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### **Contributions of Attachment Theory and Research to Motivation Science**

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Attachment theory (Bowlby, 1982/1969, 1973) was a strongly motivational theory from the start. Beginning with his training in child psychiatry, Bowlby (1944) wondered what motivated young “juvenile thieves,” many of whom had suffered from what he called “maternal deprivation” (e.g., loss of mother, separation from mother, inadequate mothering, disruptive experiences in foster or institutional care). Trained as a psychoanalyst, Bowlby assumed that the explanation of disordered behavior lay somewhere in childhood, especially in early social relationships, but he was dissatisfied with the Freudian and object relations versions of psychoanalytic theory he encountered while training as a psychoanalyst. These theories tended to conceptualize human motivation in terms of “drives” and view the mind as powered by “psychic energy.” They explained a child’s ties to mother in terms of benefits associated with feeding and other forms of drive reduction. They also based their conception of childhood relationships on theory-laden clinical conversations with adults.

Over a period of years, beginning around the end of World War II, Bowlby began to focus on the actual relations between infants and their mothers, observing them at the Tavistock Clinic in London and participating in the making of films about children’s reactions to separations from mother (often when mother or child went alone to the hospital, which in those days entailed separation; see Robertson & Bowlby, 1952). Bowlby focused on the “making and breaking” of what he called “affectional bonds” between infants and mothers (Bowlby, 1979) and the reasons for their seemingly profound effects on personality development and behavior in subsequent close relationships.

Bowlby was influenced by several scientific developments in the mid-twentieth century, especially control systems theory, cognitive developmental theory, and ethology. He created a “behavioral systems” model of motivation, according to which certain evolved behavioral systems, such as the attachment system, the caregiving system, the exploration system, and the sexual system, served particular functions critical to survival and reproduction. He viewed these systems as “goal directed” and “goal corrected” – that is, working like servomechanisms that were turned on, or “activated,” by certain stimuli or

situations and “deactivated” or “terminated” by other stimuli and situations (basically, by the attainment of what he called “set goals” and successful avoidance of feared dangers). After operating repeatedly in a particular environment, usually a home environment that included parental responses to behavioral-system activation, a child was conceptualized as constructing “internal working models” of self, relationship partners, and the environment that altered the operating parameters of associated behavioral systems and provided expectations about possible access routes and barriers to goal attainment, and about the expected affective outcomes of goal attainment or goal obstruction.

According to Bowlby (1982/1969), this new conception of motivation rendered the Freudian notion of drives unnecessary. Goal directed and corrected behaviors were activated not by an accumulation of psychic energy or a desire to reduce the level of psychic energy to zero (notions associated with Freud), but by conditions within a person or the person’s environment that activated behavior intended to achieve a certain goal state or avoid threats and dangers. Behavioral intensity was viewed as a function of the appraised effort needed to attain a targeted goal state, or of the overriding of one behavioral system by another, either when the set-goal of the overridden system was attained or an alternative behavioral system was activated at a higher level. For example, when an infant of, say, 14 months of age encounters pain or environmental threats (a pin prick, unexpected noises, the appearance of a stranger, a frightening animal, sudden darkness), he or she terminates whatever activity is in progress (e.g., exploring the environment or affiliating with a peer) and searches visually for a caregiver, perhaps calling out to that person or beginning to cry, and, if possible, moving quickly to the person’s side and signaling to be picked up, protected, or comforted. If the caregiver provides adequate comfort, the infant may quickly become interested once again in play or exploration and signal to be put down.

From the 1960s to the present, Bowlby’s theory, especially as operationalized and elaborated by Ainsworth (e.g., Ainsworth, Blehar, Waters, & Wall, 1978) has generated hundreds of studies of infant-caregiver attachment, parental caregiving (viewed as structured

and guided by a caregiving behavioral system; George & Solomon, 1999), and short- and long-term social and personality sequelae in various age periods (see Cassidy & Shaver, 1999, for reviews of this extensive literature). Of most relevance here is the extension of the theory, first to the domain of romantic and marital relationships (Hazan & Shaver, 1987; Fraley & Shaver, 2000; Shaver & Clark, 1994) and then to the broader realm of social and intergroup relations (see the comprehensive review by Mikulincer & Shaver, 2003). In the present chapter we focus on both the normative and individual-difference aspects of Bowlby's theory, highlighting the *attachment behavioral system*, the control system that underlies activation and deactivation of attachment behavior in response to contextual threats and longer-term social experiences. We review evidence related to motivational aspects of attachment behavior, especially in adulthood; present new findings from our laboratories; and propose new ideas about the ways in which variations in attachment-system functioning shape an adult's goals and goal pursuit, both generally and within particular interpersonal settings.

#### *Basic Concepts in Attachment Theory and Research*

Bowlby (1982/1969) claimed that the attachment behavioral system, a product of evolution, motivates infants (and older humans as well) to seek proximity to significant others (called *attachment figures*) when protection and care are needed. This system serves regulatory functions (protection from threats and alleviation of distress) in human beings of all ages, but is most directly observable during infancy (Bowlby, 1988). Bowlby (1973) also described important individual differences in attachment-system functioning. Interactions with attachment figures who are reliably available and responsive in times of need promote optimal functioning of the attachment system, establish a relatively stable sense of security and safety, and heighten confidence in proximity seeking as a distress-regulation strategy. When attachment figures are not reliably available and responsive, however, proximity seeking fails to relieve distress, a sense of security is not attained, and strategies of affect regulation other than proximity seeking (*secondary attachment strategies*, called *avoidance* and *anxiety*) are developed.

Empirical tests of Bowlby's ideas in studies of adults have generally focused on a person's *attachment style* – the systematic pattern of relational expectations, emotions, and behaviors that results from internalization of a particular history of attachment experiences (Fraley & Shaver, 2000). Research, beginning with Ainsworth et al. (1978) and continuing through recent studies by social and personality psychologists (reviewed by Shaver & Mikulincer, 2002), indicates that individual differences in attachment style can be measured with self-report scales tapping two orthogonal dimensions corresponding to the two secondary strategies mentioned above, attachment-related anxiety and avoidance (Brennan, Clark, & Shaver, 1998). A person's position on the avoidance (or avoidant attachment) dimension indicates the extent to which he or she distrusts relationship partners' goodwill and strives to maintain behavioral independence and emotional distance from others. A person's position on the anxiety (or anxious attachment) dimension indicates the degree to which he or she worries that a partner will not be available and supportive in times of need. People who score low on both dimensions are said to be secure, securely attached, or to have a secure attachment style.

Based on an extensive literature review, we (Mikulincer & Shaver, 2003; Shaver & Mikulincer, 2002) proposed a three-phase model of attachment-system activation and dynamics in adulthood. Following Bowlby (1982/1969), we assumed that relatively continuous monitoring of experiences and events results in attachment-system activation when a potential or actual threat is detected. Once the attachment system is activated, an affirmative answer to the question, "Is an attachment figure available and likely to be responsive to my needs?" results in a sense of security and facilitates the application of security-based strategies of affect regulation (Shaver & Mikulincer, 2002). These strategies are aimed at alleviating distress, maintaining comfortable, supportive intimate relationships, and increasing personal adjustment. They consist of optimistic beliefs about distress management, trust in others' goodwill, and a sense of self-efficacy about dealing with threats (Shaver & Hazan, 1993). These are the characteristics of securely attached individuals.

Perceived unavailability of an attachment figure results in attachment insecurity, which forces a decision about the viability of proximity seeking as a protective strategy. When proximity seeking is appraised as likely to be successful, assuming that sufficient effort is expended, a person tends to make very energetic, insistent attempts to attain proximity, love, and support. These intense efforts are called *hyperactivating strategies* (Cassidy & Kobak, 1988), because they involve strong activation of the attachment system until an attachment figure is perceived to be available and willing to provide safety and security. These strategies include attempts to elicit a partner's involvement through clinging and controlling responses and over-dependence on relationship partners as a source of protection (Shaver & Mikulincer, 2002). They also involve increased vigilance to threat-related cues, reduction in the threshold for detecting cues of attachment figures' unavailability, and maintenance of threat-related emotions and concerns in working memory – psychological maneuvers that keep the attachment system chronically activated (Shaver & Mikulincer, 2002). These concomitants of attachment-system hyperactivation are characteristic of people who score high on attachment-anxiety scales (Mikulincer & Shaver, 2003).

Appraising proximity seeking as unlikely to alleviate distress and perhaps even likely to exacerbate it results in inhibition of the quest for support and active attempts to handle distress alone. These secondary approaches to affect regulation are called *deactivating strategies* (Cassidy & Kobak, 1988), because their primary goal is to keep the attachment system deactivated so as to avoid the frustration and distress of continued attachment-figure insensitivity or unavailability. These strategies involve denial of attachment needs, avoidance of emotional involvement and dependence in close relationships, suppression of threat- and attachment-related thoughts, and adoption of a self-reliant attitude. (Bowlby called this strategy “compulsive self-reliance.”). These aspects of deactivation are characteristic of people who score high on measures of avoidant attachment (Mikulincer & Shaver, 2003).

*The Motivational Implications of the Attachment System Construct*

When using the term “behavioral system,” Bowlby (1982/1969) referred to a species-universal, innate neural program that organizes an individual’s behavior in ways that facilitate the satisfaction of fundamental human needs and thereby increases the likelihood of survival, adaptation, and reproduction. As such, a behavioral system can be viewed as a motivational device that transforms what were originally neutral person-environment transactions into either desired “goal states” that facilitate need satisfaction or aversive “anti-goal states” that interfere with or hinder need satisfaction. A behavioral system includes appetitive and aversive components that direct and organize intentional behavior. It can initiate approach tendencies that move a person toward desired goal states or avoidance tendencies that move the person away from aversive anti-goal states. Behavioral systems also motivate a person to monitor, appraise, and evaluate goal-relevant internal and external cues, and to learn new means-end associations and stimulus-response contingencies that improve system functioning and facilitate need satisfaction.

In the case of the attachment behavioral system, Bowlby (1982/1969) focused on the fundamental need for care and protection and the innate predisposition to search for and maintain proximity to protective and caring others in times of need. When this system is activated, it transforms proximity-maintenance and the attainment of security, comfort, and protection into major goal states, and rejection, separation, and attachment-figure unavailability into aversive anti-goal states. It also directs a person’s cognitive processes and actions toward the attainment of proximity, love, and security, and the avoidance of, or resistance to, certain person-environment transactions, such as separation from attachment figures, that threaten the sense of security.

Bowlby’s ideas about the motivational predisposition to seek proximity to others for the sake of care and protection have received extensive empirical support. In times of need, infants show a clear preference for their caregiver, engage in intense proximity-seeking, and are soothed by a caregiver’s presence and support (e.g., Ainsworth, 1973, 1991). Conceptually

parallel research with adults has shown that people are likely to choose to affiliate with a sympathetic other while awaiting a noxious event (see Shaver & Klinnert, 1982, for a review and Fraley & Shaver, 1998, for a specific example of impending separation of attached romantic partners) and to turn to others for support while, or immediately after, encountering stressful events (see Lazarus & Folkman, 1984, for a review).

Recently, we (Mikulincer, Birnbaum, Woddis, & Nachmias, 2000; Mikulincer, Gillath, & Shaver, 2002) found that adults react to even minimal threat cues with activation of proximity-related thoughts and mental representations of security-providing attachment figures. In these studies, subliminal priming of a threat word (e.g., illness, failure) was found to heighten cognitive accessibility of attachment-related mental representations, indicated by faster lexical-decision times for proximity-related words (e.g., love, closeness) and names of people nominated as providing protection and security (e.g., the name of a parent, spouse, or close friend). Interestingly, these effects were circumscribed to attachment-related representations and were not found for attachment-unrelated words or the names of people other than attachment figures, including family members who were not nominated as security-providing attachment figures.

There is also extensive evidence for the theoretical proposition that attachment-figure unavailability is an aversive anti-goal state. Ethological observation of infants separated from their mothers (e.g., Heinicke & Westheimer, 1966; Robertson & Bowlby, 1952) reveals that inaccessibility or absence of an attachment figure evokes intense distress, anxiety, anger, protest, and yearning. In adulthood, bereavement research also indicates that attachment-figure unavailability due to partner death is one of the most painful experiences a person can endure, one that typically elicits extreme distress, sorrow, despair, and painful longing for the deceased partner (see Fraley & Shaver, 1999, for a review). Similar emotional reactions have also been observed following the break-up of romantic relationships (e.g., Feeney & Noller, 1992; Simpson, 1990). Milder but still consequential forms of distress often occur even after

separations from one's spouse (e.g., see Vormbrock, 1993, for a review of studies on wartime and job-related separations).

Adult attachment research has also provided information about the positive emotions associated with actual or symbolic reunions with attachment figures. For example, reunion with a spouse after a wartime or job-related separation is experienced as highly exciting and exhilarating (Vormbrock, 1993), as we often see in the news when troops return from service abroad and are greeted at the airport by their loved ones. In a recent series of studies (Mikulincer, Hirschberger, Nachmias, & Gillath, 2001; Mikulincer & Shaver, 2001), we found that a variety of experimental techniques can activate mental representations of internalized attachment figures and cause positive affective reactions similar to those produced by actual reunions. Mikulincer, Hirschberger, et al. (2001) found that these same techniques led to more positive evaluations of previously neutral stimuli, and did so even under threatening conditions, eliminating the usual negative effects of such situations on feelings about formerly neutral stimuli. In short, in line with theory, even the mere symbolic availability of an attachment figure has a measurably soothing effect.

According to Bowlby (1982/1969), behavioral systems operate in a complex goal-oriented and goal-corrected manner. The activation of a system instigates intentions and behaviors directed toward achieving a particular goal state and avoiding anti-goal states; it also initiates evaluative processes that assess progress toward the goal and induce corrective adjustments to make goal attainment more likely. One of Bowlby's most important observations, which increased his confidence in the notion of goal-corrected rather than merely habitual behavior, is that particular behavioral sequences get altered when necessary to put a person, even an infant, back on the track of goal attainment. In the case of the attachment system, this flexible, goal-directed and goal-corrected adjustment of behavior requires monitoring and appraisal of threatening events and of one's inner states (e.g., distress, security); monitoring and appraisal of an attachment figure's responses to one's proximity-seeking attempts; and monitoring and appraisal of the effectiveness of the chosen behaviors in

a given context. These cognitive and cybernetic operations organize intentional behavior aimed at attaining security and satisfying basic needs for care and protection.

Borrowing from more recent feedback-control theories (e.g., Carver & Scheier, 1981, 1990; Carver, Sutton, & Scheier, 2000), our model of attachment-system functioning involves self-regulatory feedback loops that shape the course and consequences of proximity-seeking efforts. While in the process of seeking affection, comfort, and protection, people either explicitly or implicitly compare their current state with the attachment system's reference values (goal and anti-goal states), adjust proximity-seeking efforts to reduce the distance to the goal state or increase the distance from anti-goal states, and decide whether to persist in or disengage from proximity-seeking efforts after discovering that they are unsuccessful. In other words, a choice is made between the aforementioned hyperactivating and deactivating strategies.

Beyond these general, normative features of the attachment behavioral system, there are, as already mentioned, important individual differences in security versus insecurity and between attachment-related anxiety and avoidance. In the following sections, we consider the effects of these individual differences on (a) the goals people pursue in social interactions and close relationships, (b) the organization of personal goals, (c) the dynamic processes of goal engagement and disengagement, and (d) the balance between approach and avoidance motivational tendencies.

#### *Attachment Orientations and Interaction Goals*

In our model, recurrent failure to attain a sense of safety and security and the consolidation of a secondary attachment strategy (hyperactivating, deactivating, or some combination) lead to the endorsement of goals that radically affect the way people deal with threats and threat-related emotions. For anxious and avoidant individuals, proximity seeking for the sake of protection and care often gives way to the goal of managing attachment-system activation and the pain caused by failing to achieve security. Whereas hyperactivating strategies lead anxiously attached people to keep their attachment system chronically

activated, constantly on the alert for threats, slights, separations, and losses, deactivating strategies lead avoidant people to suppress the attachment system and inhibit proximity-seeking efforts. That is, each of the major secondary attachment strategies has a specific regulatory goal, and the resulting attachment orientation (anxious or avoidant) is warped in the direction of attaining this goal. These goals account for the ways in which people scoring high on measures of attachment anxiety or avoidance construe themselves, appraise relationship partners, cope with threats, and regulate distressing thoughts and memories (see Fraley, Davis, & Shaver, 1998; Mikulincer & Shaver, 2003; Shaver & Mikulincer, 2002, for reviews).

Variations in attachment history and attachment-system functioning are important for understanding a person's goals in social interactions and close relationships. People who succeed in attaining a sense of security learn that proximity seeking is rewarding, and so tend to organize their interactions around the goals of interdependence, closeness, and intimacy. In contrast, reliance on hyperactivating strategies causes anxiously attached people to organize their interactions around an unquenchable need for security, and so to engage in clinging, controlling, and hypervigilant behaviors intended to assure a partner's love and attention but paradoxically often inciting anger, distancing, or abandonment. Reliance on deactivating strategies leads avoidant individuals to organize their interactions around desires for autonomy and control and to perceive interdependence and closeness as aversive anti-goal states. Research shows that these interaction goals can account for attachment-style differences in interpersonal trust (e.g., Collins & Read, 1990; Mikulincer, 1998), patterns of self-disclosure (e.g., Keelan, Dion, & Dion, 1998; Mikulincer & Nachshon, 1991), excessively seeking reassurance from a romantic partner (Shaver, Schachner, & Mikulincer, 2004), sexual behavior (Schachner & Shaver, 2002, 2004), and strategies for dealing with interpersonal conflicts (e.g., Scharfe & Bartholomew, 1995; Simpson, Rholes, & Phillips, 1996).

Two recent studies (Avihou, 2004; Raz, 2002) provide even more direct evidence concerning the hypothesized attachment-style differences in interaction goals, based on coding the "core conflictual relationship themes" (CCRT; Luborsky & Crits-Christoph, 1998) in

people's open-ended narratives. In Raz's (2002) study, participants completed a measure of attachment style (the Relationship Questionnaire; Bartholomew & Horowitz, 1991) and the Relationship Anecdotes Paradigm (Luborsky & Crits-Christoph, 1998). Specifically, participants were asked to recall three meaningful interactions with significant others and describe in each case what happened, including what they and their partner said and did. Two independent judges, blind to participants' attachment scores, read the narratives and used the CCRT coding scheme to extract the underlying needs, motives, and intentions that were expressed in these narratives (the *wish* component of the CCRT). Raz found that self-reports of attachment anxiety were associated with wishes for security and for being loved and accepted by significant others – the major goal of hyperactivating strategies. Self-reports of attachment avoidance were associated with two major wishes: (1) to assert oneself and be independent and (2) to retain interpersonal distance and avoid conflicts. These are the goals of deactivating strategies.

Raz's (2002) findings were conceptually replicated in Avihou's (2004) study of the thematic content of dreams. Fifty-five Israeli undergraduates completed the Experience in Close Relationships scale (ECR; Brennan et al., 1998) tapping variations in dispositional attachment anxiety and avoidance. Then, for 30 consecutive days, participants completed a diary questionnaire each morning before going to school or work, a questionnaire in which they were asked to recall any memorable dreams or dream fragments from the previous night. If they had such memories, they were asked to write a detailed description of their dream(s). The number of reported dreams ranged from 7 to 27 across the month-long period and averaged 14 dreams. Two independent judges, blind to participants' attachment scores, analyzed each dream episode that contained a narrative of interpersonal interactions using the CCRT coding scheme (1152 dream episodes) and extracted the wishes expressed in each episode. For each participant, the pervasiveness of a wish was computed by dividing the number of dream episodes in which a wish occurred by the total number of dream episodes scored.

The findings indicated clearly that attachment-related interaction goals are manifested in dreams. On the one hand, the wishes expressed in the dreams of anxiously attached individuals reflected hyperactivation of the attachment system and the goals associated with hyperactivation. Specifically, self-reported attachment anxiety was associated with the pervasiveness of wishes to be loved and accepted by others and to be controlled by them, and inversely associated with the wish to help needy others. On the other hand, the wishes expressed in the dreams of avoidant individuals reflected deactivation of the attachment system. Self-reported avoidant attachment was associated with the pervasiveness of wishes to assert oneself and be independent, to oppose and control others, and to be distant and avoid interpersonal conflicts.

#### *Attachment Orientations and the Construal and Organization of Personal Goals*

Theory and research on personal goals indicate that people differ not only in the goals they pursue, but also in the ways in which they cognitively appraise and organize their goals (e.g., Cantor & Langston, 1989; Emmons, 1986, 1997). In a review of research on “personal strivings” – the goals a person regularly tries to attain – Emmons (1992, 1997) specified four dimensions along which people vary in their construal of personal strivings. The first dimension is *degree of commitment* – the value and importance placed on personal goals and the effort invested in pursuing them. The second dimension is *anticipated outcome of goal pursuit* – the expectations of success and personal control in attaining one’s habitual goals. The third dimension is *appraisal of threats/demands in goal pursuit* – the difficulties, obstacles, and problems people anticipate encountering as they strive toward their goals. The fourth dimension, *level of abstraction*, concerns the extent to which people frame their central goals in broad and abstract terms (“being a psychologist”) versus narrow and concrete terms (“getting an A in a psychology course”).

Beyond characterizing these properties of people’s goal striving, Emmons (1997) discussed three dimensions along which people vary when organizing their strivings within a goal system. The first dimension is *level of inter-goal conflict* – the extent to which people

believe that the pursuit or attainment of one goal interferes with the pursuit or attainment of another. The second dimension, *goal differentiation*, concerns the extent to which people perceive their goals as distinct, dissimilar, and unrelated to each other. The third dimension is *goal integration* – the extent to which people possess superordinate goal categories that connect different subordinate goals without eliminating their uniqueness and contradictions. Highly integrated people can compare different goals, appraise the interactions among the goals, evaluate tradeoffs, and view specific goals as alternative means for attaining superordinate goals or supporting personal meaning structures. Less integrated people have fragmented goal systems in which different goals are not coherently linked to an overarching, unifying goal or set of goals.

Variations in construal and organization of personal goals are important for understanding goal engagement and disengagement and the affective states that accompany and follow goal pursuit (Emmons, 1986, 1997). For example, whereas positive expectations of anticipated outcomes can facilitate goal engagement and maintenance of positive affect during goal pursuit, high levels of threat appraisal and inter-goal conflict can hinder goal engagement and elicit negative affect. Research has shown that these variations have important implications for psychological and physical well-being (e.g., Emmons, 1986, 1992; Emmons & King, 1988). Whereas high levels of inter-goal conflict and a high level of abstraction in framing personal goals are associated with depression and distress, the tendency to frame personal goals in concrete and narrow terms is associated with physical disorders (Emmons, 1992; Emmons & King, 1988). Sheldon and Emmons (1995) also found that people characterized by a high degree of goal integration feel more committed to their personal strivings and more successful in attaining them than less integrated people.

This research led us to propose that variations in attachment-system functioning would affect the way people construe and organize their personal strivings. On the one hand, anxious hyperactivating strategies should bias appraisals of anticipated outcomes and threats or demands during goal pursuit. According to our model, anxiously attached people tend to

exaggerate threats and adversities as part of maintaining the attachment system in a chronically activated state. They also tend to appraise and present themselves as helpless and weak, hoping to elicit other people's compassion, love, and support. Such hyperactivating maneuvers may lead anxiously attached people to appraise threats and problems during goal pursuit in inflated terms and to hold negative and pessimistic expectations about their ability to attain personal goals.

Hyperactivating strategies also interfere with the ability and willingness to pursue non-attachment goals before attachment security has been attained (Bowlby, 1982/1969; Mikulincer & Shaver, 2003). Anxiously attached people are so focused on the need for security that they have few resources left to engage in other kinds of goal-directed activities. Furthermore, they may perceive these activities as interfering with the pursuit of security, because they draw attention and effort away from security-attainment. As a result, chronic reliance on hyperactivating strategies may lead to high levels of perceived conflict between goals and interfere with the formation of an integrated, coherent goal system.

On the other hand, avoidant, deactivating strategies promote disengagement from the pursuit of attachment security, and they may also discourage personal involvement in other kinds of demanding and challenging activities because these can easily generate frustration and pain, which naturally tend to reactivate the attachment system (Mikulincer & Shaver, 2003). These strategies may cause avoidant individuals to defensively reduce their degree of commitment to and investment in goal pursuit. Moreover, they may encourage avoidant individuals to frame their strivings in more concrete and narrower terms, because broader and more abstract strivings tend to require greater risk and investment, opening a person up to greater frustration and disappointment (Little, 1989).

This defensive stance may also encourage segregation of attachment-related goals from other kinds of goals in one's personal goal system (Bowlby, 1980). Deactivating strategies involve denial of attachment-related goals, suppression of thoughts related to these goals, and the establishment of accessibility barriers to attachment-related mental contents (Mikulincer &

Shaver, 2003). This defensive exclusion of attachment-related goals can lead to fragmentation within the personal goal system and interfere with the formation of an integrated and coherent superordinate system.

We recently conducted a correlational study examining the hypothesized associations between attachment orientations and construal and organization of personal goals. In the first session of the study, 80 Israeli undergraduates (41 women, 39 men) completed a brief, 10-item scale tapping attachment anxiety and avoidance (Mikulincer, Florian, & Tolmacz, 1990), along with measures of trait anxiety and self-esteem. In the second session, conducted 3-4 weeks later, each participant was asked to generate a list of six personal strivings, which (following Emmons, 1986) were described as “goals that you are typically trying to accomplish or attain in your everyday behavior.” Participants then rated each of the 6 goals in on the commitment, anticipated outcome, and difficulty dimensions of the Striving Assessment Scale (Emmons, 1986). Specifically, participants appraised (a) how committed they felt to each goal, (b) the degree to which they had succeeded with each form of striving in the past, and (c) the difficulty each form of striving had caused them. All three dimensions were assessed using 6-point scales. Scores for each dimension were computed by averaging a participant’s ratings for that dimension across all six goals. Cronbach alphas for the dimension scales were adequate, ranging from .76 to .84.

Participants were also asked to make three additional ratings. First, they provided ratings of inter-goal conflict in accordance with Emmons and King’s (1988) procedure. They received a 6 x 6 matrix, the rows and columns of which were labeled with their 6 goals, compared each goal with every other goal (30 comparisons), and rated, using a 6-point scale, “how much being successful in one striving has a harmful effect on the other striving.” For each participant, we computed an inter-goal conflict score by averaging the 30 conflict ratings (alpha = .93). Second, participants provided ratings of goal differentiation using Sheldon and Emmons’s (1995) procedure. Specifically, they received a 6 x 6 triangular grid on which they rated, using a 6-point scale, every possible pair of goals as to how dissimilar the two strivings

were. For each participant, we averaged the resulting 15 ratings to form a global goal differentiation score ( $\alpha = .74$ ). Third, participants provided ratings of goal integration; they received another 6 x 6 triangular grid, identical to the one described above, and rated, using a 6-point scale, every possible pair of goals as to “how much you perceive the two strivings as being part of a single broader purpose in life.” We then computed a global goal integration score for each participant by averaging the resulting 15 ratings ( $\alpha = .89$ ).

Two independent judges, blind to participant’s attachment scores, coded the strivings generated by each participant according to their level of breadth and abstraction. Following Emmons (1992), we defined high-level strivings as those that were abstract, reflective, or mentioned internal states. Low-level strivings were defined as those involving more behavioral descriptions and being more concrete and specific. Judges were instructed to read the 6 strivings a participant generated and to assign a single score on a 6-point scale, ranging from 1 (almost all low-level strivings) to 6 (almost all high-level strivings). Since the correlation between the two judges was high (.84), we averaged their ratings to form a single abstraction-level score.

The findings were consistent with our reasoning and hypotheses. Higher attachment anxiety was significantly associated with lower ratings of success in goal pursuit,  $r(78) = -.40$ ,  $p < .01$ , higher ratings of difficulty in goal pursuit,  $r(78) = .29$ ,  $p < .01$ , higher ratings of inter-goal conflict,  $r(78) = .35$ ,  $p < .01$ , and lower ratings of goal integration,  $r(78) = -.34$ ,  $p < .01$ . Higher attachment avoidance was significantly associated with low ratings of commitment in goal pursuit,  $r(78) = -.31$ ,  $p < .01$ , lower levels of abstraction in framing personal strivings,  $r(78) = -.39$ ,  $p < .01$ , and lower ratings of goal integration,  $r(78) = -.43$ ,  $p < .01$ . Importantly, these significant associations could not be explained by trait anxiety or self-esteem. That is, although these measures were significantly related to attachment scores, the associations between attachment scores and the various goal dimensions remained the same after statistically controlling for trait anxiety and self-esteem.

Overall, the findings highlight the relevance of attachment-system functioning for understanding how people construe and organize their personal goals. Whereas attachment anxiety favors a pessimistic appraisal of goal pursuit and a conflictual organization of one's goal system, attachment avoidance favors lack of commitment in goal pursuit and the framing of goals in narrow and concrete terms. Importantly, the two attachment orientations, which reflect non-optimal functioning of the attachment system, are associated with a failure to integrate goals into superordinate meaning structures.

#### *Attachment Orientations and the Dynamics of Goal Disengagement*

In the previous section we focused on the influence of attachment orientations on the appraisal and organization of personal goals. In this section, we extend our discussion to the motivational relevance of attachment orientations to the dynamic process of self-regulation of goal-oriented behavior. We propose that hyperactivation and deactivation of the attachment system affect the decision to persist or disengage from goal pursuit following an encounter with external or internal obstacles to goal attainment. This decision is crucial for the adaptive regulation of goal-oriented behavior and has serious implications for psychological and physical well-being (e.g., Carver & Scheier, 1990, 1998).

According to feedback-control theories such as Carver and Scheier's (1981, 1990, 1998), goal-oriented behavior proceeds smoothly until people encounter an obstacle that impedes progress. A person then stops the behavioral flow momentarily, assesses what can be done to attain the goal, and then decides whether to withdraw or persist in goal pursuit. In Carver and Scheier's model, successful adaptive self-regulation results from accurately assessing the opportunities for and constraints on goal attainment present in a given context. In such cases, people decide either to persist when there are opportunities to remove obstacles and attain the goal, or to disengage when external or internal constraints render the goal unattainable. Pursuing this sensible strategy, a person will rarely miss an opportunity to reach attainable goals but will avoid recurrent failure when a goal is unobtainable. In contrast, maladaptive self-regulation involves premature disengagement – abandoning goal pursuit

when there are still good opportunities to attain the goal – and failure to disengage from unattainable goals. Both common sense and empirical research indicate that these two non-optimal courses of action have negative effects on physical and psychological well-being (e.g., Wrosch & Heckhausen, 1999; Wrosch et al., 2003).

We suspected that the two major secondary, insecure attachment strategies of deactivation and hyperactivation would lead people to make poor decisions regarding goal persistence and disengagement, both in general and especially in interpersonal situations. The deactivating strategies favored by avoidant individuals should predispose them to disengage prematurely from objectively attainable goals. As reviewed in the previous section, these strategies reduce commitment to and investment in challenging and demanding strivings that threaten to cause the kind of frustration and pain that can reactivate a deactivated attachment system. (This kind of frustration and disappointment naturally inclines a person to seek comfort and support from other people, but exhibiting dependency on one's attachment figure is an anti-goal for avoidant individuals.) This tendency may be further exacerbated when an avoidant person encounters difficulties and impediments that demand renewed effort and threaten self-efficacy and self-reliance. Thus, avoidant individuals should react to obstacles and difficulties defensively, withdrawing commitment and suspending effort. While allowing them to avoid potential failures, this reaction is likely to result in missed opportunities to reach attainable goals and overly cautious choices to engage in unchallenging activities.

In contrast, the hyperactivating strategies adopted by anxiously attached individuals predispose a person to continue pursuing unattainable goals. After all, their prototypical striving is for reassurance and commitment in a relationship that they perceive as inadequately reliable. This often generates a long chain of self-fulfilling, oh-woe-is-me experiences in troubled love relationships, including loss of romantic and marital partners to “poachers” (Schachner & Shaver, 2002, 2004). The payoff for this strategy, if there is one, is to continue to feel that one has suffered unduly and deserves more sympathy and support. It fits well with low and unstable self-esteem and emphasizes vulnerability and need.

Although adult attachment researchers have not yet systematically documented attachment-style differences in premature disengagement from attainable goals and failure to disengage from unattainable goals, there is some evidence for the hypothesized effects of deactivating and hyperactivating strategies. For example, week-long diary studies in which participants completed the Rochester Interaction Record each time they engaged in a social interaction lasting 10 minutes or longer (e.g., Pietromonaco & Feldman Barrett, 1997; Tidwell, Reis, & Shaver, 1996) revealed that avoidant people felt bored and disengaged during many of their daily social interactions, suggesting a failure to pursue interesting, engaging interpersonal goals. In a different kind of study, of military training teams, Rom and Mikulincer (2003) found that avoidant trainees reported lower levels of personal involvement during group interactions and saw fewer benefits and challenges in these interactions than did more secure individuals. Interestingly they also performed worse as team members, as assessed by other members of their team.

Another study provides evidence concerning goal disengagement following a marital break-up. Mikulincer and Florian (1996) examined patterns of ongoing involvement with ex-spouses among middle-aged divorced adults and found that anxiously attached people failed to disengage from the lost relationship; they reported the strongest continuing bonds with their ex-spouses (e.g., frequent contacts, high levels of perceived and expected intimacy). (See also Davis, Shaver, & Vernon, 2003, for evidence concerning anxiously attached individuals' use of sexual wiles to lure separated partners back into a relationship.) In contrast, avoidant people reported the strongest inclinations to disengage from and forget their ex-spouses. More secure individuals reported a relatively balanced pattern of engagement with and disengagement from their former partners. They tended to satisfy their attachment needs in other relationships without totally severing their previous emotional ties. This also seems to be the secure strategy for grieving following the death of an attachment figure – maintaining positive representations of the person and relationship while reorganizing one's attachment strategies to get on with life in the absence of the deceased partner (Fraley & Shaver, 1999.)

In a recent series of studies of investment-escalation behavior, Jayson (2004) provided evidence concerning how attachment orientations affect patterns of goal disengagement even in attachment-irrelevant settings. In Jayson's first study, participants who had previously completed the ECR scale read about hypothetical scenarios in which they were asked to imagine that they were the R&D manager of a pharmaceutical firm that had invested money in a new anti-cancer drug. They were then informed that development of the drug was not going well and in fact was causing the firm to lose money. The participants were given an amount of money to invest in R&D and were asked to divide the money between further development of the questionable drug and working on an alternative product. The amount that participants chose to invest in the as-yet-unsuccessful drug was used as an index of continuing commitment to the original investment. In two subsequent studies, Jayson used similar scenarios to see what would happen when he experimentally manipulated participants' personal responsibility for having made the initial investment (high, low) and expectancies of success in further developing the questionable drug (low, high).

Jayson (2004) observed the expected inverse association between attachment avoidance and goal persistence: The higher a person's avoidance score, the less money he or she decided to allocate to the troubled project. However, this association was not significant in experimental conditions that minimized the participant's personal responsibility for the initial investment, a result that supports our idea that avoidant individuals' disengagement from frustrating activities is a defensive maneuver aimed at preventing further damage to their sense of self-worth. When the activity has little or no negative repercussions for the self (as in the low responsibility condition), avoidant individuals no longer seem motivated to disengage from goal pursuit.

Other findings supported our ideas concerning the difficulty experienced by anxiously attached individuals when they should abandon unattainable goals. When expectations about continuing to develop the original drug were experimentally manipulated to be favorable, attachment anxiety was not significantly associated with the amount of money invested in

further development of the drug. However, when participants were led to believe that the goal of successful development was perhaps unattainable (they received pessimistic messages about the drug's prospects), attachment anxiety was significantly associated with a paradoxical escalation in the amount of money participants allocated to the losing investment. That is, anxiously attached people seemed to find it very difficult to withdraw commitment to an unattainable goal.

Following this line of research, we conducted a correlational study in which 60 Israeli undergraduates (40 women, 20 men) completed the ECR scale and Wrosch et al.'s (2003) 4-item goal-disengagement scale, which assesses the ease with which participants are able to reduce effort and relinquish commitment to a goal (e.g., "It's easy for me to reduce my effort toward a goal," "It's easy for me to stop thinking about a goal and let it go"). Participants completed this brief scale twice. In one version, they were asked about goal disengagement after experiencing some unexpected problems that could be solved by investing further effort (attainable goal condition). In the other version, participants were asked about goal disengagement after experiencing recurrent failure over an extended period of time (unattainable goal condition).

We observed a significant positive association between attachment avoidance and goal disengagement in the attainable goal condition,  $r(58) = .44, p < .01$ , but not in the unattainable goal condition,  $r(58) = .01$ . That is, attachment avoidance was associated with goal disengagement when there were still opportunities to achieve the goal (a case of premature disengagement). As expected theoretically, attachment anxiety was inversely associated with goal disengagement in the unattainable goal condition,  $r(58) = -.38, p < .01$ , but not in the attainable goal condition,  $r(58) = -.04$ . In a conceptual replication of Jayson's (2004) findings, attachment anxiety interfered with disengagement from unattainable goals.

Overall, the findings reviewed above document the tendency of avoidant individuals to disengage prematurely from goals when goal pursuit is challenging and demands personal involvement. They also indicate, as expected, that anxiously attached individuals seem

relatively unable or unwilling to disengage from unattainable goals. Hyperactivating strategies create a motivational trap in which a person is caught between negative feelings related to blocked progress toward a goal and inability to disengage from the goal. The inability to let go of unattainable goals may be a hallmark of anxious attachment.

*Attachment Anxiety and the Passage from Approach to Avoidance Motivation*

As discussed earlier, the attachment system includes both a tendency to approach the goals of protection and security and a tendency to avoid the anti-goals of separation, rejection, and attachment-figure unavailability. This kind of opposition between appetitive and aversive forces is common in motivational systems and seems to be based in different neural substrates and to have different effects on cognition and behavior (e.g., Carver & Scheier, 1990; Gable, Reis, & Elliot, 2003). Research has shown that individual differences in the relative strength of approach and avoidance tendencies affect emotional and cognitive reactions to positive and negative experiences and tend to determine how these experiences contribute to well-being and life satisfaction (e.g., Carver & White, 1994; Updegraff, Gable, & Taylor, 2004). We suspect that anxiously attached individuals' reluctance to disengage from unattainable goals creates an imbalance between aversive and approach tendencies.

For anxious people, the experience of aversive anti-goal states is a common experience, because hyperactivation of the attachment system is often followed by failure to attain security. Moreover, due to their tendency to exaggerate the presence and seriousness of aversive states and to mentally ruminate on their meaning and consequences (Mikulincer & Shaver, 2003), attachment-anxious people become chronically preoccupied with failure and other distress-eliciting experiences. As a result, anxiously attached people may be highly attentive and sensitive to possible recurrence of anti-goal states (rejection, separations, loss, and attachment-unrelated failures and threats that might cause a person to need protection and support while not be certain of its availability). Their thoughts and actions may thus become mainly directed toward precluding aversive states rather than toward achieving positive goal states. When a person's motives are organized in this way, avoiding aversive states becomes

the main source of satisfaction, which is likely not to be as beneficial in most respects as attaining positive goals (as is suggested by differences between the affective states of relief and happiness; Roseman & Evdokas, 2004).

Attachment research has provided extensive evidence that anxiously attached persons tend to be extremely sensitive and responsive to signs of attachment-figure unavailability. For example, strong correlations have been found between attachment anxiety and measures of rejection sensitivity (e.g., Downey & Feldman, 1996). Moreover, studies examining emotional reactions to loss of a spouse (e.g., Field & Sundin, 2001; Wayment & Vierthaler, 2002), break-up of a dating relationship (e.g., Feeney & Noller, 1992; Simpson, 1990), and temporary separation from a romantic partner (e.g., Fraley & Shaver, 1998; Medway, Davis, Cafferty, & Chappell, 1995) indicate that anxiously attached people exhibit the most intense and pervasive distress reactions. Of course, one can alternatively interpret these findings as a reflection of undifferentiated strong affective responses rather than sensitivity to aversive events. However, findings from studies of emotional reactions to actual or symbolic reunion with an attachment figure (e.g., Cafferty et al., 1995; McGowan, 2002) seem to rule out this alternative. For example, in Cafferty et al.'s (1995) study of separation due to overseas deployment of husbands during a war, anxiously attached participants evinced less intense positive emotions upon reunion than securely attached participants.

In a series of three studies, Mikulincer, Florian, Birnbaum, and Malishkowitz (2002) uncovered an interesting feature of anxiously attached participants' hypersensitivity to separation from an attachment figure. Across studies, people were asked to imagine being separated from a loved partner and then to perform a word completion task that tapped accessibility of death-related thoughts. Participants who scored high on attachment anxiety reacted to separation reminders with heightened availability of death-related thoughts. When given partial words and asked to complete them, anxious individuals in the separation condition produced more death-related words. This tendency was particularly strong when the imagined separation was long lasting or final, or when it involved a romantic partner. In other

words, for anxious individuals, separation reminded them of death, which is both the ultimate separation and also the event that Bowlby (1982/1969) thought the attachment behavioral system evolved to protect a person from. If attachment-anxious people's reactions to imagined separations sometimes seem extreme to their less anxious associates, the extremity of the reaction might be more understandable if the observers knew that the foreboding of actual death lay beneath it.

A recent diary study of marital relationships provided additional evidence concerning the focus of anxious individuals' concerns on aversive anti-goals (Mikulincer, Florian, & Hirschberger, 2002). In this study of 86 newlywed couples, husbands and wives independently completed the ECR scale and filled out a questionnaire every evening for a period of 21 days. Each day, participants provided ratings of marital satisfaction on that day, read a series of 8 possible positive partner behaviors (e.g., "My partner helped me solve a problem") and 10 possible negative partner behaviors (e.g., "My partner was cold and rejecting"), and marked whether each action had occurred on that day. Daily scores indicating partner's positive and negative behaviors were computed by counting the number of such actions checked on a particular day.

For both women and men, attachment anxiety moderated the effects of partner behavior (positive and negative) on daily marital satisfaction. For participants scoring low on attachment anxiety, both kinds of partner behavior were significantly associated with ratings of marital satisfaction – the greater the number positive partner behaviors and the lower the number of negative partner behaviors on a given day, the higher the rated satisfaction on that day. However, among participants scoring high on attachment anxiety, daily marital satisfaction was more strongly tied to the number of negative partner behaviors than to the number of positive behaviors. In fact, only partner's negative behaviors made a unique contribution to anxiously attached spouses' daily ratings of marital satisfaction. This indicates that anxiously attached individuals tend to overweight aversive interpersonal experiences and

underweight or ignore their partner's positive behaviors – a sign of overemphasizing anti-goals rather than approach goals (Updegraff et al., 2004).

Research is also beginning to show that anxious individuals' tendency to organize their actions around aversive rather than pleasant events is observable even in attachment-unrelated contexts (Elliot & Reis, 2003; Kogot, 2002). In several studies, participants completed self-report measures tapping attachment orientations as well as approach and avoidance achievement-related goals in academic settings (e.g., learning new skills, attaining high grades, avoiding low grades). In these studies, attachment anxiety was more strongly associated with anti-goals than with approach goals. Mikulincer and Rom (2003) followed up this research by examining whether momentary, contextual activation of the sense of attachment security weakens anxious individuals' emphasis on anti-goals. They assessed motivational orientation in a university class following the priming of mental representations of either a security-enhancing attachment figure (a supportive other) or a relationship partner who did not serve attachment functions. The findings indicated that security priming reduced the focus on failure-related anti-goals at the beginning of the course and reduced the correlation between self-reported attachment anxiety and the emphasis placed on these goals. These results imply that anxiously attached individuals' motivational orientation is, as theoretically predicted, tied to their lack of attachment security rather than being a function of context-impervious temperamental factors.

### *Concluding Remarks*

In this chapter, we have explained and illustrated ways in which Bowlby's central theoretical construct, the attachment behavioral system, is relevant to motivation science. Individual differences in attachment security, and in particular forms of insecurity (anxiety and avoidance), are associated with personal goals, the organization of those goals, and goal-related cognitions and behaviors in both attachment-related and attachment-unrelated contexts. This application of attachment theory to broad motivational issues encourages us to think that important psychodynamic issues, such as conflicts related to love, dependence, and security

and the defenses that arise when a person struggles to master or cope with these conflicts, underlie processes of goal engagement and disengagement as well as cognitive assessments of goal attainability or goal value. The theory also leads us to consider such issues as the evolution of certain goal-directed behaviors and the effects of a person's attachment history on goals, fears, and defenses. Because attachment theory is both an evolutionary theory and a theory of personality development, it suggests that motivation theorists and researchers need to pay attention to biological and developmental roots of people's goal systems and the ways in which these are shaped by interactions with attachment figures during infancy and childhood. As Bowlby (1982/1969) intended, attachment theory creates important bridges between still-useful psychoanalytic formulations and more recent cognitive and developmental theories of personality and motivation.

We hope the ideas and findings presented in this chapter will stimulate other scholars to apply Bowlby's attachment theory to the study of human motivation. We also hope that future research will be directed at the normative and individual-difference aspects of other behavioral systems (e.g., exploration, caregiving, sex, affiliation). Bowlby's ideas about the attachment behavioral system can be extended to provide guides to the investigation of other behavioral systems, each of which involve additional areas of striving, conflict, and defense. Moving beyond the almost exclusive emphasis on the attachment behavioral system, which has characterized the field of attachment research, including our own work, would yield a much broader conception of human motivation, a conception which, when fully developed, might have a place among the "grand theories" of motivation and personality.

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