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Models of Emotional Intelligence

Aljoscha C. Neubauer
H. Harald Freudenthaler
Institute of Psychology
University of Graz, Austria

Summary

Stimulated by Daniel Goleman's bestseller, the concept of Emotional Intelligence (EI) has become enormously popular in recent years. Originally formulated by Peter Salovey and John Mayer in 1990, three major components of EI were postulated: appraisal and expression of emotion, regulation of emotions, and utilization of emotions (with further subdivisions of each of these branches). Seven years later these authors presented a modified version of EI and the first performance test (i.e., Multifactor Emotional Intelligence Scale, MEIS). Models and measures provided by Mayer and colleagues are hitherto the only published *ability models* of EI. In the present review of EI models these are contrasted with more recently developed mixed models of EI (like Bar-On's) and the trait EI concept (developed by Petrides and Furnham). The term *mixed* describes the fact that EI is viewed as a collection of (partially already well-known) abilities and non-ability traits. In addition to elaborating conceptual differences between EI models, fundamental differences regarding measurement approaches are demonstrated. Finally, critical issues regarding the status of ability and mixed models are discussed.

2.1 INTRODUCTION

Human intelligence is among the most frequently studied constructs in the field of individual differences. The sound theoretical foundation and empirically demonstrated usefulness of cognitive ability tests are well documented (e.g., Schmidt & Hunter, 1998). However, some researchers argue that the IQ is a rather narrow concept. From this perspective it is suggested that while cognitive intelligence is a potent predictor of educational and professional success, it is nonetheless an imperfect predictor of successful functioning in everyday life (Brody, 1992). According to this viewpoint, this functioning relies not simply on cognitive intelligence but rather on the relatively new (and emerging) construct of emotional intelligence (EI).

Historically, at least part of this suggestion may be traced to Daniel Goleman who, in 1995, published *Emotional Intelligence: Why it Can Matter More Than IQ*. This book became a bestseller in many countries. It also generated enormous popular interest, typified by a plethora of popular books, magazine and newspaper articles, comic strips, and even the occasional talk show program. In Goleman's rather simplistic view, EI is much more important than cognitive intelligence. Since classical IQ scores explain only about 20% of success in life, Goleman argues that a significant proportion of the rest should be determined by EI. Although Goleman's claims are based on a priori assumptions rather than empirical data, it nonetheless seems plausible that EI might have incremental validity beyond cognitive intelligence and personality. Although the "raw" science in Goleman's book is sparse, it served to spark increased scientific study of EI. Recently, numerous studies on the conceptualization, operationalization, validity, and utility of EI have emerged in the peer-reviewed scientific literature and in a range of academic and quasi-academic books.

However, rather than a consensus of opinion on what EI is, several alternative models of EI have been proposed (e.g., Bar-On, 1997; Cooper & Sawaf, 1997; Goleman, 1995; Mayer & Salovey, 1997; Salovey & Mayer, 1990; Weisinger, 1998). These models can be classified into two fairly distinct groups, that is, *ability models* and *mixed models* (see Mayer, Salovey, & Caruso, 2000a, 2000b; cf. also Freudenthaler & Neubauer, 2001). With the exception of Mayer and Salovey's ability model, existing conceptualizations of EI are mixed, and so expand the meaning of this construct by explicitly incorporating a wide range of personality characteristics. However, ability versus mixed models of EI not only vary considerably regarding the (scope of) conceptualizations but also with respect to the proposed instruments used to measure EI. Thus, mixed models rely on self-report measures of EI, while the ability model centers on performance-based measures of emotional abilities.

In this chapter, Salovey and Mayer's (1990) original model of emotional intelligence (referred to as EI90), Mayer and Salovey's (1997) modified ability model of emotional intelligence (referred to as EI97), and Bar-On's (1997) noncognitive mixed model of emotional (and social) intelligence are reviewed. Moreover, two approaches within the organizational context (i.e., Boyatzis, Goleman, & Rhee, 2000; Dulewicz & Higgs, 2000) are briefly described to

broaden the analysis of the conceptual underpinnings of EI. Notably, other EI models, such as those mentioned above (e.g., Goleman, Cooper & Sawaf, and Weisinger) have evoked little commentary in the scientific literature. Consequently, these models shall be dealt with only in passing, though the reader interested in exploring them further may consult the previously cited sources (see also Table 9.3 on Page 196f. in Chapter 9 by Pérez, Petrides, & Furnham).

2.2 SALOVEY AND MAYER'S (1990) ORIGINAL MODEL OF EMOTIONAL INTELLIGENCE

The question of the relationship between intelligence and emotion is a long-lasting and controversial topic at the societal as well as the scientific level (see Mayer, 2002; Mayer et al., 2000a). In 1990, Peter Salovey and John Mayer drew together the existing psychological literature on general contributions of emotion and emotionality to personality and suggested a new concept of how to synthesize the two psychological concepts of intelligence and emotion. They proposed the first published, formal concept of EI as a guiding framework for the integration of an exciting but scattered body of research on individual differences in the capacity to *process*, and to *adapt to*, emotional information.

According to this framework, the main details of which are represented in Figure 2.1, EI comprises three conceptually related mental processes involving emotional information. These processes are: (a) the appraisal and expression of emotion, (b) the regulation or control of emotion, and (c) the utilization of emotion in adaptive ways. As can be ascertained from Figure 2.1, two branches are further subdivided into *self* and *other*. Thus, Salovey and Mayer distinguish between the two perspectives of perceiving and regulating one's own emotions or the emotions of another person. In the lower branch (appraisal and expression) the self and other perspective are further subdivided according to a content factor, that is, a verbal versus a nonverbal domain. The model seeks to incorporate a number of well-established constructs from emotions research. The appraisal of others' emotions in the verbal domain, for example, is equated with the well-known construct of *empathy*.

Figure 2.1 also shows that the upper left branch comprises four sub-factors, which assume high EI persons to be more flexible in their utilization of emotions due to flexible planning, more creative thinking, the ability to (re-)direct attention, and a propensity to motivate themselves and others. Furthermore, this model assumes that emotionally intelligent individuals should be especially adept in certain domains. These include (a) perceiving and appraising their own emotions accurately, (b) expressing and communicating them accurately to others when appropriate, (c) recognizing the emotions in others accurately and responding to them with socially adaptive behaviors, (d) regulating emotions in themselves and others effectively in order to meet particular goals (e.g., to enhance their own and others mood), and (e) using their own emotions in order to solve problems by motivating adaptive behaviors (cf. Mayer & Salovey, 1993).

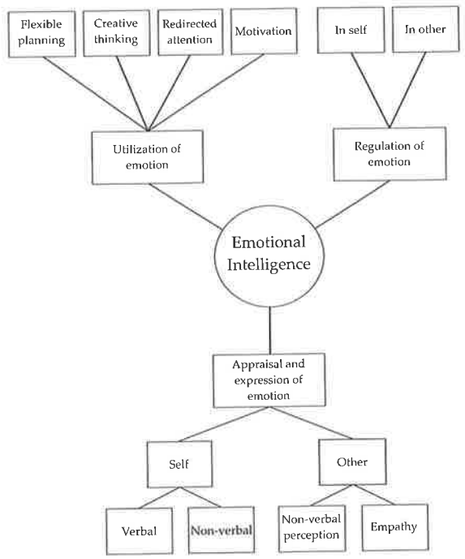

Figure 2.1 Salovey and Mayer's 1990 model of emotional intelligence.

2.2.1 Operationalization and Conceptual Validation

In order to assess the components of EI that they identified, Salovey and Mayer (1990) proposed several approaches that can be divided into self-report versus ability measures (cf. Neubauer & Freudenthaler, 2001). Notably Salovey and Mayer had demonstrated how aspects of EI might be measured as an ability (e.g., Mayer, DiPaolo, & Salovey, 1990; see also Mayer & Geher, 1996), even at this early point in time. However, in this initial work, they also considered self-report measures of related constructs (e.g., empathy, emotional expressivity, or mood regulation) as ancillary measures of emotion-related abilities.

At the time of writing, only one self-report measure (and no performance-based measure) had been explicitly designed to measure EI as *originally* conceptualized by Salovey and Mayer (1990). This measure is the Schutte et al. (1998) trait measure of emotional intelligence (SEI; see also the Trait Meta Mood Scale proposed by Salovey, Mayer, Goldman, Turvey, & Palfai, 1995, for a related, but conceptually more restricted, questionnaire). Factor analyses that have been employed on data provided by the SEI, by different authors (e.g., Ciarrochi, Deane, & Anderson, 2002; Petrides & Furnham, 2000, Schutte et al., 1998) have so far yielded different factor solutions. Moreover, these findings demonstrate neither the structure of emotion-related mental abilities proposed by Salovey and Mayer (1990) nor the existence of a coherent domain of emotional intelligence.

2.2.2 Criticism and Response

The status of two branches of EI90 (appraisal and expression, regulation) within the domain of emotion ability related constructs remains largely undisputed. However, the third branch has been criticized, in part, for the vagueness of concepts employed. For example, what does "flexible planning", "redirected attention", and the like mean? Equally, it appears that the upper left branch in Figure 2.1 introduces "fuzziness" to well-known psychological constructs, like attention and motivation, that might otherwise clarify the role of EI. Moreover, liberally borrowing established constructs has prompted questions of whether EI is a new form of intelligence at all (cf. Neubauer & Freudenthaler, 2002; Weber & Westmeyer, 2001).

Despite these problems, Mayer and Salovey argue that EI clearly represents a meaningful new type of intelligence because the series of emotion-related abilities they posit does fit well within the boundaries of widely acknowledged conceptual definitions of intelligence. Consider, for example, correspondence with Wechsler's (1958) definition of *intelligence* as "the aggregate or global capacity of the individual to act purposefully, to think rationally, and to deal effectively with his environment" (p. 7). Although EI shows important convergence with other ability concepts like *social intelligence*, Mayer and Salovey (1993) argue that EI is not a mere re-description of social intelligence. Instead, because EI primarily focuses on the emotional problems embedded in personal and social problems, it is argued to be a narrower descriptor than social intelligence. Thus, EI should display better discriminant validity with respect to cognitive intelligence (cf. Mayer & Salovey, 1997). Indeed, EI is broader, as it also covers the perception of, and reasoning about, *internal* emotions (Mayer, Caruso, & Salovey, 1999).

Finally, Mayer and Salovey (1993) argue that EI represents unique mechanisms that might underlie the processing of affective information. In so doing, they also contend that EI should not be considered as a collection of socially desired personality traits and talents, but rather as an intelligence that enhances the processing of certain types of information. In some ways, this account thus represents the first demarcation of the domain, in turn leaving the research community to decide between ability-based and mixed models of EI.

2.3 MAYER AND SALOVEY'S (1997) REVISED ABILITY MODEL OF EMOTIONAL INTELLIGENCE

In 1997, Mayer and Salovey presented a revised and refined conceptualization of EI (here referred to as EI97) that strictly constrains EI to a mental ability concept and separates it from classical social-emotional personality traits like the Eysenckian PEN factors, the Big Five personality traits, and many others. The revised model omits the upper left branch of the 1990 model (EI90) in Figure 2.1, and includes a new, performance-related domain, referred to as *thinking about emotions* (Mayer & Salovey, 1997). In EI97, the authors define

EI as a collection of emotional abilities that can be divided into four classes, facets, or (in their terminology) branches. These four classes of emotion-related abilities are arranged from more basic to higher-level skills (see also Mayer et al., 1999, 2000b). Within each branch, four representative abilities are described which differ in their developmental antecedents (see Figure 2.2).

Branch I (*Perception, Appraisal and Expression of Emotion*) involves the receiving and recognizing of emotional information and comprises the most basic emotion-related skills. These components range from the ability to identify emotions in one's self to the ability to discriminate between emotions, for example, honest versus dishonest expression of feelings (cf. Figure 2.2). These basic input processes are necessary preconditions for the further processing of emotional information in order to solve problems (Mayer, Salovey, Caruso, & Sitarenios, 2001).

Branch II (*Emotional Facilitation of Thinking*) describes the use of emotions to enhance reasoning and proposes various emotional events that assist in intellectual processing. Included under this branch are emotions that direct attention to important information and different kind of moods that may facilitate different forms of reasoning (e.g., deductive vs. inductive reasoning).

Branch III (*Understanding and Analyzing Emotions*) involves cognitive processing of emotions and comprises four representative abilities involving abstract understanding and reasoning about emotions. These components range from the ability to label emotions and recognize relations among the words and the emotions themselves, to the ability to recognize likely transitions among emotions.

Branch IV (*Reflective Regulation of Emotions*) refers to the ability to manage emotions in oneself, and in others, in order to enhance emotional and intellectual growth. This ability comprises the most advanced skills, ranging from the ability to stay open to feelings—both pleasant and unpleasant ones—to the ability to manage emotions in oneself and others by enhancing pleasant emotions and moderating negative ones. This highest branch represents an interface of many factors including motivational, emotional, and cognitive factors that must be recognized and balanced in order to manage and cope with feelings successfully (Mayer, 2001; Mayer et al., 2001).

2.3.1 Convergence of EI with Standard Criteria for an Intelligence

Mayer and colleagues claim, in a series of recent papers (e.g., Mayer & Salovey, 1997; Mayer et al., 1999, 2000a, 2001), that their revised conceptualization now meets important criteria that moves EI firmly into the domain of intelligence constructs. The criteria they cite are conceptual, correlational, and developmental. In the passages that follow, we briefly exposit these criteria.

Conceptual criterion. The authors argue that EI is composed of a series of conceptually related mental abilities, referring to various aspects of reasoning about emotions that can be clearly distinguished from personality traits and talents. Moreover, their proposed branches of EI involve those mental

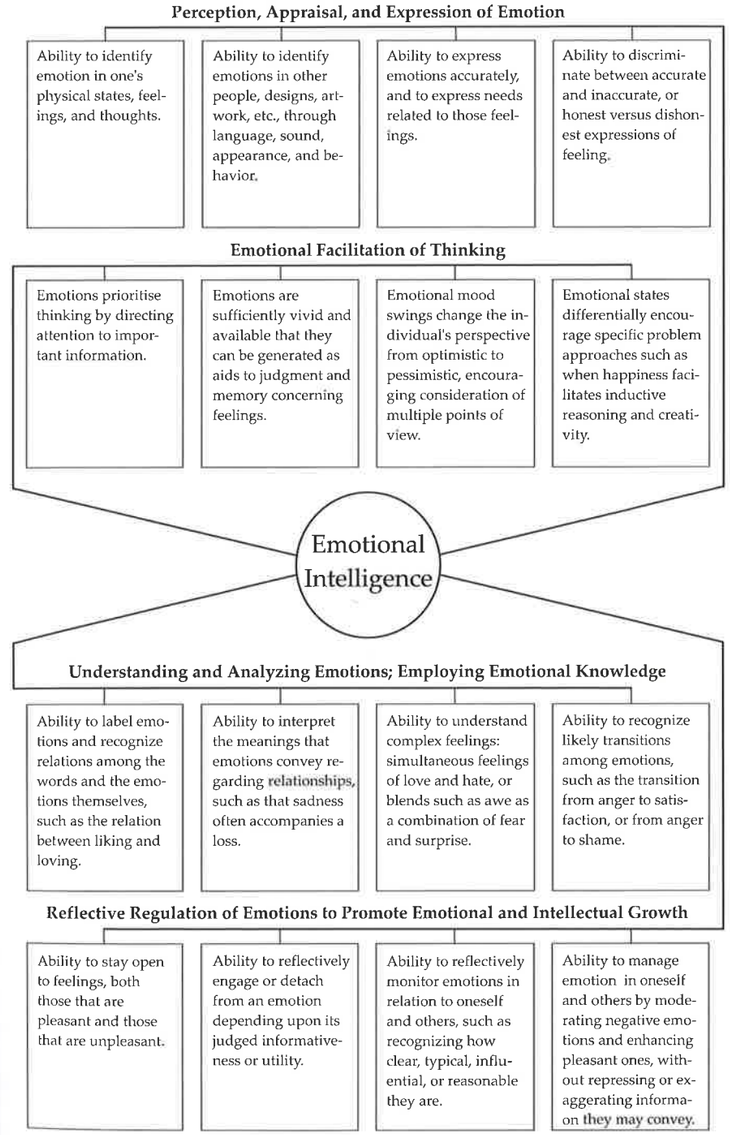

Figure 2.2 Mayer and Salovey's 1997 model of emotional intelligence.

processes that are widely acknowledged as central parts of an intelligence system. These include abstract understanding or reasoning as a core feature of a system that is assisted by several adjunct functions of input processing, knowledge processing, and meta-processing (Mayer et al., 2000a, 2001). Thus, according to Mayer and Salovey, EI can be operationalized as a set of emotion-related abilities that have clearly defined performance components.

Correlational criterion. Mayer et al. propose that EI describes a set of mental ability components that are rather closely related to each other and moderately correlated with other intelligences. Moderate correlations suggest that the new intelligence belongs to the domain of intelligences and that it is distinct from those already identified and measured. The finding is important since if the correlations are too high it would raise the possibility that the new intelligences are not sufficiently distinct from traditional intelligence conceptions.

Developmental criterion. If EI follows the model of traditional intelligences, it should vary with age and experience. To this end, Mayer and Salovey's EI-model predicts that an individual's level of EI should rise with age and experience. Mayer and Salovey assume, then, that EI reflects a set of acquired skills which develop through experience and social interaction (cf. Davies, Stankov, & Roberts, 1998; Schaie, 2001) rather than reflecting innate or static skills. Moreover, the third branch (understanding of emotions) mainly reflects the processing of emotions through reference to an acquired emotional knowledge base (see Mayer et al., 2001). On the basis of these assertions, one would expect EI to be particularly related to crystallized intelligence.

2.3.2 Operationalization and Conceptual Validation

Mayer and Salovey (1997) claim that only psychometric performance tests of the proposed emotion-related abilities, enabling discrimination between correct and incorrect responses, can demonstrate and prove the existence of EI. To fill the measurement void surrounding this claim, Mayer et al. (1999) developed the Multifactor Emotional Intelligence Scale (MEIS), which consists of 12 performance tasks designed to measure the four branches of EI97:

1. Branch I consists of four tests that measure the ability to identify emotions in faces, music, designs, and stories.
2. Branch II comprises two tasks designed to measure the ability to assimilate emotions into perceptual and cognitive processes.
3. Branch III consists of four tasks assessing the ability to reason about and understand emotions.
4. For Branch IV, two tasks measure the participants' abilities to manage their own emotions and the emotions of others.

Unlike the domain of cognitive intelligence, where the correctness of responses can usually be determined fairly easily on logical grounds, this has proven difficult in the case of emotions (see Zeidner, Matthews, & Roberts, 2001, for a discussion). Currently, three approaches are followed:

1. Group consensus: Each response is scored according to the proportion of participants who gave the same answer.
2. Expert scoring: The correct answer is determined by asking experts in the field what the best/correct answer is (for the MEIS the first two authors served as experts).
3. Target criterion: The correct response is determined by correspondence with a target person experiencing the emotion. For the subtests *perception of emotions in music, designs, and stories* of the MEIS, the composers/designers/authors identified the best response alternatives.

To validate the MEIS empirically (thereby validating the underlying EI model), Mayer et al. (1999) employed an exploratory factor analysis that yielded a three-factor solution: emotion perception, assimilation and understanding of emotions, and managing of emotions). As the correlations of these factors were substantial (from $r = .33$ to $r = .49$), the authors conducted a hierarchical factor analysis. Here a single second-order *general EI* factor was extracted, with salient loadings from each of the primary factors.

An exploratory factor analysis of consensus subscale scores conducted by Roberts, Zeidner, and Matthews (2001) also yielded three interpretable factors (perception, understanding, management). However, contrary to Mayer et al.'s findings, the two assimilation subscales loaded about equally on the three extracted factors. Thus, the utilization of emotion to facilitate thought and action seems to represent a (factorially) complex domain encompassing or requiring emotion-related abilities of all other three branches. Nevertheless, confirmatory factor analyses conducted by Roberts et al. (2001), on both consensus and expert scores, identified the proposed four-factor structure to be the most plausible model tested.

A further evaluation was conducted by Ciarrochi, Chan, and Caputi (2000). Consistent with Mayer et al. (1999), they found that all measures of the MEIS loaded on the first principal component, which provides further evidence for an emotional *g*. However, below the *g*-factor they could only extract two factors labeled *Emotional Perception* and *Emotion Regulation/Management*. The tasks designed to measure emotional assimilation and understanding loaded substantially on both the perception and the regulation factors.

Generally, these findings provide support for the assumption of a general factor of EI and for the conceptual validity of at least Branches I and IV (perception and management/regulation of emotions). However, the conceptual validity remains rather equivocal for Branches II and III. Moreover, Roberts et al.'s (2001) comprehensive evaluation of the MEIS also reveals various problems related to measurement issues and scoring. Some of the ability measures are problematic because of low reliabilities (Ciarrochi et al., 2000). The cross-correlations between consensus- and expert-scored subscales are much too low to demonstrate satisfactory convergence between these two scoring-methods.

Moreover, consensus- and expert-scored EI measures show different relationships to other criterion variables. Thus, it seems rather questionable whether the same personal qualities are assessed by these two scoring procedures.

To resolve some of these problems, as well as to improve the psychometric qualities of the MEIS, Mayer and colleagues developed the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT; Mayer et al., 2000b; see also Mayer, Salovey, Caruso, & Sitarenios, 2003). Two scoring procedures are used for the MSCEIT: (a) a general consensus criterion which is based on the answers of more than 2,000 participants, and (b) an expert-consensus criterion which is based on the assessments of 21 members of the International Society of Research in Emotion (see Mayer et al., 2003). In this latter instance, each response is scored according to the proportion of experts who gave the same answer. In a recent analysis of the correlation of the two sets of scores, Mayer et al. (2003) report a surprisingly high correlation coefficient of $r = .91$, as well as improved reliabilities (relative to the MEIS).

However, as Zeidner et al. (2001) point out, it is up to Mayer and colleagues to show that this new measure has conceptual overlap (i.e., correlates highly) with its predecessor MEIS (as it is has been done with most other well-established psychological tests, like the Wechsler, Kaufmann, and Stanford-Binet scales). Without such a demonstration, as Zeidner et al. claim, "it is entirely possible that what is being assessed each time is something entirely dissimilar, rendering it impossible to compile a corpus of knowledge around which a concept like EI might coalesce" (Zeidner et al., 2001, p. 268).

In concluding this section, it should be acknowledged that the research group around Mayer represents the first, and hitherto also the only published, efforts towards the development of EI performance tests. Nevertheless, the MEIS seems problematic in several respects and the actual empirical status of the MSCEIT requires the emergence of a body of independent research supporting its psychometric properties and construct validity.

2.4 BAR-ON'S MIXED MODEL OF EMOTIONAL INTELLIGENCE

In contrast to Mayer and Salovey's ability conceptualization of EI, mixed models (e.g., Bar-On, 1997; Cooper & Sawaf, 1997; Goleman, 1995, 1998; Weisinger, 1998) do not exclusively refer EI to emotion or intelligence. Instead, they claim that EI is often used as a label for a diverse group of personality characteristics that might predict success in professional and everyday domains. Because among the mixed models Bar-On's (1997) broad conceptualization of EI has received most attention in the scientific literature, and is the only one for which empirical findings have been reported, it is the main model discussed here.

In contrast to Salovey and Mayer, who argue that EI is ability-based, Bar-On (1997) defines EI as "an array of noncognitive capabilities, competencies, and skills that influence one's ability to succeed in coping with environmental demands and pressures." (p. 14). For Bar-On, a clinical psychologist, EI becomes

highly relevant since it answers the question "Why are some individuals more able to succeed in life than others?".

Bar-On reviewed personality characteristics supposed to determine life-success beyond cognitive intelligence, and identified five broad dimensions. He regards these dimensions, which are further subdivided into 15 subscales, as key factors of EI. They are:

1. Intrapersonal skills, comprising
   - self-regard (being aware of, understanding and accepting oneself),
   - emotional self-awareness (being aware of and understanding one's emotions),
   - assertiveness (expressing one's emotions, ideas, needs, and desires),
   - self-actualization (realizing one's potential capacities),
   - independence (being self-directed, self-controlled and free of emotional dependency);
2. Interpersonal skills, comprising
   - empathy (being aware of and understanding others' emotions),
   - social responsibility (demonstrating oneself as a constructive member of one's social group),
   - interpersonal relationships (forming and maintaining intimate relationships);
3. Adaptability, comprising
   - problem solving (solving personal and social problems constructively),
   - reality testing (validating one's thinking and feelings),
   - flexibility (adjusting one's feelings, thoughts, and behavior to changing conditions);
4. Stress management, comprising
   - stress tolerance (actively and positively coping with stress),
   - impulse control (resisting or delaying an impulse or drive, and controlling one's emotions); as well as
5. General mood, comprising
   - happiness (feeling satisfied with one's life),
   - optimism (maintaining positive attitudes).

In 2000, Bar-On presented a revised conceptualization of this EI model. This modified conceptualization, which these authors labeled "a model of emotional and social intelligence", comprises 10 components from the original

model. These components are self-regard, emotional self-awareness, assertiveness, empathy, interpersonal relationship, stress tolerance, impulse control, reality testing, flexibility, and problem-solving. The other five subcomponents of the original model (i.e., self-actualization, independence, social responsibility, optimism, and happiness) are now considered as *facilitators* rather than *constituent components* of emotional and social intelligence.

2.4.1 Operationalization and Conceptual Validation

Like Mayer and Salovey's model, Bar-On's model required a new assessment tool. To assess his 1997 mixed model of EI, he developed the Emotional Quotient Inventory (EQ-i; 1997), which consists of 133 items. By means of factor analyses, the proposed model was more or less empirically confirmed (see Bar-On, Brown, Kirkcaldy, & Thomé, 2000; Petrides & Furnham, 2001). Bar-On postulated that the total item score represents an indicator of an individual's overall (i.e., general) EI.

For the criterion-related validity, Bar-On (1997) reported correlations of up to $r = .52$ between EQ-i factors and self-report measures of job performance and work satisfaction. In response to this study, Petrides and Furnham (2001) examined the relationships of the EQ-i scales to measures of well-known personality traits in two of their own studies. Their findings, which are based on factor analyses of several additional personality measures, yielded the isolation of an EI factor in Eysenckian factor space (Study 1) as well as within the Five-Factor-Model (Study 2). However, other authors reported a high multicollinearity among the EQ-i factors and personality traits. Dawda and Hart (2000) observed moderate to high correlations of EQ-i scores with neuroticism, extraversion, agreeableness, and conscientiousness, as well as negative correlations of the EQ-i with depression, somatic symptomatology, and increased experience of somatic symptoms under stress. Similarly, Newsome, Day, and Catano (2000) obtained a very high correlation of $r = -.77$ between the EQ-i score and the anxiety factor of the 16PF. In contrast, they found no correlations between the EQ-i and cognitive abilities or with academic achievement (but academic achievement was significantly correlated with cognitive abilities, extraversion, and self-control). On the basis of these findings, especially the high correlation with anxiety, Newsome et al. concluded that the EQ-i can largely be regarded as a measure of (lack of) neuroticism.

2.4.2 Limitations and Critical Issues

Bar-On's conceptualization includes not only emotion-related mental abilities, but also broader social skills (e.g., assertiveness) and non-ability traits that refer to personality traits (e.g., impulse control) and chronic mood (happiness, optimism). Therefore, to some, the appropriateness of the term *emotional intelligence* seems rather questionable (cf. Neubauer & Freudenthaler, 2002). Indeed, some of the components suggested by Bar-On at best indirectly relate to *emotional* processes (e.g., problem solving or reality testing), therefore, the

construct cannot be emotional. Other components do not label an ability but rather traits that refer to peoples' preferred way of behaving (e.g., social responsibility), likewise the construct cannot be an intelligence. Although there is strong agreement among intelligence researchers that other traits beyond intelligence can predict success, most of them strongly object to classifying these characteristics as intelligence components. The critique on the fuzziness of the (original) EI concept by Salovey and Mayer (e.g., Weber & Westmeyer, 2001) applies even much more strongly to Bar-On's model. If *abilities and traits* and *emotional as well as non-emotional* constructs can be labeled emotional intelligence, where are the (necessary) borders of such a psychological construct? Is then the whole domain of personality psychology simply a domain of emotional intelligence?

2.5 CONCEPTUAL APPROACHES TO EMOTIONAL INTELLIGENCE WITHIN AN ORGANIZATIONAL CONTEXT

Boyatzis et al. (2000) proposed an EI conceptualization encompassing four competence clusters (i.e., self-awareness, self-management, social awareness, and social skills) which differ from each other with respect to two dimensions, namely (a) self versus other, and (b) recognition versus regulation or management (see also Goleman, 1998, 2001). Similar to Bar-On's mixed model, the four competence cluster involve various components that are not exclusively restricted to emotion-related competencies (e.g., emotional self-awareness) but are rather related to broader social skills (e.g., leadership, conflict management, developing others) or to personality and motivational constructs (e.g., self-confidence, service orientation, initiative, achievement orientation). However, empirical analyses of the proposed conceptualization of EI by means of the so-called Emotional Competence Inventory (designed to assess the proposed competence components from an organizational perspective; see also Chapter 9 by Pérez et al.), have yielded inconsistent findings and failed to confirm the proposed structure of competencies (see also Matthews, Zeidner, & Roberts, 2002).

Regarding the impact of EI on success and performance in the organizational context, Dulewicz and Higgs (2000) presented another relatively broad conceptual approach. For several years, Dulewicz and Herbert (e.g., Dulewicz, 1998; Dulewicz & Herbert, 1999) have been working on the identification of competencies that are related to success in organizational life and developed a job competencies survey (JCS). For each of the 40 competencies, a single score was calculated by aggregating the performance-ratings of the evaluated manager and his/her boss. In a recent study, Dulewicz and Higgs (2000) subdivided these competencies by means of content analyses into three different groups, that is emotional (EQ), intellectual (IQ), and managerial (MQ) competencies. Sixteen of the 40 competencies (supposed to be related to various components of existing, mixed models of EI) have been classified into six clusters

of EQ-competencies (i.e., sensitivity vs. achievement, resilience, influence and adaptability, decisiveness and assertiveness, energy vs. integrity, leadership). Similar to other existing mixed models of EI, the selected EQ-competencies address a relatively broad combination of individual traits, values, and (social) behaviors. However, in order to test the predictive/incremental validity of the three different types of competencies, aggregate scores of the EQ, IQ, and MQ competence-scales as well as composite measures of $EQ + IQ$ and $EQ + IQ + MQ$ competencies have been correlated with long-term managerial advancement. Using multiple regression analyses, the authors report that all three types of competencies (EQ, IQ, MQ considered separately as well as two composite scales [$EQ + IQ$, $EQ + IQ + MQ$] contribute significantly to managers' rate of advancement within their organization over a period of seven years (purportedly accounting for 71 percent of the total variance on the dependent variable). According to Dulewicz and Higgs, these findings provide evidence for the incremental validity of EI as well as the proposed usefulness of combining different types of competencies with respect to the prediction of success.

2.6 GENERAL DISCUSSION

Thirteen years after the first mention of a concept of EI by Salovey and Mayer, we are finally seeing some small, albeit important, steps towards the development of a coherent model of EI. Goleman's popular assertions about EI, though not empirically proven themselves, spurred scientific inquiry into the construct. Recent work on EI follows two paths:

1. As is highlighted throughout this book, the importance of distinguishing two fundamentally different types of models is apparent. These two types of models have been assigned different labels, for example, ability versus mixed EI models (Mayer et al., 1999). Whereas models of the first type refer to EI strictly as an ability construct, models of the second type allow for a much broader combination of diverse (partially older and well-established) personality traits under the umbrella term EI. With regard to the different measurement approaches to EI, Petrides and Furnham (2001) emphasize a conceptual differentiation between *trait EI* and *ability/information processing EI*. The authors propose that the trait approach places EI in the domain of personality, encompassing various behavioral dispositions and self-assessed abilities that ought to be measured by self-report tests. Taking into account that intelligence and personality represent independent constructs, trait EI should be exclusively related to personality dimensions and not to cognitive intelligence. Petrides and Furnham suggest their formal concept of *trait EI* as a guiding framework for the integration and systematization of research on the different facets of EI encompassed by existing mixed models. By contrast, *ability EI* is viewed as a cognitive-emotional ability within an ability framework that ought to be measured by means of maximum performance tests. Therefore, ability EI should primarily be related to cognitive intelligence components.

2. Although there are fundamental differences between ability and mixed (or trait) EI, regarding conceptualization and operationalization, these two approaches are not mutually exclusive but rather tend to be complementary with respect to emotion-related components (see Ciarrochi et al., 2000; Petrides & Furnham, 2001). Almost all existing concepts and measures of EI cover at least four emotion-related areas that result from the factorial combination of the two dimensions of self versus other and recognition/awareness versus regulation/management: (a) recognition or awareness of one's own emotions, (b) recognition or awareness of the emotions of others, (c) regulation or management of one's own emotions, (d) regulation or management of the emotions of others. Although self-report measures of emotion-related competencies might be influenced by personality traits, some authors (e.g., Mayer et al., 2000b; Neubauer & Freudenthaler, 2001) think they have their own merits and should not be completely disregarded. They (a) can provide relevant information about internal processes and experiences that can hardly be assessed by performance tests, (b) might be used to assess the validity of performance tests, and (c) might contribute either directly or indirectly to the prediction of life-success.
3. Currently, there is debate about the appropriateness of using the term EI for mixed or trait EI models. Proponents of ability models, as well as most researchers from the domain of cognitive intelligence, hold the view that the term *intelligence* should be reserved for strictly performance related psychological constructs (some theorists even argue that *intelligence* should stay a reserved term for the classical cognitive intelligence concept). Proponents of mixed or trait models allow for EI as a new umbrella term for various (old and new) personality traits. Nevertheless, Petrides and Furnham (2001) also emphasize the importance of using different terms for the verbal description of ability- versus trait-related constructs via the following alternative labels: *cognitive-emotional ability* for the former and *emotional self-efficacy* for the latter.
4. Also in the realm of ability concepts, some progress has been achieved concerning the subfactors that should be included in the domain of EI. The literature on model development and recent empirical data suggests that components like *emotion perception* and *emotion management/regulation* can be operationalized via performance tests and show up clearly in factor analyses. The usefulness of other components suggested by Mayer and Salovey (1997), namely *Emotional Facilitation of Thinking* and *Understanding and Analyzing Emotions*, has been undermined by several studies; the current status of these factors (or at least their operationalizations via the MEIS), is largely equivocal.
5. Clearly, many questions about EI have been raised in the last two decades. Many of these are highlighted in a special issue of *Emotion*, that examined EI. Some of the more intriguing points made there are:

(a) Maybe the most important issue regarding the new concept of EI is the question of convergent and discriminant validity: Where does EI fit in the space of the plethora of already existing psychological constructs? For convergent validity some correlations with (components of) cognitive ability as well as with some personality traits have been demonstrated. But with respect to discriminant validity the question must be raised: How does EI relate to other construct like for instance wisdom, social intelligence, ego resiliency and so forth? As Schaie (2001) says, we are awaiting proof that the MEIS and MSCEIT "are not simply performance measures of well-established personality traits" (p. 244).

From the viewpoint of Izard, a luminary in the field of emotion research, we must question if EI does not overlap largely with well-established concepts from emotions research. Concepts such as *emotional knowledge* (itself composed of emotion perception and emotion labelling) and *emotional adaptiveness*, have actually been extensively studied, albeit predominantly in children.

(b) Directly related to the question of convergent versus discriminant validity is the question of incremental validity, which may be the pivotal issue in EI studies. Roberts et al. (2001) noted that while Mayer and colleagues have so far reported a number of meaningful correlates of EI, we are still awaiting a demonstration that EI can predict real life criteria after statistically controlling for "rival predictors" (Izard, 2001), namely intellectual ability and personality.

(c) As already noted by Mayer and colleagues, the postulation of a new construct also requires developmental evidence, that is, the ontogenetic development of EI must be demonstrated. Some evidence on this issue was reported by Mayer et al. (1999), but Schaie (2001) points to deficiencies in this study. Further, Schaie (2001) argues that the development of the interrelationships between EI subcomponents must be studied, that is, "how does their structure unfold or in late life converge once again" (p. 245). If similar to the domain of general intelligence maybe we could also observe a process of differentiation and dedifferentiation of EI abilities (Schaie, 2001).

(d) With respect especially to concerns raised about Branches II and III of the EI97-model, Zeidner et al. (2001) note that, in fact, much of emotional and social knowledge can be implicit and procedural. They argue that humans have acquired emotional and social skills (especially nonverbal ones) that are often difficult to verbalize. An individual might have excellent academic knowledge about emotions without behaving with emotional intelligence in social interactions. If this is the case, current assessments may be missing an important array of implicit components of EI.

A compounding problem in the field is the lack of psychometrically sound measures. It has yet to be determined whether the MEIS and MSCEIT, the only

available measurements of the EI97 model, really represent competency or if they rather reflect knowledge cumulated over varying learning opportunities (Zeidner et al., 2001). Current measures of EI are mainly of a crystallized kind; the question remains open if more fluid tests of EI, that is, for *emotional reasoning* might be devised in the future. Again, we can observe here the strong interdependence between theorizing and measurement; in this case, the measurement tools (MEIS and MSCEIT) strongly moved EI in one direction without having a priori resolved whether EI should more resemble *Gf* or *Gc* forms of ability. This also has important implications for the issue of cultural relativity and cultural fairness. Thus, Zeidner et al. (2001) point to the fact that crystallized tests/conceptions of EI (like MEIS/MSCEIT) might be extremely cultural dependent. Many Western cultural beliefs might not apply to Eastern cultures, while changes over time are easily conceivable (in times of totalitarian regimes probably different social-emotional behavior can be considered emotionally intelligent than in more democratic times and so forth). As Zeidner et al. (2001) have stated: "The weakness of EI and similar adaptive constructs is that emotional situations or ... interpersonal situations may be too broad and ill-defined to constitute a coherent adaptive challenge" (p. 273) and "at present it is unclear what is meant exactly by the term EI" (p. 273).

2.7 CONCLUSIONS

Currently, we face several conceptual approaches to modeling EI, which—roughly classified—belong either to the ability or the trait/mixed model domain. However, with the possible exception of the integrative approach by Petrides and Furnham (2001), EI conceptions and models seem rather self-contained in that their development is mainly psychometrically driven (i.e., strongly connected to the instruments designed to measure them). Since research on cognitive intelligence started in similar fashion, this approach cannot be considered wrong in and of itself. Nevertheless, as pointed out by Matthews et al. (2002) the models presented so far are lacking from integrating theories and results from related fields like the psychology of emotions and biological approaches. Research on cognitive intelligence took this path. Starting from the psychometric perspective many decades of IQ research have seen a strong emphasis on structural aspects, with research on developmental aspects, on biological, psychological, and sociological correlates showing up later. For example, for biopsychological correlates it was not before the 1970s before serious efforts were taken to explain IQ biologically (Neubauer & Fink, 2005). Viewed from this perspective, there is a long way for EI to travel: On the input side (the causes) the construct must be better connected to, or grounded in, the psychology of emotions; biological correlates should be established; the influence of nature and nurture assessed through behavior genetic research; and so forth. Regarding the output side (the effects) researchers must inquire into psychological as well as sociological correlates of EI. As pointed out by Matthews et al. (2002) such research should help also in answering what are

probably the most important questions: "Is EI an underlying competence? Is EI an outcome of more basic psychological factors?" (p. 531).

These questions refer to possibly the most fundamental issue: In view of the enormous variety of existing psychological constructs and their fundamental theories, the question remains open if EI really describes a new meaningful psychological characteristic of human beings, or if it is only a new label for existing constructs. In a similar vein, the study of EI could also be viewed as an attempt towards reanimation of the related, but historically rather unsuccessful, concept of social intelligence. Once the relation between these two concepts have been clarified and integrative attempts have both demarcated the boundaries of EI and its subcomponents, all efforts should head towards the development of reliable and valid performance measures of EI. If these can be shown to have incremental validity beyond established constructs, from both the ability and the trait domains, the concept of EI will have served its purpose.

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3

The Emotion Systems and the Development of Emotional Intelligence

David Schultz
University of Maryland–Baltimore County, USA
Carroll E. Izard
University of Delaware, USA
Jo Ann A. Abe
Southern Connecticut State University, USA

Summary

The starting point for considering the development of emotional intelligence is this: Emotions themselves are intelligent. Much of what some call *emotional intelligence* (EI) reflects direct functioning of the emotion systems. Other aspects of EI are shaped over time by a person's emotion experiences. In the present chapter we examine this last hypothesis by considering children's abilities to recognize how others' feel. We believe that those aspects of EI that influence children's social and behavioral adjustment most strongly will be aspects most closely associated with emotion systems functioning.