intelligence was soon seen as a panacea for the ills of society. Emotional intelligence became synonymous with, among other things, moral character, self-control, an attractive personality—indeed, nearly anything not measured by a standard intelligence quotient (IQ) test (Boyatzis, Goleman, & Rhee, 2000; Goleman, 1998). Claims were also made that emotional intelligence was likely to be more important than IQ in predicting life success (Goleman, 1995, p. 34). The largest concern facing emotional intelligence researchers was that few, if any, of these claims had empirical support. The disparity between the promise and the actual research conducted was what led some to draw negative conclusions regarding the value of emotional intelligence (Davies, Stankov, & Roberts, 1998; Roberts, Zeidner, & Matthews, 2001).

In light of these criticisms, and considering its popularity, it seems necessary to put the theory of emotional intelligence in perspective. Is the popular excitement surrounding the idea misguided? The answers may depend on how one chooses to view emotional intelligence.

Emotional Intelligence as Framework and as Theory

A distinction can be drawn between two types of theoretical models: *frameworks* and *Theories* (with a capital T).¹ A framework is a model that describes and organizes an existing body of research. A Theory, on the other hand, goes

¹This distinction is inspired by Lewin (1951), although he did not use these terms. "If [a] theory combines into one logical system known facts, which previously had to be treated by separate theories, it would have a definite advantage as an organizational device. . . . It is true, however, that it is a clearer test of the adequacy of the theory if one can make predictions from it and prove these predictions experimentally" (p. 20).

beyond description, offering underlying explanations for phenomena as well as motivating novel predictions. Whereas frameworks are bottom-up constructions, intended to classify and simplify the task of researchers, theories are top-down approaches, bringing life to a science by stimulating new research. While Lewin (1951) fairly noted that Theories are more important than frameworks to the scientific endeavor (as they provide a deeper understanding of the phenomena), it was clear to him that a framework could be at least of equal value to the young science of psychology.

This idea seems especially true considering the tenuous status of theory within psychology. Psychology often seems driven by data. With researchers across the world attempting to identify and catalog patterns in human thought, feeling, and behavior, it is understandable that psychology has become results-oriented; it is difficult for theory building to keep up with the fast pace of empirical findings. This fact, combined with the healthy skepticism psychologists have regarding any theories claiming to explain too much, can lead to an accumulation of theory-independent research. However, in the absence of a guiding theoretical model, science progresses slowly. In spite of its empirical riches, the field's growth is stunted.

Such seemed to be the case with research on emotional processes and competencies. Although interest in emotion had fallen in and out of favor over the past century, it was not until the 1980s that psychologists began to embrace systematic investigation into the nature of affective phenomena (of course, many notable researchers "bucked" the anti-emotion trend in earlier years to make major and important contributions, e.g., Ekman, Friesen, & Ellsworth, 1972; Izard, 1977; Mandler, 1975; Tomkins, 1962, 1963). The surge in empirical research on emotion over the decades of the 1980s and 1990s led to a plethora of seemingly disparate findings across many subfields of psychology. From the recognition of the facial expression of emotion to the role of emotion in social cognition, researchers were making important strides toward understanding the nature of human emotion. Yet as research proliferated, unified views accounting for physiological, developmental, cognitive, linguistic, and socially oriented findings were few and far between.

The emotional intelligence framework was introduced, in part, as a response to this growing but scattered body of research findings. Emotional intelligence could be used as a unifying framework; an approach that brought together diverse research on emotion under a common theoretical "umbrella." At the same time, however, the growing body of research seemed to point to the possibility that an underlying construct—a set of abilities that could be mapped systematically across individuals—could also be labeled a type of *intelligence*. Viewed this way, emotional intelligence could be understood as a top-down Theory of individual differences in mental ability, predicting different cognitive and social outcomes, for instance, for individuals with different levels of emotional intelligence.

Although emotional intelligence is at times discussed as a framework (Salovey, Bedell, Detweiler, & Mayer, 2000) and at times as a Theory (Mayer et al., 2000a), we believe the distinction between the two may be important for evaluating the types of contributions made by each. This in turn allows for an assessment of the overall value of emotional intelligence.

The Value of Emotional Intelligence as a Framework

When discussing emotional intelligence as a framework, the focus is on its function as an organizing tool. We believe the emotional intelligence framework to be of value to researchers and lay audiences alike. There are at least two ways in which emotional intelligence as a framework contributes to scientific advancement. First, emotional intelligence provides a model through which to understand how reason and emotion interact. This is an important task, especially when one takes into consideration the long history of tension between reason and emotion (a tension that has often impeded an accurate understanding of emotional phenomena). Second, emotional intelligence as a framework can be used as a tool for organizing and taking stock of research on emotional abilities and competencies as a whole, as well as for disseminating these findings to lay audiences.

Reason and Emotion

The idea that reason and emotion are at odds with each other has been with us since the earliest documented theories of the mind, particularly in the Western tradition. Plato (in *Phaedrus*), for instance, characterized reason as a charioteer that needed to control his steeds—the emotions. Because of their irrational influence, Plato (1581/1988) argued that emotions should not be aroused unnecessarily (and desired to ban, for instance, art and theater in his utopian *Republic*). The primacy of reason over emotion carried forward from its Platonic foundations exerted an influence over philosophy and psychology that has been difficult to shake. Kant (1785/1998), for example, argued that moral judgment should be devoid of emotions because their influence was irrational. Emotions led individuals to commit immoral acts such as favoring those we care about (and thus violating the rational demand of justice that one be impartial), in Kant's view.

Philosophers were not the only ones to fall prey to this line of thought. In the early 20th century, a time when experimental psychology was beginning to flourish, psychologists had a relatively narrow view of the emotions. Researchers characterized emotions as a disruption in normal functioning, annoying reminders of our irrational nature (Darrow, 1935; Young, 1936; but see Darwin, 1872/1965, and James, 1890, for exceptions). In reviewing the history of emotions research, Damasio (1999) observed that not only were emotions themselves considered irrational, it seemed as if the study of emotions was viewed that way as well.

It was not until the latter part of the 20th century that it became evident that such a simple view of emotion and reason as opposing forces was no longer tenable. Influential work in psychology (Bower, 1981; Lazarus, 1991; Leeper, 1948), neuroscience (Damasio, 1994, 2000; Davidson, 2000; LeDoux, 1995, 1996, 2000), and philosophy (Ben-Ze'ev, 2000; DeSousa, 1987; Solomon, 1993) exemplified an emerging view of emotion and reason as interdependent processes. It was with the growing understanding of this interdependence that the theory of emotional intelligence was introduced.

Emotional Intelligence: The Intersection of Affect and Intellect

Emotional intelligence seeks to unify the cognitive and emotional domains by offering a description of how reason and emotion interact. The following describes two senses in which emotional intelligence bridges the gap between reason and emotion. First, emotions are themselves intelligent processes; the responses they provide are often efficient, adaptive responses to conditions in the environment. Second, we can be intelligent about our emotions; we are not condemned to follow every impulse generated by our emotional responses. We can be effective emotional "technicians" and use our skills to enrich our emotional lives.

When Darwin (1872/1965) published his book *The Expression of Emotion in Man and Animals*, the resounding opinion at the time was that if emotions served any purpose at all, it was to the detriment of the organism. In opposition to the prevailing view, Darwin argued that emotions were functional responses that mobilized organisms for the performance of adaptive actions. Although Darwin was clearly ahead of his time in thinking about emotions, now a general consensus indicates that not only do emotions mobilize us for action but they also aid in the reasoning process. In this sense, the outcome of an emotion is often rational. For instance, when we encounter a man heading toward us with a gun, an intense fear response prepares us for flight. Were we to make a list of all possible responses to the situation and evaluate them on their rational merits, we would most likely end up deciding on a similar response. However, by this point, our wallets would certainly be empty, and our lives at greater risk. The shortcut provided by emotions allows us to bypass the (unnecessary) process of eliminating all possible options. This narrowing of options is useful for even seemingly minor decisions. Damasio (1994), for instance, found that undue deliberation over trivial decisions is precisely what occurs in patients with neurological damage to the emotion centers of the brain. Although the individual's rational faculties are intact, the decision-making process is severely impaired.

If one were to characterize emotion solely on the basis of the above description, one notable problem would remain. As an adaptive, automatic response, the emotional system seems to leave no room for deliberate intervention. If emotions happen to us, we have no control over the prescriptions of the emotional system and can easily become "hijacked" by the emotional response (see Goleman, 1995). Little difference is evident between this view of emotion and the traditional view. However, as emotion aids reason, so can reason complement emotion; we can be intelligent about our own emotions (as well as the emotions of others). It is in this sense that emotional intelligence is most often understood as the ability to use intelligence in our emotional lives. If a rookie police officer is faced by a youth walking toward her and brandishing a gun, it is necessary for her to bypass the emotional response of fear, lest it cause her to act cowardly in the line of duty. Such is the nature of the emotional system; when we know that an emotion is inappropriate, we have the ability to regulate it effectively through a variety of tactics. Rather than being rigid, automatic, and reflexive, emotions are more like bodily suggestions—they are often open to alteration.

The four branches of emotional intelligence describe the ways that one can be intelligent about emotions. Recognizing and understanding emotions, using emotional knowledge, and managing emotions are all skills that require intel-

lect. It is the ability of emotional intelligence to offer specific descriptions of the interaction between reason and emotion that makes it of value; making a positive contribution to the long-standing debate concerning reason and emotion.

Emotional Intelligence as Organization

Along with shedding light on the interaction between reason and emotion, the emotional intelligence framework offers a tool for bringing together various strands of research that at first glance would have little in common. To highlight this function of emotional intelligence as an organizational tool, the four branches of the emotional intelligence framework (Mayer & Salovey, 1997) are used to discuss some recent research on emotion and emotional processes.

Perceiving and Appraising Emotion

The ability to perceive and appraise emotions (both one's own emotions and those of others) is one of the most fundamental abilities for social interaction. As one would expect, an inability to understand the emotions conveyed by others is an enormous detriment in social functioning. If one did not know, for example, whether a stranger was smiling or grimacing, one might unwittingly place oneself in a precarious situation. Although children from a very early age (Saarni, 1999) and individuals across cultures (Ekman, Friesen, O'Sullivan, Chan, Diacoyanni-Tarlatzis, Heider, et al., 1987) are able to identify accurately the emotional expressions of others, some individuals lack this ability. Some individuals with autism or other pervasive developmental disorders are examples of individuals that are poor at recognizing emotion in others. Children with autism are much worse at identifying emotions in the faces of others than are normally functioning children (Celani, Battacchi, & Arcidiacono, 1999).

Reflecting on and identifying one's own emotions accurately is also a critical skill. Emotions generally convey useful information about threats in the environment (negative affect) or when the environment signals that it is safe to proceed (positive affect). Additionally, emotions convey information about one's own concerns, such as when one is experiencing guilt over an immoral act. However, it is possible to misuse emotional information unwittingly. Individuals can be fooled into drawing incorrect conclusions about their situations by using their current mood states as a source of input into their judgment (Schwarz & Clore, 1983). If an individual's mood has been manipulated (by bringing experimental participants into a dark, ugly room, for instance), subsequent judgments biased in the direction of the induced negative feelings. Being aware of one's own emotional state and the source of one's mood can reduce this bias (Gasper & Clore, 2000).

Understanding Emotions

Although many investigators believe emotions to be universal and innate responses to environmental stimuli relevant to survival, knowledge of emotions

and emotional processes differs across individuals. Knowledge that emotion terms form fuzzy sets (Ortony et al., 1988), for instance, and possessing a detailed lexicon of emotional terms are among the skills organized under this second branch of emotional intelligence. Recently, Feldman Barrett has found that there are differences in whether individuals are more focused on the valence of emotions or whether they focus equally on valence and arousal (Feldman, 1995; Feldman Barrett, 1998; for a summary, see Feldman Barrett & Gross, 2001). Those that are equally focused on valence and arousal tend to parse emotional experiences more finely, giving emotions more precise labels (this is called *emotional granularity* by Feldman Barrett). Those that are valence-focused, however, fail to distinguish between same-valenced emotions such as anger, sadness, and anxiety in their own reports of emotion. This ability seems independent of general knowledge about emotional concepts.

Knowledge about distinctions between emotions such as envy and jealousy (Salovey & Rodin, 1986, 1989) or shame and guilt (Tangney & Salovey, 1999) also falls under this second branch. For instance, Tangney has found that shame is usually a self-focused emotion, (i.e., disappointment in oneself), whereas guilt is usually about a behavior (i.e., sorrow and regret over having done something).

Using Emotions to Facilitate Thought

As discussed above, emotions can aid the reasoning process. One of the most robust findings to emerge from the body of research concerned with affect and judgment is that sad moods are associated with a more deliberate, systematic style of thinking, whereas happy moods tend to encourage more heuristic, "short-cut" styles of thinking (for reviews, see Forgas, 1995; Schwarz, 1990). Theorists have sought to explain these findings by appealing to the mechanisms through which affect influences the processing of information, positing that mood effects are driven by either their influence on processing ability (Isen, 1987) or on individuals' motivation to process information carefully (Schwarz & Bless, 1991). Schwarz and colleagues have argued that positive affect signals to the individual that things are good and that there is no need for increased scrutiny, whereas negative affect alerts the individual to a dangerous situation and may stimulate increased effort to process information that may be vital for the individual's well-being.

Implied by these findings is that matching one's mood to fit a task may aid in performance on the task. For instance, experiencing a happy mood improves performance on inductive reasoning tasks, but placing oneself in a sad mood tends to support deductive reasoning (Palfai & Salovey, 1993). Sherlock Holmes seemed to have an intuitive understanding of the connection between negative moods and his famed skills of deduction. As Holmes tells Dr. Watson in *A Study in Scarlet*, "I get in the dumps at times, and don't open my mouth for days on end" (Conan Doyle, 1898, p. 19), and later, as Watson relates, "I left Holmes seated in front of the smouldering fire, and long into the watches of the night I heard the low melancholy wailings of his violin, and knew that he was still pondering over the strange problem which he had set himself to unravel" (p. 40).

Managing Emotion in Self and Others

Regulating emotions is most often associated with the idea of an emotional intelligence. The ability to manage our own emotional reactions is to some the hallmark of emotional maturity and seems to combine the abilities found in the other branches, such as the ability to perceive emotions and knowledge about emotions. For instance, the discipline to remain calm when someone has cut you off in traffic as opposed to reacting with violence seems to be a very important social skill. Similarly, we can choose to regulate the moods of others to facilitate social goals. For example, if we know that a friend is in a sad mood before a party, we can try and lift his or her mood so as to make the party a more enjoyable experience. The regulation of the emotions of others is a skill that is possessed by (among others), psychotherapists, salespeople, ministers, and con artists alike and can be used to achieve social goals, however honorable or ignoble they may be.

Although *emotion management* is of interest to many areas of investigation within psychology and is called by various names (e.g., *coping*, *mood regulation*, *mood repair*), it remains one of the most challenging areas of inquiry, in part because of a lack of a good theoretical model. Recently, Gross (1998) provided a framework for organizing research on emotional regulation. Gross distinguished between two general types of regulation: antecedent-focused regulation and response-focused regulation. *Antecedent-focused regulation* includes such regulatory strategies as selecting situations, selecting the focus of one's attention, and reappraising situations to induce certain emotions in oneself. *Response-focused regulation* refers to changing an emotion once it has been induced, such as the oft-cited strategy of counting to 10 when one is angry. This framework allows for a more expansive view of emotional regulatory strategies and highlights the flexibility we possess when it comes to influencing one's emotional responses.

The four branches of emotional intelligence offer a practical tool for bridging together various lines of research in different fields of inquiry. Organization is a worthy cause, as it allows researchers the perspective afforded by looking at the bigger picture. In addition, organization of research into a coherent package is valuable as a tool for dissemination to lay audiences.

The Emotional Intelligence Framework and the Dissemination of Scientific Innovation

Dissemination is one of the most commonly ignored steps in the scientific method (Rogers, 1962/1995). Often the responsibility to communicate one's findings is seen as pertaining only to the small scientific community within one's area of interest. However, as the complexity of society demands that nonscientists be informed consumers of scientific findings, and as information becomes more readily accessible through outlets such as the Internet, researchers have an increasing responsibility to inform the public at large. Add to these factors the pseudoscience that passes for serious science in the popular media, and the responsibility becomes an ever-growing duty for thoughtful investigators. It is

with this in mind that frameworks become valuable. As practical packages of scientific information, they can provide easily accessible information much more efficiently (see, as excellent examples, Gardner, 1993; Sternberg, 1985).

For instance, if parents wanted to inform themselves concerning scientific research on emotion, they would be hard pressed to find an easy summary in any theoretical journal. If lucky, they might find valuable edited volumes and perhaps gather information from the Internet, but having to make sense of it all would not be an easy task. Getting a grasp of the necessary information is facilitated, however, using frameworks as a guide. The framework of emotional intelligence makes it easier for a parent, teacher, or business manager to obtain a firm grasp on the scientific literature on relevant emotional abilities.

The efficiency of frameworks is in part what has made discussion of emotional intelligence commonplace in environments such as elementary and secondary educational institutions, as well as in human resources management (Cherniss & Goleman, 2001; Elias et al., 1997). Emotional intelligence is commonly used to help educate parents and teachers about emotional skills (i.e., how to develop these skills in children as well as in themselves). The emotional intelligence framework used responsibly (not as a panacea) can contribute a backbone to programs promoting social-emotional learning, violence reduction, and character education (Lopes & Salovey, in press). In many senses, these programs have taken the most advantage of the emotional intelligence framework by putting it to practical use.

The use of emotional intelligence as a framework, or a descriptive device that organizes existing research, serves a valuable purpose. Among its contributions are an ability to describe the ways in which emotion and reason interact, a tool for organizing research to benefit scientists, and a convenient package to disseminate research to lay audiences. However, emotional intelligence can also be viewed as a true Theory—as a model that makes predictions about individual differences in emotional abilities. It is to this idea that we turn briefly.

Emotional Intelligence as Theory

As a theory, emotional intelligence argues that (a) there are four fundamental emotion-related ability groups; (b) they can be measured reliably; and (c) individual differences in these competencies are associated with important outcomes, over-and-above associations with earlier concepts such as analytic intelligence and personality dispositions.

Abilities

The competencies described by the theory were discussed earlier and outlined in Table 16.1. These four branches of emotional intelligence were proposed, initially, based on a review of relevant literatures (Mayer & Salovey, 1997; three of the four branches were also included in Salovey & Mayer, 1990). It is an empirical question whether other emotional abilities and competencies not presently included in the model will be deemed important. The theory has limited

the scope of these branches to abilities and competencies that are not expected to overlap substantially with analytic intelligence, as measured by traditional IQ tests, or personality traits, such as those measured by the Big Five. Empirical evidence to date is consistent with these assumptions (Caruso, Mayer, & Salovey, in press; Lopes, Salovey, & Straus, in press). Another goal was to keep the focus particular to emotion, *per se*, and explicitly to exclude characteristics that, although potentially important to real-world outcomes, do not have a strong emotional basis (Goleman, 1998, includes in his model of emotional competence such attributes as trustworthiness, commitment, optimism, service orientation, leveraging diversity, and influence; Bar-On, 2000, includes self-regard, problem-solving, and assertiveness in his model of emotional intelligence). As a theory, our view of emotional intelligence has always focused on the emotional system and its reciprocal influences on thought and behavior (Salovey & Mayer, 1990; Salovey, Bedell, Detweiler, & Mayer, 1999).

Measurement

Because the theory of emotional intelligence conceptualizes it as a set of abilities, we believe it is best measured as such. Although there is no doubt that self-report inventories and observer ratings can have utility for certain purposes in this domain, we are more comfortable considering people's actual skills rather than their beliefs or others' beliefs about them. The problem, however, in measuring emotional intelligence as an ability concerns how one determines whether a respondent has provided a "correct" answer. Because evolutionary and cultural pressures create some expectations about the emotionally most adaptive way to behave in a given situation, one approach is to compare the answers of test-takers to the consensual answers provided by an appropriate normative sample, perhaps weighting alternatives based on the proportion of those in the normative sample who responded in a particular way. Another approach is to compare respondents' answers to those provided by emotional experts, such as emotion researchers or psychotherapists. In our work so far, the correlations among these methods have been high (Mayer, Caruso, & Salovey, 1999; Mayer, Salovey, Caruso, & Sitarenios, 2001).

For the past 10 years or so, we have been slowly evolving an ability-based measure of emotional intelligence reflecting the four-branch model (summarized in Mayer, Caruso, & Salovey, 2000). An early and widely disseminated prototype for such a measure was the Multifactor Emotional Intelligence Scale (MEIS), made available primarily to researchers. Although the MEIS has promising psychometric properties, especially for a "beta-version" scale (Mayer et al., 1999), it takes a long time to administer and contains items that could be improved on. The successor to the MEIS, the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT), was developed in an attempt to improve on the MEIS and is now available for research and application (Mayer, Salovey, & Caruso, 2002). It is based on the four-branch model of emotional intelligence, with two subtasks for each branch, and it can be administered in its entirety in about 35 minutes or so. Scores can be calculated based on a large consensus sample containing thousands of individuals or on an expert sample made up primarily of members of the International Society for Research on Emotions.

The eight subtasks of the MSCEIT (Version 2, the current revision) map nicely on to the four branches of the theoretical model. The four branches appear to be measured with adequate internal consistency. Split-half reliabilities range from 0.79 to 0.91 using consensus scoring and from 0.76 to 0.90 using expert scoring for the Perceiving, Using, Understanding, and Managing branches (Mayer et al., 2001). These branch scores generally produce normal distributions, with women often scoring somewhat higher than men but no systematic differences among the ethnic groups who participated (Mayer et al., 2002). Although data are still being collected relevant to this issue, the MSCEIT appears to show appropriate discriminant validity from measures of analytic intelligence and personality constructs (Caruso et al., in press; Lopes et al., in press).

Prediction

Because the MSCEIT was available only since 2001, there are few completed studies in which it has been used to predict outcomes in the laboratory or real-world. However, the precursor to the MSCEIT, the MEIS, was used in many studies in several different laboratories, and the findings from these studies suggest that the four-branch theory of emotional intelligence has predictive validity.

Trinidad and Johnson (2002), for example, studied the relation between emotional intelligence and substance abuse among southern California teenagers. Youths with higher emotional intelligence scores were less likely to have ever smoked cigarettes or to have smoked recently and were less likely to have used alcohol in the recent past. School children scoring higher on the MEIS were rated by their peers as less aggressive and by their teachers as more prosocial than those students with lower emotional intelligence (Rubin, 1999). Leaders of an insurance company's customer claims teams with higher MEIS scores were rated by their managers as more effective than those with lower scores, and team performance for customer service was also correlated with the team's average MEIS scores (Rice, 1999). Emotional intelligence is also associated with empathy (Ciarrochi, Chan, & Caputi, 2000; Mayer et al., 1999; Rubin, 1999) and life satisfaction (Ciarrochi et al., 2000). In a study using a preliminary version of the MSCEIT among other measures, Barchard (2000) found that emotional intelligence predicted year-end grades among college students even after cognitive abilities (verbal ability, verbal closure, inductive reasoning, visualization) and personality variables (e.g., Big Five) were taken into account. Although these findings must be viewed as preliminary, they represent promising suggestions that a theory of emotional intelligence could be used to generate predictions in various life domains, such as school, work, and family.

Conclusion

As either a framework or as a theory, the concept of an emotional intelligence has value. It has been useful as a way of organizing the research literature on

emotional abilities and competencies and studying relations between passion and reason. The emotional intelligence framework has also been useful as a communicative device, providing a mechanism for conveying the idea of an important but neglected set of abilities with the potential to contribute to adaptive functioning. As a more formal theory, the four-branch model of emotional intelligence is testable, and ability-based measures of these dimensions have been developed. These measures, especially the MSCEIT, seem to have appropriate psychometric properties and have been used to predict desired and undesired behaviors in various settings. Nonetheless, the true value of the notion of an emotional intelligence lies in its potential to spawn a substantial research literature. With the start of a new millennium and the intense interest among the neurosciences and psychology in the bidirectional influences of affect and cognition, we expect to see an abundance of fascinating findings germane to emotional intelligence soon.

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