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CHAPTER 19

Intelligent Emotion Regulation

IS KNOWLEDGE POWER?

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John worked overtime on the advertising proposal for his firm's latest client and finally went home at 11:30 P.M., tired but satisfied. The next day, Nick, the senior consultant, started the meeting by presenting John's ideas as his own. John felt the blood rush to his face, trembled, and had a strong urge to shout. But his boss was sitting at the end of the table, and an important client was in the room as well. John did not yell. He sat quietly, and waited for the presentation to finish. He decided to talk with Nick about the situation later.

Most people would probably agree that several skills are necessary for managing and regulating emotional life, and that individuals differ markedly in their proficiency with this skill set. In our opening example, John's decision not to yell was rooted in skills that allowed him to understand his reaction quickly and efficiently and to know how his expressive behavior would be judged by others. Within the blink of an eye, John had to perceive his reaction as an emotional state (perhaps he perceived it as anger, or fear), anticipate how others might judge his reaction, know what to do to adjust his expressive behavior, and execute the chosen course of action (in our example, to inhibit the impulse to yell in favor of meeting some other goal). Because John appeared to master the situation consistently with his goal, we would say that he regulated his emotional episode in an "emotionally intelligent" manner (Salovey & Mayer, 1990).

In this chapter, we use the emotional intelligence (EI) framework originally proposed by Salovey and Mayer (1990; modified by Mayer & Salovey, 1997) to stimulate a discussion of the processes that allowed John to regulate his emotional response effectively. In doing so, we demonstrate that EI provides fertile scientific grounds for understanding how people shape their emotional episodes to a specific situation, for a desired purpose, within a particular context.

EMOTIONAL INTELLIGENCE

Salovey and Mayer (1990; Mayer & Salovey, 1997) proposed the concept of emotional intelligence as an interrelated set of skills that allow an individual to perceive, understand, use, and regulate emotional episodes in an efficient and adaptive manner, thereby allowing effective dealings with the environment. They defined EI to include four major skill sets or "branches" that are related to functionally effective behaviors in young adults (Brackett, Mayer, & Warner, 2004), the quality of social interactions (Lopes et al., 2004; Lopes, Salovey, Côté, & Beers, 2005), perceived quality of social relationships (Lopes, Salovey, & Straus, 2003), and job-related variables such as leadership potential (Lopes, Grewal, Kadis, Gall, & Salovey, in press).

First, EI involves accurately perceiving emotional episodes in others and in the self (*Branch 1: Perception of Emotion*). Most people automatically and effortlessly perceive emotional episodes in others by viewing a set of facial behaviors, vocal cues, or bodily movements (e.g., Ekman & Friesen, 1975; Johnstone, Van Reekum, & Scherer, 2001; Nowicki & Mitchell, 1998). However, there are also strong individual differences in the ability to infer emotional cues from the face and the voice (Baum & Nowicki, 1998; Nowicki & Duke, 1994; Petti, Voelker, Shore, & Hayman-Abello, 2003). Furthermore, people vary widely in the precision or granularity (complexity) with which they automatically and effortlessly perceive their own experience of emotion (Barrett, 1998, 2004; Feldman, 1995).

Second, EI involves using emotion-related information to facilitate thought and make better decisions (*Branch 2: Using Emotion to Facilitate Thought*). This set of skills involves the ability to use emotional information to focus attention on important information in the environment (e.g., Mandler, 1984), resolve control dilemmas (Gray, Schaefer, Braver, & Most, 2005), guide momentary judgments (Clore & Parrott, 1991; Damasio, 1994; Schwarz, 1990; Schwarz & Clore, 1983, 1996), and predict future behavior and outcomes (e.g., Gilbert, Pinel, Wilson, Blumberg, & Wheatley, 1998). Some people appear better able to harness the mental sets generated by different emotional experiences and use them to focus on various kinds of problems, such as inductive or deductive reasoning (Isen, 1987; Schwarz, 1990; Palfai & Salovey, 1993).

Third, EI involves the capacity to understand what emotions are and how they work (*Branch 3: Understanding Emotion or Emotion Knowledge*). This encompasses language and propositional thought and reflects the capacity to analyze emotions, appreciate their probable trends over time, and understand their outcomes (e.g., Frijda, 1988; Lane, Quinlan, Schwartz, Walker, & Zeitlin, 1990; Roseman, 1984). It includes a broad understanding of the emotional lexicon (e.g., Barrett, 2004) and draws on conceptual knowledge about emotion (Barrett, 2006). This branch is strongly influenced by development and is therefore expected to progress with age and experience (Lewis, 2000).

Finally, EI involves efficient emotion regulation in both self and others (*Branch 4: Managing Emotion*). It includes the ability to maintain awareness of emotion-related events, even when they are unpleasant, as well as the ability to solve emotion-laden problems in the most effective manner possible. Although the emotional management branch refers to two domains of skill, managing emotions in the self and managing emotions in other people, research has focused mainly on how individual variation in managing one's own emotional episodes produces better interpersonal outcomes.

The fourth branch of EI, managing emotion, most obviously demonstrates a link between emotionally intelligent skill sets and effective emotion regulation. In John's

case, this may mean that he has the ability to inhibit his desire to yell and to control his trembling. Yet to be truly effective, John must have other skills available to him. For example, John's emotion regulation would be facilitated by his ability to perceive and give meaning to his own reaction quickly and effortlessly (Branch 1). In addition, he apparently believed that yelling in front of his boss and the client would not be appropriate, knew that he could control this affective behavior, and planned on talking to Nick at a later time to resolve the problem that triggered his affective response. As a result, the skills associated with understanding emotion (Branch 3) and knowing what behaviors are most appropriate for a chosen goal or situation (Branch 2), as well as actually having the skills to manage the emotions as planned (Branch 4), are all evident in our example. In other words, an individual must tap into his or her skills within all four branches of EI to generate emotion regulation strategies that will allow him or her to adapt to the diverse challenges of the social world in an emotionally intelligent manner.

Although skills from all four branches of EI are important, it may be that skills for understanding emotion (Branch 3) are at the heart of intelligent regulation, influencing the other branches and acting as the driving force. In particular, individual differences in the knowledge of emotion expressions and emotion situations are related to positive social behaviors such as empathy, prosocial behaviors, and peer status in children (for a review, see Denham, 1998). In addition, there appears to be a reciprocal relationship between social competence and specific verbal skills (McCabe & Meller, 2004). For example, labeling of emotional expressions at ages 3 and 4 predicts aggressive behavior in subsequent years (Denham et al., 2002). Yet, correlations between emotion knowledge and cognitive ability are moderate, suggesting that factors other than cognitive ability play a role in explaining individual differences in children's emotion knowledge (Bennett, Bandersky, & Lewis, 2005). Beyond the normal developmental maturation of emotion knowledge there are individual differences that are acquired through childhood and influence emotion regulation in adulthood (Saarni, 1999). This understudied link between emotion knowledge (Branch 3) and emotion regulation (Branch 4) is the major focus of this chapter.

EMOTION KNOWLEDGE AND EMOTION REGULATION

When is a particular emotion regulation behavior "intelligent" and how can emotion knowledge help individuals to use more intelligent emotion regulation strategies? First, we need to consider how individuals acquire emotion knowledge and what this emotion knowledge entails. As defined by Gross and Thompson (this volume), an emotion can be understood as some combination of physiological activation, facial and vocal expressions, and actions that individuals try to understand. Typically, children first learn to identify and appreciate basic emotion categories such as *anger*, *fear*, and *happiness*, and they acquire these categories in an incremental sequence (Widen & Russell, 2003). Part of what a child learns to do is identify facial cues associated with these basic emotion categories and retrieve verbal labels in memory associated with the facial behaviors (Russell & Widen, 2002a, 2002b; Widen & Russell, 2004). Emotion situation knowledge allows a child to infer and anticipate emotions of others and of the self from social cues (Ackermann & Izard, 2004). However, although many adults categorize their feeling-state, or the state of someone else, as belonging to one or more specific categories, such

as *fear*, *anger*, *sadness*, many other types of descriptions and labels are also used (Scherer, Wranik, Sangsue, Tran, & Scherer, 2004). Indeed, adults have rich and complex affective lives, and emotion vocabulary and conceptual knowledge about emotion in most languages and cultures mirrors this complexity (Averill, 1975; Wierzbicka, 2005).

Acquiring Emotion Knowledge

One way to understand the variety and depth of emotion language and related emotion knowledge is to consider how abstract knowledge is stored and processed. For example, Barsalou (1999) suggests that the conceptual system is strongly linked to perception and that knowledge about abstract concepts (such as concepts for emotion) is stored as perceptual symbols. These perceptual symbols are dynamic and changeable (not fixed), componential (not holistic) and need not represent prototypical exemplars (such as a single prototypical instance of anger). Moreover, the symbol formation process to acquire complex emotion knowledge is multimodal, including all sensory modalities as well as proprioception and interoception.

More specifically, individuals acquire knowledge about a concept such as anger from at least three sources (Barsalou, 1999; Mandler, 1975). First, anger involves a series of evaluations or appraisals of the situation. Second, anger involves a set of physiological sensations that are perceived to some degree (e.g., heart racing and tenseness). Finally, anger often involves behavioral responses and action tendencies (Frijda, 1986). Each time an adult labels a child's behavior with an emotion term, or a child observes the emotion term being used to label someone else's behavior, the child extracts information about that instance, including the psychological situation and interoceptive environment in which the label was used, the behavioral responses that correspond to the label in that context, as well as the regulation strategies that worked and those that did not. All this new information is integrated with past information associated with the same category that is stored in memory. In addition, because emotions are dynamic processes involving numerous sensorimotor components (e.g., physiological activation and facial and vocal behaviors), the child acquires a host of exemplars of what different emotions "feel like" and "look like" and stores these as fuzzy categories. Whether these categories are linked to core affect (Russell, 2003), to core themes (Lazarus, 1991), or to particular underlying appraisal processes (Scherer 2001; Smith & Ellsworth, 1985) is still a matter of debate and warrants further examination.

In this way, multisensory perception and conceptual knowledge about emotions are closely interrelated. As a result, conceptual knowledge influences the way the emotional world is perceived. Conceptual knowledge shapes perception for colors (Roberson, Davies, & Davidoff, 2000) and people (Gilbert, 1998); it seems reasonable that it also helps shape emotion perception (Barrett, 2006). To date, most of the empirical evidence suggesting this relationship comes from face perception. For example, supplying individuals with verbal information about faces improves facial recognition, and learning to group faces into separate categories improves discrimination of different facial expressions (Gauthier, James, Curby, & Tarr, 2003). Furthermore, interfering with the processing of emotion words interferes with emotion perception (Lindquist, Barrett, Bliss-Moreau, & Russell, 2006). Thus, individuals with complex emotion knowledge will perceive and adapt to a variety of emotional signals or feelings and will probably generate more suitable plans for regulation, whereas those with less complex knowledge may be comparatively limited.

Although children's ability to distinguish between abstract perceptual cues increases with their linguistic development (Yoshida & Smith, 2005), the influence of conceptual emotion knowledge on emotion regulation is probably not limited to lexical ability. Recent research suggests that using an action-related concept (such as an emotion concept) may be separate from naming that concept (Tranel, Kemmerer, Adolphs, Damasio, & Damasio, 2003). Thus, John may "know" not to let his anger show in front of his boss but may not be able to describe the emotion he experienced or why he behaved in a particular way. This is consistent with the research on visual processing which has identified separate processing streams for conscious perception (the ventral stream) and action (the dorsal stream; Faw, 2004). Given that multisensory pathways are involved in conceptual knowledge formation, regulation action tendencies are probably stored as complicated "if . . . then . . ." rule packets, much like the rules described in the area of personality by Mischel and his colleagues (e.g., Mischel, 2004; Mischel & Shoda, 1995). These "rules" will influence emotional behaviors just as primed category knowledge can influence behaviors and actions outside conscious awareness. For example, when the concept "old" is activated, college-age participants walk slower, and when the concept "African American" is activated, European American participants act more aggressively (Bargh, Chen, & Burrows, 1996). Thus, when "injustice" is activated, the concept anger may be activated. When the concept "anger" is activated, specific action tendencies may automatically follow under different situational or contextual cues unless the individual has elaborate emotion knowledge structures that can react quickly to changes and modify behaviors accordingly.

Components of Emotion Knowledge

Knowledge is stored as components and not as holistic exemplars (Barsalou, 1999). Thus, complexity of emotion knowledge can be assessed by examining the underlying components, such as cognitive appraisal processes. A cognitive appraisal perspective suggests that the way a particular individual will interpret a specific event will influence and reflect the experience of emotion (e.g., Arnold, 1960; Frijda, 1986; Lazarus, 1968; Roseman, 1991; Scherer, 1984, 2001; Smith & Ellsworth, 1985). In particular, appraisals reflect the conceptual knowledge (both conscious and unconscious) an individual has about the self, the context, and emotions in general, and at the self-reported level, they reflect the explicit knowledge he or she is willing or able to report. For example, appraisals reflect which situations and events an individual considers to be personally relevant, based on current goals and motivations, or personality factors (Smith & Pope, 1992), beliefs about who (self or other) caused a specific event (Weiner, 1986), and how much control one has to do something to change the event (Lazarus & Folkman, 1984). Evaluations also reflect the relative weight an individual places on personal and cultural norms within specific contexts (Scherer, 2001). These subjective evaluations are thought to occur very rapidly, at conscious and unconscious levels, and can essentially lead to as many different affective experiences as there are combinations of cognitive appraisal outcomes (Ellsworth & Scherer, 2003; for a detailed account of appraisal theory, see Scherer, Schorr, & Johnstone, 2001). It is also widely held that there are distinct relations between certain configurations of evaluations and specific emotion categories. For example, fear/anxiety is thought to be associated with evaluating the situation as threatening; sadness with helplessness in an undesirable situation where there is little or no hope of improvement; anger with blaming someone else for an undesirable situation; and guilt with blaming oneself (Smith & Lazarus, 1993).

Emotion Knowledge Influences Regulation

A better understanding of how appraisals fit into the overall conceptual emotion system would be helpful in understanding the role that emotion knowledge plays in successful emotion regulation. Indeed, adults within a given culture, and between cultures to a certain extent, share fundamental agreements in content and structure of their emotions (Russell & Fehr, 1994; Scherer, 1997; Scherer & Wallbott, 1994; Shweder, 1993; cf. Barrett, 2006). Measuring the extent to which people know these prototypes may be, in and of itself, an aptitude that constitutes an important cultural competence that may predict intelligent emotion regulation. However, there are also individual differences and levels of complexity that underlie an emotion concept such as *anger*, and one should not assume that the use of similar terms, evaluations, or expressions reflects similar experiences or rules about their management.

Wranik (2005; Wranik & Scherer, 2006) examined cognitive appraisals and emotion labels in a stressful interactive task. Although anger was a frequently reported emotion, the responses on the appraisal questions indicated that participants were reporting at least two distinct forms of anger—anger at the self and anger at the collaborative partner. Because anger is usually considered to be an other-directed emotion (Averill, 1982; Lazarus, 1991), the emotion label “anger” could easily lead to the erroneous conclusion that those reporting anger in this situation are angry with the interaction partner.

Knowledge of both emotion categories and associated appraisal processes therefore provides a richer understanding of the emotional experience, which should in turn influence which regulation strategies are considered appropriate in a particular situation. For example, if an individual is angry with a colleague, the most effective emotion regulation strategy may be to question why he or she is blaming this person for a particular action and then to focus regulation energy on acquiring additional information. In our example, John realized that the relationships with his boss and the client were important, and that the situation merited careful examination before jumping to conclusions. However, if an individual is angry at the self for mistakes found in an important proposal, then the most effective strategy may be to focus regulation energy on correcting these mistakes and devising strategies to avoid similar mistakes in the future. In other words, intelligent emotion regulation will be related to underlying appraisal processes, conceptual knowledge about specific evaluations and emotions, and the functional utility of different regulation strategies for personal and social goals. If individuals have a less elaborate knowledge system, they may find themselves resorting to simple rules such as “if I feel angry . . . then I suppress all expression of this emotion when I am in public.”

More generally, knowledge about emotion, shaped by prior experiences and culture, will influence how emotional episodes unfold. For example, John apparently comes from an individualistic society (such as the United States or Western Europe), where people expect to receive personal credit for hard work. John’s emotional reaction therefore reflects both the evaluation that Nick has violated an important norm (taking credit for someone else’s work) and the assumption that Nick shares the same values and therefore should have known better than to take credit for his work. We can therefore imagine that John evaluated Nick’s behavior as goal obstructive, unjust, and intentional (Averill, 1982; Lazarus, 1991), and that he categorized the psychological event as anger. Most likely, many of us who share John’s cultural heritage would also categorize the emotional episode as anger and applaud his ability to inhibit the urge to yell in this

