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EMOTIONAL INTELLIGENCE

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ABSTRACT

This article presents a framework for *emotional intelligence*, a set of skills hypothesized to contribute to the accurate appraisal and expression of emotion in oneself and in others, the effective regulation of emotion in self and others, and the use of feelings to motivate, plan, and achieve in one's life. We start by reviewing the debate about the adaptive versus maladaptive qualities of emotion. We then explore the literature on intelligence, and especially social intelligence, to examine the place of emotion in traditional intelligence conceptions. A framework for integrating the research on emotion-related skills is then described. Next, we review the components of emotional intelligence. To conclude the review, the role of emotional intelligence in mental health is discussed and avenues for further investigation are suggested.

Is "emotional intelligence" a contradiction in terms? One tradition in Western thought has viewed emotions as disorganized interruptions of mental activity, so potentially disruptive that they must be controlled. Writing in the first century B.C., Publilius Syrus stated, "Rule your feelings, lest your feelings rule you" [1]. More recently, in psychology, Young defined emotions as "acute disturbance[s] of the individual as a whole" [2, p. 263], and modern introductory texts described emotion as "a disorganized response, largely visceral, resulting from the lack of an effective adjustment" [3, p. 505]. In this view, pure emotion is seen as causing a "complete loss of cerebral control!" and containing no "trace of conscious purpose" [4, p. 457-458]. In this vein, Woodworth suggested that a scale to measure IQ should contain tests demonstrating *not* being afraid, angry, grieved, or inquisitive over things that arouse the emotions of younger children [5].

A second tradition views emotion as an organizing response because it adaptively focuses cognitive activities and subsequent action [6, 7]. Rather than characterizing emotion as chaotic, haphazard, and something to outgrow, Leeper suggested that emotions are primarily motivating forces; they are "processes which arouse, sustain, and direct activity" [6, p. 17]. Modern theories of emotion also see it as directing cognitive activities adaptively [8, 9]. Artificial intelligence researchers have recently considered the value of adding emotion to computers so as to prioritize and direct their processing [10, 11]. The full expression of emotions seems to be a primary human motive [12-14], and it may therefore be worthwhile to consider it from a functionalist perspective.

A DEFINITION OF EMOTIONS

We view emotions as organized responses, crossing the boundaries of many psychological subsystems, including the physiological, cognitive, motivational, and experiential systems. Emotions typically arise in response to an event, either internal or external, that has a positively or negatively valenced meaning for the individual. Emotions can be distinguished from the closely related concept of mood in that emotions are shorter and generally more intense. In the present article, we view the organized response of emotions as adaptive and as something that can potentially lead to a transformation of personal and social interaction into enriching experience.

Emotional Intelligence and Its Relationship to Other Intelligences

At the article's outset, we asked whether emotional intelligence was a contradiction in terms. Far from emotion being contradictory to intelligence, constructs such as emotional intelligence have played a part within the traditions of the intelligence field. Intelligence researchers have often examined people's specific intelligences within such subareas as social behavior, and occasionally, emotions [15].

Intelligence Defined

Intelligence has been defined differently in different epochs. Definitions have ranged from Pythagoras's none-too-helpful depiction of intelligence as "winds" to Descartes's definition that intelligence is the ability to judge true from false [16, p. 347]. Perhaps the most often cited definition is Wechsler's statement that "intelligence is the aggregate or global capacity of the individual to act purposefully, to think rationally, and to deal effectively with his environment" [17]. Such a definition has the advantage of broadly encompassing what people think of as intelligence, as opposed to more restrictive definitions, such as those proposed by Terman and others (e.g., the ability to carry on abstract thinking). It

includes the broad areas historically designated as involving intelligence, such as the distinction among Abstract (Verbal), Mechanical (Visual/Spatial), and Social intelligences [18], as well as those distinctions proposed by more contemporary theorists such as Gardner [15] and Sternberg et al. [19].

Intelligence versus models of intelligence – In the present context, it is critical to distinguish between intelligence per se and models of intelligence. Intelligence, according to the view described above, is a broad set of abilities. *Models* of intelligence, however, are (generally) more restrictive organizations of the field that serve to describe interrelations among or causes of mental abilities. For example, we would consider Spearman's unifactorial, "g," view of intelligence a *model* of intelligence. This model holds that all mental abilities are inter-correlated. It is not contradictory to say that emotional intelligence can be an intelligence, and yet may not necessarily conform to the "g" model. That is, emotional intelligence may or may not correlate with other types of intelligence, and this should not reflect on its classification as a type of intelligence, although it might reflect on the "g" model. What is more critical is that it fits within the boundaries of conceptual definitions of intelligence, such as those provided, for example, by Wechsler.

Social Intelligence

The notion that there are different types of intelligence has been a part of the intelligence field almost since its inception. One type was social intelligence, defined initially as "the ability to understand and manage people" [20, p. 275]. These social/intellectual skills might also be directed inward and so social intelligence might include, by extension, the ability to understand and manage oneself. The concept of social intelligence has a long history among intelligence researchers [21]. E. L. Thorndike originally distinguished social intelligence from other forms of intelligence, and defined it as "the ability to understand men and women, boys and girls—to act wisely in human relations" [18]. In essence, Thorndike defined social intelligence as the ability to perceive one's own and others' internal states, motives, and behaviors, and to act toward them optimally on the basis of that information. Social intelligence, however, was often defined in a more manipulative fashion. Weinstein noted that social intelligence "boils down to the ability to manipulate the responses of others. . ." [22, p. 755]. Or, as the Bureau of Public Personnel Administration more crassly put it, "The essential thing is that the person . . . is able to get others consistently and voluntarily to do the things he wants them to do and even like doing so . . ." [23, p. 73]. Traditional views of social intelligence may take on manipulative connotations because they omit consideration of one's own and others' emotions that may guide conduct in a more prosocial fashion [24, 25].

The independence of social intelligence from other types of intelligence such as abstract and mechanical intelligences was not so readily demonstrable. One problem was that social intelligence was defined so broadly so as to blend imperceptibly into verbal and visual/spatial intelligence. For instance, the intelligence test item that asks what you would do if you found a letter on the sidewalk that was addressed and had a stamp on it is considered a measure of verbal intelligence, and yet to answer the question requires social knowledge and even morality [17].

By 1960, Cronbach had reached his well known conclusion that despite "fifty years of intermittent investigation . . . social intelligence remains undefined and unmeasured" [26]. Most researchers accepted Cronbach's conclusions that "enough attempts were made . . . to indicate that this line of approach is fruitless" [26; see, for example, 27]. Few had considered on what basis these conclusions were drawn. The sole basis for his statements and those of others [e.g., 21, 28] was an article of R. L. Thorndike and Stein [20]. Yet, a careful reading of that article leaves one optimistic that social intelligence might be a viable construct. Thorndike and Stein concluded that "whether there is any unitary trait corresponding to social intelligence remains to be demonstrated," but not that this demonstration would be impossible [20, p. 284]. In fact, they suggested that with further investigation (relying on scales with less verbal content than their own and taking a multidimensional view of social intelligence), the construct might ultimately be measurable.

There is at present a resurgence of interest in social intelligence and its measurement. Sternberg, Conway, Ketron, and Bernstein asked lay people to describe an intelligent person [19]. Many of the characteristics elicited were such socially relevant attributes as: accepts others for what they are, admits mistakes, and displays interest in the world at large. Sternberg and Smith have attempted to operationalize social intelligence [29]. For example, in one study they asked subjects to view photographs of couples and to judge whether they were strangers posing together or actually involved in a dating or marital relationship. Similarly, Ford developed the Social Competence Nomination Form which measures attitudinal, goal directedness, and social goal variables [30]. Factorial results indicated that a social intelligence component could be distinguished from general academic abilities.

Recently, Cantor and Kihlstrom have proposed social intelligence as a unifying construct for understanding personality [31, 32]. Social problem solving, according to their view, is a central personality process that underpins social behavior. It places the locus of individual differences in varied social and personal schemata stored in memory. For instance, Cantor and her colleagues have focused on fitting individual personality styles into social situations by exploring how high school students adapt to the transition to college [33]. In a similar vein, Epstein and Meier have argued that constructive thinking, defined as dealing adaptively and effectively with the environment, is a core component

of personality [34]. They believe that people who lead their lives successfully have, for example, learned the advantages of flexible thinking [35]. We find these conceptualizations of social intelligence exciting and useful.

Emotional Intelligence

We define emotional intelligence as the subset of social intelligence that involves the *ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions*. We posit that life tasks such as those described by Cantor and her colleagues and constructive thinking defined by Epstein [36] are laden with affective information, that this affective information must be processed (perhaps differently than the cognitive information), and that individuals may differ in the skill with which they do so. Emotional intelligence is also a part of Gardner's view of social intelligence, which he refers to as the personal intelligences [15]. Like social intelligence, the personal intelligences (divided into inter- and intrapersonal intelligence) include knowledge about the self and about others. One aspect of the personal intelligence relates to feelings and is quite close to what we call emotional intelligence [15, p. 239]:

The core capacity at work here is access to one's own feeling life—one's range of affects or emotions: the capacity instantly to effect discriminations among these feelings and, eventually, to label them, to enmesh them in symbolic codes, to draw upon them as a means of understanding and guiding one's behavior. In its most primitive form, the intrapersonal intelligence amounts to little more than the capacity to distinguish a feeling of pleasure from one of pain. . . . At its most advanced level, intrapersonal knowledge allows one to detect and to symbolize complex and highly differentiated sets of feelings . . . to attain a deep knowledge of . . . feeling life.

Interpersonal intelligence involves, among other things, the ability to monitor others' moods and temperaments and to enlist such knowledge into the service of predicting their future behavior. As was the case with social intelligence, emotional intelligence is a subset of Gardner's personal intelligences. Emotional intelligence does not include the general sense of self and appraisal of others. It focuses, rather, on the processes described specifically above, that is, the recognition and use of one's own and others' emotional states to solve problems and regulate behavior.

EMOTIONAL INTELLIGENCE: CONCEPTUALIZATION AND SCOPE

There is an exciting body of research that, for lack of a theoretical concept, is dismembered and scattered over a diversity of journals, books, and subfields of psychology. This collection of studies has in common the examination of how

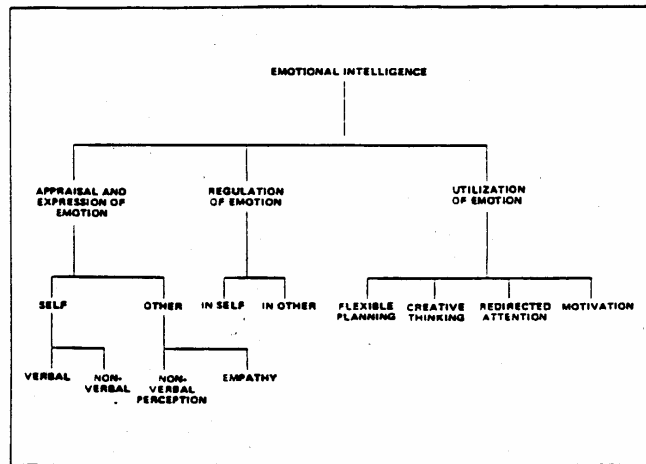


Figure 1. Conceptualization of emotional intelligence.

people appraise and communicate emotion, and how they use that emotion in solving problems. It is different from research on the interaction of cognition and affect, traditionally conceived [e.g., 37-41], because it concentrates not on memory or judgment *per se*, but on more general contributions of emotionality to personality. As long as this research remains scattered without a guiding framework, its contribution to psychology will be minimal. But by integrating this research conceptually, its contribution to psychology will be readily grasped.

Much of the research to be studied is descriptive in nature. And the descriptive qualities of the work have been developed through the agency of scale development and measurement. For this reason, some sections of the current review will integrate a number of instances of scale development, such as those concerning alexithymia, emotional expression, and empathy. Although we are not interested in the scales *per se*, we are interested in the constructs that underlie them and the means by which they operationalize portions of what we will call emotional intelligence.

We hope to reveal the implications of this scattered set of findings that have not yet been appreciated: that there is a set of conceptually related mental processes involving emotional information. The mental processes include:

- a) appraising and expressing emotions in the self and others.
- b) regulating

emotion in the self and others, and c) using emotions in adaptive ways. An outline of these components is provided in Figure 1. Although these processes are common to everyone, the present model also addresses individual differences in processing styles and abilities. Such individual differences are important for two reasons. First, there has been a century-long tradition among clinicians recognizing that people differ in the capacity to understand and express emotions. Second, such differences may be rooted in underlying skills that can be learned and thereby contribute to peoples' mental health.

In the next portion of the article, each of these processes is discussed in turn, operationalizations are described, and pertinent experimental results are presented.

APPRAISAL AND EXPRESSION OF EMOTION

Emotion in the Self

The processes underlying emotional intelligence are initiated when affect-laden information first enters the perceptual system. Emotional intelligence allows for the accurate appraisal and expression of feelings, and stable laws may govern them [e.g., 42-47]. These emotional appraisals, in turn, in part determine various expressions of emotion.

Verbal – One medium through which emotions are appraised and expressed is language. Learning about emotions depends in part upon speaking clearly about them. This social learning interacts with the ability to introspect and form coherent propositions on the basis of that introspection. Recent psychological examinations of expression have concentrated upon the dimensions underlying expressions of the content of emotion [e.g., Pleasant-Unpleasant and Arousal-Calm; 48, 49]. There is a considerably smaller psychological literature on individual differences in the styles or *ability* to appraise and express emotions, and much of the following research is reported in the psychiatric literature.

The term *alexithymia* was introduced to refer to psychiatric patients who are unable to appraise and then verbally express their emotions [50]. Certain physiological explanations for alexithymia have been proposed, among them that it may be due to blocking of impulses from the right to left hemisphere at the corpus callosum or to a disconnection between limbic systems and higher cortical activities [51-53]. Although such theorizing has been interesting, associated operationalizations do not yet bear on such physiological theories. Operationalizations have, however, been provided for emotional expressiveness itself.

The first scale to measure emotional expressiveness was the Beth Israel Hospital Psychosomatic Questionnaire, which presented brief scenarios to patients who were asked to respond in an open-ended fashion [54]. For example, patients were asked to react to situations described verbally such as a

truck advancing toward them at ninety miles per hour, and their verbal responses were recorded. This protocol is then scored for emotion-communication. A normative response to the above item might be "I'd feel terror." But an alexithymic might reply, "like I want to get out of the way." For several years, the Beth Israel Hospital Psychosomatic Questionnaire served as the instrument of choice for researchers in this area [e.g., 55]. Its subjective scoring procedure, however, resulted in low reliability [56], and so the Schalling-Sifneos Personality Scale was introduced as an alternative to the Beth Israel, albeit with little improvement in reliability [57]. A number of projective measures of alexithymia appeared as well but were limited by the projective procedure itself [58-60]. Finally, a method of scoring alexithymic tendencies in natural language samples using the Gottschalk-Gleser [61] system was developed by TenHouten et al. [51, 52].

A group administrable and objectively scored scale in this area was clearly indicated [62, 63], and an alexithymia scale based on the Minnesota Multiphasic Personality Inventory was developed by Kleiger and Kinsman [64]. The construction of this measure was flawed, however, due to the use of small non-representative samples, capitalization on chance during item selection, and arbitrary criteria for excluding otherwise adequate items. These procedures can be assumed to have yielded a non-optimal test.

Three new scales that address emotional expression have been developed to measure more specific attitudes about emotions. These are the State and Trait Meta-Mood Scales (SMMS [48], TMMS [65]) and the Toronto Alexithymia Scale [66, 67]. Such attitudes are important in themselves, but in so far as they indirectly predict actual emotional reactions, they are probably not best classed with a scale such as the Beth Israel.

Another problem with most discussions of alexithymia is that they concentrate on negative emotions and ignore positive feelings, mixed emotions, or neutral states. Thus, it is unclear whether alexithymia pertains to ego-threatening feelings, or to feelings of all kinds. Additionally, might not some individuals exhibit hyper-emotionality in neutral situations? Some of these problems were addressed in a study by Mayer, Salovey, Gombert-Kaufman, and Blainey [68]. Participants reacted to thirty-two emotional and non-emotional situations by checking three of twelve pre-classified alternatives that represented their response to each situation. Patterns of responses fell along three broad dimensions of feeling/thought, defensive/openness, and coping/troubled. The thinking pole of the first dimension and the defensive pole of the second dimension both appear close to psychiatric conceptions of alexithymia. The fact that two dimensions might describe alexithymia suggests that the "alexithymic" classification may need to be reconceptualized.

Nonverbal - One reason the appraisal and expression of emotion have been overlooked as mental abilities may be that they often take place on a nonverbal level, and such nonverbal communication did not fit the format of early

measures of mental abilities. Many investigators, however, have explored non-verbal appraisals and expressions of emotion (e.g., 69) since Darwin's now classic study of facial expression [70]. Much emotional communication occurs through nonverbal channels. And, individual differences in the clarity of the perception of these signals is illustrated in its expression, sometimes termed "nonverbal sending accuracy" [71].

Two scales, the Affect Expression Rating Scale and the Affective Communication Test, have been developed for this purpose [72-74]. The first of these is used to assess the emotional expressiveness of children, as rated by, for example, their teachers; but a self-report adult version of the scale has also been developed [75]. The Affective Communication Test involves self-report items, such as "I show that I like someone by hugging or touching them."

Together, these and similar scales have been used to relate emotional expressiveness to several dispositional variables. Consistent associations have been found between emotional communication, empathy [76], and depression (which yields a reverse relationship [77, 78]). Such expressive ability is less clearly related to non-affective domains. Mixed or contradictory results have been obtained when predicting from emotional communication to intelligence [79], extraversion [80, 81, but see 76, 79], and field dependence [82-84].

Summary - We have suggested that appraising and expressing emotions accurately is a part of emotional intelligence. This is the case because those who are more accurate can more quickly perceive and respond to their own emotions and better express those emotions to others. Such emotionally intelligent individuals can also respond more appropriately to their own feelings because of the accuracy with which they perceive them. These skills are *emotionally* intelligent because they require the processing of emotional information from within the organism, and because it is clear that some level of minimal competence at these skills is necessary for adequate social functioning.

Emotion in Others

Nonverbal perception of emotion - From an evolutionary standpoint, it was important that people be able to perceive emotions not only in themselves, but also in those around them. Such perceptual abilities insure smoother interpersonal cooperation by, for example, permitting the monitoring of displeasure. There are several indications that individual differences exist in the interpretation of emotions through facial expressions.

Various measures of individual differences in nonverbal receiving of others' emotion have been developed [cf. 71]. The Affect Sensitivity Test presents videotaped interactions between pairs of individuals; subjects respond by indicating the emotions and thoughts that targets are expressing [85, 86]. The Communication of Affect Receiving Ability Test (CARAT) consists of a videotape of people watching scenic, unpleasant, unusual, and sexual slides [87].

Subjects must guess what slide the target is observing by studying the target's facial expressions. The Affect Sensitivity Test has moderate internal consistency and a good test-retest reliability, although different versions of the test have had surprisingly low intercorrelations [86]. The Profile of Nonverbal Sensitivity (PONS) has one of the best item samples of emotional expression, including face, body, and face and body combined [88]. Another scale oriented to a more general class of stimuli combines faces, colors, and designs, and finds they define a unifactorial construct of emotional receiving [89]. Several other scales or procedures exist including, for example, measures of the recognition of tachistoscopically presented facial expressions [90, 91].

Differences in nonverbal perceptions of emotion have been associated with various criteria. CARAT scores are higher among artists than scientists, and they correlate with Rotter's interpersonal trust scale [92]. More accurate perceptions may relate to effective mental-health counseling [85]. A number of researchers have found that women are generally better in recognizing emotions in facial expressions than are men [93-98], with the exception of anger perception [98]. The unifactorial faces, colors, and designs scale correlates moderately with empathy [90]. On the whole, scales examining intercorrelations among nonverbal perception measures are diverse, and unsurprisingly for that reason, have yielded diverse results. The different operationalizations suggest they are measuring different underlying skills [99, 100]. Buck concluded that either these instruments were, "sensitive to different aspects of nonverbal receiving ability, or, non-verbal receiving ability is not a unidimensional construct . . ." [71, p. 263].

Empathy – A particularly exciting communality among emotional appraisal and expression is that they appear related to empathy, the ability to comprehend another's feelings and to re-experience them oneself. Rogers believed an active striving to understand other people and to empathize with them is a priceless gift as well as a prerequisite for helping another grow [101]. Empathy may be a central characteristic of emotionally intelligent behavior. As social support researchers have made clear in recent years, a person's relatives, friends, and neighbors are critical contributors to his or her well being [102, 103]. When people relate positively to one another, they experience greater life satisfaction, and lower stress. For example, the empathy of an advice giver is an important determinant of whether the advice is perceived as good [104]. Empathy is also a motivator for altruistic behavior [105]. People who behave in an emotionally intelligent fashion should have sufficient social competence to weave a warm fabric of interpersonal relations. Clearly, the greater number of emotionally intelligent friends, relatives, and coworkers, the more empathic and supportive a social structure will surround a person.

Empathy researchers, in turn, have noted its dependence on subsidiary abilities similar to appraising and expressing emotion [cf. 106, 107]: to understand another person's point of view [108, 109], to identify accurately

another's emotions [71], to experience the same or other appropriate emotion in response to them [110-112], and finally, to communicate and/or act on this internal experience [113, 114].

Much of the work on empathy has treated it as a dispositional variable [27]. Two scales examining empathy are Hogan's and Mehrabian and Epstein's [109, 112]. Hogan's scale was constructed according to judges' ratings of California Q-sort items that were intended to reflect empathic and unempathic individuals. The complexity of the scale development techniques reported in Hogan makes it clear that broad attributes other than empathy were considered as part of the criterion, including humor, imaginative play, and insight into motives [109]. Although we are sympathetic to this approach, which is similar to emotional intelligence in its generality, the scale may for this reason lack discriminant validity for empathy, as more narrowly considered here. A scale developed by Mehrabian and Epstein more specifically measures emotional responsiveness to others and includes such subscales as emotional contagion, appreciation of distant others' feelings, and being moved by others' positive and negative emotional experiences (e.g., "It makes me sad to see a lonely stranger in a group;" "I like to watch people open presents") [112]. Other empathy scales have been reported, but are less widely used [e.g., 108, 115].

Developmental perspectives on empathy suggest that appraisal of one's own feelings and those of others are highly related, and that, in fact, one may not exist without the other. For example, according to Hoffman's perspective, contributors to empathy include: a) *primary circular reactions* in which an infant cries in response to other infants crying and b) *classical empathic conditioning* in which one views another's emotional reaction (through facial expressions or body posture) to the same situation one is in oneself, thereby learning situational determinants of an affect [25]. It is clear that while these may provide information about others' feelings, they also enable the child to learn about what one's feelings in response to a situation should be. Thus, empathy scales may measure not only one's ability to feel toward others, but general access to one's own feelings as well.

Summary — We have included the skillful recognition of others' emotional reactions and empathic responses to them as a component of emotional intelligence. These skills enable individuals to gauge accurately the affective responses in others and to choose socially adaptive behaviors in response. Such individuals should be perceived as genuine and warm by others, while individuals lacking these skills should appear oblivious and boorish.

REGULATION OF EMOTION

People experience mood on both a direct and a reflective level. In their reflective experience, individuals have access to knowledge regarding their own and others' moods. This experience, in part, represents a willingness and ability

to monitor, evaluate, and regulate emotions. Previously, we discussed the skills needed to appraise and express emotions. We now turn to processes that undergird differences in the ability to regulate one's own emotions. Later, we will discuss how similar processes might apply to attempts to regulate, even manipulate, the affective reactions of other people. Much of the research in this domain concerns moods rather than emotions. Moods, although less intense and generally longer lasting than emotions, should be just as effectively regulated and managed by individuals with emotionally intelligent skills.

Regulation of Emotion in the Self

There are a variety of experiences that one has about one's moods; these *meta-experiences of mood* can be conceptualized as the result of a regulatory system that monitors, evaluates, and sometimes acts to change mood [48]. Although many aspects of mood regulation occur automatically (it is, for instance, unnecessary to make a conscious decision to become sad in the presence of tragedy), some meta-experiences of mood are conscious and open to inquiry. For example, two scales designed expressly to measure mood regulation are the State and Trait Meta-Mood Scales (SMMS) (TMMS) [48, 65]. As the names suggest, one scale measures momentary regulation, the other, longer-term regulatory style.

The co-occurrence of mood with meta-experiences of mood (e.g., which moods are typical, which are not; which moods are understandable, which are not) over many situations provides data for individuals to build theories about the situations that bring about moods. For instance, if one experiences a pleasant, acceptable mood when dancing, then the *cause* of the mood (dancing) could be sought after in the future so as to bring about the mood again. In this way, it would serve as a foundation upon which rules could be constructed that would themselves direct behavior to bring about moods.

Additionally, one can regulate mood by choosing one's associates. Associating with other people whose successes are not threatening to us generally results in positive affects like pride, although associating with people whose successes are in areas considered important to one's sense of self can lead to negative affective states like envy [116, 117]. Individuals try to maintain a positive and avoid negative moods by seeking information that helps maintain a positive view of themselves. Tesser has termed this motive "self-evaluation maintenance" [118, 119]. Further, individuals may act helpfully to others as a way of terminating negative moods, the so-called "negative state relief" view of altruistic behavior [120, 121]. And, it makes greater evolutionary sense that the individuals of a species, rather than becoming happy by directly deciding to do so, do so instead by regulating behavior, as for example by engaging in altruistic acts [42, 48, 122].

Another quite different way that meta-mood experience may affect mood-change is by positively augmenting a person's overall internal experience. A negative mood that is evaluated as unacceptable and long-lasting is devastating; but were the evaluations reversed so as to view the mood as under control and

soon-to-change, the overall feelings would be far less destructive of one's equanimity. Such countervailing evaluations may assist individuals to persevere in times of negative moods, and thereby enter new situations that have the potential to improve their future moods [48].

Mood may be modified directly, as well. The earliest evidence for the self-regulation of mood stemmed from observations that the impact of mood on memory encoding and recall was generally stronger for positive than negative mood states. To explain this asymmetry, Isen has suggested that individuals are generally motivated to maintain, even prolong, pleasant moods but attempt to attenuate the experience of unpleasant ones [123]. These processes have been labeled "mood maintenance" and "mood repair" [124]. This motivational view assumes that individuals attempt to maximize pleasurable experiences and terminate aversive ones. They seem to use conscious (controlled) mechanisms to counteract automatic associations produced by negative moods [125, 126], and to "take charge of their minds' propensity to jump from gloomy thought to gloomy thought . . . [by] counting your blessings, looking for the silver lining and trying to remember your favorite things" [126]. The assumption thus far, and, in fact, a long-standing tradition within psychology has been that individuals seek to maximize time spent in pleasant affective states and to terminate negative emotions. Researchers working from a variety of psychological perspectives predict that pleasant experiences are more likely to be sought (and then retained in memory) as compared with unpleasant ones [4, 127]. Individuals' interactions with others and their private imagery are often oriented to a pleasure seeking goal.

However, people's actions are more complex than this. Individuals may be motivated to seek emotional experiences of any kind and to try to prolong these emotional experiences [14, 128]. We attend plays, read fiction, listen to symphonies even when these experiences lead to sorrow. Sorrow, though, may not be unpleasant: tragedy is considered by some the highest form of art [129]. Aesthetic appreciation may involve special qualities of emotional perception and awareness possibly related to the internal experience of emotional intelligence [130]. These aesthetic experiences allow us to practice feeling negative affect (with little consequence), perhaps so as to become more motivated to seek pleasant experiences and to avoid negative ones that do matter. We must empathize with the down-trodden in order to feel positively about our own advantages, and the experience of profound sadness, at times, can be uplifting. Perhaps the positive affect that accompanies aesthetically generated sorrow is rooted in contrast: one must experience sorrow, at least temporarily, in order to feel joy [cf. 131].

Regulation of Emotion in Others

Emotional intelligence includes the ability to regulate and alter the affective reactions of others. For example, an emotionally intelligent orator can elicit

strong reactions in an audience. Similarly, an emotionally intelligent job candidate understands the contribution of behaviors such as promptness and dress in creating a favorable impression [cf. 132].

Goffman eloquently described the ways in which individuals present themselves and their activities to others in order to guide and control the impressions formed of them [133]. His influential chapter on "The Arts of Impression Management" described the important consequences of deliberately "creating a scene," or having the "presence of mind" to suppress emotional responses to private problems. In addition, the skilled impression manager knows when not to attend to the behaviors of others [cf. 134]. Such management techniques have recently been expanded by Hochschild, who has investigated the commercialization of emotional impression management by large corporations and other institutions [135].

Since Goffman, the actual processes underlying such interpersonal mood-regulation have been examined in greater detail. Jones studied emotional regulation through ingratiation [132]. Rosen, Johnson, Johnson, and Tesser investigated the MUM effect, in which people suppress negative communications to others so as to enhance their interpersonal relations [136]. Similarly, Mayer and Gordis demonstrated how advice givers sometimes compromise honesty to provide more interpersonal support when the two conflict [137]. Wasieleski has developed a theory of charisma, in which it is viewed as an emotional regulation of followers by leaders [138].

Summary – We have included the regulation of emotion in the construct of emotional intelligence because it may lead to more adaptive and reinforcing mood states. Most people regulate emotion in themselves and others [48]. Emotionally intelligent individuals, however, should be especially adept at this process and do so to meet particular goals. On the positive side, they may enhance their own and others' moods and even manage emotions so as to motivate others charismatically toward a worthwhile end. On the negative side, those whose skills are channelled antisocially may create manipulative scenes or lead others sociopathically to nefarious ends.

UTILIZING EMOTIONAL INTELLIGENCE

Individuals also differ in their ability to harness their own emotions in order to solve problems. Moods and emotions subtly but systematically influence some of the components and strategies involved in problem solving [see 10 and 139 for reviews]. First, emotion swings may facilitate the generation of multiple future plans. Second, positive emotion may alter memory organization so that cognitive material is better integrated and diverse ideas are seen as more related [139]. Third, emotion provides interrupts for complex systems, "popping" them out of a given level of processing and focusing them on more

pressing needs. Moods such as anxiety and depression, for example, may focus attention on the self [140-142]. Finally, emotions and moods may be used to motivate and assist performance at complex intellectual tasks [33, 143, 144].

Flexible Planning

One central aspect of personality is the mood swing wherein individuals differ in the frequency and amplitude of their shifts in predominant affect [145, 146]. Those with the strongest mood swings will experience concomitant changes in their estimates of the likelihood of future events depending upon the valence of those events. People in good moods perceive positive events as more likely and negative events as less likely to occur and that the reverse holds true for people in unpleasant moods [147-152]. Mood swings may assist such people in breaking set when thinking about the future and consider a wider variety of possible outcomes. As a consequence, they may be more likely to generate a larger number of future plans for themselves and thereby be better prepared to take advantage of future opportunities [10].

Creative Thinking

Mood may also assist problem solving by virtue of its impact on the organization and use of information in memory. For example, individuals may find it easier to categorize features of problems as being related or unrelated while they experience positive mood [153]. This clarity in categorizing information may have positive impact on creative problem solving [154].

Standard creativity tasks such as the remote associates task and cognitive categorization tests have commonly been used as the dependent variables in this research. For example, Isen et al. demonstrated that positive mood can facilitate more creative responses to Duncker's candle task [154]. It seems that subjects experiencing positive mood are more likely to give especially unusual or creative first associates to neutral cues [155]. Moreover, happy individuals may be more likely to discover category organizing principles and use them to integrate and remember information [156].

Mood Redirected Attention

The third principle states that attention is directed to new problems when powerful emotions occur. Thus, when people attend to their feelings, they may be directed away from an ongoing problem into a new one of greater immediate importance. The salesperson who is undergoing a divorce may be directed away from trivial work-related problems and toward understanding of her own interpersonal relations through the pain that emerges from her marital situation [7-9]. In this fashion, individuals learn to capitalize on the capacity of emotional processes to refocus attention on the most important stimuli in their

environment. Rather than merely disrupting ongoing cognitive activities, affect can help individuals to reprioritize the internal and external demands on their attention, and allocate attentional resources accordingly.

Motivating Emotions

Finally, moods may be used to motivate persistence at challenging tasks. For example, some individuals can channel the anxiety created by evaluative situations (such as tests and impending performances) to motivate them to prepare more thoroughly and attain more exacting standards [143]. Others may imagine negative outcomes as a method of motivating performance [33, 144]. People may use good moods to increase their confidence in their capabilities and thus persist in the face of obstacles and aversive experiences [152, 157-159]. Finally, individuals with positive attitudes toward life construct interpersonal experiences that lead to better outcomes and greater rewards for themselves and others [35].

Summary

When people approach life tasks with emotional intelligence, they should be at an advantage for solving problems adaptively. And it is for this reason that such skills are included within the construct of emotional intelligence. The sorts of problems people identify and the way they frame them will probably be more related to internal emotional experience than will be the problems addressed by others. For example, such individuals are more likely to ask not how much they will earn in a career, but rather whether they will be happy in such a career. Having framed a problem, individuals with such skills may be more creative and flexible in arriving at possible alternatives to problems. They are also more apt to integrate emotional considerations when choosing among alternatives. Such an approach will lead to behavior that is considerate and respectful of the internal experience of themselves and others.

CONCLUSIONS AND IMPLICATIONS

People who have developed skills related to emotional intelligence understand and express their own emotions, recognize emotions in others, regulate affect, and use moods and emotions to motivate adaptive behaviors. Is this just another definition of a healthy, self-actualized individual? These and other considerations relating emotional intelligence to the individual will be considered as we conclude.

The Utility of a Concept of Emotional Intelligence

Throughout this article, we have presupposed that the construct of emotional intelligence is of heuristic value in drawing together literatures that are often left unintegrated. But do the abilities represented by these literatures reflect a

coherent construct? For the emotional intelligence framework to be useful, the component skills need not intercorrelate. For example, models of cognition would not be considered any less useful were individual differences in the component parts (e.g., attention, memory, metacognition) *not* intercorrelated. Such models have a useful status whether underlying components form a single factor or are a set of independent but conceptually related processes. Of course, it may be that emotional skills *are* intercorrelated, but such a conclusion awaits the findings of well designed experiments and correlational studies. What is important is that the skills share the fact that they a) involve emotional processing and b) are necessary for a minimum level of competence and adequate, intelligent functioning. We believe that each of our topic areas satisfies these criteria.

Emotional Intelligence and Adjustment

Emotional intelligence and health – The person with emotional intelligence can be thought of as having attained at least a limited form of positive mental health. These individuals are aware of their own feelings and those of others. They are open to positive and negative aspects of internal experience, are able to label them, and when appropriate, communicate them. Such awareness will often lead to the effective regulation of affect within themselves and others, and so contribute to well being. Thus, the emotionally intelligent person is often a pleasure to be around and leaves others feeling better. The emotionally intelligent person, however, does not mindlessly seek pleasure, but rather attends to emotion in the path toward growth. Emotional intelligence involves self-regulation appreciative of the fact that temporarily hurt feelings or emotional restraint is often necessary in the service of a greater objective. Helping others, which may make one feel better in the long run, may require sacrifice and emotional toughness [160]. Thus, emotionally intelligent individuals accurately perceive their emotions and use integrated, sophisticated approaches to regulate them as they proceed toward important goals.

Deficits in emotional intelligence – In contrast, many problems in adjustment may arise from deficits in emotional intelligence. People who don't learn to regulate their own emotions may become slaves to them. Individuals who can't recognize emotions in others, or who make others feel badly, may be perceived as cloddish or oafish and ultimately be ostracized. Other peculiarities of emotional deficits exist as well. Sociopaths, who are impoverished in their experience of emotion, seem to over-regulate mood in others for their own purposes [161]. A far more common ailment may involve people who cannot recognize emotion in themselves and are therefore unable to plan lives that fulfill them emotionally. Such planning deficits may lead to lives of unrewarded experience lived by individuals who become depressed, even suicidal. A society of such individuals could create a culture in which people are insufficiently rewarded and so regulate their emotions in alienating ways [162].

Future Research in Emotional Intelligence

Just as emotional intelligence may provide a framework for organizing personality, it may also suggest an outline for personality researchers who study emotion. Investigators may wish to examine emotions in the self, the appraisal of others' emotions, the ways in which emotion is regulated, or the adaptive uses of emotion. But, in addition, others may choose a research strategy that involves the identification of emotionally intelligent individuals through the use of laboratory tasks or conventional scales. They might also examine the acquisition of emotionally intelligent skills and interventions to promote them. We would hope as well that researchers in this area might examine the role played by emotional intelligence in understanding other complex social processes such as the development of friendships and other close relationships. In the end, by recognizing the contribution of emotional intelligence to a healthy personality, and how to foster it, we may come to recognize advantageous qualities or needed changes in social institutions and cultural practices.

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REFERENCES

1. Publilius Syrus, *Sententiae*, in *Minor Latin Poets*, J. W. Duff and A. M. Duff (eds.), Harvard University Press, Cambridge, c. 100 BC/1961.
2. P. T. Young, *Emotion in Man and Animal: Its Nature and Relation to Attitude and Motive*, John Wiley & Sons, New York, 1943.
3. L. F. Schaffer, B. Gilmer, and M. Schoen, *Psychology*, Harper & Brothers, New York, pp. xii, 521, 1940.
4. P. T. Young, *Motivation of Behavior*, John Wiley & Sons, New York, 1936.
5. R. S. Woodworth, *Psychology, 4th Edition*, Henry Holt, New York, 1940.

6. R. W. Leeper, A Motivational Theory of Emotions to Replace "Emotions as Disorganized Response," *Psychological Review*, 55, pp. 5-21, 1948.
7. J. A. Easterbrook, The Effects of Emotion on Cue Utilization and the Organization of Behavior, *Psychological Review*, 66, pp. 183-200, 1959.
8. G. Mandler, *Mind and Emotion*, Wiley, New York, 1975.
9. H. A. Simon, Comments, in *Affect and Cognition*, M. S. Clark and S. T. Fiske (eds.), Erlbaum, Hillsdale, New Jersey, pp. 333-342, 1982.
10. J. D. Mayer, How Mood Influences Cognition, in *Advances in Cognitive Science*, Volume 1, N. E. Sharkey (ed.), Ellis Horwood, Chichester, pp. 290-314, 1986.
11. A. Sloman and M. Crocher, Why Robots Will Have Emotions, in *Proceedings of the Seventh International Joint Conference on Artificial Intelligence*, Volume 1, A. Drinan (ed.), Vancouver, 1981.
12. C. E. Izard and S. Buechler, Aspects of Consciousness and Personality in Terms of Differential Emotions Theory, in *Emotion: Theory, Research, and Experience*, Volume 1, R. Plutchik and H. Kellerman (eds.), Academic Press, New York, pp. 165-187, 1980.
13. R. Plutchik, A General Psychoevolutionary Theory of Emotion, in *Emotion: Theory, Research, and Experience*, Volume 1, R. Plutchik and H. Kellerman (eds.), Academic Press, New York, pp. 3-33, 1980.
14. S. S. Tomkins, *Affect, Imagery, and Consciousness, Vol. 1: The Positive Affects*, Springer, New York, 1962.
15. H. Gardner, *Frames of Mind*, Basic Books, New York, 1983.
16. Diogenes Laertius, *Lives of Eminent Philosophers*, Volume 2, R. D. Hicks (trans.), Harvard University Press, Cambridge, c. 300/1925.
17. D. Wechsler, *The Measurement and Appraisal of Adult Intelligence*, Williams & Wilkins, Baltimore, 1958.
18. E. L. Thorndike, Intelligence and Its Uses, *Harper's Magazine*, 140, pp. 227-235, 1920.
19. R. J. Sternberg, B. E. Conway, J. L. Ketron, and M. Bernstein, People's Conceptions of Intelligence, *Journal of Personality and Social Psychology*, 41, pp. 37-55, 1981.
20. R. L. Thorndike and S. Stein, An Evaluation of the Attempts to Measure Social Intelligence, *Psychological Bulletin*, 34, pp. 275-284, 1937.
21. R. E. Walker and J. M. Foley, Social Intelligence: Its History and Measurement, *Psychological Reports*, 33, pp. 839-864, 1973.
22. E. A. Weinstein, The Development of Interpersonal Competence, in *Handbook of Socialization Theory and Research*, D. A. Goslin (ed.), Rand McNally, Chicago, 1969.
23. Bureau of Personnel Administration, Partially Standardized Tests of Social Intelligence, *Public Personnel Studies*, 8, pp. 73-79, 1930.
24. R. A. Dienstbier, The Role of Emotion in Moral Socialization, in *Emotions, Cognition, and Behavior*, C. E. Izard, J. Kagan, and R. B. Zajonc (eds.), Cambridge University Press, Cambridge, pp. 484-514, 1984.
25. M. L. Hoffman, Interaction of Affect and Cognition in Empathy, in *Emotions, Cognition, and Behavior*, C. E. Izard, J. Kagan, and R. B. Zajonc (eds.), Cambridge University Press, Cambridge, pp. 103-131, 1984.

26. L. J. Cronbach, *Essentials of Psychological Testing* (2nd ed.), Harper and Row, New York, 1960.
27. B. E. Chlopan, M. L. McCain, J. L. Carbonell, and R. L. Hagen, Empathy: Review of Available Measures, *Journal of Personality and Social Psychology*, 48, pp. 635-653, 1985.
28. M. E. Ford and M. Tisak, A Further Search for Social Intelligence, *Journal of Educational Psychology*, 75, pp. 196-206, 1983.
29. R. J. Sternberg and C. A. Smith, Social Intelligence and Decoding Skills in Nonverbal Communication, *Social Cognition*, 3, pp. 168-192, 1985.
30. M. E. Ford, Social Cognition and Social Competence in Adolescence, *Developmental Psychology*, 18, pp. 323-340, 1982.
31. N. Cantor and J. F. Kihlstrom, Social Intelligence: The Cognitive Basis of Personality, in *Review of Personality and Social Psychology*, 6, P. Shaver (ed.), pp. 15-33, 1985.
32. ———, *Personality and Social Intelligence*. Prentice Hall, Englewood Cliffs, New Jersey, 1987.
33. N. Cantor, J. K. Norem, P. M. Niedenthal, C. A. Langston, and A. M. Brower, Life Tasks, Self-Concept Ideals, and Cognitive Strategies in a Life Transition, *Journal of Personality and Social Psychology*, 53, pp. 1178-1191, 1987.
34. S. Epstein and P. Meier, Constructive Thinking: A Broad Coping Variable with Specific Components, *Journal of Personality and Social Psychology*, 57, pp. 332-350, 1989.
35. S. Epstein and G. J. Feist, Relation Between Self- and Other-Acceptance and Its Moderation by Identification, *Journal of Personality and Social Psychology*, 54, pp. 309-315, 1988.
36. S. Epstein, Controversial Issues in Emotion Theory, in *Review of Personality and Social Psychology: Emotions, Relationships, and Health*. P. Shaver (ed.), Sage Publications, Beverly Hills, pp. 64-88, 1984.
37. P. Blaney, Affect and Memory: A Review, *Psychological Bulletin*, 99, pp. 229-246, 1986.
38. M. S. Clark and S. T. Fiske, *Affect and Cognition*. Erlbaum, Hillsdale, New Jersey, 1982.
39. C. E. Izard, J. Kagan, and R. B. Zajonc, *Emotions, Cognition, and Behavior*. Cambridge University Press, Cambridge, 1984.
40. J. D. Mayer and P. Salovey, Personality Moderates the Effects of Affect on Cognition, in *Affect, Cognition, and Social Behavior*. J. Forgas and K. Fiedler (eds.). Hogrefe, Toronto, pp. 87-99, 1988.
41. J. A. Singer and P. Salovey, Mood and Memory: Evaluating the Network Theory of Affect, *Clinical Psychology Review*, 8, pp. 211-251, 1988.
42. M. Arnold, *Emotion and Personality*. Columbia University Press, New York, 1960.
43. N. H. Frijda, The Laws of Emotion, *American Psychologist*, 43, pp. 349-358, 1988.
44. R. S. Lazarus, *Psychological Stress and the Coping Process*. McGraw-Hill, New York, 1966.

45. I. J. Roseman, Cognitive Determinants of Emotion: A Structural Theory, *Review of Personality and Social Psychology*, 5, pp. 11-36, 1984.
46. C. A. Smith and P. C. Ellsworth, Patterns of Cognitive Appraisal of Emotion, *Journal of Personality and Social Psychology*, 48, pp. 813-838, 1985.
47. B. Weiner, An Attributional Theory of Achievement Motivation and Emotion, *Psychological Review*, 92, pp. 549-573, 1985.
48. J. D. Mayer and Y. N. Gaschke, The Experience and Meta-Experience of Mood, *Journal of Personality and Social Psychology*, 55, pp. 102-111, 1988.
49. D. Watson and A. Tellegen, Toward a Consensual Structure of Mood, *Psychological Bulletin*, 98, pp. 219-235, 1985.
50. P. E. Sifneos, *Short-Term Psychotherapy and Emotional Crisis*, Harvard University Press, Cambridge, 1972.
51. W. D. TenHouten, K. D. Hoppe, J. E. Bogen, and D. O. Walter, Alexithymia and the Split Brain: IV. Gottschalk-Gleser Content Analysis, An Overview, *Psychotherapy and Psychosomatics*, 44, pp. 113-121, 1985.
52. _____, Alexithymia: An Experimental Study of Cerebral Commissurotomy Patients and Normal Control Subjects, *American Journal of Psychiatry*, 143, pp. 312-316, 1986.
53. P. D. MacLean, Psychosomatic Disease and the "Visceral Brain," *Psychosomatic Medicine*, 11, pp. 338-353, 1949.
54. P. E. Sifneos, The Prevalence of "Alexithymic" Characteristics in Psychosomatic Patients, *Psychotherapy and Psychosomatics*, 22, pp. 225-262, 1973.
55. J. H. Krystal, E. L. Giller, and D. V. Cicchetti, Assessment of Alexithymia in Post-Traumatic Stress Disorder and Somatic Illness: Introduction of a Reliable Measure, *Psychosomatic Medicine*, 48, pp. 84-94, 1986.
56. G. J. Taylor, Alexithymia: Concept, Measurement, and Implications for Treatment, *The American Journal of Psychiatry*, 141, pp. 725-732, 1984.
57. R. J. Apfel and P. E. Sifneos, Alexithymia: Concept and Measurement, *Psychotherapy and Psychosomatics*, 32, pp. 180-190, 1979.
58. M. A. Cohen, F. Auld, L. Demers, and R. Catchlove, Alexithymia: The Development of a Valid and Reliable Projective Measure (the Objectively Scored Archetypal Test), *Journal of Nervous and Mental Disease*, 173, pp. 621-627, 1985.
59. M. Defourmy, P. Hubin, and D. Luminet, Alexithymia: "Pensée Opératoire" and Predisposition to Coronopathy, *Psychotherapy and Psychosomatics*, 27, pp. 106-114, 1976/1977.
60. R. Vogt, G. Burckstummer, and L. Ernst, Differences in Fantasy Life of Psychosomatic and Psychoneurotic Patients, *Psychotherapy and Psychosomatics*, 28, pp. 13-23, 1977.
61. L. A. Gottschalk and G. Gleser, *The Measurement of Psychological States Through the Content Analysis of Verbal Behavior*, University of California Press, Berkeley, 1969.
62. M. Thayer-Singer, Psychological Dimensions in Psychosomatic Patients, *Psychotherapy and Psychosomatics*, 28, pp. 13-27, 1977.

63. H. Wolff, The Contribution of the Interview Situation to the Restriction of Fantasy Life and Emotion Experience in Psychosomatic Patients, *Psychotherapy and Psychosomatics*, 28, pp. 58-67, 1977.
64. J. H. Kleiger and R. A. Kinsman, The Development of an MMPI Alexithymia Scale, *Psychotherapy and Psychosomatics*, 34, pp. 17-24, 1980.
65. P. Salovey, J. D. Mayer, and C. Turvey, *The Trait Meta-Mood Scale*, unpublished manuscript, 1990.
66. M. R. Bagby, G. J. Taylor, and D. Ryan, Toronto Alexithymia Scale: Relationship with Personality and Psychopathology Measures, *Psychotherapy and Psychosomatics*, 45, pp. 207-215, 1986.
67. G. J. Taylor, D. Ryan, and R. M. Bagby, Toward the Development of a New Self-Report Alexithymia Scale, *Psychotherapy and Psychosomatics*, 44, pp. 191-199, 1985.
68. J. D. Mayer, P. Salovey, S. Gomberg-Kaufman, and K. Blainey, *A Broader Conception of Mood Experience*, Manuscript submitted for publication, 1990.
69. P. Ekman and W. V. Friesen, *Unmasking the Face: A Guide to Recognizing the Emotions from Facial Clues*, Prentice Hall, Englewood Cliffs, New Jersey, 1975.
70. C. Darwin, *Expression of the Emotions in Man and Animals*, Philosophical Library, New York, 1872/1955.
71. R. Buck, *The Communication of Emotion*, The Guilford Press, New York, 1984.
72. ———, Nonverbal Communication of Affect in Children, *Journal of Personality and Social Psychology*, 31, pp. 644-653, 1975.
73. ———, Nonverbal Communication Accuracy in Preschool Children: Relationships with Personality and Skin Conductance, *Journal of Personality and Social Psychology*, 33, pp. 225-236, 1977.
74. H. S. Freedman, L. M. Prince, R. E. Riggio, and M. R. DiMatteo, Understanding and Assessing Nonverbal Expressiveness: The Affective Communication Test, *Journal of Personality and Social Psychology*, 39, pp. 333-351, 1980.
75. R. Buck, Individual Differences in Nonverbal Sending Accuracy and Electrodermal Responding: The Externalizing-Internalizing Dimension, in *Skill in Nonverbal Communication: Individual Differences*, R. Rosenthal (ed.), Oelgeschlager, Gunn, & Hain, Cambridge, Massachusetts, 1979.
76. C. I. Notarius and R. W. Levenson, Expressive Tendencies and Physiological Response to Stress, *Journal of Personality and Social Psychology*, 37, pp. 1201-1204, 1979.
77. A. C. Gerson and D. Periman, Loneliness and Expressive Communication, *Journal of Abnormal Psychology*, 88, pp. 258-261, 1979.
78. K. N. Prkachin, K. B. Craig, D. Papageorgis, and G. Reith, Nonverbal Communication Deficits and Response to Performance Feedback in Depression, *Journal of Abnormal Psychology*, 86, pp. 224-234, 1977.
79. R. G. Harper, A. N. Wiens, and J. B. Matarazzo, The Relationship Between Encoding-Decoding of Visual Nonverbal Emotional Cues, *Semiotica*, 23, pp. 171-192, 1979.

80. R. Buck, R. E. Miller, and W. F. Caul, Sex, Personality, and Physiological Variables in the Communication of Emotion Via Facial Expression, *Journal of Personality and Social Psychology*, 30, pp. 587-596, 1974.
81. R. Buck, V. J. Savin, R. E. Miller, and W. F. Caul, Nonverbal Communication of Affect in Humans, *Journal of Personality and Social Psychology*, 23, pp. 362-371, 1972.
82. R. Sabatelli, A. Dreyer, and R. Buck, Cognitive Style and the Sending and Receiving of Facial Cues, *Perceptual and Motor Skills*, 49, pp. 203-212, 1979.
83. ———, Cognitive Style and Marital Complaints, *Journal of Personality*, 51, pp. 192-201, 1983.
84. W. A. Shennum, Field-Dependence and Facial Expression, *Perceptual and Motor Skills*, 43, pp. 179-184, 1976.
85. R. J. Campbell, N. I. Kagan, and D. R. Krathwohl, The Development and Validation of a Scale to Measure Affective Sensitivity (Empathy), *Journal of Counseling Psychology*, 18, pp. 407-412, 1971.
86. N. Kagan, Affective Sensitivity Test: Validity and Reliability, paper presented at the meeting of the American Psychological Association, San Francisco, September 1978.
87. R. Buck, A Test of Nonverbal Receiving Ability: Preliminary Studies, *Human Communication Research*, 2, pp. 162-171, 1976.
88. R. Rosenthal, J. A. Hall, M. R. DiMatteo, P. L. Rogers, and D. Archer, *Sensitivity to Nonverbal Communication: The PONS Test*. Johns Hopkins University Press, Baltimore, 1979.
89. J. D. Mayer, M. DiPaolo, and P. Salovey, Perceiving the Affective Content in Ambiguous Visual Stimuli: A Component of Emotional Intelligence, *Journal of Personality Assessments*, 50, pp. 772-781, 1990.
90. D. Archer and R. M. Akert, Words and Everything Else: Verbal and Nonverbal Cues in Social Interpretation, *Journal of Personality and Social Psychology*, 35, pp. 443-449, 1977.
91. P. Ekman and W. V. Friesen, Nonverbal Behavior and Psychopathology, in *The Psychology of Depression: Contemporary Theory and Research*, R. J. Friedman and H. M. Katz (eds.), Wiley, New York, 1974.
92. J. B. Rotter, Generalized Expectancies for Internal Versus External Control of Reinforcement, *Psychological Monographs*, 80, 1, Whole No. 609, 1966.
93. J. D. Boucher and G. E. Carlson, Recognition of Facial Expression in Three Cultures, *Journal of Cross-Cultural Psychology*, 11, pp. 263-280, 1980.
94. P. Ekman, *Emotion in the Human Face*. Cambridge University Press, New York, 1982.
95. J. A. Hall, Gender Effects in Encoding Nonverbal Cues, *Psychological Bulletin*, 85, pp. 845-857, 1978.
96. G. Kirouac and F. Doré, Accuracy and Latency of Judgment of Facial Expression of Emotion, *Perceptual and Motor Skills*, 57, pp. 683-686, 1983.
97. ———, Accuracy of the Judgment of Facial Expression of Emotions as a Function of Sex and Level of Education, *Journal of Nonverbal Behavior*, 9, pp. 3-7, 1985.

98. H. L. Wagner, C. J. MacDonald, and A. S. R. Manstead, Communication of Individual Emotions by Spontaneous Facial Expression, *Journal of Personality and Social Psychology*, 50, pp. 737-743, 1986.
99. B. Fields and M. O'Sullivan, Convergent Validation of Five Person-Perception Measures, paper presented at the annual meeting of Western Psychological Association, April 1976.
100. S. Klaiman, Selected Perceptual, Cognitive, Personality, and Socialization Variables as Predictors of Nonverbal Sensitivity, Doctoral dissertation, University of Ottawa, 1979.
101. C. R. Rogers, *Client-Centered Therapy: Its Current Practice, Implications and Theory*, Houghton Mifflin, Boston, 1951.
102. R. C. Kessler, R. H. Price, and C. B. Wortman, Social Factors in Psychopathology: Stress, Social Support, and Coping Processes, *Annual Review of Psychology*, 36, pp. 531-572, 1985.
103. P. Thoits, Social Support as Coping Assistance, *Journal of Consulting and Clinical Psychology*, 54, pp. 416-423, 1986.
104. J. D. Mayer, A. N. Gottlieb, M. Hernandez, J. Smith, and F. Gordis, Mood and Mood-Related Communication During Advice. unpublished manuscript, 1990.
105. C. D. Batson, Prosocial Motivation: Is It Ever Truly Altruistic? in *Advances in Experimental Social Psychology*, Volume 20, L. Berkowitz (ed.), Academic Press, New York, pp. 65-123, 1987.
106. C. D. Batson, J. Fultz, and P. A. Schoenrade, Distress and Empathy: Two Qualitatively Distinct Vicarious Emotions with Different Motivational Consequences, *Journal of Personality*, 55, pp. 19-39, 1987.
107. L. G. Wispe, The Distinction Between Sympathy and Empathy: To Call Forth a Concept, a Word is Needed, *Journal of Personality and Social Psychology*, 50, pp. 314-321, 1986.
108. R. F. Dymond, A Scale for the Measurement of Empathic Ability, *Journal of Consulting Psychology*, 13, pp. 228-233, 1949.
109. R. Hogan, Development of an Empathy Scale, *Journal of Consulting and Clinical Psychology*, 33, pp. 307-316, 1969.
110. C. D. Batson and J. S. Coke, Empathy: A Source of Altruistic Motivation for Helping? in *Altruism and Helping Behavior*, J. P. Rushton and R. M. Sorrentino (eds.), Erlbaum, Hillsdale, New Jersey, pp. 167-187, 1981.
111. ———, Empathic Motivations of Helping Behavior, in *Social Psychophysiology: A Sourcebook*, J. T. Cacciopo and R. E. Petty (eds.), Guilford, New York, pp. 417-433, 1983.
112. A. Mehrabian and N. Epstein, A Measure of Emotional Empathy, *Journal of Personality*, 40, pp. 525-543, 1972.
113. C. D. Batson, K. O'Quin, J. Fultz, M. Vanderplig, and A. Isen, Self-Reported Distress and Empathy and Egoistic Versus Altruistic Motivation for Helping, *Journal of Personality and Social Psychology*, 45, pp. 706-718, 1983.
114. D. L. Krebs, Empathy and Altruism, *Journal of Personality and Social Psychology*, 32, pp. 1134-1146, 1975.
115. W. A. Kerr and B. J. Speroif, Validation and Evaluation of the Empathy Test, *The Journal of General Psychology*, 50, pp. 269-276, 1954.

116. A. Tesser, M. Millar, and J. Moore. Some Affective Consequences of Social Comparison and Reflection Processes: The Pain and Pleasure of Being Close. *Journal of Personality and Social Psychology*, 54, pp. 49-61, 1988.
117. P. Salovey and J. Rodin. Some Antecedents and Consequences of Social-Comparison Jealousy. *Journal of Personality and Social Psychology*, 47, pp. 780-792, 1984.
118. A. Tesser. Some Effects of Self-Evaluation Maintenance on Cognition and Action. in *The Handbook of Motivation and Cognition*. R. M. Sorrentino and E. T. Higgins (eds.), Guilford, New York, pp. 435-464, 1986.
119. A. Tesser and J. Campbell. Self-Definition and Self-Evaluation Maintenance. in *Social Psychological Perspectives on the Self*, Volume 2. J. Suls and A. Greenwald (eds.), Erlbaum, Hillsdale, New Jersey, pp. 1-31, 1983.
120. R. B. Cialdini and D. T. Kenrick. Altruism as Hedonism: A Social Development Perspective on the Relationship of Negative Mood State and Helping. *Journal of Personality and Social Psychology*, 34, pp. 907-914, 1976.
121. P. Salovey and D. L. Rosenhan. Mood States and Prosocial Behavior, in *Handbook of Psychophysiology*. H. Wagner and A. Manstead (eds.), Wiley and Sons, New York, pp. 371-391, 1989.
122. M. Minsky, *The Society of Mind*. Simon & Schuster, New York, 1985.
123. A. M. Isen. Toward Understanding the Role of Affect in Cognition, in *Handbook of Social Cognition*. Volume 3. R. Wyer and T. Srull (eds.), Erlbaum, Hillsdale, New Jersey, pp. 179-236, 1984.
124. _____. The Asymmetry of Happiness and Sadness in Effects on Memory in Normal College Students. *Journal of Experimental Psychology: General*, 114, pp. 388-391, 1985.
125. M. S. Clark and A. M. Isen. Toward Understanding the Relationship Between Feeling States and Social Behavior, in *Cognitive Social Psychology*. A. H. Hastorf and A. M. Isen (eds.), Elsevier North-Holland, New York, pp. 73-108, 1982.
126. S. T. Fiske and S. E. Taylor, *Social Cognition*, Addison-Wesley, Reading, Massachusetts, 1984.
127. D. Rapaport, *Emotions and Memory*. Williams & Wilkins, Baltimore, 1942.
128. S. S. Tomkins, *Affect, Imagery, and Consciousness, Vol. 2: The Negative Affects*. Springer, New York, 1963.
129. Aristotle, *The Poetics*. G. F. Else (trans.), The University of Michigan Press, Ann Arbor, c. 355 BC/1970.
130. S. S. Barten, The Aesthetic Mode of Consciousness, in *Towards a Holistic Developmental Psychology*. S. Wapner and B. Kaplan (eds.), Erlbaum, Hillsdale, New Jersey, 1983.
131. R. L. Solomon, The Opponent Process Theory of Acquired Motivation: The Costs of Pleasure and the Benefits of Pain, *American Psychologist*, 35, pp. 691-712, 1980.
132. E. E. Jones, *Ingratiation: A Social Psychological Analysis*. Appleton-Century-Crofts, New York, 1964.
133. E. Goffman, *The Presentation of Self in Everyday Life*. Doubleday & Co., Garden City, New York, 1959.

134. J. Geller and N. Laor, Nose Picking and the Automobile: A Psychosomatic Parapraxis, unpublished manuscript, 1988.
135. A. R. Hochschild, *The Managed Heart: Commercialization of Human Feeling*, University of California Press, Berkeley, 1983.
136. S. Rosen, R. D. Johnson, M. J. Johnson, and A. Tesser, Interactive Effects of News Valence and Attraction on Communicator Behavior, *Journal of Personality and Social Psychology*, 28, pp. 298-300, 1973.
137. J. D. Mayer and F. Gordis, Honest and Non-So-Honest Advice, unpublished manuscript, 1990.
138. P. L. Wasieleski, The Emotional Basis of Charisma, *Symbolic Interaction*, 8, pp. 207-222, 1985.
139. A. M. Isen, Positive Affect, Cognitive Processes, and Social Behavior, in *Advances in Experimental Social Psychology*, Volume 20, L. Berkowitz (ed.), Academic Press, New York, pp. 203-253, 1987.
140. T. Pyszczynski and J. Greenberg, Self-Regulatory Perseveration and the Depressive Self-Focusing Style: A Self-Awareness Theory of Reactive Depression, *Psychological Bulletin*, 102, pp. 122-138, 1987.
141. P. Salovey and J. Rodin, Cognitions About the Self: Connecting Feeling States to Social Behavior, in *Self, Situations, and Social Behavior: Review of Personality and Social Psychology*, Volume 6, P. Shaver (ed.), Sage, Beverly Hills, pp. 143-166, 1985.
142. J. V. Wood, J. A. Saltzberg, and L. A. Goldsamt, Does Affect Induce Self-Focused Attention?, *Journal of Personality and Social Psychology*, in press.
143. R. Alpert and R. Haber, Anxiety in Academic Achievement Situations, *Journal of Abnormal Psychology*, 61, pp. 207-215, 1960.
144. C. Showers, Motivational Consequences of Considering Negative Possibilities for Upcoming Events, Submitted for publication, 1988.
145. H. J. Eysenck, *Personality, Genetics, and Behavior*, Praeger Publishers, New York, 1982.
146. R. J. Larsen, E. Diener, and R. A. Emmons, Affect Intensity and Reactions to Daily Life Events, *Journal of Personality and Social Psychology*, 51, pp. 803-814, 1986.
147. G. H. Bower, Mood and Memory, *American Psychologist*, 36, pp. 129-148, 1981.
148. E. J. Johnson and A. Tversky, Affect, Generalization, and the Perception of Risk, *Journal of Personality and Social Psychology*, 15, pp. 294-301, 1983.
149. J. D. Mayer and D. Bremer, Assessing Mood with Affect-Sensitive Tasks, *Journal of Personality Assessment*, 49, pp. 95-99, 1985.
150. J. D. Mayer and A. J. Volanth, Cognitive Involvement in the Emotional Response System, *Motivation and Emotion*, 9, pp. 261-275, 1985.
151. J. D. Mayer, M. Marnberg, and A. J. Volanth, Cognitive Domains of the Mood System, *Journal of Personality*, 56, pp. 453-486, 1988.
152. P. Salovey and D. Birnbaum, Influence of Mood on Health-Relevant Cognitions, *Journal of Personality and Social Psychology*, 57, 1989.
153. A. M. Isen and K. A. Daubman, The Influence of Affect on Categorization, *Journal of Personality and Social Psychology*, 47, pp. 1206-1217, 1984.
154. A. M. Isen, K. A. Daubman, and G. P. Nowicki, Positive Affect Facilitates

- Creative Problem Solving, *Journal of Personality and Social Psychology*, 52, pp. 1122-1131, 1987.
155. A. M. Isen, M. M. S. Johnson, E. Mertz, and G. Robinson, The Influence of Positive Affect on the Unusualness of Word Associations, *Journal of Personality and Social Psychology*, 48, pp. 1413-1426, 1985.
 156. A. M. Isen, K. A. Daubman, and J. M. Gorgoglione, The Influence of Positive Affect on Cognitive Organization: Implications for Education, in *Aptitude, Learning, and Instruction: Affective and Cognitive Factors*. R. Snow and M. Farr (eds.), Erlbaum, Hillsdale, New Jersey, 1983.
 157. A. Bandura, *Social Foundations of Thought and Action*, Prentice-Hall, Englewood Cliffs, New Jersey, 1986.
 158. D. J. Kavanagh and G. H. Bower, Mood and Self-Efficacy: Impact of Joy and Sadness on Perceived Capabilities, *Cognitive Therapy and Research*, 9, pp. 507-525, 1985.
 159. P. Salovey, The Effects of Mood and Focus of Attention on Self-Relevant Thoughts and Helping Intention, unpublished doctoral dissertation, Yale University, 1986.
 160. R. A. Dienstbier, Arousal and Physiological Toughness: Implications for Mental and Physical Health, *Psychological Review*, 96, pp. 84-100, 1989.
 161. D. L. Rosenhan and M. E. P. Seligman, *Abnormal Psychology*, Norton, New York, 1984.
 162. B. F. Skinner, What is Wrong with Daily Life in the Western World? *American Psychologist*, 41, pp. 568-574, 1986.

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