

Emotional Intelligence and the Self-Regulation of Affect

PETER SALOVEY
CHRISTOPHER K. HSEE
JOHN D. MAYER

This chapter explores how individuals try to control their own feelings and the feelings of other people. In the service of this goal, we review, primarily, two lines of research. First we discuss a framework for understanding emotional regulation suggested by Salovey and Mayer (1990) called *emotional intelligence*, which is concerned with a set of skills expected 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. The emotional intelligence framework suggests that there may be individual differences in people's abilities to exert effective control over their emotional lives. Such individual differences will be the focus of the second section of this chapter. Finally, in the third section, we look at some behavioral strategies employed to self-regulate feelings. In this context, we present a theory of satisfaction proposed by Hsee (e.g., Hsee & Abelson, 1991; Hsee, Abelson, & Salovey, 1991), which claims that pleasure is determined not just by the value of outcomes that accrue to individuals but by their change from some baseline over time as well as the pattern of that change over time. We conclude by reviewing some research in the area of prosocial behavior

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suggesting that, at times, helping others may be usefully viewed as an affective self-regulatory strategy.

THE EMOTIONAL INTELLIGENCE FRAMEWORK

Emotional intelligence was proposed as a general framework that allows us to identify specific skills needed to understand and experience emotions most adaptively (Mayer & Salovey, in press; Salovey & Mayer, 1990). More formally, we define emotional intelligence as "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" (Salovey & Mayer, 1990, p. 189).

Although, historically, scientists of human intelligence often contrasted rational thought with emotional experience (see summaries in Schaffer, Gilmer, & Schoen, 1940; Woodworth, 1940; Young, 1936), modern investigators recognize that emotions can serve as a source of information to individuals (cf. Schwarz, 1990), and individuals are more or less skilled at processing this information. For instance, Gardner (1983) described what he called personal intelligence in part as "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" (p. 239).

The idea that there are different types of intelligences has a long history in psychology. In particular, intelligence theorists have struggled over how to define and measure the domain labeled *social intelligence* in which we would place emotional intelligence. We have reviewed the place of emotional intelligence in social intelligence frameworks elsewhere (Salovey & Mayer, 1990), and so we will not recapitulate that discussion here. However, it should be noted that whereas traditional conceptualizations of social intelligence largely ignored considerations of emotion, more modern work in this area has not (e.g., Cantor & Kihlstrom, 1987; Epstein & Meier, 1989; Sternberg & Smith, 1985). Briefly, emotional intelligence can be described in three primary domains, outlined in Figure 12.1: the accurate appraisal and expression of emotion (in self and in other people), the adaptive regulation of emotions (in self and in other people), and the utilization of emotions to plan, create, and motivate action.

Accurate Appraisal and Expression of Emotion

Perhaps most fundamental to the effective use of information provided by emotional experiences is the ability to recognize and identify accurately what one is feeling. Work with young children suggests that the ability to make faces that appropriately communicate an emotion to others as well as the ability to recognize these facial expressions in return increases linearly with age. Children as young as three years are able to pose voluntarily a facial expression suggested to them by an adult (Lewis, Sullivan, & Vasen,

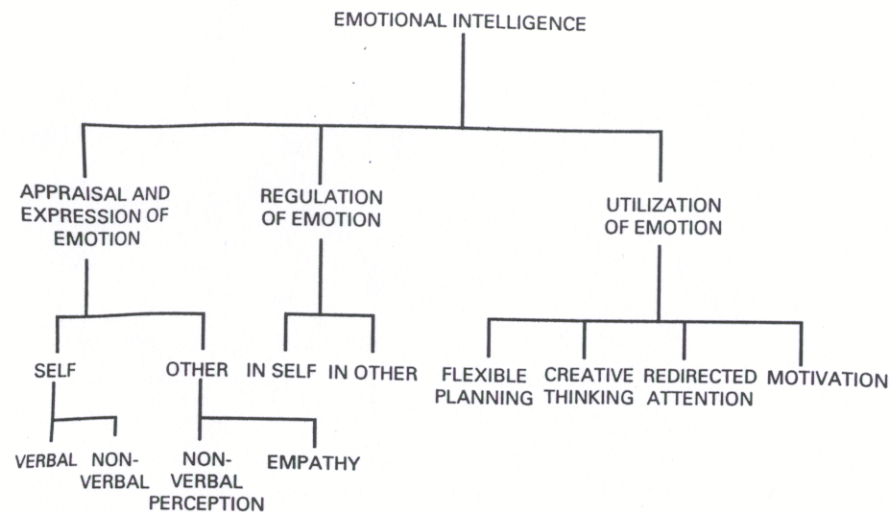


FIGURE 12.1 Domains of Emotional Intelligence (Adapted from Salovey & Mayer, 1990).

1987). At about four years of age, children can identify correctly the emotion suggested by about half of the faces that they see. By six years of age, they are correct 75 percent of the time. For some emotions, such as happiness and disgust, correct identification on nearly every presentation is seen in children as young as four years (Profyt & Whissell, 1991).

Despite the skills demonstrated by young children, we all know adults who seem oblivious to their own feelings and insensitive to those of others (see Salovey & Mayer, 1991, for examples at annual psychology convention social hours). For instance, some individuals have great difficulty identifying the feelings communicated to them through the facial expressions of other people (Buck, 1984; Campbell, Kagan, & Krathwohl, 1971; Kagan, 1978; Rosenthal, Hall, DiMatteo, Rogers, & Archer, 1979). People also vary in their ability to use their own facial expressions (and other nonverbal behaviors) to communicate what they are feeling (Buck, 1979; Friedman, Prince, Riggio, & DiMatteo, 1980).

There are also vast differences in the ability to articulate feelings into words. Children begin to learn emotion words at quite a young age (Bretherton, Fritz, Zahn-Waxler, & Ridgeway, 1986). In one study, 74 five-, nine-, and thirteen-year-old boys and girls were able collectively to generate 1,169 synonyms for just seven "basic" emotions (Whissell & Nicholson, 1991). Despite such fluency with emotional language demonstrated by children, some adults grope wildly with the affective lexicon when trying to report on their feelings. Others, of course, are much more facile.

At the extreme, there seems to be a group of individuals who are simply unable to use words to describe feelings at all. Labeled *alexithymics* (literally, "no words for feelings"), these individuals are thought to be at

risk for a variety of psychological disorders, especially psychosomatic illnesses, though the construct has been difficult to measure reliably (Apfel & Sifneos, 1979; Krystal, Giller, & Cicchetti, 1986; Sifneos, 1972, 1973; Taylor, 1984; Thayer-Singer, 1977).

In our recent work, we have been able to identify individuals who vary with respect to how much attention they pay to and the clarity with which they perceive their moods. (The instrument is called the Trait Meta-Mood Scale and will be described later; Salovey, Mayer, Goldman, Turvey, & Palfai, 1992.) Such perceptions may be related to the tendency to ruminate after distressing experiences and the frequency with which physical symptoms are reported in stressful situations (Goldman, Kraemer, Salovey, & Mayer, 1992). We will return to these studies later in the chapter when we discuss dispositional precursors to affective self-regulation.

Adaptive Regulation of Emotion

Historically, the ways in which people seek to understand and then take control over their emotional experiences has largely been ignored by researchers (but see Campos, Campos, & Barrett, 1989; Stein & Trabasso, 1989, for some recent exceptions). Perhaps this inattention was due to William James's (1890) belief that the influences of emotion terminate in the subject's own body and do not affect external events. Yet people engage in all kinds of activities to regulate their moods. They may try to control their thoughts, drink alcohol, seek the company of others, or jog (see Morris & Reilly, 1987, for a review, as well as chapter 13 by Parrott in this volume).

The ability to regulate one's own feelings is recognized by children as young as four years old. For instance, Brown, Covell, and Abramovitch (1991) asked youngsters to listen to stories in which they might experience happy, sad, or angry emotions. They then indicated various cognitive (e.g., "try to think to yourself, 'it wasn't as bad as all that' ") and behavioral (e.g., "go and do something that you would really like to do") strategies they would use in order to regulate that emotional experience. Four- to six-year-old children in this study were as likely to recognize effective emotion-control strategies as were teenagers. Later in this chapter we focus on two ways in which individuals attempt to regulate their emotions behaviorally—arranging the order of events and providing help to other people.

Emotional intelligence, however, includes more than just an ability to regulate feelings in oneself. It also pertains to the ability to regulate adaptively the feelings of other people. We have all had the experience of being moved by a stirring orator, finding ourselves impressed by the professional demeanor of a job candidate, or becoming attracted to someone we hardly know. Some people seem to know how to create emotions in others that serve them in adaptive ways.

In the extreme, manipulating the feelings of another person for one's own gain may seem sociopathic or Machiavellian, but in less extreme situations we may simply label such individuals as "charismatic" or, merely, charming (Wasielowski, 1985). Moreover, some people simply feel good when they make others feel good, with no ulterior motive. The effective

regulation of the feelings of other people has not been systematically investigated, although it does fall under the purview of impression management (Goffman, 1959). Often, a most advantageous strategy is to focus on the feelings of other people and inhibit a display of one's true emotional reactions to some situation. For example, Hochschild (1983) has studied the ways in which certain professionals, such as airline flight attendants, strongly regulate their displays of feelings and focus on and attempt to regulate the feelings of others. Such behavior is thought to extract a personal psychological toll and may even be a health hazard (Pennebaker, 1989; Pennebaker & Susman, 1988). Emotional regulation may be accentuated among helping professionals, which may account for their high incidence of burnout.

Utilization of Emotion-Based Knowledge

Individuals also differ in their ability to harness their own emotions to solve problems. Moods, generally, influence problem-solving outcomes. For instance, changes in feelings may facilitate the generation of multiple options (Mayer, 1986). And certain emotions may facilitate different kinds of problem-solving tasks. Creative and inductive reasoning, for example, may be improved by happy moods (Isen, Daubman, & Nowicki, 1987; Isen, Johnson, Mertz, & Robinson, 1985), and tasks requiring deductive reasoning and the careful consideration of multiple options may be facilitated by sad moods. In a recent set of studies, Palfai and Salovey (1992) found that happy moods interfered with performance on a deductive reasoning task (such as those found on the LSAT exam), whereas sad moods led to slower performance on inductive reasoning problems, such as analogies.

It may be that happy and sad moods are associated with distinct information processing styles that can affect performance on different kinds of problem-solving tasks. Emotions that signal danger, such as sadness, fear, shame, and guilt, may switch individuals into a focused, sequential analytic mode of processing that leads to enhanced attention and reduced error on some kinds of problems (Kuhl, 1983). Anger and joy, on the other hand, may create a state of mind that allows for the diffuse, multiple processing characteristic of more intuitive and holistic tasks. An intuitive awareness of the kinds of cognitive tasks facilitated by different affective states may characterize the emotionally intelligent individual.

Mood also may facilitate problem solving by virtue of its impact on the organization and utilization of information in memory. Individuals find it easier to categorize aspects of problems as related or unrelated when happy (Isen & Daubman, 1984), which may facilitate creative thinking. It seems that when feeling good, individuals are better able to discover category organizing principles and then use these principles to integrate and remember new information (Isen, Daubman, & Gorgoglione, 1987).

Finally, the positive impact that pleasant moods have on creative problem-solving tasks may be mediated by changes in persistence. Happy individuals feel more confident about their abilities (Kavanagh & Bower, 1985; Salovey & Birnbaum, 1989) and so may be more likely to continue to work even in the face of unpleasant obstacles.

Summary

So far we have discussed *emotional intelligence* as an organizing framework for cataloguing abilities related to understanding, managing, and using feelings. Included in this array are abilities to recognize emotions in oneself and others and express emotion-laden concepts in words. Moreover, individuals functioning in an emotionally intelligent manner are able to regulate feelings in themselves and in other people and to utilize emotions to aid in problem solving and decision making. In the remainder of this chapter we discuss the aspect of emotional intelligence that is most relevant to mental control: emotional self-regulation—the strategies that people use to adjust their feelings. First, we discuss emotional self-regulation from an individual differences standpoint. We then turn to strategic behaviors that have affective consequences for their perpetrators.

DISPOSITIONAL PRECURSORS OF THE SELF-REGULATION OF AFFECT

Several investigators have suggested that individuals differ in their ability to regulate their own feelings. Whether these efforts have produced ideas with discriminant (and construct!) validity remains to be seen. Before describing our own foray into dispositional precursors of self-regulatory strategies, we shall mention briefly a few related efforts from other laboratories.

Levels of Emotional Awareness

Lane and colleagues have proposed that there are systematic individual differences in the maturity with which feelings are processed. Drawing on a Piagetian view of cognitive development as an analogy, they propose that individuals respond to emotionally evocative events in one of five different ways—with physiological sensations, body actions, undifferentiated feelings, differentiated emotions (blends of feelings), or multiple differentiated emotions (blends of blends of feelings), depending upon the level of emotional maturity that they have attained (Lane & Schwartz, 1987).

A Levels of Emotional Awareness Scale (LEAS) has been developed, although the predictive validity of emotional complexity measured in this way has not yet been explored (Lane, Quinlan, Schwartz, Walker, & Zeitlin, 1990). Individuals are presented with 20 scenes described in two to four sentences each. The scenes are organized around four emotions—anger, fear, happiness, and sadness. Subjects write about how they would feel and how others in the scenario would feel in response to the scene descriptions. Responses are then scored according to the level of emotional awareness represented (interrater reliability is reported to be reasonably high; Lane and others, 1990). So far, it seems, level of emotional awareness is associated with openness to experience, and maturity. The approach appears promising, although little research with this construct has been reported. Some recent findings argue that such discriminations in levels of emotional awareness can be made, at least psycholinguistically (Mayer, Salovey, Gombert-Kaufman, & Blainey, 1991, Study 1).

Ambivalence About Emotional Expression

Even individuals with skills in the realm of emotional expression and appraisal may still feel ambivalent about such expression—either wishing they were more able to reveal their emotions to others, or desiring to hide them better (King & Emmons, 1990). King and Emmons (1990, 1991, see also chapter 24 by Emmons, King, and Sheldon in this volume) have developed a scale that measures such ambivalences—the Ambivalence Over Emotional Expression Questionnaire (AEQ). The scale contains 28 items that are best characterized by a single, reliable ambivalence factor. Individuals who are less ambivalent about their emotional expressiveness seem to report greater happiness than those who express a variety of fears about emotional expression. Individuals who report wanting to express emotion and being unable to do so or expressing emotion but later regretting it are more likely to feel negative affect and a variety of psychiatric symptoms such as obsessive-compulsive tendencies, depression, and anxiety (King & Emmons, 1990, 1991).

Beliefs About Negative Mood Relief

In a similar line of work, Catanzaro and Mearns (1987, 1990) developed a 30-item measure concerning generalized expectancies for negative mood regulation: Do people believe that they can do something to alleviate their negative moods? In various studies, individuals who believe that negative moods can be relieved through their own actions are more likely to engage in problem-focused coping strategies and less likely to report depression and somatic complaints (Kirsch, Mearns, & Catanzaro, 1990).

These results have been replicated in subjects responding to a specific stressor, namely the breakup of a romantic relationship. Most interesting, individuals who believe that they can regulate their negative moods are less likely to become depressed in the face of romantic failure—and the predictive power of this variable in this context can be demonstrated prospectively, that is, prior to the breakup itself (Mearns, 1991). People with stronger expectancies concerning their ability to regulate negative moods seem to become less depressed following a distressing event than do individuals who lack these expectations. Individual differences in beliefs about the controllability of affect have also been measured and studied by Flett, Blanckstein, Bator, and Pliner (1989), Roger and Najarian (1989), and Riggio (1986), among others. The discriminant validity of this plethora of measures, however, still needs to be assessed.

Constructive Thinking

Constructive thinking, as described by Epstein (1990), refers to “a person’s ability to think in a manner that solves everyday problems in living at a minimal cost in stress” (Katz & Epstein, 1991, p. 789). Particular attention is paid to how individuals manage their emotions, which is thought to be a major factor in determining how effectively intellectual abilities can be marshalled.

Constructive thinking is measured by the Constructive Thinking Inventory (CTI), which contains a global scale and six subscales (Epstein & Meier, 1989). Of particular relevance to the regulation of feelings are the 26-item global scale and the 9-item emotional coping subscale, which contains items such as “I tend to take things personally” and “I don’t let little things bother me.” Other subscales—naïve optimism, negative thinking, and superstitiousness—also have implications for the management of feelings.

Constructive thinking is related to a variety of important life tasks including workplace achievement, romantic success, and emotional and physical well-being (Epstein & Meier, 1989). In a recent experiment (Katz & Epstein, 1991), good constructive thinkers were less likely to respond to laboratory stressors (e.g., mental arithmetic, mirror tracing) with negative affect, dysfunctional thoughts, and physiological arousal. The constructive thinking construct, at this point, seems well motivated theoretically, psychometrically sound, and has demonstrated validity as a coping style in response to various stressors in different life domains (for a broader review, see Epstein, 1990).

The Meta-Mood Perspective

Moods are rarely experienced in a vacuum. Rather, pleasant and unpleasant experiences are nearly always accompanied by emotion-management related experiences (Mayer and others, 1991). Mayer and Gaschke (1988) distinguished between the direct experience of moods and a reflective experience that occurs simultaneously. The first is what we commonly consider a pleasant or unpleasant mood. The second, termed the *meta-mood experience*, arises in response to the direct perception of a mood and includes cognitions that monitor the mood (Scheier & Carver, 1982), and active attempts to alter the future course of the mood itself (Isen, 1984; Parrott, ch. 13, this volume). Extensive factor analytic research has revealed that the experience of mood is broader than its emotional content alone.

The mood experience encompasses emotion-management processes that modify perceptions of evocative situations that elicit an emotion. These *meta-mood experiences* typically involve broad attempts to regulate or change mood. The regulatory meta-experiences may in turn lead to direct-level thoughts concerning suppression and denial of the mood (“don’t even think about it”) and behavioral planning (“get help”) that are also experienced as a part of mood (Mayer & Gaschke, 1988; Mayer and others, 1991). When we asked subjects to imagine how they would feel across 32 different affectively charged situations, their responses factored into the usual pleasant–unpleasant and arousal–calm dimensions (Mayer & Volanth, 1985; see also Russell, 1979, and Green, Goldman, & Salovey, 1992). In addition, however, we also recovered management-related dimensions of denial and regulating thoughts. In a second study, three dimensions of emotion-management were recovered: suppression, denial, and thoughts of action (cf. Wegner, 1989).

We are interested in both transient thoughts about emotion-manage-

ment (termed State Meta-Mood Experiences) and longer-standing dispositional orientations toward emotion management (Trait Meta-Mood Experiences). Mayer and Gaschke (1988) described a 60-item State Meta-Mood Scale (SMMS) that measures the kinds of thoughts an individual might have while experiencing moods, in particular whether they are under control, confusing or clear, acceptable, typical, and changeable. The State Meta-Mood dimensions differ depending on the mood experienced. For example, beliefs about the changeability of a mood are more likely to come to mind during unpleasant rather than pleasant experiences.

We recently completed work on a sister scale to the SMMS, the Trait Meta-Mood Scale (TMMS), containing 48 items that load on three factors—attention to feelings, clarity of moods and emotions, and beliefs about the desire to maintain or repair moods (Salovey and others, 1992). Scores on these scales are thought to represent stable, individual differences in the way in which people respond to their feeling states.

We have obtained some predictive validity for the constructs measured by the TMMS. In one experiment (Salovey and others, 1992), we asked subjects to view a distressing film concerning drunk driving and its victims. Then, in a purportedly unrelated experiment, subjects were asked to list at 30-second intervals any thoughts that came to mind. Subjects who experienced their emotions clearly had less distressing ruminations following the film than did those subjects who lacked this skill. They also recovered faster from the emotionally distressing event. Perhaps the clarity of their affective experience allowed these subjects to regulate their distress without engaging in aversive ruminative processes. Such individuals may know how they feel and may not need to engage in rumination in order to discern their feelings.

BEHAVIORAL MANIFESTATIONS OF THE SELF-REGULATION OF AFFECT

A Temporally Dynamic Perspective on Affect

In the previous sections we discussed how individuals differ in their reaction to and control of emotions. In this section we examine how people (in general) react to emotionally charged outcomes, particularly outcomes that unfold in time. In the section that follows we examine how people arrange the temporal order of such outcomes to maximize the pleasure experienced from them.

Historically, affect has largely been studied rather statically. Investigators have presented stimuli to subjects—shown them films, insulted them, threatened them with painful shocks—and then measured subjects' physiological, phenomenological, and behavioral reactions (for a review, see, for example, Leventhal & Tomarkin, 1986). But affectively charged stimuli impinging on the individual outside of the laboratory rarely involve the experience of such discrete, one-time events. Rather, we experience events that unfold in time. And our affective reactions may be determined as

much by the pattern of these events over time as by any individual event itself. For instance, we may be aware of the absolute level of some outcome—is what I am experiencing now desirable? We may appreciate how this outcome has changed from some previous level—is this more desirable than what I experienced yesterday? And we may realize that this change from the previous level may be happening at some rate of speed—are things getting better at a faster or slower pace?

First of all, satisfaction with a desired outcome depends not only on the absolute value of the outcome, but also on the amount of change, or *displacement*, of the outcome from some baseline. Take a person who purchased a house as an investment as an example. Whether the person is happy with the investment depends not only on the current value of the house but also on the amount (and direction) the value has changed from some reference level, say, the value of the house when it was originally purchased—how much its value has increased (or decreased) over the years.

The idea that satisfaction with an outcome depends not just on the value of that outcome but also on its change from some baseline over time is not new in social psychological theory. For instance, studies of gain-loss phenomena suggest that individuals who first express negative attitudes toward us and later express positive attitudes are liked better than individuals who express positive attitudes all along (Aronson & Linder, 1965). Similarly, we experience as more devastating negative feedback received from someone who has always given us positive reinforcement than from someone whose negative feedback is typically expected. It should not be surprising, then, that we can only hurt the one we love.

Also relevant is the idea of hedonic relativity (Brickman & Campbell, 1971; cf. Kahneman & Tversky, 1979). People are more satisfied when an outcome first changes their lives as compared to later when they have gotten used to some standard of living. Studies of lottery winners, for instance, suggest that the greatest happiness is experienced immediately after winning the prize, but, over time, winners are no happier than losers (Brickman, Coates, & Janoff-Bulman, 1978). People seem ultimately to adapt to events, whether good or bad. Similar ideas can be found in Parducci's (1968, 1982) range-frequency theory, which suggests that one's past is used as the standard of comparison for evaluating present satisfaction (see Diener, 1984, for a more general review of the determinants of subjective well-being).

In addition to the fact that satisfaction depends on the change of an outcome, satisfaction also depends on the rate, or *velocity*, of the change (Hsee & Abelson, 1991). Take the person who invested in real estate described above. The feelings of this person depend not only on how much the value of the house has increased (or decreased), but also on how long the change takes place or how fast it is changing. Other things being equal, the person would be happier if the value of the house increased, say, \$4,000 per year than, say, \$4,000 in two years.

In a recent study (Hsee & Abelson, 1991) subjects rated their feelings about graphic displays on a computer screen that depicted the chances of

winning a hypothetical game, the value of a stock, or their standing in a college class. In support of the velocity notion, subjects indicated greater satisfaction when these outcomes increased quickly than when they increased slowly, and greater dissatisfaction when they decreased quickly than when they decreased slowly, independent of the final outcome itself. It seems that individuals "do not just care how much an outcome has changed, but also how fast it changes" (Hsee & Abelson, 1991, p. 345). These data are consistent with Carver and Scheier's (1990) control-process view of affect, which holds that affect is determined by the rate at which goals are approached.

In general, then, when the value of two outcomes is equal, individuals will be more satisfied with the one that reflects a positive velocity, that is, a change (and preferably, a swifter change) from some baseline. There are certain conditions, however, that seem to make people especially sensitive to velocity. In a recent study, we were able to illustrate that subjects were exquisitely sensitive to velocity information when outcomes were framed in terms of their trend over time rather than final position, when they were the result of consummatory (hedonically relevant rather than instrumental) behaviors, and when they were internally rather than externally controlled (Hsee, Abelson, & Salovey, 1991). For example, individuals will prefer a salary profile over a four-year period that increases annually over one whose average might be higher, if they are encouraged to think about the annual change rather than the average, if they believe the reason they work is for enjoyment rather than monetary reward, and if they believe that their salary reflects individual merit rather than it being arbitrarily assigned by the company. These results suggest that the strength of the velocity effect is not constant; it varies depending on framing, motive, and locus of control.

Recently, Hsee, Salovey, and Abelson (1992) have been investigating yet another aspect of the dynamic relation between outcomes and satisfaction: the effect of changes in velocity on feelings. Some preliminary data suggest that one feels happy when velocity changes from negative to positive, that is, when the desired value first decreases and then increases, and unhappy when the velocity changes from positive to negative, that is, when the desired value first increases and then decreases. Subjects viewed videotapes of a series of simulated arm wrestling matches and were asked to bet a small amount of money on one of the two players. After viewing each match, they rated their overall satisfaction. For the matches in which the player on whom subjects bet eventually won, subjects indicated greater happiness when the player was first losing and then winning than when he was winning from the very beginning. Conversely, for the matches in which the arm wrestler eventually lost, subjects indicated less happiness when he was first winning and then losing than when he was losing from the beginning.

So far we have discussed that pleasure is not just the result of how positive some outcome is, but also is a function of how fast that outcome is changing and how fast the rate of that change is itself changing. The idea that pleasure is multiply determined in this way poses a challenge to

naïve hedonism, the notion that the more we have of something we like, the happier we are (see Parrott's challenge to naïve hedonism in this volume as well). In fact, happiness is not associated with wealth (e.g., Easterlin, 1973; Murray, 1988), and aversive experiences sometimes produce positive feelings (such as relief when they end), as predicted by opponent process theory (Solomon, 1980). What seems most important—and what emotions investigators have largely ignored—is the way in which affectively valent outcomes change over time (cf. Altman & Rogoff, 1987). This dynamic—indeed, *emodynamic*—view suggests that we are acutely sensitive to the pattern over which outcomes accrue in time, especially to their rate and shifts in that rate.

Arranging the Order of Events

In the previous section we examined how individuals react affectively to events that change over time. It appears that one's feelings depend not only on the final outcome of events, but also on the temporal pattern of these events. In this section we examine a related question: How do people strategically arrange the temporal pattern of events to optimize their feelings? In many situations, actions that we may take determine in part how we feel later. Thus, we can exert some control over future feelings. At dinner, should you eat the delicious prime rib steak before your least favorite vegetable, squash, or after it? At work, should you accept your boss's offer of a fixed annual salary for five years, or would you prefer a salary that starts lower than this amount and ends at a higher rate, even though the average is slightly less than the fixed option? And at the racetrack, would you feel better betting on a horse who always runs fairly well or taking a chance on a comer who used to be awful but has improved steadily race after race? We would like to argue that individuals prefer certain patterns of outcomes that they believe will maximize their pleasure. But even though we will state some general principles guiding these decisions, we also claim that there is considerable individual variability in people's knowledge of these principles and other factors that bear on how they will feel ultimately.

Suppose that you receive three boxes containing gifts on your birthday. You do not know what is inside each box, but you can guess their approximate value. In what order would you open these gifts? There are several competing predictions. If only the final outcome mattered, then you should have no systematic preference about the order with which you open the boxes. On the other hand, several factors suggest that people have a systematic preference. One is the *impatience* hypothesis. Economists have long believed that people prefer to consume or experience pleasant events as quickly as possible, presumably because the subjective value of a pleasant event will be less the longer the event is delayed (see Loewenstein, in press, for a review). If this is the case, then people should open the gifts in the descending order, that is, the most-valued gift first and the least-valued gift last, because the most-valued gift carries the greatest weight and should be most susceptible to impatience.

A second factor is *savoring*. Sometimes people like to delay the consumption of a pleasant event so as to enjoy fully the pleasure derived from anticipation. For example, subjects in a questionnaire study indicated that they would rather kiss their favorite movie star in several days rather than right now (Loewenstein, 1987). Similarly, when subjects are provided an opportunity to choose the order in which they listen to musical pieces, they are more likely to listen to less pleasant pieces earlier and more pleasant pieces later (Breckler, Allen, & Konecni, 1985). Contrary to impatience, savoring would predict that you would open the gifts in the *ascending* order. Furthermore, when given a choice to open the gifts slowly or quickly, people should prefer to open the gifts slowly so as to enjoy fully the pleasure of anticipation.

A third factor that may influence one's preference of temporal pattern is the *velocity* effect. As discussed earlier, an increase in desired value will lead to greater satisfaction than a decrease, and a quick increase will lead to greater satisfaction than a sluggish increase. Like savoring, this velocity effect would lead us to expect people to open the gifts in the ascending order rather than in the descending order. But unlike savoring, the velocity notion would suggest that people prefer a *faster* ascending pattern rather than a slower ascending pattern.

These competing predictions were tested in a recent questionnaire study using the birthday gift scenario described earlier (Hsee, 1991). When given a choice between opening the gifts in the ascending order versus the descending order, the majority of the subjects preferred the ascending order, a result that supports the savoring and the velocity predictions. Within the ascending pattern, subjects were given various choices of either opening the gifts quickly or slowly. For example:

- A. You receive 3 gifts that are worth \$20, \$40, and \$60, respectively. You open the \$20 gift first; after 10 minutes, you open the \$40 gift; after another 10 minutes, you open the \$60 gift.
- B. You receive 3 gifts that are worth \$20, \$40, and \$60, respectively. You open the \$20 gift first; after a minute, you open the \$40 gift; after another minute, you open the \$60 gift.

In support of the velocity prediction, subjects preferred the quicker ascending pattern (B) to the slower ascending pattern (A). To assure ourselves that it is velocity, not impatience, that led to this preference, we introduced some initial delays to the two options, and the delay was longer in the option that had a quicker ascending pattern:

- A. You receive 3 gifts that are worth \$20, \$40, and \$60, respectively. You do not open any gifts until an hour and 10 minutes later. Then you open the \$20 gift first; after another 10 minutes, you open the \$40 gift; after another 10 minutes, you open the \$60 gift.
- B. You receive 3 gifts that are worth \$20, \$40, and \$60, respectively. You do not open any gifts until an hour and 30 minutes later. Then you open the \$20 gift first; after another minute, you open the \$40 gift; after another minute, you open the \$60 gift.

Again, subjects overwhelmingly preferred the quicker ascending pattern (B), even though the impatience motive would predict a preference for the first option.

In addition to demonstrations such as these, there is also a related literature on the way in which individuals attempt to cluster or separate experiences in the world systematically in order to self-regulate affect. In a fascinating paper, Linville and Fischer (1991) explored whether individuals prefer to separate or combine emotionally impactful events—whether they would prefer to experience two negative events in quick or distant succession; whether they would prefer two positive events to occur one right after the other or following a lengthier time lag. Across three different domains—academic, social, and financial—individuals separated large negative outcomes. They rarely preferred a “let’s get it all over with at once” strategy, but rather preferred to deal with these losses one at a time. Similarly, for large positive events, individuals also preferred to experience them separately in time. It is as if they would rather savor each one on its own. Most interestingly, when subjects must experience mixed outcomes, such as a large gain and a small loss or a large loss and a small gain, then they wanted to experience the two events in quick succession. It is as if they desire to buffer the negative outcome with the positive experience. These results suggest that people do not only passively experience emotions in response to external stimuli, they actively seek to organize external stimuli in a way that maximizes positive experiences. While doing so, they not only care about the total value of these experiences, but also about their temporal pattern.

Helping Others

In addition to arranging the order and patterning of outcomes to self-regulate feelings, individuals may also engage in specific interpersonal behaviors—affiliating with others, comparing with those less fortunate, basking in reflected glory—for their emotional consequences. One behavior that at times is used to manage feelings strategically is helping. There is a long history in social psychology of research concerning helping behaviors and how they may serve mood-regulatory strategies (see Salovey, Mayer, & Rosenhan, 1991; Schaller & Cialdini, 1990, for recent reviews). Positive feelings are thought to be maintained by helping others, and negative feelings relieved by such behaviors.

The positive mood maintenance hypothesis suggests that pleasant moods can be best maintained by engaging in altruistic and other helping behaviors because they foster further pleasant feelings (Clark & Isen, 1982; Isen & Simmonds, 1978). Many experiments have demonstrated that this indeed seems to be the case. When students are asked to help out an experimenter by volunteering to participate as subjects, they report feeling better (Yinon & Landau, 1987). Similar results have been obtained in other helping contexts as well (Harris, 1977; Williamson & Clark, 1989). Individuals seem to be aware of this positive consequence of helping others. When already happy, they avoid helping in situations that might threaten

their positive moods (Forest, Clark, Mills, & Isen, 1979; Harada, 1983; Isen & Levin, 1972; Shaffer & Graziano, 1983).

Helping as a way of improving negative moods—the so-called Negative State Relief Model (Cialdini & Kenrick, 1976)—has received considerable support as well (Baumann, Cialdini, & Kenrick, 1981; Manucia, Baumann, & Cialdini, 1984). The classic test of the idea that individuals engage in helpful acts in order to make themselves feel more positively comes from experiments in which sadness is induced and avenues for improving mood are made available prior to a helping opportunity. For instance, if subjects are rewarded following negative mood induction but before they have an opportunity to help, they are no more likely to help than neutral mood control subjects (Cialdini, Darby, & Vincent, 1973; Cunningham, Steinberg, & Grev, 1980). Similarly, when subjects are led to believe that their moods cannot improve by helping—for instance, because they have been given a “drug” that locks their moods at current levels—they do not help following negative mood inductions (Manucia, Baumann, & Cialdini, 1984, but see Schroeder, Dovidio, Sibicky, Mathews, & Allen, 1988, for a failure to replicate these kinds of effects).

Perhaps the most direct test of this idea is demonstrated in a study by Schaller and Cialdini (1988) who provided subjects with a variety of cheering-up strategies in addition to helping. When subjects had such alternatives available to them—for example, they could view humorous material—they were not as likely to help. It seems that individuals see helping in certain kinds of situations as one way in which to relieve a sad mood.

In other papers (e.g., Salovey, Mayer, & Rosenhan, 1991), we have suggested that people may help in order to self-regulate emotions over quite long periods of time by strategically delaying short-term pleasure for greater long-term rewards. We looked at literature concerning Christians who rescued Jews from the Nazis (e.g., London, 1970; Oliner & Oliner, 1988; Stein, 1988). It seems doubtful that such heroism was motivated by the kinds of short-term mood improvements typical of the laboratory experiments reviewed above. Rather, by providing haven for Jews, they “achieved” a longer-term goal of being able to look back on their actions and experience pride and great satisfaction (and, perhaps, reduced guilt). Living up to one’s moral standards and engaging in altruistic behaviors and the like are social actions that may involve short-term costs but in the long term may be the most effective strategies for regulating emotions.

CONCLUSIONS

In this chapter we argued that there is a set of skills, organized around a framework we call emotional intelligence, concerned with the processing of emotion-relevant information. These skills can be grouped into three primary domains: the accurate appraisal and expression of emotion, the ability to utilize effectively emotion-based knowledge, and the adaptive regulation of emotion. This chapter was primarily concerned with this last domain.

Emotional self-regulation seems to require two precursors. The first is the predisposition to engage in such regulation. Although this issue has not been addressed directly, several constructs have appeared in recent years that may capture, in part, the desire to engage in emotional self-regulation—levels of emotional awareness, ambivalence about emotional expression, beliefs about negative state relief, constructive thinking, and meta-mood experiences. The second precursor to effective regulation of affect is an arsenal of behavioral strategies that affect one’s feelings. We described two such strategies here: arranging the order of valenced events and helping other people.

The field of emotional self-regulation represents fertile, albeit largely unexplored, territory. Although developmental researchers have been concerned for quite some time with the ways in which children learn to regulate their emotional experiences—toddlers may stare at their mothers, for instance, while attempting a new, scary task—personality and social psychologists have become interested only recently in these issues. Much of emotional regulation is in some way a form of mental control. Our feelings are in part determined by how effectively we can control the contents of our minds (and the minds of other people as well). When the second volume of this handbook appears, perhaps research will have progressed to a stage where the links between mental control and emotional self-regulation have been demonstrated explicitly.

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