

Attachment Bonds in Romantic Relationships

Phillip R. Shaver

University of California, Davis

Mario Mikulincer

Interdisciplinary Center (IDC) Herzliya

In his exposition of attachment theory, Bowlby (1973, 1979, 1980, 1982, 1988) emphasized the importance to emotion regulation, psychological well-being, and mental health of relational bonds with people who are available, sensitive, and supportive in times of need. (Bowlby called these people “attachment figures.”) Having these relational bonds allows a person of any age to cope constructively with stressful events, maintain self-esteem and emotional stability, and venture into the world confidently in ways that foster autonomy and psychological growth.

Originally, attachment theory (Bowlby, 1982) was formulated to explain infant-parent emotional bonding and its anxiety-buffering and growth-promoting functions in infancy and childhood. However, based on Bowlby’s (1979, p. 129) claim that attachment needs are active “from the cradle to the grave,” Shaver, Hazan, and Bradshaw (1988) proposed that romantic relationships in adulthood can be conceptualized as involving attachment bonds that function to regulate distress and provide a secure base for continued psychological growth and increasing maturity and autonomy. Our goal in the present chapter is to summarize what has been learned

about this extension of attachment theory during the last 25 years and examine in more detail the extent to which romantic relationships serve attachment functions.

We begin the chapter by briefly describing the core concepts of attachment theory and explaining how we think a close relationship partner in adolescence or adulthood can become a person's primary attachment figure. We review research showing that interactions with romantic partners affect distress regulation and psychological growth, as attachment theory would lead us to expect. And we discuss research showing that the potential or actual loss of a romantic relationship often produces severe emotional dysregulation until a person's hierarchy of attachment figures is reorganized. We focus here mainly on the normative aspects of romantic attachment relationships, but we also devote some attention to individual differences arising from differences in people's attachment histories.

Attachment Theory: Basic Concepts

Bowlby (1982) proposed that human infants are born with an innate psychobiological system (which he called the attachment behavioral system), which motivates them to seek proximity to supportive others (attachment figures) as a means of protecting them from physical and psychological threats and promoting affect regulation, well-being, and increasing self-efficacy. Bowlby speculated that the need to seek and maintain proximity to attachment figures evolved biologically because of children's prolonged dependence on "stronger and wiser" others, usually parents, who can defend children from predators and other dangers while supporting their gradual physical and cognitive development (Coan, 2008). Although the attachment system is most critical during the early years of life, Bowlby (1988) assumed that it is active over the entire life span and underlies the formation and maintenance of relational bonds in adulthood.

The main goal of the attachment system is to sustain a sense of safety or security (called “felt security” by Sroufe & Waters, 1977), based on beliefs that the world is generally safe, that the self is competent and lovable, and that key others will be available and supportive in times of need. This system is activated by events that threaten the sense of security, such as encountering actual or symbolic threats or noticing that an attachment figure is not sufficiently near, interested, or responsive. In such cases, a person is automatically motivated to seek and reestablish actual or symbolic proximity to an attachment figure (the attachment system’s primary operating strategy). These bids for proximity persist until protection and security are attained. The attachment system is then deactivated and the person can calmly and coherently return to other activities, which Bowlby thought were motivated by other behavioral systems such as exploration and affiliation.

Beyond describing universal aspects of the attachment system, Bowlby (1973) described individual differences in the system’s functioning. Interactions with attachment figures who are generally available in times of need, and who are sensitive and responsive to bids for proximity and support, promote a stable sense of attachment security and result in the construction of positive mental representations of self and others. But when a person’s attachment figures are not reliably available and supportive, proximity seeking fails to relieve distress, felt security is undermined, negative models of self and others are formed, and the likelihood of establishing insecure orientations toward attachment figures and relationships increases. Research indicates that these attachment insecurities can be measured in adulthood in terms of two independent dimensions, attachment-related anxiety and avoidance (Brennan, Clark, & Shaver, 1998).

A person’s position on the anxiety dimension indicates the degree to which he or she worries that a partner will not be available and responsive in times of need. A person’s position on the avoidance dimension indicates the extent to which he or she distrusts relationship

partners' good will and strives to maintain behavioral independence, self-reliance, and emotional distance. The two dimensions are associated in theoretically predictable ways with relationship quality and adjustment (see Mikulincer & Shaver, 2007, for a review).

According to attachment theory, it is important to distinguish between close relationships in general and attachment relationships in particular, and between relationship partners, on one hand, and attachment figures, on the other. Attachment figures are not just ordinary relationship partners. They are special individuals to whom a person turns when protection and support are needed. Bowlby (1982) specified the provisions that a relationship partner should supply, or the functions this person should serve, if he or she is to be viewed as an attachment figure (see also Hazan & Zeifman, 1994). First, attachment figures are targets of proximity maintenance. Humans of all ages tend to seek and enjoy proximity to their attachment figures in times of need and to experience distress upon separation from them. Second, attachment figures provide a physical and emotional safe haven; they facilitate distress alleviation and are a source of support and comfort. Third, attachment figures provide a secure base from which people can explore and learn about the world and develop their own capacities and personal traits. By accomplishing these functions, a relationship partner becomes a source of attachment security and one's relationship with him or her becomes an attachment bond.

A fourth defining characteristic of an attachment bond is that the real or expected disappearance of an attachment figure evokes strong "separation distress"; that is, people react with intense distress to actual or potential separations from, or losses of, attachment figures. Bowlby's (1982) ideas about separation distress as a defining feature of an attachment figure were inspired by observations made by Robertson and Bowlby (1952), who noticed that infants and young children who are separated from primary caregivers for extended periods pass through

a predictable series of states: separation protest (including crying, clinging, calling, yearning), despair (including depressed mood, decreased appetite, and disturbed sleep), and detachment (emotional withdrawal or anger mixed with excessive vigilance and anxious clinging).

According to Bowlby (1982), this sequence of responses is not targeted to every close relationship partner, but only to those viewed as attachment figures. Theoretically, separation distress is the normative response to an impending loss of a major source of safety and security.

During infancy, primary caregivers (usually one or both parents, but in many cases other relatives, nannies, and daycare providers as well) are likely to serve attachment functions. In later childhood, adolescence, and adulthood, a wider variety of relationship partners can serve as attachment figures, including siblings, other relatives, familiar co-workers, teachers or coaches, close friends, and romantic partners. They form what Bowlby (1982) called a person's "hierarchy of attachment figures." There may also be context-specific attachment figures – real or potential sources of comfort and support in specific milieus, such as therapists in therapeutic settings or leaders in organizational settings. Moreover, groups, institutions, and symbolic personages (e.g., God) can become targets of proximity seeking and sources of safety (Granqvist, Mikulincer, & Shaver, 2010). In our studies, we have found, for example, that the actual presence of a supportive relationship partner in different kinds of relationships (romantic, leader-follower, and therapeutic) has long-term consequences for a person's attachment security, psychological well-being, and mental health (see Shaver & Mikulincer, 2008, for a review).

In the present chapter, we focus mainly on romantic relationships in adulthood and the extent to which they can be conceptualized as involving attachment bonds (Hazan & Shaver, 1987; Shaver et al., 1988). In the next section, we review evidence supporting this conceptualization and indicating that romantic relationships fulfill anxiety-buffering and growth-

promoting functions and that a romantic partner or spouse can become a person's principal attachment figure in adulthood.

Attachment Processes in Romantic Relationships

In his writings, Bowlby (e.g., 1979) emphasized that the need for comforting figures and the development of emotional attachments to security providers are evident in adult romantic relationships and are part of what we generally call love. He asserted that "Many of the most intense of all human emotions arise during the formation, the maintenance, the disruption and the renewal of affectional bonds...the unchallenged maintenance of a bond is experienced as a source of security, and the renewal as a source of joy" (Bowlby, 1979, p. 69)

Following Bowlby's lead, Shaver et al. (1988) proposed that sustained romantic love in adulthood involves an emotional attachment that is conceptually parallel to infants' emotional bonds with their primary caregivers: "For every documented feature of attachment there is a parallel feature of love, and for most documented features of love there is either a documented or a plausible infant parallel" (Shaver et al., 1988, p. 73). Love in both infancy and adulthood includes eye contact, holding, touching, caressing, smiling, crying, clinging, a desire to be comforted by one's relationship partner (parent, romantic lover, or spouse) when distressed, the experience of anger, anxiety, and sorrow following separation or loss, and the experience of happiness and joy upon reunion. Moreover, formation of a secure relationship with either a primary caregiver or a mate depends on the caregiver/partners' sensitivity and responsiveness to the increasingly attached person's bids for proximity and intimacy, and this responsiveness causes the attached person to feel safer, more confident, happier, more outgoing, and kinder to others. Furthermore, in both kinds of relationships, when the partner is not available and not responsive to the person's bids for proximity, the attached person can become anxious,

preoccupied, and hypersensitive to signs of love or its absence, to approval or rejection.

Separations or non-responsiveness, up to a point, can increase the intensity of both an infant's and an adult's proximity-seeking behavior, but beyond that point they can instigate defensive distancing from the partner so as to avoid the pain and distress of repeated frustration. All of these parallels led Shaver et al. (1988) to conclude that infants' bonds with parents and romantic partners' bonds in adulthood are variants of a single underlying process.

Today, 25 years after Shaver et al.'s initial statement of their extension of Bowlby's theory, there is ample evidence that romantic relationships can be viewed as attachments and that a mate is often one's principal attachment figure and a major source of psychological safety and security. In the following sections we review evidence showing that romantic relationships fulfill four major defining features of attachment (Hazan & Zeiffman, 1994) and can therefore be viewed as major resources for coping and personal growth.

Romantic partners as attachment figures. One kind of evidence for the claim that romantic relationships involve attachment, in Bowlby's sense of that term, comes from studies examining the identities of people who serve as adults' primary sources of security during adulthood. To explore this issue, Hazan and Zeifman (1994) constructed the WHOTO scale, which identifies a person's primary attachment figures by asking for the names of people who are preferred targets of proximity (e.g., "Whom do you like to spend time with?") and providers of what Bowlby called a safe haven (e.g., "To whom do you turn for comfort when you're feeling down?") and a secure base (e.g., "Whom do you feel you can always count on?"). Hazan and Zeifman (1994) administered the WHOTO scale to a sample of young adults and found that they preferred romantic partners rather than parents when they sought closeness or a safe haven. With regard to the secure base function, they preferred their romantic partner if they were

involved in a long-term romantic relationship or marriage. However, if no such relationship existed, adults still preferred parents rather than friends as secure-base providers. These findings have been replicated in subsequent studies (e.g., Schachner, Shaver, & Gillath, 2008).

Adopting a slightly different measurement strategy, Trinke and Bartholomew (1997) constructed a scale to assess attachment networks rather than principal attachment figures. Young adults were asked to list multiple attachment figures for the proximity seeking, safe haven, and secure base functions, and to rank the figures in order of importance. With respect to the safe haven and secure base functions, Trinke and Bartholomew (1997) also asked about both desired and actual use of specific attachment figures. The most common principal attachment figure for members of this young adult sample, defined by the highest composite rank, was mother (36% of participants) followed by romantic partner (31%), best friend (14%), father (11%), and sibling (8%). However, 62% of the participants who were involved in a serious romantic relationship named their romantic partner as their principal attachment figure.

It is important to note that nominating a romantic partner as the principal attachment figure during adulthood is affected by a variety of relational and individual-differences factors. For example, length of a romantic relationship is associated with choosing the romantic partner as a principal attachment figure (e.g., J. Feeney, 2004; Fraley & Davis, 1997; Hazan & Zeifman, 1994). In fact, Hazan and Zeifman (1994) found that consolidation of what they called a “full-blown attachment” to a romantic partner (i.e., using the partner for proximity maintenance and as a safe haven and secure base) takes approximately two years. In addition, feelings of trust, intimacy, and commitment in a romantic relationship affect the nomination of a romantic partner as one’s principal attachment figure (e.g., Doherty & Feeney, 2004; J. Feeney, 2004; Fraley & Davis, 1997). This can explain why young adults scoring higher on attachment anxiety or

avoidance – the two principal forms of attachment insecurity, both of which involve deficiencies in trust, intimacy, and commitment – are less likely to nominate a romantic partner as a safe haven and secure base (e.g., Fraley & Davis, 1997; Maysseless, 2004).

In sum, research conducted to date indicates that romantic partners occupy the top rung in many people's attachment hierarchies during young adulthood, but parents often continue to be primary providers of a secure base for exploration and growth. As adults age, they become increasingly likely to rely on a romantic or marital partner, if they have one, as a principal attachment figure, including as a secure base.

Romantic partners as a safe haven. If romantic relationships involve attachment bonds, people should tend to seek proximity to their romantic partner in times of need, and closeness to this person should alleviate distress and induce comfort, peace of mind, and a sense of safety. With regard to proximity seeking, Fraley and Shaver (1998) found many examples of this type of behavior while unobtrusively observing romantic couples waiting in the departure lounges of a public airport. Couples who were about to separate from each other (because one partner was flying to another city) were more likely to seek and maintain physical contact (e.g., by mutually gazing at each other's faces, talking intently, and touching) than couples who were not separating (because they were about to fly somewhere together). Theoretically speaking, the threat of separation caused people to engage in proximity-seeking behavior, which Bowlby attributed to activation of the attachment system.

The tendency to seek proximity to a romantic partner in times of need has also been documented in experimental studies of death anxiety following manipulations that make mortality salient (see Mikulincer, Florian, & Hirschberger, 2003, for a review). For example, Florian, Mikulincer, and Hirschberger (2002) asked people to write briefly about either their own

death or a neutral topic (watching TV). Following a common distracter task, all participants then rated the extent to which they were committed to their romantic partner (e.g., “I am completely devoted to my partner”) as well as being morally committed to marriage (e.g., “Marriages are supposed to last forever”). People in the mortality salience condition reported greater psychological commitment to their romantic partner than participants in the neutral condition. There was, however, no significant effect of mortality salience on moral commitment to marriage. Florian et al. (2002) concluded that death reminders increase the sense of love and closeness to a romantic partner but not the relevance of cultural obligations concerning marriage.

Further evidence for the use of a romantic partner as a safe haven was provided by a diary study conducted by Collins and Feeney (2005), a study focused on within-person variability in support-seeking and support provision in premarital relationships. In this study, both members of romantic couples completed a diary every evening for 21 consecutive days, noting stressful events, support-seeking efforts, and support provision. Results indicated that individuals sought more support from their romantic partner on days when they experienced more stressful events, and participants responded by providing more support on days when their partner expressed greater need for support. In a more recent diary study, Campa, Hazan, and Wolfe (2009) found that young adults in serious romantic relationships tended to turn to their partner for daily comfort during the 28-day study period even on days when they reported no particular stressor. This level of comfort seeking contrasted with that of participants who were not involved in a romantic relationship. They tended to turn to an attachment figure (usually a parent) for comfort mainly on days when they reported heightened distress. Thus, romantic partners may not only replace parents as a major safe haven, but they may enjoy closeness and comfort even when there is no special reason for feeling unsafe. According to Campa et al.

(2009), “Perhaps the special nature of such relationships in terms of physical intimacy and proximity makes safe haven behavior to some degree a matter of convenience” (p. 301).

There is also extensive evidence that proximity to a romantic partner alleviates distress. In a naturalistic study of cohabitating and married couples, Gump, Polk, Kamarck, and Shiffman (2001) asked participants partners to wear ambulatory blood-pressure monitors for a week and to report what they were doing and feeling and indicate whether anyone was with them every time their blood pressure was recorded. The authors found that blood pressure was lower when participants were interacting with their romantic partner than when they were interacting with other people or were alone. Interestingly, this effect was observed even during non-intimate exchanges with a mate, implying that the partner’s mere presence had beneficial effects.

Romantic partners’, or mates’, functioning as safe havens has also been documented in naturalistic studies of reunion with a spouse following wartime or job-related separations (e.g., Piotrkowski & Gornick, 1987). Studies of a romantic partner’s supportiveness during stressful experiences have also revealed positive effects of a supportive partner on one’s perceived coping ability, coping responses, psychological well-being, and physical health (see Cohen, Gottlieb, & Underwood, 2000, for a review). Moreover, appraising one’s romantic partner as supportive tends to buffer physical pain, such as labor pain, cardiac pain, and postoperative pain (see MacDonald & Leary, 2005, for a review).

In an observational study of dating couples who were videotaped while one partner disclosed a personal concern to the other, Collins and Feeney (2000) found that observed (i.e., actual) partner supportiveness reduced the distress experienced by the support recipient. That is, people whose romantic partner provided more responsive support (as judged by independent coders) felt better after disclosing a personal problem than they did beforehand. Moreover,

couples who experienced more supportive interactions (as judged by both the couple members themselves and independent coders) reported having better relationships overall. These findings were conceptually replicated by Collins, Ford, Guichard, Kane, and Feeney (2009), who found that spouses who actually received more responsive support from their partner after a stressful speech task (as assessed through self-report and observers' ratings) felt calmer, more secure, and more valued by the partner immediately after the interaction. In addition, spouses who perceived their partner to be a safe haven (i.e., a responsive caregiver) felt more confident of his or her love and commitment.

In addition to these correlational studies, there are a number of experimental studies showing that one's romantic partner can be a stress alleviator. For example, Coan, Schaefer, and Davidson (2006) examined brain responses (using functional magnetic resonance imaging) of married women who underwent a laboratory stressor (threat of electric shock) while they were holding their husband's hand, holding the hand of an otherwise unfamiliar male experimenter, or holding no hand at all. Spousal handholding reduced activation in brain regions associated with stress and distress (right anterior insula, superior frontal gyrus, and hypothalamus). The researchers also found that the stress-reducing effects of handholding were greater in better functioning marriages, probably because of the greater sense of security induced by physical contact with a responsive and supportive husband. In a related study, Master et al. (2009) found that holding the hand of a romantic partner or watching his or her photograph reduced perceptions of pain in response to heat stimuli. Younger, Aron, Parke, Chatterjee, and Macke (2010) replicated these findings in an fMRI study and found that greater analgesia while viewing pictures of a romantic partner was associated with increased activity in several reward-

processing brain regions, such as the nucleus accumbens, lateral orbitofrontal cortex, and dorsolateral prefrontal cortex.

Following this line of research, Kane, McCall, Collins, and Blascovich (in press) asked young adults to complete a threatening cliff-walking task in an immersive virtual environment. In this virtual world, their romantic partner was, in three different experimental conditions, absent from the virtual world, present in the world and attentive to the participant during the task (waving, clapping at successes, nodding their heads, and actively orienting their bodies toward the participant), or present but inattentive (looking away from the participant). Participants in the attentive-partner condition experienced the task as less stressful than those who were alone; they also reported feeling more secure during the task and were less vigilant of their partner's behavior compared to those in the inattentive-partner condition. These findings suggest that a romantic partner can function as a safe haven particularly if he or she acts in an attentive and response manner; i.e., as a security-enhancing attachment figure.

Conceptually similar findings were reported by Guichard and Collins (2008, who manipulated the quality of one's romantic partner's support by having the partner send messages (actually written by the researchers) before and after the focal person participated in a stressful speech-delivery task. Participants who received highly supportive messages were in a better mood after their speech, had higher state self-esteem, and felt more satisfied with their relationship compared to those who received low-support messages or no message at all from their partner. In a similar study, Collins, Jaremka, and Kane (2009) found that experimentally manipulated supportive messages from a romantic partner during a stressful speech task (as compared to low-support messages) yielded lower cortisol levels and more rapid emotional recovery from the stressful task.

Although all these studies support the notion that a romantic relationship is a place where couple members can find a safe haven in times of need, we should note that the provision of a safe haven can be hampered by attachment insecurities. First, there is evidence that people suffering from attachment insecurity, of either the anxious or the avoidant variety, tend to seek less support from their romantic partners in times of need (see Mikulincer & Shaver, 2007, for a review). Second, several laboratory and field studies (using self-report and observational methods) indicate that relatively insecure people are less likely to be sensitive and responsive to their romantic partner's needs and less likely to provide a safe haven for him or her (see Collins et al., 2009, and Mikulincer & Shaver, 2012, for reviews). Taken together, this evidence suggests that the successful operation of the safe-have function of a romantic relationship depends on the extent to which both the support-seeking partner and the support-providing partner feel secure in attachment relationships (both in general and specifically in the current relationship), trust others, and are confident in their own value and lovability.

Romantic partners as a secure base. Are romantic partners capable of providing a secure base for each other, allowing them to explore the world autonomously and achieve personal goals? According to Bowlby (1988), an important function of an attachment figure is to provide a secure base from which another person can “make sorties into the outside world” (p. 11) with confidence that he or she can return for assistance and comfort should obstacles arise. This secure base, which was originally described by Ainsworth et al. (1978) in their studies of 1-year-old infants and their mothers, can allow a person of any age to take sensible risks, engage in challenging activities, and pursue new goals. B. Feeney and Thrush (2010) further refined the concept of secure-base provision in adulthood and concluded that an attachment figure acts a secure base for a partner's autonomous exploration if he or she (a) is available when this kind of

support is needed by a partner, (b) does not interfere with the partner's sorties into the outside world, and (c) accepts and encourages these autonomous sorties. Therefore, if romantic relationships truly involve attachment bonds and processes of the kinds delineated by Bowlby (1982) and Ainsworth et al. (1978), adults should seek secure-base support from their romantic partners, and the availability and responsiveness of this partner should facilitate one's efforts at personal growth.

Unfortunately, there is not yet a probing study of the extent to which people actually seek secure-base support from a romantic partner during exploration or goal pursuit. However, there is evidence that a romantic partner can facilitate autonomous exploration and pursuit of personal goals. For example, B. Feeney (2007) found that study participants' perception of their romantic partner's availability and assistance in removing obstacles to goal pursuit were associated with a stronger sense of independence, greater feelings of self-efficacy in goal achievement, and deeper engagement in autonomous exploration. Moreover, during couples' discussions of future personal goals, participants were more likely to engage in exploration of these goals (as coded by external judges) when their partner was coded as communicating more availability and responsiveness to these exploratory inclinations.

Using longitudinal data, B. Feeney (2007) also found that individuals whose partners were more responsive to their needs for secure-base support (as reported by the partner or coded by external judges) reported increases in autonomous exploration over 6 months and were more likely to have achieved at least one personal goal that they had identified 6 months earlier. In another laboratory study, B. Feeney (2004) found that experimentally manipulated non-intrusiveness of a romantic partner predicted increases in participants' self-esteem and positive mood after an exploration activity.

In a more recent study, B. Feeney and Trush (2010) asked married couples to participate in a videotaped laboratory exploration activity and assessed actual exploratory behavior. The authors found that when spouses were coded by external judges as more available during the exploration task, as less interfering with their partner's exploration, or as more accepting of this activity, the exploring partner persisted longer at the activity and reported heightened self-esteem and a better mood following the exploration task. Conceptually similar findings were reported by Overall, Fletcher, and Simpson (2010): Study participants whose romantic partners were more available and responsive to their self-improvement desires during a laboratory discussion showed more self-improvement during the next year.

It is important to note, however, that attachment insecurities can reduce or preclude these positive effects of a romantic partner's role as a secure base. In a recent experimental study, Coy, Green, and Davis (2012) asked participants to engage in inner exploration of sensations and feelings alone or in the presence of their romantic partner. Findings indicated that the positive effects of a partner's presence disappeared and were sometimes even reversed among insecurely attached partners. For more avoidant participants, for example, the presence of their partner during the exploration task reduced rather than increased (compared to the alone condition) the time they spent in exploration and their positive mood during the activity. This effect might be attributable to avoidant individuals' dismissal or derogation of their partner's supportiveness (e.g., Collins & Feeney, 2004) or to their partner actually being less responsive to, and less encouraging of, their exploration efforts (Feeney & Trush, 2010). Participants with more anxious partners felt less positive after exploring with the partner than when exploring alone. This may be explained by previous research showing that more attachment-anxious individuals (as objectively coded by observers) are more interfering with, and less encouraging of, their

romantic partner's autonomous exploration; thus, their presence may increase discomfort rather than provide a secure base (Feeney & Trush, 2010).

Responses to separation and loss. The distress elicited by separation from, or loss of, a close relationship partner is one of the defining features of an attachment bond. According to Bowlby (1980), the absence of an attachment figure is a threat to a person's sense of security and safety and therefore arouses anxiety, anger, protest, and yearning. An infant, finding itself without an attentive caregiver, cries, thrashes, attempts to reestablish contact with the absent figure by calling and searching, and resists other people's soothing efforts. If the separation is prolonged (e.g., by the mother's extended stay in a hospital or, at worst, by her death), the infant grieves disconsolately, and anxiety and anger gradually give way to despair (Bowlby, 1980).

Similar reactions are often observed in adolescents and adults following the breakup of a romantic relationship (Shaver & Fraley, 2008). For those who are abandoned without warning, the breakup of a love relationship can be devastating and the reaction can be so intense that it amounts to grief (e.g., Frazier & Cook, 1993). For example, in a diary study of emotions recorded over a 28-day period, Sbarra and Emery (2005) obtained evidence of increased emotional volatility and higher levels of sadness and anger on days following the breakup of a dating relationship than on days before the breakup. Such reactions are especially likely following a marital separation or divorce, which typically evokes intense anxiety, sorrow, loneliness, emptiness, and despair, especially in a partner who had not prepared in advance for the breakup by gradually detaching him- or herself from the mate (e.g., Birnbaum, Orr, Mikulincer, & Florian, 1997).

Not surprisingly, the most dramatic evidence concerning the effects of breaking or losing an attachment bond is observed following the death of a romantic partner or spouse (see Stroebe,

Hansson, Schut, & Stroebe's, 2008, *Handbook* for reviews). This kind of loss is one of the most devastating experiences in most people's lives and is likely to bring forth a torrent of anxiety, sadness, loneliness, guilt, anger, and longing for the deceased (e.g., Shaver & Fraley, 2008). It can cause a person to feel like dying in order to rejoin the lost partner. It can disrupt psychological functioning for months and lead to depression, post-traumatic stress disorder, and impaired physical health (e.g., Boelen, van den Hout, & van den Bout, 2006; Bonanno, Wortman, & Nesse, 2004; Stroebe, Abakoumkin, & Stroebe, 2010). In fact, cross-cultural research indicates that, despite variations in mourning rituals and expressions of grief across cultures, death of a spouse evokes profound pain and disorientation everywhere in the world and has done so during all periods of recorded history (e.g., Rosenblatt, 2008).

According to attachment theory, these reactions are caused by an upsurge of attachment needs, which are no longer capable of being satisfied by the deceased spouse (Shaver & Fraley, 2008). Therefore, the intensity of grief is a function of the place and importance of the deceased spouse in the bereaved person's hierarchy of attachment figures. Parkes and Weiss (1983) suggested that individuals who lose the person on whom they most depend as a safe haven and secure base are the most vulnerable to despair. In support of this idea, more intense grief is observed among people who describe themselves as having been more strongly attached to the spouse they have lost (e.g., Jerga, Shaver, & Wilkinson, 2011; Wayment & Vierthaler, 2002).

Adaptive coping with the loss of a spouse requires what Bowlby (1980) called "reorganization" of the hierarchy of attachment figures, because adults often transfer attachment functions, such as provision of a safe haven and secure base, at least partly, to new relationship partners. But they may not fully detach from the mental representation of the lost spouse. According to Bowlby (1980), adults can rearrange their attachment representations so that the

lost spouse continues to serve as a symbolic source of protection while new relationships with living partners are formed and solidified.

Attachment reorganization following the loss of a spouse involves two psychological tasks: (1) accepting the death of the lost partner, returning to mundane activities, and forming new relationships, and (2) maintaining a symbolic bond with the deceased and integrating the lost relationship into a new reality (Mikulincer & Shaver, 2008). This two-part analysis based on attachment theory fits well with various dual-process models of bereavement (e.g., Stroebe & Schut, 2010).

Of course, the normative process of grieving following the death of a romantic partner or spouse is, like other attachment-related processes, altered by attachment insecurities. Researchers have found that attachment anxiety is associated with complicated grief reactions (see Mikulincer & Shaver, 2008, for a review). For example, Field and Sundin (2001) reported that anxious attachment, assessed 10 months after the death of a spouse, predicted higher levels of psychological distress 14, 25, and 60 months after the loss, and Fraley and Bonanno (2004) found that attachment anxiety assessed 4 months after the loss of a spouse predicted higher levels of anxiety, depression, grief, trauma-related symptoms, and alcohol consumption 18 months following the loss. With regard to avoidant attachment, studies have generally found no significant association between this attachment orientation and depression, grief, or distress immediately following the death of a spouse (see Mikulincer & Shaver, 2008, for a review). But Wayment and Vierthaler (2002) found that avoidance was associated with higher levels of somatic symptoms following the death of spouse, and Jerga et al. (2011) found that avoidant attachment was positively associated with prolonged grief symptoms.

Concluding Remarks

Although a great deal of adult attachment research has focused on individual differences in attachment security, anxiety, and avoidance, here we have returned to the core idea in Shaver et al.'s (1988) analysis of romantic pair-bonding, which is that long-term couple relationships involve all of the attachment-related processes that Bowlby and Ainsworth originally specified with respect to infant-caregiver relationships. Romantic pair-bonding, or love, involves more than simple familiarity and conscious commitment. It also involves reliance on a partner to serve the attachment-related needs for a safe haven and secure base. It involves an emotional bond that may not be fully recognized until a relationship is threatened, severed, or lost.

Bowlby (1982) imagined that the human brain is equipped with an innate “attachment behavioral system,” which was assumed to be located somewhere in the brain. As social and affective neuroscience progress, it will be important to reconsider Bowlby’s ideas and attempt to specify how the brain accomplishes all of the attachment-related functions researchers have identified. Are the effects of familiarity, supportive caregiving, and continued closeness, as well as the effects of separation and loss, all part of a single neurological system, or – as Coan (2008) has suggested, do these attachment processes occur through more general and pervasive systems, such as mirror neurons and the HPA axis? This is one of the issues we hope other participants in the 2012 Herzliya Symposium will address.

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