CHAPTER 22

Adult Attachment Strategies and the Regulation of Emotion

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In the past 20 years, attachment theory (Bowlby, 1969/1982, 1973, 1980) has become one of the most influential conceptual frameworks for understanding emotion regulation. Although Bowlby did not devote much attention to abstract theorizing about emotion itself (he included only a single brief chapter about it in Volume 1 of *Attachment and Loss*), his writings were motivated by clinical and ethological observations of humans and other primates who were experiencing, expressing, and regulating emotions such as affection, anxiety, anger, grief, and despair. He was especially interested in the anxiety-buffering function of close relationships and the capacity for dysfunctional relationships to generate negative emotions and, in the extreme, to precipitate debilitating forms of psychopathology. Bowlby (1973, 1980) characterized the stable individual differences in emotion regulation that emerge from prolonged reliance on particular "attachment figures," people who provide either adequate or inadequate protection, safety, support, and guidance concerning emotions and emotion regulation.

With the accumulation of empirical knowledge about what Bowlby called the attachment behavioral system, individual differences in attachment orientations, and emotion regulation in infancy and adulthood, Bowlby's ideas (as elaborated and tested initially by Ainsworth, Blehar, Waters, & Wall, 1978) have been extended, tested, and organized into a theoretical model (e.g., Fraley & Shaver, 2000; Mikulincer & Shaver, 2003; Shaver & Mikulincer, 2002). The model clarifies the emotion-regulatory function of the attachment system and explains many of the emotional correlates and consequences of individual differences in attachment-system functioning. In this chapter, we elaborate on these individual differences and provide a detailed review of empirical

studies that have examined attachment-related variations in coping with stress, managing attachment-related threats, and regulating or defending against particular emotional states.

ATTACHMENT THEORY: BASIC CONCEPTS

Bowlby (1969/1982) claimed that human beings are born with an innate psychobiological system (the *attachment behavioral system*) that motivates them to seek proximity to significant others (*attachment figures*) in times of need. This system accomplishes basic regulatory functions (protection from threats and alleviation of distress) in human beings of all ages, but it is most directly observable during infancy and early childhood (Bowlby, 1988). Bowlby (1973) also described important individual differences in attachment-system functioning depending on the availability, responsiveness, and supportiveness of attachment figures. Interactions with attachment figures who are available and responsive in times of need facilitate the optimal functioning of the attachment system and promote a *sense of attachment security*. This pervasive sense of security is based on implicit beliefs that the world is generally safe, that attachment figures are helpful when called upon, and that it is possible to explore the environment curiously and engage effectively and enjoyably with other people. This sense of security is rooted in positive mental representations of self and others, which Bowlby called internal working models.

Unfortunately, there are darker alternatives to this condition, which develop when attachment figures are not reliably available and supportive, fail to provide adequate relief from distress, and cause a child who is dependent on them to form negative working models of self and others and to develop defensive *secondary attachment strategies*. (Direct security seeking is viewed as the *primary strategy*.) Secondary attachment strategies take two major forms: *hyperactivation* and *deactivation* of the attachment system (e.g., Cassidy & Kobak, 1988).

Hyperactivation (which Bowlby, 1969/1982, called protest) is characterized by intense efforts to attain proximity to attachment figures and insistent attempts to induce a relationship partner, viewed as insufficiently available or responsive, to provide more satisfying and reassuring care and support. Hyperactivating strategies include clinging, controlling, and coercive behaviors; cognitive and behavioral efforts to establish physical contact and a sense of merger or "oneness"; and overdependence on relationship partners for protection (Shaver & Mikulincer, 2002). People who rely on hyperactivating strategies compulsively seek proximity and protection, and they are chronically hypersensitive to signs of possible rejection or abandonment. In contrast, deactivation involves inhibition of proximity-seeking inclinations and actions, suppression or discounting of threats that might activate the attachment system, and determination to handle stresses alone (a defensive stance that Bowlby, 1969/1982, called compulsive self-reliance). People who rely on these strategies tend to maximize autonomy and distance from relationship partners, experience discomfort with closeness and intimacy, and strive for personal strength and control of relationship partners.

When studying individual differences in the functioning of the attachment system in adolescence and adulthood, attachment researchers have focused on a person's *attachment style*—the chronic pattern of relational expectations, emotions, and behaviors that results from internalization of a particular history of attachment experiences (Fraley & Shaver, 2000). Beginning with Ainsworth et al.'s (1978) studies of infant–
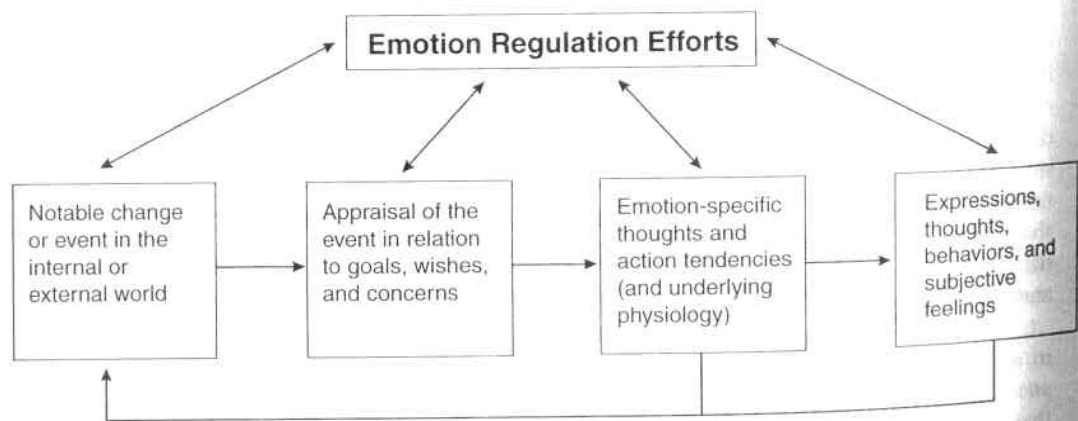
caregiver attachment, continuing through Hazan and Shaver's (1987) conceptualization of romantic love as an attachment process, and followed up in many recent studies by social and personality psychologists (reviewed by Mikulincer & Shaver, 2003), researchers have found that individual differences in attachment style can be measured along two orthogonal dimensions, attachment-related *avoidance* and *anxiety* (Brennan, Clark, & Shaver, 1998). A person's position on the avoidance dimension indicates the extent to which he or she distrusts others' goodwill and relies on deactivating strategies for coping with attachment insecurities. A person's position on the anxiety dimension indicates the degree to which he or she worries that relationship partners will be unavailable in times of need and relies on hyperactivating strategies for dealing with these worries. People who score low on both dimensions enjoy a dispositional sense of felt security, are likely to have had a security-supporting attachment history, and are said to be secure or to have a secure attachment style.

ATTACHMENT STRATEGIES AND EMOTION REGULATION

Theoretical Background

According to attachment theory (Cassidy & Kobak, 1988; Main, 1990; Shaver & Mikulincer, 2002), attachment orientations or styles include a variety of cognitive, affective, and behavioral maneuvers that can alter, obstruct, or suppress the generation, activation, and expression of emotions. These strategies guide the process of emotion regulation and shape a person's appraisals, feelings, and action tendencies.

In analyzing the regulatory processes associated with different attachment strategies, we rely on an updated version of Shaver, Schwartz, Kirson, and O'Connor's (1987) model of the emotion process (see Figure 22.1). This model is based on both theoretical considerations (e.g., Frijda, 1986; Lazarus, 1991) and ordinary people's accounts of their emotional experiences (e.g., Shaver et al., 1987; Smith & Ellsworth, 1987) and has been used to conceptualize both emotions and emotional development (e.g., Fischer, Shaver, & Carnochan, 1990). In the model, emotions, considered to be organized sets of thought and action tendencies supported by specific physiological processes, are generated by the appraisal of external or internal events in relation to a person's goals and

FIGURE 22.1. Flowchart model of the emotion process (based on Shaver et al., 1987).

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concerns. The resulting emotions are experienced and expressed through changes in the cognitive accessibility of various mental contents and in action tendencies, behaviors, and subjective feelings (Oatley & Jenkins, 1996). Both the generation and the expression of emotions are affected by regulatory efforts, which can alter, obstruct, or suppress appraisals, concerns, action tendencies, and subjective feelings.

According to Shaver et al. (1987) and Oatley and Jenkins (1996), emotion generation depends on a perceived change in the environment, especially an unexpected, surprising, or personally relevant change. These changes are automatically, and often unconsciously, appraised in relation to a person's needs, goals, wishes, and concerns. If the perceived changes are favorable to goal attainment, the resulting emotions are hedonically positive. If the changes are unfavorable, the resulting emotions are hedonically negative. The particular emotions that emerge depend on the specific pattern of concerns and appraisals that get activated (e.g., Lazarus, 1991; Shaver et al., 1987). When a specific appraisal pattern occurs, a corresponding kind of emotion, including its evolutionarily functional action tendencies and physiological substrates (e.g., changes in respiration, blood pressure, neurochemistry, and muscle tension), follows automatically. These consequences can be manifested in thoughts, feelings, or actions; expressed both verbally and nonverbally; and measured in numerous ways.

Shaver et al. (1987) claimed, based partly on existing research and partly on their research participants' narratives, that regulatory efforts can alter the entire emotion process. If there is no reason to postpone, dampen, redirect, or deny the emerging emotion, the action tendencies are automatically expressed in congruent thoughts, feelings, and behaviors. However, when there are other goals in play (e.g., social norms, personal standards, and self-protective defenses) that make experience, enactment, and expression of an emotion undesirable, regulatory efforts are called into service to alter, obstruct, or suppress the emotion and bring about a more desirable emotional state or at least the outward appearance of a more desirable state.

In this model, regulatory efforts can be directed toward various parts of the emotion process. The most direct regulatory maneuvers are problem-solving efforts aimed at ending or changing the events that elicited the emotion. Regulatory maneuvers can also be directed at the appraisals that link external events to emotional reactions. Reappraisal can contribute to problem solving by calming a person and allowing him or her to deploy problem-solving resources more effectively, or even render problem solving unnecessary if the problem is deemed unsolvable or the person is unwilling or unable to engage in the necessary problem-solving steps (Lazarus & Folkman, 1984). In any case, these two coping reactions, problem solving and reappraisal, can eliminate many undesirable emotions and make it unnecessary to take further regulatory steps (Gross, 1999; Gross & Thompson, this volume). However, when problem solving or reappraisal is insufficient to eliminate aversive emotions, regulation efforts may be directed at the emotional state itself, including its physiological underpinnings. Alternatively, regulatory efforts can dissociate the emotion from its appearance in thoughts, feelings, and behaviors. In other words, the emotion's access to conscious awareness may be blocked and its overt expression suppressed.

Attachment Security and the Constructive Regulation of Emotions

According to Shaver and Mikulincer (2002), a sense of attachment security facilitates security-based strategies of emotion regulation, which are aimed at alleviating distress, maintaining comfortable, supportive intimate relationships, and increasing personal

adjustment through constructive, flexible, and reality-attuned coping efforts. Moreover, they sustain what Shaver and Mikulincer (2002), following Fredrickson (2001), called a broaden-and-build cycle of attachment security, which expands a person's resources for maintaining equanimity and mental health in times of stress, broadens the person's perspectives and capacities, and facilitates incorporation of mental representations of security-enhancing attachment figures into the self. This broaden-and-build process allows securely attached people to maintain an authentic sense of personal efficacy, resilience, and optimism even in situations in which attachment figures are absent or social support is unavailable (Mikulincer & Shaver, 2004).

During emotion regulation, a sense of attachment security sustains problem-solving efforts and reappraisal attempts. When confronted with external or internal changes or events that would typically elicit undesirable emotions, securely attached individuals can generate instrumental problem-solving strategies (e.g., analyzing situations, planning effective strategies, and inhibiting interfering thoughts or actions) and mobilize available sources of social support to assist problem solving (e.g., by providing material aid, information, or advice) or sustain motivation and problem-solving efforts by soothing, supporting, and affirming the threatened or troubled individual.

Secure people's constructive approach to problem solving results from their interactions with attachment figures who are (or were) sensitive and responsive to expressed bids for proximity, protection, and support. (See Calkins & Hill, and Thompson & Meyer, this volume.) During supportive interactions with attachment figures, secure people learn (or learned, in the past) that their own actions are often sufficient to reduce distress and remove obstacles, and that seeking support from others is an effective means to enhance problem solving. Two other aspects of interactions with security-enhancing attachment figures facilitate problem solving. One common prerequisite for problem solving is recognizing that one's initial course of action is ineffective. Experiencing, or having experienced, attachment figures as loving and supportive allows secure people to revise erroneous beliefs without excessive fear of criticism, humiliation, or rejection. Problem solving also often requires the opening up of existing knowledge structures, incorporation of new information, and flexible adjustment of knowledge structures to current reality demands. Secure people's self-confidence allows them to open their cognitive structures to new information and flexibly adjust their plans for dealing realistically with environmental imperatives (Mikulincer, 1997). Moreover, believing implicitly that support will generally be available if needed, secure people can creatively explore a problematic or challenging situation while tolerating ambiguity and uncertainty.

Secure people can also reappraise situations, construe events in relatively benign terms, symbolically transform threats into challenges, hold on to an optimistic sense of self-efficacy, and attribute undesirable events to controllable, temporary, or context-dependent causes. This stance toward appraisals is sustained by deeply ingrained positive beliefs (or working models) about self and world (Mikulincer & Shaver, 2003). While interacting with available and supportive attachment figures, secure individuals have learned that distress is manageable and external obstacles surmountable. Moreover, they know they can effectively exert control over many threatening events. Their optimistic, hopeful mental representations promote self-soothing reappraisals of aversive events, assist in problem solving, and sustain effective emotion regulation.

Having managed emotion-eliciting events or reappraised them in relatively benign terms, secure individuals often do not need to alter or suppress other components of

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the emotion process. They make what Lazarus (1991) called a short-circuit of threat, sidestepping the interfering and dysfunctional aspects of emotions while retaining their functional, adaptive qualities. As a result, secure people can generally remain open to their emotions, express and communicate their feelings openly and accurately to oth- ers, and experience them fully in their own thoughts and feelings. Such people do not generally have to deny, exaggerate, or distort their emotional experiences.

Secure people can attend to their own distress without fear of being overwhelmed or losing control. For individuals whose attachment figures have been available and responsive, expression of negative emotions has usually led to distress-alleviating inter- ventions by a caregiver. The person with good attachment figures learns that distress can be expressed honestly without the relationship being at risk, and this fosters an increasingly balanced way of experiencing and expressing emotions—with a sensible goal in mind and without undue hostility, vengeance, or anxiety about loss of control or loss of the relationship. According to Cassidy (1994), "the experience of security is based not on the denial of negative affect but on the ability to tolerate negative affects temporarily in order to achieve mastery over threatening or frustrating situations" (p. 233). In other words, for relatively secure individuals, "emotion regulation" does not require avoidance or denial of emotions.

Another aspect of secure people's experience of emotions is self-reflective capacity— the ability to notice, think about, and understand mental states (Fonagy, Steele, Steele, Moran, & Higgit, 1991)—which facilitates recognition of the functional aspects of emo- tions and the integration of emotional experience into one's sense of self. According to Fonagy et al. (1991), interactions with available and supportive attachment figures pro- vide secure individuals with the capacity to understand and articulate their emotional experiences. Fonagy et al. (1991) described the security-enhancing caregiver of an infant as able "to reflect on the infant's mental experience and re-present it to the infant translated into the language of actions the infant can understand. The baby is, thus, pro- vided with the illusion that the process of reflection of psychological processes was per- formed within its own mental boundaries. This is the necessary background to the evo- lution of a firmly established reflective self" (p. 207). This process, although it may sound mysterious when described by a psychoanalyst, can and has been empirically doc- umented in studies using the Adult Attachment Interview (AAI; George, Kaplan, & Main, 1985; see review by Hesse, 1999) and Fonagy, Target, Steele, and Steele's (1998) measure of "mentalization" or "reflective functioning."

Avoidant Attachment and the Inhibition of Emotional Experience

According to attachment theory, avoidant (deactivating) strategies are motivated by the desire to suppress pain and distress caused by frustration of bids for proximity to and support from cool, distant, or rejecting attachment figures (Cassidy & Kobak, 1988). As mentioned earlier, the way to attain this goal is to squelch frustrating bids for proximity and inhibit painful activation of the attachment system. As a result of practicing this strategy, avoidant individuals learn to downplay threats and stop monitoring the where- abouts and availability of attachment figures, because focusing on threats or worrying about attachment figures reactivates the attachment system (Kobak, Cole, Ferenz- Gillies, Fleming, & Gamble, 1993). Instead, avoidant individuals tend to emphasize their self-reliance and self-efficacy while disparaging or dismissing other people's needs for intimacy or social support (Bowlby, 1988).

When regulating their emotions, avoidant people attempt to block or inhibit any emotional state that is incongruent with the goal of keeping their attachment system deactivated (Mikulincer & Shaver, 2003). These inhibitory efforts are directed mainly at fear, anxiety, anger, sadness, shame, guilt, and distress, because these emotions are associated with threats and feelings of vulnerability. In addition, anger often implies emotional involvement or investment in a relationship, and such involvement is incongruent with avoidant people's preference for independence and self-reliance (Cassidy, 1994). Moreover, fear, anxiety, sadness, shame, and guilt can be viewed as signs of personal weakness or vulnerability, all of which contradict the avoidant person's desired sense of personal strength and self-reliance.

Avoidant individuals also attempt to block or inhibit emotional reactions to potential or actual threats to attachment-figure availability (rejection, betrayal, separation, loss), because such threats are direct triggers of attachment-system activation. Like secure people, avoidant ones attempt to downregulate threat-related emotions. However, whereas secure people's regulatory attempts usually promote communication, compromise, and relationship maintenance, avoidant people's efforts are aimed mainly at keeping the attachment system deactivated, regardless of the deleterious effect this can have on a relationship.

The avoidant approach to emotion regulation can interfere with problem solving and reappraisal. To succeed at problem solving or reappraisal, people often have to admit that their beliefs were mistaken or their behaviors misguided, and they have to open their knowledge structures to new information. Avoidant individuals are reluctant to acknowledge that they were wrong, because being wrong calls their sense of competence and superiority into question. They may be unable to accept new information if it generates uncertainty or confusion and implies a need for help. Even engaging in flexible problem solving can generate threats related to possible failure or admission that some problems are unsolvable or beyond one's control, either absolutely or when tackled alone (Mikulincer, 1998a).

Deactivating strategies cause people to avoid noticing their own emotional reactions. Avoidant individuals often deny or suppress emotion-related thoughts and memories, divert attention from emotion-related material, suppress emotion-related action tendencies, or inhibit or mask verbal and nonverbal expressions of emotion (Kobak et al., 1993; Mikulincer & Shaver, 2003). By averting the conscious experience and expression of unpleasant emotions, avoidant individuals make it less likely that emotional experiences will be integrated into their cognitive structures and that they will use them effectively in information processing or social action. During many frustrating and painful interactions with rejecting attachment figures, they have learned that acknowledging and displaying distress leads to rejection or punishment (Cassidy, 1994).

Bowlby (1980) described avoidant inhibition and denial of emotional experiences in terms of "defensive exclusion" and "segregated mental systems." This was his way of retaining some of previous psychoanalysts' insights regarding psychological defenses. (See also Westen & Blagov, this volume.) When avoidant people encounter threats, either personal or relational, that activate their attachment system, they try to block related appraisals, concerns, feelings, memories, and action tendencies from consciousness. Over time, this kind of defensive exclusion distorts perceptions and memories, as can be seen in many experiments (e.g., Fraley, Garner, & Shaver, 2000) and in the AAI (George et al., 1985; Hesse, 1999). Even when threat- or attachment-related material is encoded, it tends to be processed at a shallow level because this results in fewer unpleasant associations with other thoughts and memories (Mikulincer & Shaver, 2003).

Attachment Anxiety and the Intensification of Undesirable Emotions

Unlike secure and avoidant people, who tend to view negative emotions as goal-incongruent states that should either be managed effectively or suppressed, anxiously attached individuals tend to perceive these emotions as congruent with attachment goals, and they therefore tend to sustain or even exaggerate them. Attachment-anxious people are guided by an unfulfilled wish to cause attachment figures to pay more attention and provide more reliable protection (Cassidy & Kobak, 1988; Mikulincer & Shaver, 2003). As explained previously, one way to attain this goal is to keep the attachment system chronically activated (i.e., in a state of hyperactivation) and intensify bids for attention until a satisfying sense of attachment security is attained. Chronically attachment-anxious individuals tend to exaggerate the presence and seriousness of threats and remain vigilant regarding possible attachment-figure unavailability (Kobak et al., 1993). They also tend to overemphasize their sense of helplessness and vulnerability, because signs of weakness and neediness can sometimes elicit other people's attention and care (Cassidy & Berlin, 1994).

Hyperactivation of negative emotions can render problem solving irrelevant. In fact, problem solving may thwart an anxious person's desire to perpetuate problematic situations and continue expressing neediness and dissatisfaction. Moreover, problem solving works against the anxious person's self-construal as helpless and incompetent; too much competence might result in loss of attention and support from attachment figures.

How is anxious hyperactivation sustained? One method is to exaggerate the appraisal process, perceptually heightening the threatening aspects of even fairly benign events, hold on to pessimistic beliefs about one's ability to manage distress, and attribute threat-related events to uncontrollable causes and global personal inadequacies (Mikulincer & Florian, 1998). This self-defeating appraisal process is sustained by negative beliefs about both self and world (Collins & Read, 1994; Shaver & Clark, 1994). Although these beliefs are initially developed in the context of emotionally negative interactions with unavailable or unreliable attachment figures, they are sustained by cognitive biases that overgeneralize past attachment injuries and inappropriately apply memories of injuries to new situations (Mikulincer & Shaver, 2003).

Another regulatory technique that heightens the experience and expression of threat-related emotions is shifting attention toward internal indicators of distress (Cassidy & Kobak, 1988; Shaver & Mikulincer, 2002). This maneuver involves hypervigilant attention to the physiological components of emotional states, heightened recall of threat-related experiences, and rumination on real and potential threats (Main & Solomon, 1986; Mikulincer & Shaver, 2003). Another hyperactivating strategy is to intensify negative emotions by favoring an approach, counterphobic orientation toward threatening situations or making self-defeating decisions and taking ineffective courses of action that are likely to end in failure. All these strategies create a self-amplifying cycle of distress, which is maintained cognitively by ruminative thoughts and feelings even after a threat objectively disappears.

Just as avoidant individuals can block or segregate memories of negative experiences, anxious people can mentally link such experiences tightly together, so that one negative thought or memory triggers a flood of others (Shaver & Mikulincer, 2002). Speaking in terms of associative memory networks, one cognitive node with a negative emotional tag can automatically spread its activation to other negatively tinged cognitive nodes, causing all of them to become highly available in working memory. This pat-

tern of cognitive activation gives prominence to emotional implications of information and favors the organization of cognitions in terms of simple, undifferentiated affective features, such as the extent to which the information is threatening or implies rejection. Attachment-anxious people therefore suffer from a chaotic mental architecture pervaded by negative emotion (Main, Kaplan, & Cassidy, 1985). Main (1990) described this "state of mind with respect to attachment" as involving high levels of confusion, ambivalence, and incoherence, all of which have been amply documented in studies using the AAI (Hesse, 1999).

Interestingly, although hyperactivating and deactivating strategies lead to opposite patterns of emotional expression (intensification vs. suppression), both result in dysfunctional emotional experience. Whereas avoidant people miss the adaptive aspects of emotional experiences by blocking mental access to emotions, anxious people fail to take advantage of adaptive possibilities because their attention is riveted on threatening and disruptive aspects of emotional experience instead of its potentially functional aspects. As a result, they may perceive themselves as helpless to control the self-amplifying, ruminative flow of painful thoughts and feelings.

One might wonder why anxious people would remain immune to social feedback indicating that hyperactivation of distress is self-defeating and unlikely to lead to security. One answer is that hyperactivation of the attachment system sometimes succeeds in getting a relationship partners' attention, thereby temporarily heightening the anxious person's senses of relief and security. This kind of partial reinforcement schedule is thought to explain the link between inconsistent parenting and the creation of anxious attachment in early childhood (Cassidy & Berlin, 1994). In addition, once established, schematic processing—either persisting in seeing what one expects to see or influencing events so that they confirm one's expectations—can be self-sustaining even if it produces emotional pain and distress. It can be deceptively reassuring to know that one's worst fears are realized, thereby confirming one's predictions.

Empirical Evidence for Attachment-Related Differences in Emotion Regulation

There is now a large body of evidence supporting the analysis we have just provided in abstract theoretical terms. The findings consistently and coherently support the hypothesized links between attachment security and constructive patterns of emotion regulation, attachment avoidance and emotional inhibition, and attachment anxiety and distress intensification.

Coping with Stressful Events

Stressful events are major triggers of negative emotions and they often give rise to regulatory efforts. If attachment-related mental and behavioral strategies are involved in emotion regulation, they should be evident in the way people appraise and cope with stressful events.

Attachment strategies clearly influence the appraisal of stressful events (e.g., Alexander, Feeney, Hohaus, & Noller, 2001; Berant, Mikulincer, & Florian, 2001; Birnbaum, Orr, Mikulincer, & Florian, 1997; Mikulincer & Florian, 1998), with attachment anxiety being associated with distress-intensifying appraisals (appraising threats as extreme and coping resources as deficient). For avoidant individuals the findings are less consistent. Most studies have found that avoidant people report a pattern of appraisal similar to

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that shown by their secure counterparts. However, some studies have found that attachment avoidance, like attachment anxiety, is associated with a more pessimistic, distress-intensifying pattern of appraisal when people confront undeniable and uncontrollable traumatic events (e.g., Berant et al., 2001; Mikulincer & Florian, 1998). Intense and prolonged stress seems to shatter avoidant people's characteristic defenses and causes them to look like anxiously attached people. (This fits with the theoretical idea that both of these attachment patterns originated as ways of coping with intense feelings of insecurity in relation to attachment figures.)

With regard to coping strategies, several studies have supported our theoretical analysis of attachment-style differences in coping with both attachment-related and attachment-unrelated stressful situations (e.g., Berant et al., 2001; Birnbaum et al., 1997; Lussier, Sabourin, & Turgeon, 1997; Mikulincer, & Florian, 1998; Mikulincer, Florian, & Weller, 1993; Schmidt, Nachtigall, Wuetrich, & Strauss, 2002). Whereas securely attached people tend to score relatively high on measures of support seeking and problem-focused coping, anxiously attached people rely on emotion-focused coping, and avoidant people rely on distancing coping. Also compatible with our analysis, avoidant attachment is associated with using repression as a defense (Mikulincer & Orbach, 1995; Vetere & Myers, 2002) and with behavioral blunting—using distraction to avoid confronting stressors (Feeney, 1995). In a recent study, for example, Turan, Osar, Turan, Ilkova, and Damci (2003) found that insulin-dependent diabetics scoring higher on attachment avoidance reported higher reliance on cognitive distancing and passive resignation as coping strategies, which in turn were associated with poor adherence to medical treatment.

Relations between attachment style and coping strategies were addressed in a 6-year longitudinal study of a large sample of people ranging in age from late adolescence to late adulthood (Zhang & Labouvie-Vief, 2004). The researchers found that, although adult attachment style was relatively stable over a 6-year period, there was also some fluidity associated with variations in coping strategies and mental health. Specifically, an increase in attachment security over the 6-year study period covaried with increases in problem-focused coping and perceived well-being as well as with decreases in distancing/avoidance coping and depressive symptoms. These findings fit with the characterization of felt security as a resilience resource that helps a person maintain emotional equanimity without extensive use of defenses (Mikulincer & Shaver, 2003).

Interestingly, three studies have revealed a significant association between avoidant attachment and emotion-focused coping. This seemingly uncharacteristic coping response for avoidant individuals may help to identify the contextual boundaries of deactivating strategies. In two studies (Lussier et al., 1997; Shapiro & Levendosky, 1999), heightened emotion-focused coping was observed in reaction to conflicts with close relationship partners. In the third study, Berant et al. (2001) found that avoidant mothers of newborns tended to rely on distancing coping if their infant was born healthy or with only a mild congenital heart defect (CHD), but they seemed to use emotion-focused coping if they gave birth to a child with a life-endangering CHD. It seems, therefore, that avoidant defenses, which are often sufficient for dealing with minor stressors, can fail when people encounter severe and persistent stressors. This conclusion is consistent with Bowlby's (1980) idea that avoidant people's segregated mental systems cannot be held outside consciousness indefinitely and that traumatic events can resurrect or reactivate distress that had previously been segregated and sealed off from consciousness.

Management of Attachment-Related Threats

Attachment strategies are also manifest in the ways people deal with attachment-related threats. In a pair of studies, Fraley and Shaver (1997) examined attachment-style differences in suppression of separation-related thoughts. Participants wrote continuously about whatever thoughts and feelings they were experiencing while being asked to suppress thoughts about a romantic partner leaving them for someone else. In the first study, the ability to suppress these thoughts was assessed by the number of times separation-related thoughts appeared in participants' stream-of-consciousness writing following the suppression period. In the second study, this ability was assessed by the level of physiological arousal (skin conductance) during the suppression task—the lower the arousal, the greater the presumed ability to suppress the thoughts.

The findings corresponded with attachment-related strategies for processing separation-related thoughts. Attachment anxiety was associated with poorer ability to suppress separation-related thoughts, as indicated by more frequent thoughts of loss following the suppression task and higher skin conductance during the task. In contrast, attachment avoidance was associated with greater ability to suppress separation-related thoughts, as indicated by less frequent thoughts of loss following the suppression task and lower skin conductance during the task. A recent functional magnetic resonance imaging (fMRI) study (Gillath, Bunge, Shaver, Wendelken, & Mikulincer, 2005) shows that these attachment-style differences are also evident in patterns of brain activation and deactivation when people are thinking about breakups and losses and when attempting to suppress such thoughts. (See also Ochsner & Gross, this volume.)

In a recent pair of studies, Mikulincer, Dolev, and Shaver (2004) replicated and extended Fraley and Shaver's (1997) findings while assessing, in a Stroop color-naming task, the cognitive accessibility of previously suppressed thoughts about a painful separation. Findings indicated that avoidant individuals were able to suppress thoughts related to the breakup; for them, such thoughts were relatively inaccessible, and their own positive self-traits became (presumably for defensive reasons) more accessible. However, their ability to maintain this defensive stance was disrupted when a cognitive load—remembering a 7-digit number—was added to the experimental task. Under high cognitive load, avoidant individuals exhibited ready access to thoughts of separation and negative self-traits. That is, the suppressed material resurfaced in experience and behavior when a high cognitive demand was imposed. We suspect that a similar resurfacing occurs when a high emotional demand is encountered.

Fraley et al. (2000) probed the regulatory mechanisms underlying avoidant individuals' deactivation of attachment-related threats. They asked whether deactivating strategies operate in a *preemptive* manner (e.g., by deploying attention away from attachment-related threats or encoding them in only a very shallow fashion) or a *postemptive*)manner (by repressing material that had been encoded). Participants listened to an interview about attachment-related threats and were asked to recall details from the interview either immediately afterward or at various delays ranging from half an hour to 21 days. An analysis of forgetting curves plotted over time revealed that avoidant individuals initially encoded less information about the interview than did less avoidant persons, and the two groups forgot the information at about the same rate. Thus, it seems that avoidant deactivating strategies at least sometimes act in a preemptive manner, by blocking threatening material from awareness and memory from the start.

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Experiencing and Managing Death Anxiety

Adult attachment studies have also examined how attachment strategies affect the experience and management of specific emotional states. A number of studies conducted in Mikulincer's laboratory have focused, for example, on attachment-style differences in the strength of death anxiety (Florian & Mikulincer, 1998; Mikulincer, Florian, & Tolmacz, 1990), unconscious or preconscious indications of this fear (responses to projective Thematic Apperception Test [TAT] cards; Mikulincer et al., 1990), and the accessibility of death-related thoughts (the number of death-related words a person produces in a word-completion task; Mikulincer & Florian, 2000; Mikulincer, Florian, Birnbaum, & Malishkevich, 2002). Attachment-anxious individuals were found to intensify death concerns and keep death-related thoughts active in working memory. That is, attachment anxiety was associated with heightened fear of death at both conscious and unconscious levels, and with heightened accessibility of death-related thoughts even when no death reminder was present. Avoidant individuals' suppression of death concerns was inferred from a dissociation between their conscious claims and unconscious dynamics: Avoidance was related to low levels of self-reported death anxiety but also to heightened death-related content in responses to a projective TAT measure.

A related line of research examined attachment-style differences in the way people manage the anxiety evoked by death reminders. In a study by Mikulincer and Florian (2000), secure people reacted to mortality salience with heightened thoughts of symbolic immortality—a transformational, constructive strategy that, while not solving the unsolvable problem of death, leads a person to invest in his or her children's care and to engage in creative, growth-oriented activities whose products will live on after the person dies. Secure people have also been found to react to mortality salience with a heightened desire for intimacy (Mikulincer & Florian, 2000) and a heightened willingness to engage in social interaction (Taubman Ben-Ari, Findler, & Mikulincer, 2002). In contrast, people with an anxious or avoidant attachment style reacted to death reminders with more severe judgments and punishments of moral transgressors (Mikulincer & Florian, 2000). In other words, insecure people relied on what Greenberg, Pyszczynski, and Solomon (1997) call "culturally derived defenses"—adherence to a cultural world view and defensive enhancement of self-esteem. For anxious individuals, adhering to a shared cultural world view may be a way to gain greater love and acceptance from members of their group. For avoidant persons, the major issues are self-reliance and control, which benefit from the defensive enhancement of self-esteem (Hart, Shaver, & Goldenberg, 2005).

Experiencing and Managing Anger

Adult attachment research has also examined the experience and management of anger. In three studies, Mikulincer (1998b) found that securely attached people held optimistic expectations of their partner's responses during anger episodes and reacted with anger toward a partner only when there were clear contextual cues about the partner's hostile intent. Moreover, secure people's recollections of anger-eliciting episodes reflected functional attempts to rectify a relationship problem (what Bowlby, 1973, called the "anger of hope"). Secure people were constructively focused on repairing their relationship with the instigator of anger, engaging in adaptive problem solving, and expressing anger outward in a controlled and nonhostile way. Anxious people's

anger experiences were quite different and were characterized by negative expectations concerning their partner's responses during anger episodes, reacting with angry and hostile feelings toward the partner even when there were no clear cues about the partner's hostile intentions, being prone to intense anger, experiencing uncontrollable feelings of anger, and ruminating excessively on these feelings.

Avoidant people's deactivating strategies resulted in what Mikulincer (1998b) called "dissociated anger." Although avoidant individuals did not report intense anger, they exhibited heightened hostility and physiological arousal. They also attributed hostility to their partner even when there were clear contextual cues concerning the partner's nonhostile intent, and they used distancing strategies for coping with anger rather than using anger constructively to repair or improve the relationship.

Insecure people's reports of anger proneness and hostility have been documented in other studies as well (e.g., Kobak & Sceery, 1988; Muris, Meesters, Morren, & Moorman, 2004; Troisi & D'Argenio, 2004). For example, Kobak and Sceery (1988) found that insecure attachment, as assessed by the AAI, was associated with greater hostility toward friends (which was easily noticed by the friends). Using self-report attachment scales, Woike, Osier, and Candela (1996) found that attachment anxiety was associated with writing more violent and hostile stories in response to projective TAT cards. Attachment anxiety has also been associated with relationship violence (e.g., Bartholomew & Allison, 2006).

Observational studies of anger in actual social interactions also provide evidence concerning the dysfunctional nature of insecure people's anger. Two studies examined anger reactions during conflicts in which partners were asked to identify an unresolved problem in their relationship and discuss and try to resolve it (Kobak et al., 1993; Simpson, Rholes, & Phillips, 1996). Whereas Kobak et al. (1993) assessed attachment patterns with the AAI and focused on interactions between teens and their mothers, Simpson et al. (1996) used a self-report attachment scale and focused on interactions between romantic partners. Despite these differences in assessment methods and types of relationships, both studies revealed that attachment insecurity, especially attachment anxiety, disrupts emotional equilibrium during interpersonal conflicts and elicits anger toward one's relationship partner. In the Kobak et al. (1993) study, insecure teens displayed more dysfunctional anger and less cooperative and problem-solving dialogue with their mothers. In Simpson et al.'s (1996) study, attachment anxiety was associated with displays and reports of anger and hostility during the conversation.

Other studies examined anger reactions while participants performed a frustrating, difficult cognitive task alone or with the help of a friend (Zimmermann, Maier, Winter, & Grossmann, 2001). Findings revealed that securely attached adolescents (as assessed by the AAI) displayed functional anger during the cognitive task; that is, their self-reported anger was associated with better task performance. In contrast, insecure adolescents displayed dysfunctional anger, including more disruptive behavior toward their friend (e.g., rejecting the friend's suggestions) and poorer task performance. In other words, insecure people's anger seemed to disrupt both their social interactions and their ability to solve problems.

Rholes, Simpson, and Orina (1999) examined overt manifestations of anger among support seekers and support providers in an anxiety-provoking situation. Women were told they would engage in an anxiety-provoking activity and were asked to wait with their dating partner for the activity to begin. During this 5-minute stressful waiting

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period, the reactions of the support seekers (women) and support providers (men) were unobtrusively videotaped. Each couple was then told that the woman would not have to endure the stressful activity after all, and each couple was unobtrusively videotaped during a 5-minute "recovery" period. The videotapes documented the dysfunctional nature of insecure participants' anger during both "stress" and "recovery" periods. In the stress period, women's avoidance was associated with more intense anger toward their partner, and this was particularly common when the woman was especially distressed and received relatively little support from her partner. In addition, men's avoidance was associated with more intense anger, and this was particularly common if their partner was more distressed. In the recovery period, women's attachment anxiety was associated with more intense anger toward their partners, and this was particularly true if they were more upset during the stress period or had sought more support from a partner.

These findings imply that avoidant men's lack of confidence in their ability to care for and support a distressed partner might have elicited greater anger toward her. Moreover, avoidant women's lack of confidence in their partner's support might have caused them to become more disappointed and angry while seeking support. Anxious women's lack of confidence in their partner's support seemed to elicit anger only after the threat had been lifted and support was no longer needed. Thus, anxious' women strong need for support and reassurance might counteract or lead to suppression of their angry feelings during support seeking. However, these feelings resurface once "support seeking" ends, which illustrates the way hyperactivating strategies tend to perpetuate distress-related feelings. (Interestingly, this is the same kind of behavior exhibited by anxious infants after they reunite with their mother following a laboratory separation period, as first documented by Ainsworth et al., 1978.)

The Experience of Jealousy

Adult attachment studies have also examined associations between attachment strategies and romantic jealousy. In general, more secure people tend to report mild emotional reactions to jealousy-eliciting events, fewer interfering thoughts and worries in response to these events, and greater use of constructive coping strategies, such as openly discussing feelings and concerns with the partner and attempting to put the relationship back on a better course (Guerrero, 1998; Leak, Gardner, & Parsons, 1998; Sharpsteen & Kirkpatrick, 1997).

Attachment-anxious people tend to experience jealousy in intense and dysfunctional ways, allowing it to ignite other negative emotions, overwhelm their thought processes, and erode relationship quality. Specifically, anxious people experience fear, guilt, shame, sadness, and anger during jealousy-eliciting events; report high levels of suspicion and worries during these events; and cope with them by expressing hostility toward the partner and engaging in more surveillance (mate-guarding) behaviors (Guerrero, 1998; Sharpsteen & Kirkpatrick, 1997).

Avoidant individuals, like their secure counterparts, do not react to jealousy-eliciting episodes with strong negative emotions or disrupted cognition. However, they are the least likely to engage in coping efforts aimed at restoring relationship quality (Guerrero, 1998). Instead, they prefer to avoid discussing the problem and overlook the jealousy-eliciting event. This pattern of responses is an example of deactivating strategies and is likely to contribute to relationship cooling and dissolution.

Cognitive Access and the Architecture of Emotional Experiences

Several studies have examined attachment-style differences in people's access to emotion-relevant information and the organization of this information in associative memory networks. In an experimental study of emotional memories, Mikulincer and Orbach (1995) asked participants to recall early experiences of anger, sadness, anxiety, or happiness, and memory retrieval time was used as a measure of cognitive accessibility. Participants also rated the intensity of focal and associated emotions in each recalled event. Avoidant people exhibited the poorest access (longest recall latencies) to sad and anxious memories, anxious people had the quickest access to such memories, and secure people fell in between. In the emotion-rating task, avoidant individuals rated focal emotions (e.g., sadness when retrieving a sad memory) and nonfocal emotions (e.g., anger when retrieving a sad memory) as less intense than secure individuals, whereas anxious individuals reported experiencing very intense focal *and* nonfocal emotions when asked to remember examples of anxiety, sadness, and anger. In other words, anxious people exhibited their usual rapid and extensive spread of activation among negative memories, whereas avoidant people had trouble accessing negative memories and seemed to report fairly shallow memories when they reported any at all.

Avoidant people's poor access to emotions is also evident in studies examining the coherence between conscious self-reports of emotional experience and less conscious, more automatic expressions of these experiences. (We assume that higher concordance between these measures indicates better mental access to emotional experiences). For example, Dozier and Kobak (1992) examined access to emotions during the AAI and found that avoidant people expressed few negative feelings during the interview but showed high levels of physiological arousal (heightened electrodermal activity) while speaking about their relationships with parents. Spangler and Zimmerman (1999) examined attachment-style differences (based on the AAI) in reactions to emotional film scenes and found that avoidant people, as compared with secure ones, evinced a greater discrepancy between their ratings of the emotional quality of the scenes and their mimicry responses to these scenes (measured with electromyography of the smile and frown muscles). Specifically, the frown muscles of avoidant people, which are usually interpreted as indicating negative emotions, were consistently activated at a low level regardless of the emotional quality of the scene. Zimmerman et al. (2001) extended these findings to the experience of anger and sadness during a problem-solving task. In that study, avoidant people (identified with the AAI) were characterized by a greater discrepancy (than seen in secure people) between self-reports and facial expressions of anger and sadness.

In examining the decoding of emotional stimuli, Niedenthal, Brauer, Robin, and Innes-Ker (2002) asked people to watch computerized videos in which a face that initially displayed a particular emotional expression gradually changed to a different expression, and to stop the display at the point at which the initial expression disappeared from the face. Fearfully avoidant individuals (those scoring high on both avoidance and anxiety) thought they saw the offset of happy and angry facial expressions earlier than did secure individuals, suggesting a tendency to minimize the encoding of emotion-relevant information and rapidly distance from it. In contrast, anxiously attached individuals saw the offset of these expressions later than secure individuals, suggesting a tendency to maintain the encoding of emotional stimuli for a longer time. Interestingly, the addition of a distress-eliciting condition led fearfully avoidant people to react like anxious ones, suggesting that distress arousal might have interfered with their ability to distance themselves from emotional stimuli.

Summary

Research findings reported to date provide a rich picture of attachment-related differences in emotion regulation. Secure and avoidant people attempt to manage and downregulate threat-related emotions. However, whereas security-based strategies act mainly on the emotion-generation end of the emotion process, using what Gross (1999) called antecedent-focused emotion regulation, and on increasing the likelihood that emotions will have constructive, functional effects, avoidant strategies act mainly on the emotion experience and expression end of the process and therefore tend to block mental access to emotions, a process Gross (1999) called response-focused emotion regulation. In a third approach to emotion regulation, anxious individuals, using hyperactivating strategies, actually intensify and perpetuate negative emotions by acting on all components of the emotion process.

CONCLUSIONS

In summarizing recent research on adult attachment patterns and their implications for emotion regulation, we have shown that attachment security is associated with appraisals and regulation efforts that are compatible with a balanced, open mind, generally low levels of stress and distress, and constructive approaches to relationship maintenance. The two major dimensions of insecure attachment are associated with organized strategies for dealing with painful experiences in previous attachment relationships.

Avoidance and attachment-system deactivation are reactions to important relationships in which attachment figures, often beginning with one or both parents, reacted negatively to expressions of need, vulnerability, and negative emotions. To cope with that powerfully painful relationship influence, avoidant people have learned to downplay threats (i.e., try not to appraise events as threatening), suppress or deny feelings of vulnerability and negative emotions, and view themselves as superior, autonomous, and properly unemotional. This does not keep them from reacting to relationship partners with frustration, hostility, and denigration or from boosting their own self-esteem in the face of mortality threats and relationship losses by focusing disproportionately on their own strengths and other people's weaknesses.

Attachment anxiety and attachment-system hyperactivation are reactions to important relationships in which attachment figures, often beginning with one or both parents, reacted inconsistently to a person's expressions of need, vulnerability, and negative emotions, sometimes rewarding them but at other times frustrating or ignoring them. This caregiver regimen causes a person to believe that constant vigilance, worry, and expressions of need, vulnerability, and retaliatory anger pay off, because they sometimes do capture a relationship partner's attention. Unfortunately, they can also alienate a person from initially favorable and loving relationship partners and produce exactly what the anxious person does not want: rejection and abandonment. Thus, what began as a response to a partial reinforcement schedule of attention and support, and what became a pattern of noisy negativity, seems to the anxious person to confirm his or her expectations and worst fears.

These different patterns of emotion and defense have been documented in a remarkable variety of studies using experimental, interview, and observational techniques. They are now being illuminated further by neuroscientific studies. They provide strong specific support for Bowlby and Ainsworth's attachment theory and its extension into the realm of adult relationships (Mikulincer & Shaver, 2003), as well as

more general support for the once-discredited psychodynamic approach to personality (Shaver & Mikulincer, 2005). Research based on attachment theory also suggests therapeutic methods for dysfunctional emotion regulation. Further development and assessment of these methods will contribute to improved lives and relationships.

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