# HANDBOOK OF EMOTIONS

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CHAPTER 16

# *Motivational, Organizational, and Regulatory Functions of Discrete Emotions*

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A few discrete emotions emerge early in life, including joy, interest, sadness, anger, fear, and disgust. Another few emotions emerge later in middle childhood as a function of both maturational and social processes; these emotions include shame, guilt, shyness, and contempt. Each of these emotions has a unique adaptive function in motivating, organizing, and regulating behavior, both alone and in emotion patterns. Each emotion also plays an important role in the development of personality and individual differences in responding to environmental challenges.

In this chapter, we explore the adaptive functions of emotions from the perspective of differential-emotions theory (DET; Izard, 1977). We begin by describing the theoretical assumptions underlying our approach and locating these assumptions in historical and theoretical contexts. We then describe the motivational, organizational, and regulatory functions of some of the discrete emotions. In the final section, we discuss the implications of these assumptions for conceptualizing the development of personality.

## THEORETICAL FRAMEWORK

### Adaptive Functions of Emotions

Seven broad assumptions provide a theoretical frame for understanding the relations among the emotions system, behavior, and personality development.

1. The emotions system constitutes the primary *motivational* system for human behavior (Izard, 1971; Tomkins, 1962). Motivation concerns the goals of behavior. Whereas few theorists adopt the strong version of this principle, many acknowledge emotions as important factors in motivating perception, thought, and action (Frijda, 1986; Lazarus, 1991).

2. Each of the discrete emotions serves distinct functions in the way it *organizes* perception, cognition, and actions (behavior) for coping and creative endeavors, and in the way it contributes to personality and behavioral development (Ackerman, Abe, & Izard, 1998; Izard, 1977). An increasing number of studies support this basic principle (Martin, Horder, & Jones,

1992; Niedenthal & Kitayama, 1994; Renninger, Hidi, & Krapp, 1992) These investigations show that trait emotion or induced emotion guides perception, increases the selectivity of attention, and helps determine the content of working memory Yet understanding the complex relations between specific emotions and behavior remains a significant challenge

3. Personally significant situations typically activate a coherent pattern of interacting emotions (Izard, 1972; Izard & Youngstrom, 1996) The complexity of emotion–behavior relations results, in part, from the highly interactive nature of discrete emotions within the emotions system and in the formation of emotion patterns Like the reciprocal interactions between discrete emotions and cognition, the reciprocal relations among the emotions in an activated pattern include interemotion *regulatory* processes Regulation occurs in that the neural and motivational processes underlying one emotion in the pattern serve to amplify or dampen another emotion in the pattern Although the cognitive and motor systems subserve many effective techniques of emotion regulation, some situations may require both of these systems operating with interemotion processes to achieve the adaptive level of arousal Thus interemotion processes may always be factors in the optimal regulation of a given discrete emotion

It is important to note, however, that though DET holds that the discrete emotions characteristically operate in a pattern of two or more emotions, each emotion retains its specific motivational properties This position contrasts sharply with the view that emotion can be understood in terms of certain broad dimensions, such as pleasantness and arousal (cf Watson & Tellegen, 1985) The positions converge to the extent that the causal influence of a broad dimension results from the interaction of discrete emotions Many might agree, for instance, that interacting positive emotions could account for the pleasantness dimension

4. Emotion–behavior relations begin to develop early and remain stable over time (Izard, 1977; Plutchik, 1980) Although the repertoire of specific responses for a given emotion changes as development proceeds, the new responses are complementary to the ones that remain and functionally similar to those that disappear The sadness that elicits crying in the infant and toddler may produce only a sad countenance in the older child, but both forms of behavior invite nurturance or social support

5. The capacity of emotions to motivate, organize, and sustain particular sets of behaviors contributes to the development of personality Consistently high levels of joy or positive emotionality frequently lead to and facilitate social interactions and the emergence of the trait of extraversion (Abe & Izard, 1999)

6 Individual differences in emotion activation thresholds and in the frequency and intensity with which particular emotions are experienced and expressed are major determinants of specific traits and broad dimensions of personality

7 Though each emotion has an inherently adaptive function (Izard, 1989; Lazarus & Smith, 1988; Leventhal, 1980; Plutchik, 1980), emotions may contribute to maladaptive behavior in response to threat or challenge Such behavior usually reflects problems in interemotion and emotion–cognition relations and in emotion–cognition–action patterns If the motivational component of fear, for instance, has been linked to inappropriate cognition to form maladaptive affective–cognitive structures, then activation of the emotion will result in maladaptive behavior

## Historical Context

The issue of whether emotions have two or three broad dimensions or 7 or 11 distinct units represents a fundamental question in emotion theory and has concerned scientists since the beginnings of psychology as a discipline Early on, progenitors of the science of psychology and emotions theory articulated opposing views Darwin (1872/1965), for example, described a dozen or so discrete emotions and argued that the expressions of some of these emotions evolved from functional systems In his theory, the expressions that characterize certain of the discrete emotions are patterns of movement that served adaptive functions in evolution Darwin made his arguments on this subject clear and prominent in his book on emotions, but he did not emphasize the notion that emotion expressions continue to serve adaptive functions in contemporary life However, a careful reading of his work shows that he believed that the expressions of the emotions remain useful mechanisms Darwin's description of the role of expressions includes what psychologists label "adaptive functions"

Darwin identified two adaptive functions of emotion expressions: social communication and

the regulation of emotion experiences. Regarding the first, he said that the mother's smile of approval or frown of disapproval starts the child on the right path. Regarding the second function, he said that suppressing the expression of an emotion attenuates the experience of that emotion, and that the free and full expression of an emotion amplifies the emotion experience. In his statements about the evolution and adaptive functions of the emotions, Darwin was clearly talking about discrete emotions. He gave specific and anatomically detailed descriptions of unique and separate emotion expressions.

In contrast to Darwin, Spencer (1890) conceptualized emotions as dimensions of consciousness. Wundt (1897) extended Spencer's ideas and maintained that all emotion feelings can be explained in terms of three dimensions: pleasantness–unpleasantness, relaxation–tension, and calm–excitement. Variations of this approach were enunciated later by several highly influential investigators (Duffy, 1941; Lindsley, 1951; Schlosberg, 1941; Woodworth, 1938). Because of their efforts and a psychology that was largely controlled by behaviorism, the dimensional approach to the study of emotion was dominant in psychology until about the last third of the 20th century.

Well before discrete-emotions theories gained almost equal footing with dimensional theories, Tomkins (1962, 1963) wrote a brilliant exposition of his affect theory that identified eight separate emotions. At the same time, Plutchik (1962) published the early version of his theory, and he too described eight discrete emotions. Although he used different labels, most of his eight map directly onto those of Tomkins. Tomkins's and Plutchik's functionalist approach tied their work to the Darwinian tradition and had immediate appeal to a few psychologists who were open to the possibility that a bioevolutionary perspective might offer new insights on emotions and their role in developmental processes, personality, social relations, cognition, and actions (e.g., Ekman, 1972; Izard, 1971). It was at least 20 years after the appearance of the volumes by Tomkins and Plutchik, however, that discrete-emotions theories began having a significant impact on the field and guiding the work of a significant number of researchers.

## Theoretical Context

The historical tensions between dimensional and discrete-emotions approaches frames theoretical debates today. Currently, a number of emotion researchers consider the discrete-emotions and dimensional approaches as complementary rather than as contradictory (cf. Watson & Tellegen, 1985). Indeed, even investigators who have developed discrete-emotions theories sometimes resort to a methodology that derives from the dimensional approach (e.g., Izard, 1972; Lang, 1984). A major reason for doing this is that on average it is easier to obtain reliable measures at the level of broad dimensions, such as valence (pleasantness–unpleasantness) or positive and negative emotionality, than at the level of discrete emotions. In the language of psychometrics, indices of discrete emotions are primary factors, and indices of broad dimensions are secondary factors; hence the greater stability of the latter (Izard, Libero, Putnam, & Haynes, 1993; Watson & Clark, 1992).

Nonetheless, the positions have different implications for understanding the role of emotions in motivating and organizing behavior, and in the development of personality and psychopathology. For example, negative emotionality operating as an entity and a discrete negative emotion (e.g., sadness) may influence personality development and behavior quite differently. In addition, reliable indices of discrete emotions (Izard, 1972) are useful in analyzing traits of personality and the syndromes of anxiety, depression, and hostility (Blumberg & Izard, 1985, 1986; Izard & Youngstrom, 1996; Watson & Clark, 1992).

At a pattern level, one subset or pattern of emotions (e.g., the depression pattern) may influence behavior quite differently than another (e.g., the hostility pattern), and both may have a different impact than general negative emotionality or a state characterized simply by negative valence and high arousal. These ideas suggest the utility of distinguishing between a discrete-emotions approach and a dimensional approach to emotion–behavior relations.

Another broad theoretical issue concerns the relations between the emotions system and cognition. For some theorists, cognitive processes of appraisal and attribution recruit emotions. This view privileges the cognitive system in activating emotions and in describing and understanding emotion–cognition relations. Differential-emotions theorists would agree that affective and cognitive processes are usually reciprocally interrelated. However, according to DET, an emotion may be activated by noncog-

nitive processes, including other emotions (see Izard, 1993); emotion experiences have organizational characteristics that minimally involve cognition; and emotions recruit cognition to form both transitory and stable affective–cognitive structures. In sum, basic functions of emotion reflect inherent and privileged aspects of the emotions system per se.

The debate about emotion–cognition relations is framed in part by what is meant by the term "emotion." In DET, an emotion is a particular set of neural processes instigating efferent processes that may or may not lead to an observable expression but that always lead to a unique conscious experience. The subjective experience may or may not be accessible through cognitive processes or the language system. An emotion has three levels or aspects—neural, expressive, and experiential—and the term "emotion" refers to all three components operating as an integral system.

In infants, the efferent processes in emotion activation typically lead to expressive behavior. However, as a function of both maturation and socialization, the relations between the neural activation process and expressive behavior change with development (Izard, Hembree, & Huebner, 1987). As children gain more mastery over the somatic muscles of expression, and as socialization proceeds, children learn to regulate and modify emotion expressions and expressive styles. Eventually, observable expression in some situations may be completely inhibited or dissociated. Because feedback from expressive behavior contributes to the activation and regulation of emotion experiences (Duclos et al., 1989; Laird, 1974; Matsumoto, 1987; Strack, Martin, & Stepper, 1988; Winton, 1986), a child's learning to regulate emotion expressions is part of the process of learning to regulate emotion experiences (Darwin, 1872/1965; Izard, 1990; James, 1890/1990).

Emotion experience constitutes a quality of consciousness. It can be described as a feeling or motivational state that may include an action tendency or feeling of action readiness. For some negative emotions (e.g., anger, fear), the action tendency supports quite specific goals (attack, defense/protection). In positive emotion states (joy/happiness, interest), the individual experiences wider-ranging response tendencies toward more general goals such as affiliation and exploration (Izard, 1977). Emotion experience proper does not include cognition. However, emotion feeling/motivational states contain information. They generate cues for decision and action. This can be conceived as a tendency to perceive and think in ways congruent with the information in the emotion. Although emotion feelings differ qualitatively from thought and decision processes, their cue-producing function typically recruits the cognitive system, rapidly and automatically. The integration or coordinated interaction of emotion and appropriate cognition produces adaptive behavior.

In the typical case, emotion experience recruits cognitive processes in an orderly fashion. That is, an emotion recruits cognitive and behavioral tendencies relevant to the dominant emotion in consciousness. The quality of consciousness that is joy recruits responses that are appropriate to joy as a motivational state. Similarly, the feeling/motivational state of sadness recruits cognitive and motoric responses congruent with this state, and so on for anger and the other discrete emotions (Bower, 1987; Izard, Wehmer, Livsey, & Jennings, 1965). The recruitment of cognition by an emotion feeling/motivational state and a subsequent effective action lay the groundwork for the development of an adaptive affective–cognitive structure. An "affective–cognitive structure" is an association or bond between emotion feeling and cognition. It is the most common type of mental structure, the fundamental building block of mind and memory.

Making a clean break between motivational state and cognition, and in particular between the subjective experience of emotion and the cognition that it recruits, has a number of implications for theory and empirical research (Izard, 1992). For example, it invites us to explore the possibility that unconscious motivation may be an emotion experience that is not cognitively tagged or articulated. Therefore, it is not possible to access this emotion experience through the language system. In alexithymia and certain other conditions, for example, feelings become chronically dissociated from cognition. These conditions represent extreme illustrations of the relative independence of emotion and cognition.

This clear break also facilitates conceptualization of the emergence of emotions (i.e., experience and expression) in childhood. For example, we term the basic emotions that emerge early in infancy (e.g., joy, sadness, fear, anger) "independent" emotions (see Ackerman et al., 1998), because the emergence does not require

or reduce to cognitive processes (i.e., of a representational or computational nature). In contrast, emotions that fully emerge in middle childhood (i.e., shame, guilt) are "dependent" emotions, because emergence seems tied to self-processes, and to representational processes associated with both maturational influences and social experiences (cf. Lewis, 1992).

Finally, another important consequence of separating emotion feeling from cognition is that it makes it easier to formulate hypotheses about the role of cognition in emotion activation. If cognition is viewed as part of emotion experience per se, then it becomes difficult to examine cause–effect relations among cognitive and emotion processes. Heuristic advantages accrue to the position that an emotion experience consists of a motivational/feeling state that stems directly from neural processes without intervening cognitive interpretations. This allows us to conceptualize appraisal/evaluative processes as independent determinants of emotions and other cognitive processes as consequences.

## THE ADAPTIVE FUNCTIONS OF DISCRETE EMOTIONS

Despite the substantial body of evidence that testifies to the validity and usefulness of the concepts of discrete emotions, they have not been accepted universally by emotion theorists and researchers. In this section, we describe the adaptive functions of discrete emotions that provide evidence for the usefulness of the construct. We address three questions about a sample of specific emotions. First, does each discrete emotion have functions that can be readily understood as providing an adaptive advantage in evolution? Second, does this specific emotion continue to serve functions that facilitate development, adaptation, and coping? Third, does this emotion tend to co-occur with certain other emotions, so that the whole group forms a coherent set or pattern that provides an adaptive advantage? Finally, we try to show that a principal function of the emotions system is that of organizing and motivating characteristic patterns of responses or traits of personality.

### The Functions of Interest

The definition of the emotion of "interest" overlaps with that of the terms "curiosity," "wonder," "urge to explore or discover," and "intrinsic motivation" (Deci, 1992). Healthy people in a safe and comfortable environment experience interest far more of the time than any other emotion. Its relative dominance of consciousness testifies to its significance for adaptation. Interest motivates exploration and learning, and guarantees the person's engagement in the environment. Survival and adaptation require such engagement. Interest supports creativity because it immerses one in the object or task and cues a sense of possibility. To paraphrase Tomkins (1962), interest is the only emotion that can sustain long-term constructive or creative endeavors.

Interest is the mechanism of selective attention—the mechanism that keeps attention from straying more or less randomly through the vast array of stimuli that constantly impinge on the senses. Interest not only focuses attention on a particular object, person, situation, or task; its status as an emotion provides the motivation and energy mobilization for engagement and interaction. Interest animates and enlivens the mind and body. Interest provides the motivation and resources for constructive and creative endeavor, the development of intelligence, and personal growth (cf. Deci, 1992; Tomkins, 1962).

Interest occurs in many patterns in which the emotions influence each other reciprocally. Interest may be part of the pattern of emotions in anxiety. In the anxiety pattern, interest may attenuate fear sufficiently to enable approach responses. Lorenz (1950) provides the classic example in his observation of a raven. From a high limb of a tall tree, the raven studies an object on the ground. The raven flies closer for a better look, then returns to a limb a bit closer to the object than its first perch. It flies down again and this time back up to a limb yet closer to the object. This continues until the raven lands by the object and begins actively exploring it. We can infer that interest motivates the approach responses, and that fear motivates the retreats to safe distances. Similar emotion dynamics characterize any novel situation that activates the urge to explore (interest) and imagery about possible threats from the unknown. Young people often describe their first trip abroad as a mix of interest and fear. In the cases of Lorenz's raven and the students' travel adventures, interest attenuates fear and sustains activity toward the goal. Recurring low levels of fear may serve to keep the exploration within safe bounds.

Interest most typically occurs in a pattern with joy. This pattern typifies the important developmental processes in children's play (cf. Singer, 1979). Interest sustains active engagement in the game. Happiness follows from achievement of a goal, mastery, or some incongruous event. Periodic joy provides respite from the activity driven by intense interest and serves as a reward that promotes return to the game. In a similar vein, Deci (1992) sees interest and joy as a blend that characterizes intrinsic motivation. He defines intrinsic motivation in terms of innate psychological needs—competence (White, 1959), self-actualization (Maslow, 1954), and relatedness—similar in substance to the conception of interest and joy as innate emotions characterized by motivational/feeling states.

### The Functions of Joy/Happiness

The joy experience is different from sensory pleasure, but the latter often leads to the former, as when the culmination of sexual or postprandial pleasure increases intimacy and leads to enjoyable social interaction. Joy heightens an openness to experience. Such openness in social situations can contribute to affiliative behavior and the strengthening of social bonds. Social bonds and the social support they provide create a highly adaptive mechanism that can easily be conceived as an advantage in evolution and development. In species in which the young experience a long period of dependency, a strong social bond between parent and offspring is essential to survival (Hamburg, 1963; Mellen, 1981). No other emotion serves this function so effectively, providing significant benefits at little or no cost.

Joy also has recuperative powers and can serve as an antidote to stress (Tomkins, 1962). Although not specifically identifying joy, Lazarus and his colleagues have argued that positive emotions function as "breathers" in relieving stress, and that they sustain coping in taxing situations (Lazarus, Kanner, & Folkman, 1980).

The expression of joy serves another distinct function: The smile has the capacity to operate as a universally recognizable signal of readiness for friendly interaction. By the principles of contagion, empathy, and facial feedback, joy expression can contribute to the well-being of the social surround (Izard, 1990; Lelwica & Haviland, 1983; Tomkins, 1962).

Joy occurs in patterns with other emotions. We have already discussed the interest–joy pattern. Another pattern has been identified in common language as "tears of joy." This idiom and our own experiences suggest that joy and sadness co-occur. How can two emotions, more or less polar opposites, exist in consciousness together or even alternate in rapid sequence? A glance at the picture of a lost loved one can trigger memories of happy times together, as well as memories of the sad times surrounding the person's death. These memories are powerful activators of joy and sadness, respectively. The joy can serve as a reminder of the advantages that accrued from the relationship and can moderate the sadness. The sadness motivates renewal and strengthening of bonds with other loved ones. Similarly, tears and smiles may follow a victory in intellectual or athletic competition—joy from the achievement, sadness over the sacrifices endured while captivated by the goal.

### The Functions of Sadness

Sadness, like joy, can also strengthen social bonds. For example, on the loss of a loved one, families and friends come together and renew emotional ties. The breaking of a tie through death is a compelling reminder of the value of family, friendships, and community. A review by Averill (1968) suggests that in the course of evolution, grief, by strengthening communal bonds, increased the probability of surviving. Although several emotions may be involved in grief, sadness is the dominant one.

A unique function of sadness is its capacity to slow the cognitive and motor systems. In one study, mothers' facial and vocal expressions of sadness during face-to-face mother–child interactions increased sadness expressions and significantly decreased exploratory play in their 9-month-old infants (Termine & Izard, 1988). Because play is the principal and virtually continuous activity of healthy infants and children, the slowing of play behavior dramatically demonstrates this function of sadness.

The sadness-induced slowing of mental and motor activity can have adaptive effects. The slowing of cognitive processes may enable a more careful look for the source of trouble and deeper reflection on a disappointing performance or a failure that instigated the sadness (see Tomkins, 1963). This slower and more deliberate scrutiny of the self and the circum-

stances may help the individual gain a new perspective—one that facilitates plans for a better performance in the future. Such plans and the anticipation of another attempt may ameliorate the sadness.

Sadness also communicates to the self and to others that there is trouble (Tomkins, 1963). A sad expression, particularly on the face of a friend or loved one, is likely to generate empathic sadness in the observer. The sadness one feels with (or for) a friend increases the likelihood that one will feel sympathy and lend a helping hand (Moore, Underwood, & Rosenhan, 1984). Thus sadness may often be the key emotion in the personal distress that plays a key role in empathic, sympathetic, and altruistic behavior (see Eisenberg & Strayer, 1987). If the sadness focuses on the other person and not on the self, and if the sadness (distress) is not too intense, it will facilitate prosocial behavior (Barnett, King, & Howard, 1979; Fabes, Eisenberg, Karbon, Troyer, & Switzer, 1994).

Sadness occurs in several dynamically significant patterns. We have already discussed the joy–sadness pattern, "tears of joy." One other important pattern is the sadness–anger pattern that characterizes some low moods, including depression (Izard, 1971). Many clinicians and clinical investigations have shown that depressed people typically report elevated feelings of anger, along with the even more elevated feelings of sadness (Rutter, Izard, & Read, 1986).

Tomkins (1963) speculated that extended and unrelieved sadness (distress) is an innate activator of anger. This notion is consistent with our idea that emotion patterns may self-organize to enable interemotion relations that include regulatory processes. In the depression pattern (Blumberg & Izard, 1986), the energy-mobilizing effects of anger counteract the sadness-induced slowing effect on mental and motor processes. In turn, the sadness in the pattern helps moderate the intensity of the anger. Without this cross-emotion regulatory process, either the sadness or the hostility could lead to personal disaster. Sadness in the extreme causes almost total loss of interest in the physical and social environment, and hence intense dejection and withdrawal.

We have found that the anger in depression typically appears in what we have called the "hostility triad": anger, disgust, and contempt (Blumberg & Izard, 1985; Marshall & Izard, 1972). Even normal people report the co-occurrence of these three emotions during imagery or recall of an anger-eliciting situation. The anger or hostility in depression is typically directed toward the self, and in extreme cases its interaction with sadness results in suicide. In contrast, we would predict violence if the hostility should dominate in the pattern and become directed outward toward people seen as responsible for the loss or failure that triggered the depression.

## The Functions of Anger

In the colorful language of Tomkins (1991), the principal function of anger is to make bad matters worse and increase the probability of an anger response. He hastened to add that this need not be an aggressive response, acknowledging (as do most emotion theorists) that there is no necessary connection between anger and aggression (cf. Averill, 1983).

Indeed, anger expression may prevent aggression. This is the case when the alpha male in a primate colony casts a hard stare at a challenger (Chevalier-Skolnikoff, 1973), or when a parent does the same to inhibit a fight between two children. Furthermore, the effects of an anger expression toward another adult may even truncate the anger-related response of the angry individual. This may be the case if the anger expression elicits an immediate sad expression and apology from the other person.

A unique function of the experience of anger is that of mobilizing and sustaining energy at high levels. Other emotions, even the positive emotions of interest and joy, mobilize energy and sustain goal-directed activity, but not usually at the high level of intensity that can be maintained by strong anger. Anger directs increased blood flow away from the viscera and toward the muscles of action (Cannon, 1929). No other emotion can equal the consistency and vigor of anger in increasing and sustaining extremely high levels of motor activity. It is no coincidence that some coaches in contact sports, aided greatly by the media, foster mild anger (and contempt) for opposing coaches and players.

The relation of anger to aggressive behavior illustrates the process of one emotion's regulating another and complicating emotion–behavior relations. Many believe that anger leads to aggression, but anger leads to many other forms of behavior more frequently than to aggression (Averill, 1983). Other emotions often

play a role in motivating aggressive behavior, either directly or through their interactions with anger. For example, a challenge to one's ego or self-esteem that increases attention to the self may activate a pattern in which shame precedes, activates, and amplifies anger. In individuals with spuriously high self-esteem, this pattern greatly increases the likelihood of aggression and violence (Baumeister, Smart, & Boden, 1996). The picture becomes even more complex with the addition of contempt—a direct cause of shame and a direct or indirect cause of aggression (Izard, 1977; cf. Baumeister et al., 1996; Lewis, 1987; Tomkins, 1963).

### The Functions of Shame

The capacity for experiencing shame reflects the vulnerability of the individual to the sanctions and criticisms of parents, other adults, and peers. Persons who fail to fulfill their responsibility in the family and community may become the subjects of ridicule and contempt—strong stimuli for shame. Thus shame acts as a force for social conformity and social cohesion, and the anticipation of shame or shame avoidance motivates the individual to accept his or her share of responsibility for the welfare of the community (see Lewis, 1971; Tomkins, 1962).

No other emotion is as effective as shame in calling attention to failures and weaknesses in the functioning of the self. Consequently, it relates significantly to self-concepts and self-feeling or self-esteem. Shame results from conditions that heighten self-awareness, and shame is more likely to occur when the exposed self appears inadequate or some aspect of the self seems inept or inappropriate (for a review of the role of the self in the development and activation of shame, see Lewis, 1992). The exposure one feels during the experience of shame highlights personal inadequacies in performance and feelings of incompetence. Because of this relation between the vulnerability of the self and proneness to shame, shame anticipation and shame avoidance motivate the acquisition of skills and competence. In this way, shame plays a significant role in the development of self-adequacy (see Lewis, 1971; Lynd, 1961; Tangney, 1990; Tomkins, 1963).

Shame plays a role in several important emotion patterns. We have already noted that shame may be present in both the anxiety and depression patterns. The fear–shame pattern provides the emotion dynamics of social anxiety or social phobia. In this pattern, shame directs attention toward the need to strengthen the self through the acquisition of social skills. We have described the shame–anger pattern above in the section on anger.

### The Functions of Fear

The unique function of fear is to motivate escape from dangerous situations. Fear anticipation motivates avoidance behavior. Neither escape nor avoidance implies that the behavior must involve flight. Indeed, fear sometimes disengages the motor system, resulting in freezing behavior. Furthermore, the threat may be psychological as well as physical. Threats to one's self-concept, one's integrity, or one's psychological well-being can elicit fear, and such threats are rarely eliminated by physically running away. Nevertheless, whether the threat is physical or mental or both, fear performs its basic function of motivating escape and alleviating fear-eliciting conditions.

Fear provides an excellent example of the power of emotion to organize and direct perceptual and cognitive processes. Fear tends to produce "tunnel vision" by focusing attention on the source of the threat and restricting cue utilization (see Easterbrook, 1959). Keen attention to the threatening agent or situation can be adaptive in guiding self-protective behavior. Such restrictions on attentional processes in unrealistic or unwarranted fear are maladaptive.

Fear participates in several important emotion patterns. For example, it is the key emotion in the anxiety pattern. Other emotions in the anxiety pattern serve, in part, to attenuate fear. We have already described the interaction of fear and interest, particularly as they affect explorations of the unknown.

## THE FUNCTIONS OF EMOTIONS IN THE DEVELOPMENT OF PERSONALITY

A major general function of the emotions and the emotions system is the organization of traits and dimensions of personality (Izard, 1991; Malatesta, 1990). That emotions affect the development of personality is a truism, but the matter of how this is accomplished is not so obvious. We sketch three mechanisms involving continuous influence, the early emergence of individual differences in activation thresholds,

and the increasing stabilization of emotion patterns with development

### Principle of Continuous Influence

We have argued that emotions are motivational and that they organize and motivate cognition and action. It follows that emotions should affect an individual's characteristic way of thinking and acting—his or her personality. Many agree that personality (established emotion–cognition–action patterns) produces individual differences in response to episodes of intense emotional feelings. We propose that emotions influence personality functioning continuously, not just episodically. The principle of continuous influence follows from our assumption that some emotion at some level of intensity is continually present in consciousness (e.g., Izard, 1989). Furthermore, we have maintained that each emotion influences perception, cognition, and action in a particular way. This suggests that specific emotions help shape specific traits, and that particular patterns of emotions influence particular broad dimensions of personality. Several empirical studies support the notion that emotions have specific effects in shaping personality; more conservatively, this evidence shows significant correlations among measures of emotion expressions and emotion feelings and personality traits (Abe & Izard, 1999; Emmons & Diener, 1986; Izard et al., 1993; Jones, Cheeks, & Briggs, 1986; Keltner, 1996; Larsen & Ketelaar, 1989; Malatesta & Wilson, 1988; Watson & Clark, 1992).

### Activation Thresholds

Differences in activation thresholds play a significant role in the development of personality. Common observation suggests that people differ widely in readiness or proneness to express different emotions. These differences emerge early in life, as suggested by temperament theorists (see Goldsmith et al., 1987), and they transact with caregiving experiences to influence personality development. For example, Kochanska and colleagues (see Kochanska, 1995) have found that toddler fearfulness in combination with gentle or more power-assertive socialization facilitates or inhibits internalization of social relations. Similarly, Kagan and Snidman (1991) have provided evidence for individual differences in behavioral inhibition in infants and toddlers that may derive from different thresholds for experiencing shyness or fear. Other researchers have demonstrated threshold differences between such groups as normal children and children with Down's syndrome (Cicchetti & Sroufe, 1976).

These individual differences in activation thresholds and in subsequent emotion experiences may be quite stable. For example, Izard et al. (1993) found that indices of discrete emotions remained stable in a group of women for periods of up to 3 years. In this study, indices of 11 discrete emotions showed individual stability even during the first 6 months after childbirth, when important hormonal and social changes occur (O'Hara, 1987). Even during the postpartum period, when indices of some emotion experiences showed group instability, these and all other indices continued to show individual stability. Thus each individual woman tended to retain her rank within the group. Of particular relevance to the concept of interemotion dynamics, the mean score on each emotion in a pattern of four depression-related emotions declined systematically during the period of "postpartum blues" without affecting individual rank difference.

### Stability of Emotion Patterns

Two other concepts help clarify the role of emotions in the development of personality: stable patterns of emotions, and affective–cognitive structures. Not only is there stability in the frequency of experiencing a particular emotion, but some emotions co-occur with regularity, and the regularity increases with development. Such co-occurrence is probably a function of both innate and learned relationships among emotions (Izard, 1972; Tomkins, 1962). We have identified several patterns in our discussion of interemotion dynamics. Some of these patterns have a high level of stability. An example is the interaction of interest and joy in play and affiliative behavior. Another example of a stable pattern of emotions is the sadness–anger interaction that characterizes depression (Blumberg & Izard, 1985, 1986). Frequently occurring stable patterns of emotions influence cognition and actions in particular ways, and these responses and response tendencies become characteristics or traits of the individual.

An affective–cognitive structure, as defined earlier, is a bond or association between an emotion or pattern of emotions and a thought or

set of thoughts (schema or script). Such affective–cognitive structures (emotion scripts) or related sets of them can motivate a related pattern of behaviors manifested as a personality trait. As indicated earlier, emotion experiences typically influence normal personality functioning through affective–cognitive structures. The important exceptions are emotion experiences that are not labeled or cognitively articulated, or emotion experiences that have become dissociated from the cognitions once associated with them. Such unlabeled or dissociated emotion experiences are conceived of as the major source of unconscious motivation.

To summarize the role of emotions in personality development, individual differences in emotion activation thresholds lead to differences in the frequency of emotion experiences. Frequent experiences of a particular emotion tend to organize particular types of cognition and action, and recurring patterns of emotion–cognition–action sequences lead to the development of a characteristic way of responding, a personality trait. For example, people with low thresholds for positive emotions are characteristically happy, and their positive emotionality tends to be stable over time. For many people, positive mood lowers the threshold for social interaction; because of this, positive emotionality in infancy and childhood increases the likelihood of the emergence of the personality dimension of extraversion. In a similar fashion, low thresholds for negative emotions set the stage for the development of the personality dimension of negative emotionality or neuroticism (Abe & Izard, 1999).

## SUMMARY

This chapter is based on the assumption that the emotions system constitutes the primary motivational system for human behavior, and that each discrete emotion serves unique functions in coping and adaptation. The chief premise of the chapter is that each emotion motivates and organizes perception, cognition, and actions (behavior) in particular ways. Thus individual differences in emotion thresholds lead to individual differences in patterns of behavior that become organized as traits of personality.

The chapter presents evidence and argument for the unique organizing and motivational functions of discrete emotions. It makes explicit the principle of emotion dynamics through discussion of several emotion patterns in which one emotion influences another emotion in a pattern. Finally, the chapter proposes that recurring patterns of interacting emotions play a significant role in behavior and the development of personality.

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