
TARGET ARTICLE

Attachment as an Organizational Framework for Research on Close Relationships

Cindy Hazan

Cornell University

Phillip R. Shaver

University of California, Davis

Recent years have witnessed a proliferation of research on close relationships and the emergence of a new relationship subdiscipline within the social sciences. To date, the new science of relationships has been dominated by data. This article is based on the conviction that progress now hinges on the development of theory to organize and interpret extant findings and to guide future investigations. Through a selective but extensive review of the major bodies of empirical literature, we attempt to show that attachment theory can incorporate a broad range of findings on adult relationships. In addition, attachment theory addresses an impressive array of research questions concerning the functions, emotional dynamics, evolutionary origins, and developmental pathways of human affectional bonds. We conclude that a comprehensive theory of close relationships is both desirable and, with the integration of existing theories and concepts, currently achievable.

In 1958, Harry Harlow wrote:

Our assigned mission as psychologists is to analyze all facets of human and animal behavior into their component variables. So far as love or affection is concerned, psychologists have failed in their mission. The little we know about love does not transcend simple observation and the little we write about it has been written better by poets and novelists. (Harlow, 1958, p. 673)

Today, more than 30 years later, there is an international network of researchers whose investigative efforts are devoted entirely to the study of personal relationships. Have we made any progress in understanding love and affection? Most definitely, we have.

Many have argued that what is needed in the field of personal relationships is what every new science requires, a descriptive base of knowledge from which to derive principles and construct theory (e.g., Hinde, 1979; Rubin, 1984). This article is based on the conviction that, after more than three decades of research on close relationships, there is ample data to justify a search for meaningful patterns and organizing principles. In what follows, we draw on attachment theory

(Bowlby, 1973, 1980, 1969/1982, 1988) to propose a generative theoretical framework for organizing extant data and for making predictions beyond what can be currently documented. What we seek is a comprehensive theory of close relationships, and what we propose here is the outline of such a theory.

In searching for a theory of relationships, we are led to ask what, ideally, one would want from such a theory. What questions should it answer? We believe that, at a minimum, it should address the following: What makes a potential relationship partner appealing? How is a relationship formed, and how does it develop? How are relationships maintained, and what makes them satisfying or enduring? Why and how are relationships dissolved? What are the reactions to relationship breakup?

Beyond these basics, a comprehensive theory of relationships should offer models of both normative and individual-difference phenomena and account for the role of relationships in a person's overall adaptation and functioning throughout life. It should be able to explain the universal human tendency to form close relationships and the similarities and differences in affectional bonds from infancy through adulthood. Perhaps most important, a theory of close

relationships must be consistent and compatible with existing empirical findings. And, as with any theory that earns its keep, it must be parsimonious, testable, and generative.

The challenge awaiting a comprehensive theory of close relationships is formidable. Consider the diversity of findings and phenomena to be incorporated: Frequency of mutual gazing is a good indicator of the amount of love that partners feel for each other (Rubin, 1973). We tend to fall in love with people who seem especially responsive to our needs (A. P. Aron, Dutton, E. N. Aron, & Iverson, 1989; Berscheid, 1984). Inadequate care during infancy is predictive of later troubled relations with peers (Arend, Gove, & Sroufe, 1979). Children who are anxiety prone are more inclined to develop romantic crushes (Hatfield & Rapson, 1987). Within the context of laboratory marital interaction, physiological arousal predicts the eventual demise of the marriage (Levenson & Gottman, 1985). Fear of intimacy is associated with workaholicism (Hazan & Shaver, 1990). Adolescents who idealize their parents are judged as hostile by their peers (Kobak & Sceery, 1988). The typical initial reaction to the ending of a close relationship is anxiety (Weiss, 1988). Obstacles tend to enhance romantic passion (Driscoll, K. W. Davis, & Lipetz, 1972). Parental divorce during childhood is associated with chronic loneliness in adulthood (Shaver & Rubenstein, 1980). People tend to overlook the faults and limitations of a new partner (Tennov, 1979). Relationship satisfaction typically declines in the early years (Spanier, Lewis, & Cole, 1975). And so on.

Is it possible to detect laws of relationship structure and process that lend coherence to these and other relationship facts? We believe that a parsimonious explanation of much of the existing data is both desirable and possible, and we think attachment theory is a good place to start. We are not ready to claim that, in its current form, attachment theory tells us all we would ever want or need to know in order to understand close relationships. Some shortcomings of attachment theory can be handled nicely by interdependence theory (Kelley et al., 1983; Thibaut & Kelley, 1959) and theories that stress the mutual construction of relationship narratives (e.g., Duck, 1991). At the end of this article, we say more about how we see the alternative theories fitting together.

Attachment Theory

In 1950, John Bowlby was invited by the World Health Organization (WHO) to report on the mental health of London's many homeless children. The invi-

tation followed his publication (Bowlby, 1944) of an article entitled "Forty-Four Juvenile Thieves: Their Characters and Home Life," which reported a strong association between early maternal separations and subsequent delinquency among boys. The WHO report (Bowlby, 1951) asserted that maternal deprivation, especially during the first 3 years of life, puts children at increased risk for physical and mental illness. Although influential and well received, the report was deficient in one important respect: It failed to explain why or how early maternal deprivation has such deleterious effects.

Bowlby had been trained in the psychoanalytic tradition but, almost as soon as he began to practice child therapy, he found himself troubled by what he perceived to be inadequacies in psychoanalytic theory. Most objectionable was its exclusive focus on fantasy and the internal life; a child's real-life experiences were of little interest relative to intrapsychic events. Bowlby was also troubled by inconsistencies between psychoanalytic theory and his own observations. That institutionalized children suffered extreme distress and even sometimes failed to thrive despite being fed and cared for by staff did not follow from psychoanalytic notions that children love their mother simply because they associate her with the satisfaction of a hunger drive. Bowlby's growing dissatisfaction with psychoanalytic theory helped launch a search for answers to questions raised in his WHO report.

The search took him through the literatures of several disciplines, but it was in ethology that he found what he believed to be an important part of the answer. Research on the bonding behavior of birds and mammals was particularly influential in his thinking, gradually leading to the insight that maternal deprivation is developmentally harmful because it thwarts the satisfaction of an inborn need. Further, the work of ethologists like Lorenz and Tinbergen provided dramatic examples of how even inborn, instinctual tendencies can become distorted or fail to develop in non-optimal environments. Almost 20 years later, Bowlby published the first of three major volumes on attachment theory. For obvious reasons, we cannot review all the supporting evidence on which the theory is based; we will settle instead for an explication of the theory itself. (For a more extensive review of the evidence, see Bowlby, 1973, 1980, 1969/1982.)

The Attachment System

A basic assumption of attachment theory is that, because of their extreme immaturity at birth, human infants can survive only if an adult is willing to provide protection and care. As a result of selection pressures,

infants evolve behaviors that function to maintain proximity to a protector/caregiver. Adult caregiving is regulated by a complementary behavioral system. Babies smile, and parents find the smiles rewarding. Babies cry, and parents are motivated to soothe them. Parents move away, and babies follow visually or physically. These two systems conspire to create the kind of relationship that fosters the infant's survival.

A behavioral system consists of a set of behaviors that serve the same function, although they may be morphologically dissimilar (e.g., crying, smiling, following). The attachment system is similar in some respects to the physiological systems that regulate body temperature, blood pressure, and the like. Any real or perceived obstacle to proximity maintenance results in anxiety, which in turn triggers attachment behaviors designed to reestablish proximity. Such behaviors persist until the "set goal" for proximity has been achieved. The degree of proximity required to keep anxiety at bay is related to a variety of endogenous and exogenous factors, including the child's age, emotional and physical state, and perceived environmental threat. The establishment and maintenance of proximity engender feelings of security and love, whereas disruptions in the relationship typically beget anxiety and sometimes anger or sadness (depending on particular appraisals). Hence, Bowlby argued that an attachment is an emotional bond.

Attachment is one of several distinct but interlocking behavioral systems, including exploration, caregiving,

affiliation, and sexual mating. Each system serves unique functions and responds to different environmental cues. At least during infancy and childhood, attachment is the preeminent system, and its full activation precludes activation of other systems. As long as the child experiences "felt security" (Sroufe & Waters, 1977), the attachment system is quiescent, and other behavioral systems become available for activation, although periodic checking of the attachment figure's availability continues to occur. In evolutionary terms, it has been adaptive for human young to feel safe enough to engage in play and exploration only as long as a familiar protector is available to respond if needed. The safest reaction to any threat or strong uncertainty is to devote all energy and attention to reestablishing proximity. (See Figure 1 for a model of the attachment system.)

Attachment Formation

Children could conceivably direct their attachment behaviors to any available person. In reality, however, by the sixth or seventh month of life, all normal infants selectively direct these behaviors to one person, with whom they also seek proximity and from whom they object to being separated (Schaffer & Emerson, 1964). (See also Mizukami, Kobayashi, Ishii, & Iwata, 1990, for evidence of selective attachment by 2 to 4 months of age.) How is this person "selected?" Of definite significance to infants is *who* usually responds to their

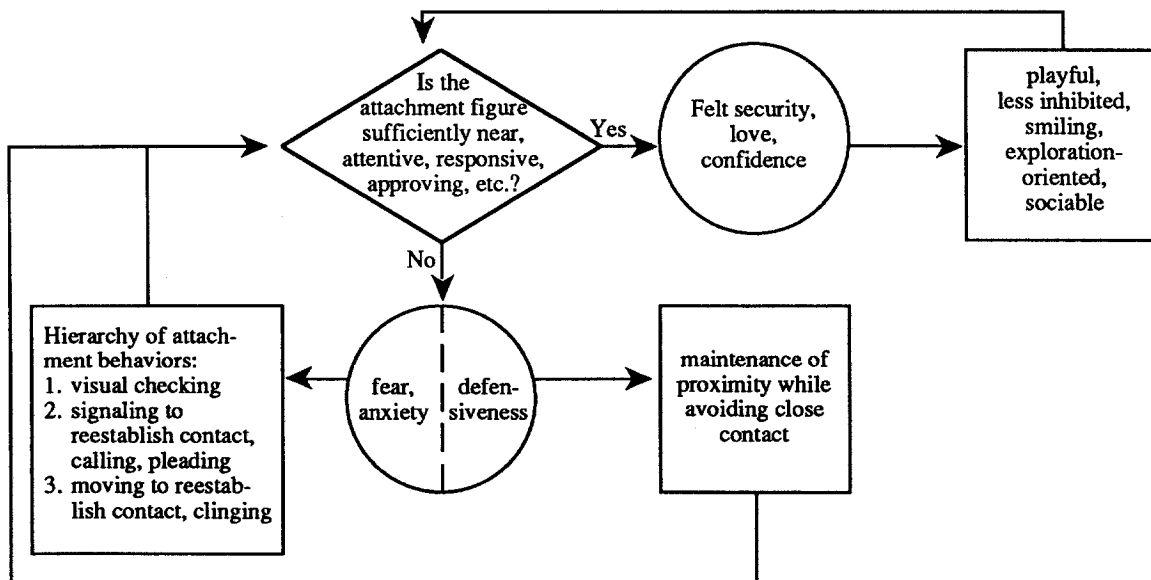


Figure 1. The attachment behavioral system. In the diamond is the test question (G. A. Miller, Galanter, & Pribram, 1960). The circles represent emotions triggered by the appraisals that answer the test question, and the boxes represent behaviors that follow from the appraisals and emotions.

signals of distress. Also of significance is the *quality* of the response. Thus, familiarity and responsiveness dictate preferences and influence the selection of an attachment figure.

The functions of attachment are apparent in the infant's behavior. Proximity to the attachment figure is especially likely to be sought when the infant is fearful or distressed for any reason. The caregiver serves as a haven of safety to which the infant can retreat for comfort and reassurance during such times. In addition, the caregiver serves as a base from which to engage in nonattachment behaviors, such as exploration. According to Bowlby, *proximity maintenance* (including proximity seeking and separation protest), *safe haven*, and *secure base* are the three defining features of attachment and the functions of an attachment relationship (see Figure 2).

The process of attachment formation takes an average of 2 or 3 years (Bowlby, 1979, 1969/1982). The endpoint of the process is referred to as a *goal-corrected partnership*, in which the goal of proximity maintenance is adjusted for the child's ability to delay gratification and to mentally represent the caregiver's availability. At this point, caregiver and child can begin to negotiate the terms of their rela-

tionship and verbally communicate about and coordinate their respective goals.

Attachment Disruption and Dissolution

Bowlby's investigations of attachment stemmed from his interest in the effects of maternal deprivation. He observed infants and young children who were being housed in residential nurseries, separated from their familiar caregivers for extended periods of time—in some cases, forever. Bowlby was struck by two aspects of the children's responses. First, there was a remarkable degree of similarity across children in the way they responded to the separations, gradually revealing a predictable and invariant sequence of emotional reactions. The first was *protest*, which involves crying, active searching, and resistance to others' soothing efforts. This is followed by *despair*, characterized by passivity and obvious sadness. The third and final phase is *emotional detachment*.

The second striking aspect of the children's responses was that even short-term separations seemed to have prolonged effects. Children who were reunited with their caregivers while still in the protest

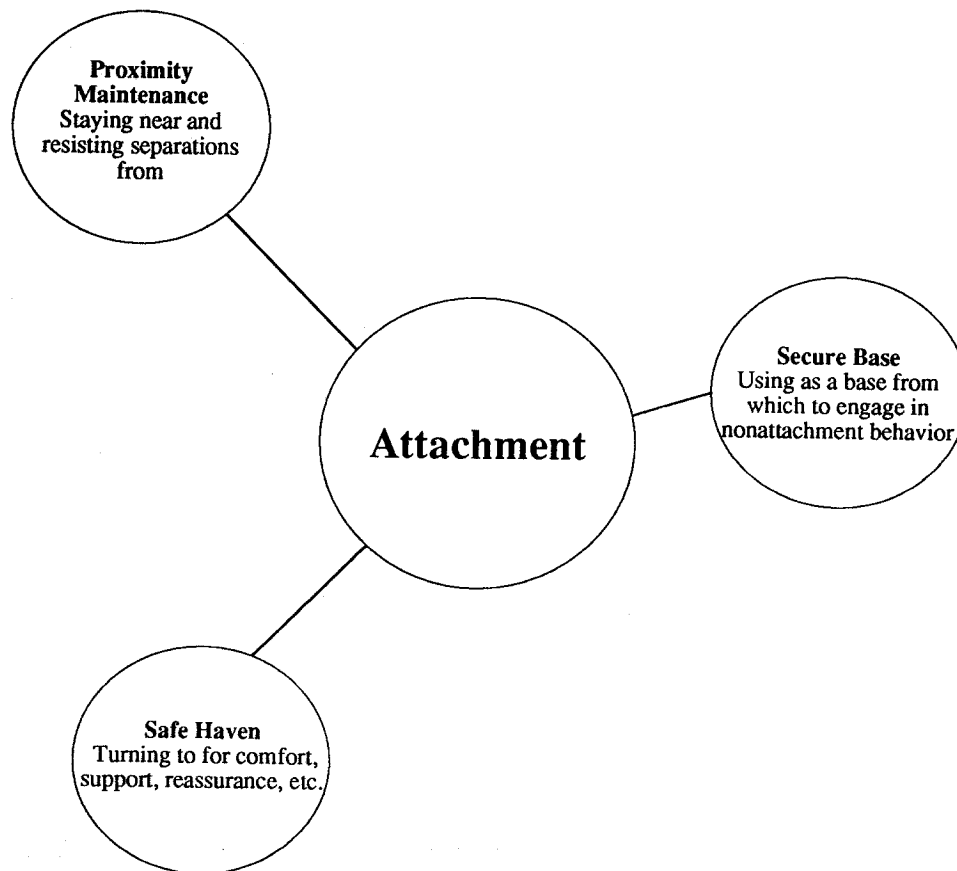


Figure 2. The defining features of attachment.

phase exhibited heightened anxiety over abandonment and an excessive need for physical contact and reassurance. This insecurity continued, in some cases, for months after the separation had ended. Those reunited after passing through the phase of despair tended initially to avoid contact with their mothers, as if they had coped with the separation by emotionally detaching. However, in time they resumed seeking contact and comfort.

According to Bowlby, reactions of anxiety and protest, even detachment, are highly adaptive responses to separation from one's primary protector. A child expresses distress because it usually brings the caregiver around. If, however, there appears to be no hope of reestablishing proximity, continued expressions of distress not only risk attracting the attention of predators (a very real threat in earlier periods of human evolution) but also physically exhaust the child. The characteristic inactivity of the despair phase keeps the child quiet and still, allowing for recuperation. Detachment makes possible the resumption of normal activity, possibly even the search for a new attachment figure. Just as with routine proximity maintenance, reactions to prolonged separation reflect the functioning of the attachment system.

Internal Working Models

The attachment system is an organism-level system that is organized and regulated by social input, specifically by primary caregiver responsiveness to distress signals. On the basis of repeated interactions with the caregiver, infants learn what to expect, and they adjust their behavior accordingly. These expectations form the basis of mental representations (or, to use Bowlby's term, *internal working models*) that can be used to forecast caregiver availability and responsiveness and that include interrelated models of self and attachment figure.

Confidence that an attachment figure is, apart from being accessible, likely to be responsive can be seen to turn on at least two variables: (a) whether or not the attachment figure is judged to be the sort of person who in general responds to calls for support and protection; [and] (b) whether or not the self is judged to be the sort of person towards whom anyone, and the attachment figure in particular, is likely to respond in a helpful way. Logically these variables are independent. In practice they are apt to be confounded. As a result, the model of the attachment figure and the model of the self are likely to develop so as to be complementary and mutually confirming. (Bowlby, 1973, p. 238)

Attachment theory thus implies that beliefs and feelings about the self, especially social and global self-esteem,

are determined in part by the responsiveness of the caregiving environment to individual needs for comfort and security (Cassidy, 1988). According to Bowlby, these models guide thoughts, feelings, and behavior in subsequent close relationships.

Individual Differences

Theoretically and logically speaking, there is no limit to the amount and kind of variability that could exist in models of the caregiving environment. In reality, however, infants parse the flow of information about caregiver behaviors into a limited number of categories corresponding to responses to the following question: "Can I count on my attachment figure to be available and responsive when needed?" There are three possible answers to this question: yes, no, and maybe. That is, as concerns the internal working model, a caregiver is consistently responsive, consistently unresponsive, or inconsistent. In fact, these three types of caregiver responsiveness have been empirically linked to three major patterns of infant-caregiver attachment (Ainsworth, Blehar, Waters, & Wall, 1978).

The procedure that Ainsworth developed for assessing attachment quality—the Strange Situation—was designed to activate an infant's attachment system through repeated separations from the caregiver in an unfamiliar environment. It was also meant to activate the exploration system through the availability of attractive toys. Ainsworth was especially interested in whether and when infants sought proximity and contact, to what degree they accepted and were comforted by such contact, and whether their exploratory behavior was facilitated by the caregiver's presence. In other words, she was interested in observing proximity-maintenance, safe-haven, and secure-base behaviors. Infant behavior in the laboratory setting was assumed to reflect expectations (internal working models) based on the caregiver's past responsiveness to the infant's bids for contact and comfort. The models themselves were assumed to be founded on a history of actual interactions. Home observations confirmed the link between daily caregiver responsiveness and infant laboratory behavior. The following paragraphs, based on passages in Ainsworth et al. (1978), describe the three major patterns.

Secure. The behavior of securely attached infants matched Bowlby's conception of nature's prototype, in terms of proximity maintenance, comfort seeking, and the ability to use

the caregiver as a secure base for exploration. In the laboratory, the typical securely attached infant was distressed when the mother left the room, was comforted by her return, and engaged in active exploration as long as she was present. During home observations made before the laboratory visits, caregivers were judged to be consistently available and responsive. This is the most commonly observed pattern, averaging about 60% in American samples (Campos, Barrett, Lamb, Goldsmith, & Stenberg, 1983).

Anxious/Ambivalent. The typical caregiver of an anxious/ambivalently attached infant, observed in the home, exhibited inconsistent responsiveness to the infant's signals, being sometimes unavailable or unresponsive and at other times intrusive. In the laboratory, anxious/ambivalently attached infants appeared both anxious and angry and were preoccupied with their caregivers to such a degree that it precluded exploration. This is the most uncommon pattern, averaging about 15% in American samples (Campos et al., 1983).

Anxious/Avoidant. At home, caregivers of avoidantly attached infants consistently rebuffed or deflected their infants' bids for comfort, especially for close bodily contact. In the laboratory setting, these infants appeared not to be distressed by separations, avoided contact with their

caregivers, and kept their attention directed toward the toys (although with less apparent interest and enthusiasm than the securely attached infants). On average, about 25% of American infants are classified as avoidantly attached (Campos et al., 1983).

Note that the effects of psychological availability of the caregiver are remarkably similar to the effects observed for physical availability. Inconsistent responsiveness is functionally equivalent to short-term separations, and the corresponding attachment pattern—anxious/ambivalence—is characterized by the same protest behaviors. Consistent caregiver unresponsiveness, like long-term absence, results in avoidance and apparent emotional detachment. Again, the behaviors are traceable to the organization and functioning of the attachment behavioral system (see Figure 3).

In recent years, researchers have identified a fourth pattern, *disorganized/disoriented attachment* (Main & Solomon, 1990), that is distinguishable by the absence of a coherent strategy for managing anxiety and that is manifested in a mixture of avoidant and ambivalent behaviors. Research suggests that this pattern arises in infancy, when the infant's primary caregiver is depressed, disturbed, or abusive in some way (e.g., Crittenden, 1988; Main & Hesse, 1990).

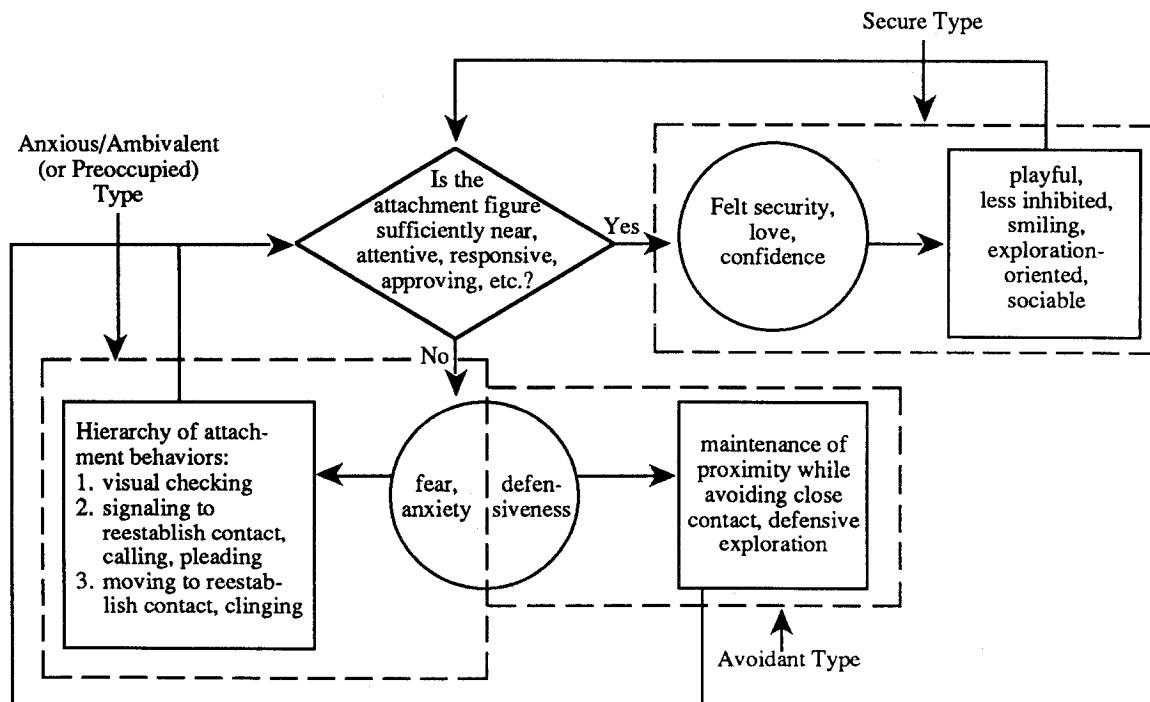


Figure 3. Three major patterns of attachment as they correspond to various aspects of normative attachment-system dynamics.

Source and Stability of Individual Differences

Perhaps the two most controversial claims of attachment theory are that caregiver responsiveness largely determines the quality of the attachment relationship and that working models of attachment tend to be stable. Many writers have criticized attachment theory for its apparent failure to acknowledge the importance of infant characteristics, especially temperament (e.g., Campos et al., 1983; Lamb, Thompson, Gardner, Charnov, & Estes, 1984), and the theory's seemingly deterministic view of development, which some see as allowing little room for growth and change. The debate over temperament is by no means settled, but there is mounting evidence that both temperament and caregiver responsiveness are important influences on attachment quality. For example, one temperamental characteristic—distress proneness—has been linked to anxious/ambivalent attachment (Goldsmith & Alansky, 1987). On the other hand, responsiveness training for the caregivers of distress-prone infants appears to override the risks for later insecure attachment (van den Boom, 1990). At least one study (Crockenberg, 1981) has suggested that the relationship between temperament and attachment may be mediated by maternal social support. To date, no investigation has shown temperament to be better than caregiver responsiveness at predicting attachment classification, and no reported findings would lead to the conclusion that the consistency and quality of caregiver responsiveness are not important determinants of infant attachment behavior. (See Colin, 1991, for a comprehensive review.)

In some ways, the debate over whether individual differences are stable is even murkier. Research subsequent to Ainsworth's identification of the three patterns (e.g., K. E. Grossmann & K. Grossmann, 1991; Main, Kaplan, & Cassidy, 1985; Sroufe, 1983; Waters, 1978) has indicated that the patterns are generally stable over the first several years of life if family conditions are stable but can change if a child's social circumstances change (Egeland & Farber, 1984; Vaughn, Egeland, Sroufe, & Waters, 1979). Attachment theory does not dictate absolute stability of individual differences induced during infancy. Nevertheless, as with any cognitive construction, internal working models are resistant to change, in part because they tend to be overlearned and operate out of awareness, and in part because the default strategy for processing incoming information is to assimilate it to existing schemes rather than modify the schemes to accommodate the information (Fiske & Taylor, 1991; Piaget, 1952).

When defensive emotional processes are intertwined with overlearned cognitive and behavioral patterns, as is hypothesized to be the case with insecure-attachment

models, change can be difficult. It seems more sensible to ask not whether working models are stable or unstable but under what conditions they are most and least likely to change. Bowlby has suggested several possible routes to change, including (a) the capacity to think about and reflect upon one's own working models and (b) "corrective" relationship experience. Both come into play in good therapeutic relationships (Bowlby, 1988). In light of what is known about the dynamics of the attachment system and the inborn need for security, change would seem more likely to be in the direction of secure than insecure attachment. The attachment system's "primary strategy" (Main, 1990) should always be to seek security if security is perceived as possible. Consistent with this, secure attachments have been found to be more stable (Egeland & Farber, 1984). Further, moving from an avoidant to a secure model of relationships would involve acknowledging long-repressed insecurities and, as such, may necessitate an intermediate phase of anxiety and ambivalence. In fact, Heinicke and Westheimer (1966) observed that children reunited with caregivers after prolonged separations initially exhibited avoidance behavior, which was followed by a period of clinginess and preoccupation (i.e., anxious/ambivalence) before normal (preseparation) behavior was eventually resumed.

Attachment patterns set in infancy need not be fixed for life. As with cognitive structures in general, internal working models of attachment face the stability-plasticity dilemma (Grossberg, 1980). Mental models strive for stability but have to remain plastic if they are to continue to be adaptive and useful. To date, longitudinal studies have indicated significant but not perfect continuity of attachment patterns over the first several months and years of life (Cassidy, 1988; Owen, Easterbrooks, Chase-Lansdale, & Goldberg, 1984; Waters, 1978). Ultimately, the degree of continuity from infancy through adulthood and the circumstances under which change is facilitated must be determined empirically.

Attachment Beyond Infancy

Attachment is an integral part of human behavior "from the cradle to the grave" (Bowlby, 1979). The functions and dynamics of the attachment behavioral system are hypothesized to be virtually the same across the life span. Presumably, this is because the neural foundation of the attachment system remains largely unchanged. As Konner (1982) put it, "The evolution of the brain would have to be considered unparsonomous if it were not able to draw upon the same basic capacities of emotion and action in the various settings where strong attachment is called for" (p. 298).

Despite some basic similarities, adult attachment differs from infant attachment in important ways (Weiss, 1982). First, childhood attachments are typically complementary. An attachment figure provides but does not receive care; an infant or child seeks but does not normally provide security. In contrast, adult attachment relationships are typically reciprocal, with each partner being both a provider and a recipient of care. In addition, the attachment relationship moves from the level of external, observable interactions to internally represented beliefs and expectations (Main et al., 1985). Whereas infants and young children may require physical contact with an attachment figure to feel completely secure, older children and adults are often able to derive comfort from the mere knowledge that their attachment figures can be contacted if needed (although the need for physical-contact comfort probably never disappears entirely). What matters is "felt security" (Sroufe & Waters, 1977), and adults have more options for achieving it than do infants.

Another difference is that a child's primary attachment figure is usually a parent, whereas an adult's primary attachment figure is most commonly a peer, usually a sexual partner. Prototypical adult attachment relationships thus involve the integration of three behavioral systems—attachment, caregiving, and sexual mating (Shaver, Hazan, & Bradshaw, 1988; Weiss, 1982). (See Figure 4.)

Related to this are differences in what motivates proximity seeking. Anxiety and distress appear to be primary motivators in people of all ages. However, adult proximity-seeking can also result from a desire to protect or offer comfort (caregiving) or to engage in sexual activity (sexual mating). Attachments are hypothesized to form in the context of physical closeness, but the forces promoting such closeness may change with development.

If adult peers begin to serve similar functions and satisfy the same needs for emotional support and security for which parents are primarily responsible during infancy and childhood, then at some point attachment will be transferred from parents to peers. The timing of this transfer and the processes involved are not specified within the theory. However, from both the theory and the empirical literature on parent-child and peer relations (e.g., Furman & Buhrmester, 1985; Gottman, 1983; Hartup, 1983; G. Levinger & A. C. Levinger, 1986; Rubin, 1980; Steinberg & Silverberg, 1986), a process model can be derived. The model (Hazan, Hutt, Sturgeon, & Bricker, 1991) is based on the assumption that, rather than being shifted in concert, all attachment functions are gradually transferred, one by one. According to this model, attachments begin with proximity seeking (motivated by security needs when directed toward parents and by exploratory and affiliative

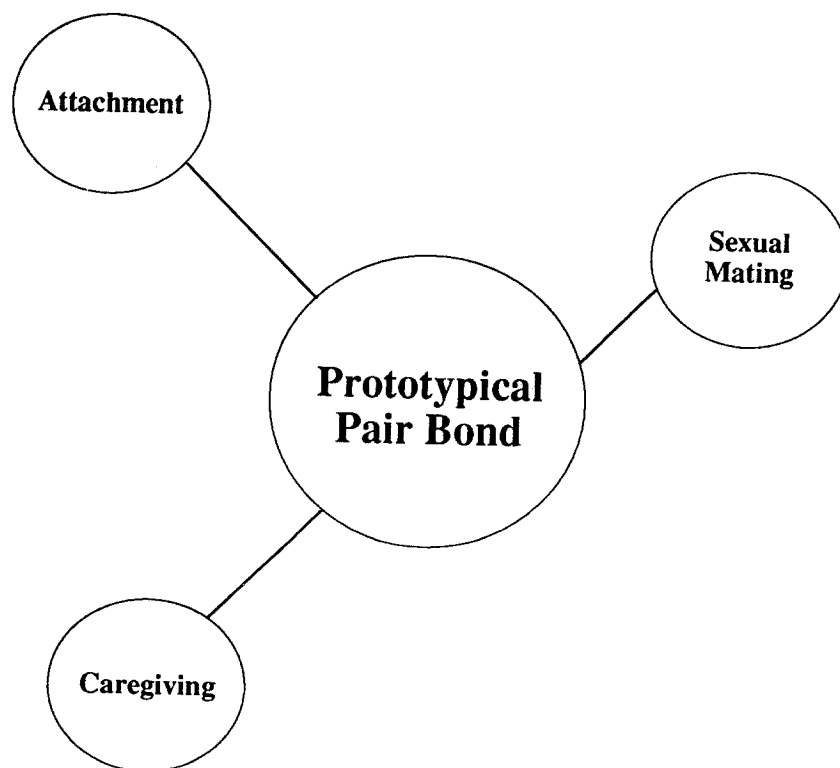


Figure 4. *The components of a prototypical pair bond.*

DEVELOPMENTAL PHASE	TARGET OF ATTACHMENT BEHAVIORS	
	Parents	Peers
Infancy	proximity maintenance safe haven secure base	
Early Childhood	safe haven secure base	proximity maintenance
Late Childhood/ Early Adolescence	secure base	proximity maintenance safe haven
Adulthood		proximity maintenance safe haven secure base

Figure 5. A model of attachment transfer processes. In the course of normal development, parents are gradually relinquished as primary attachment figures as attachment behaviors are, one by one, redirected to peers.

needs when directed toward peers). In late childhood and early adolescence, close proximity provides the context that eventually fosters support-seeking (i.e., safe-haven) behavior. Repeated interactions in which comfort is sought and provided or distress is expressed and alleviated may lead to reliance on the responder as a base of security. Parents are never completely relinquished as attachment figures, but their place in a hierarchy of attachment figures, relative to that of the place of peers, naturally changes by adulthood. The model, still being developed and tested, is presented in Figure 5.

Summary of Attachment Theory

As a result of selection pressures over the course of evolution, humans are naturally predisposed to form close relationships. Further, certain basic needs, of which the need for security is the most fundamental, are best satisfied within social relationships. Behavioral systems have developed to promote the satisfaction of all needs that have been important for survival and reproduction. The dynamics of close relationships—their formation, maintenance, and dissolution—can be understood in terms of the functioning of these systems. Individual differences in thoughts, feelings, and behaviors in close relationships are largely determined by the social environments to which individuals have had to adapt. Finally, these individual differences are maintained by mental models constructed out of actual relationship experience.

An Attachment Perspective on Relationship Data

Having outlined attachment theory, we now briefly review some of the major bodies of data on close relationships in order to show how each could be organized and explained by the theory. We have tried to preserve the fundamental theoretical constructs and processes, but we have not hesitated to extend or mold the theory wherever warranted. In our opinion, the real strength of attachment theory lies in its ability to explain findings derived from other approaches and other theories in terms of the same limited number of proximal processes and evolved tendencies as it uses to explain infant-caregiver bonds. The degree to which attachment theory and we succeed in this endeavor reflects on the generative power of the theory. It is conceivable that each new finding in the field of personal relationships would necessitate the addition of a new theoretical construct. However, we attempt to show that attachment theory is able to incorporate a vast range of such findings without significant alteration or addition. And, when additions are required, they follow naturally from the principles established for relationship functioning during infancy.

Our focus here is on close relationships of the attachment variety—which adults prototypically form with a romantic or sexual partner—but much of what we say is also applicable to other types of close relationships. Our review of the literature is necessarily selective, but it is extensive enough to illustrate both the diversity of available findings and the integrative capacity of at-

tachment theory. The review is organized around what traditionally have been considered fundamental questions in the study of close relationships.

What Makes a Potential Relationship Partner Appealing?

From an attachment perspective, humans possess basic needs that are naturally satisfied by social relationships, such as the needs for emotional support, care, and sexual gratification. Theoretically, each need is regulated by a distinct behavioral system designed to respond to specific social cues. We should, therefore, be attracted to people who display these cues. Given that the most basic need (for felt security) is regulated by the attachment system, and given that this system is assumed to function similarly across the life span, among the most important characteristics of a potential partner should be the very characteristics shown to be centrally important in the selection of an attachment figure during infancy and childhood—namely, familiarity and responsiveness.

Interpersonal attraction is not only the first stage of many relationships, it is also the topic with which the field of close relationships began, in the pioneering work of Berscheid and Hatfield (Berscheid & E. Walster, 1974) and Rubin (1973). The list of features and characteristics that have been shown to be determinants of attraction is long and heterogeneous (for reviews, see Aronson, 1988; Berscheid, 1984). For example, we are attracted to people whose values, attitudes, opinions, and even physical features are similar to our own (Hinsz, 1989; Rubin, 1973). Unless we dislike someone to begin with, increased exposure is associated with increased liking (Zajonc, 1968). Socially responsive children are more attractive to their peers (Rubin, 1980). Among all the people with whom we could socialize, we typically choose those who live or work nearby (Festinger, Schachter, & Back, 1950; Newcomb, 1961). We have a predilection for people who smile frequently, who are good-humored, and who make us laugh (Folkes & Sears, 1977). We are especially attracted to people we know find us appealing (A. P. Aron et al., 1989). Anxiety tends to enhance attraction (Dutton & A. P. Aron, 1974; Hatfield & Rapson, 1987) and the desire to affiliate (Schachter, 1959).

These data indicate that attraction to another person tends to increase with familiarity and the likelihood of a positive response. Anyone who is like us (in appearance, attitude, etc.) or who likes us, is smiling, or makes us smile is more likely than an unfamiliar or unresponsive person to be viewed as safe, approachable, and thus attractive. Anxiety apparently intensifies the need to be near another person or makes that person's security-

promoting potential more salient. Within attachment theory, anxiety is a signal to get closer.

However, attachment is not the only behavioral system motivating interpersonal attraction. As stated earlier, adult love can be conceptualized as a joint function of the attachment, caregiving, and sexual mating systems (Shaver et al., 1988), so, theoretically, attraction can result from one person's seeing the possibility of another person's meeting attachment, caregiving, or sexual needs. Another's attractiveness is thus determined by the type of relationship that is sought and the kinds of needs or desires that are likely to be satisfied. From an attachment perspective, the multiform features of attractiveness are reducible to a small number of conceptual categories that correspond to the behavioral systems relevant to close relationships, each of which is triggered by different and distinct cues.

The caregiving system, for example, responds to babyish features, distress, and vulnerability—which in the case of adults may include self-disclosures of fear or weakness, or the vulnerability inherent in the letting down of defenses. A person who wants to provide care should logically be attracted to someone who seems to need such care. Cues associated with targets of caregiving constitute one interpersonal-attraction category that has been understudied, perhaps due to the lack of a theory that would encourage such investigations. Also, many studies of interpersonal attraction involve adolescents and young adults, for whom caregiving may be a relatively undeveloped or less salient need. There are, in fact, age-related changes in the relevance of such cues. One study (Fullard & Reiling, 1976) documented a developmental shift in preference for infant relative to adult faces. Before puberty, both males and females preferred photographs of adult faces; after puberty, they spent more time looking at infant faces.

A person who seeks gratification of sexual needs should be attracted to someone who displays cues of sexual availability and value. In sexual relationships, an attractive physical appearance can be remarkably important (e.g., E. Walster, Aronson, Abrahams, & Rottmann, 1966). Also, there appears to be considerable cross-cultural and cross-age consistency in what is viewed as physically attractive, including characteristics associated with youth and/or health—smooth skin, clear eyes, white teeth, a lively gait. Also desirable in a potential sexual partner—especially in a male being evaluated by a female—is evidence of social status and resources, such as popularity, material wealth, physical strength, intelligence, and wit (Buss, 1985).

Because romantic love includes elements of attachment, caregiving, and sexuality, the self-attribution that one is "in love" may result from noticing that another person is especially responsive, needs to be taken care of, or is a sexual "turn-on." This could easily result in

misunderstandings and confusion: Responsiveness need not mean sexual interest, sexual interest need not imply more general responsiveness, and the wish to be taken care of carries no guarantee of reciprocal care. People can mistakenly believe that their entire prototype of romantic love (Fehr, 1988) is about to be realized when in fact only one component is actually present.

To say that we are attracted to someone is to say that we would like to be physically and/or psychologically close to that person. Within an attachment framework, what motivates such proximity seeking depends on which social-behavioral system is activated. Conceptualizing interpersonal attraction in this way makes it possible to reduce the many interpersonal-attraction factors to a few conceptually meaningful categories. This in itself advances our understanding of attraction beyond the mere documentation of factors. In our view, however, the real strength of attachment theory in this domain is its ability to go beyond classification to an explanation of when and why particular characteristics of a person should be attractive.

How Is a Relationship Formed, and How Does It Develop?

Some attractions develop into relationships, and some do not. Also, it is generally assumed and well documented that relationships, after being formed, tend to change over time (e.g., Berscheid & E. Walster, 1974; Huston, Surra, Fitzgerald, & Cate, 1981; G. Levinger, 1983; G. Levinger & Snoek, 1972; Lewis & Spanier, 1979; Taylor & Altman, 1987; E. Walster & G. W. Walster, 1978). A nascent relationship is obviously different from an established relationship, and discovering just what changes and why is an important task for relationship researchers and has been the focus of much study (Altman & Taylor, 1973; Kerckhoff & K. E. Davis, 1962; G. Levinger, 1983; Lewis, 1973; Murstein, 1976; Reiss, 1960). In general, efforts to identify a uniform sequence of stages for all close relationships have met with great difficulty (e.g., Huston et al., 1981).

From an attachment perspective, the formation of a close relationship between two individuals of any age typically forms in the context of close physical proximity. In other words, for an attachment to form there must be a strong force promoting closeness. In infancy, proximity is regulated by the attachment system and the infant's need for security. In adult romantic relationships, the sexual mating system (sexual attraction) is hypothesized to be another primary instigator for the proximity seeking that is the first step toward attachment formation.

Even though the motivation to seek closeness is hypothesized to be somewhat different and more complex for adults than for infants, the first phase in what may eventually become an attachment relationship is remarkably similar (Shaver et al., 1988). Like an adult in love, the infant is preoccupied with and notably vigilant for signs of the target person's responsiveness. Further, for infants as well as adults, one's emotional state hinges on the target person's behavior, with responsiveness generally leading to feelings of security and joy and unresponsiveness evoking anxiety and distress (Ainsworth et al., 1978; Tennov, 1979). In both kinds of relationships—between infant and caregiver and between adult lovers—strong forces attract the individuals to each other and, in some cases, hold them together long enough for an emotional bond to develop. In both, the formation of such a bond is facilitated by close physical contact. Only between parents and children or between adult lovers is prolonged bodily contact considered normal. It is noteworthy that laypersons judge these two types of relationships to be the “closest” (Berscheid & Graziano, 1979). For good or ill, the intensity of the need for close contact eventually diminishes (Fisher, 1992; Traupmann & Hatfield, 1981)—an important fact that needs to be explained.

Logically, the safe-haven component of attachment would be expected to develop within the context of closeness. Consistent with this, researchers have found that mutual attraction and sexual passion are most important early in a relationship, but the degree to which a partner provides comfort and emotional support becomes increasingly important over time (Reedy, Birren, & Schaie, 1981). In attachment terms, what eventually comes to matter most is whether the partner serves as a reliable haven of safety. Mutual attraction and sexual interest can get couples together, but, if partners fail to satisfy each other's needs for comfort and security, dissatisfaction will likely result. Kotler (1985) found that sensitive and responsive care, not sexual attraction, was the most accurate predictor of marital strength.

When does a relationship become a base of security? It is relatively safe to assume that parents are committed to their offspring for life. This commitment is not typically questioned or broken. Commitments between peers, however, tend to be less robust and more susceptible to both internal and external influences (G. Levinger, 1976). It is likely that, only after an extended period of time and/or after an explicit commitment has been made, a peer relationship can serve as a secure base with a degree of certainty approaching that of the base provided by parents. Marriage, for example, is usually accompanied by a legally binding, public promise to care for the partner until death.

In terms of the three defining attachment features described earlier (see Figure 2), the process of attachment formation, at any age, is hypothesized to involve the same sequence: proximity seeking followed by safe-haven behavior followed by the establishment of a secure base. In some cases, of course, the process will not be completed. As suggested earlier, the major difference between infant-caregiver and adult-pair bonds is in the motivation for seeking closeness in the first place. The hypothesized process is summarized in Figure 6.

An attachment perspective adds to our understanding of how close relationships develop and change over time and helps explain some of the phenomena that have been repeatedly documented and described. The attachment view of relationship development helps account for some important characteristics of the time course of close relationships. It also makes implicit

predictions concerning both the nature and timing of important milestones and transitions in developing relationships. The three components of a prototypical pair bond, each corresponding to a separate behavioral system—attachment, caregiving, and sexual mating—gradually become integrated. The hypothesized developmental course of this integration, which is similar to Sternberg's (1986) proposal concerning the temporal development of various components of love, is represented in Figure 7.

What Makes Relationships Satisfying and/or Enduring?

As the wording of this question implies and as the data confirm, an enduring relationship may not be a satisfying one. Therefore, it is essential that a theory of

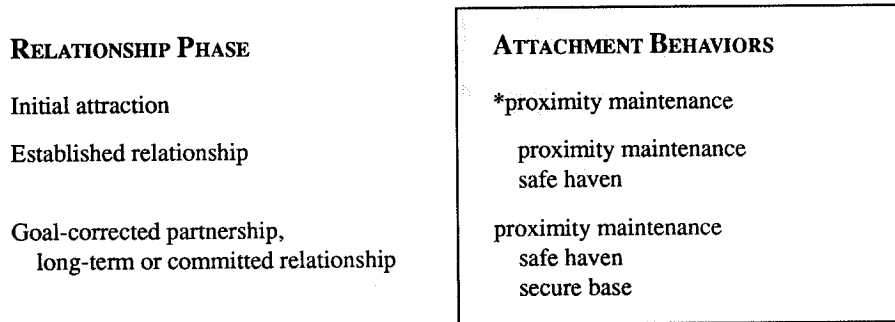


Figure 6. A model of attachment formation processes. Attachment formation begins with proximity seeking, which may be motivated by a desire for security, sexual gratification, or the provision of care. In subsequent phases, the partner may gradually become a safe haven and then a secure base. *Motivations for proximity seeking include security (attachment), nurturance (caregiving), and sexual attraction (sexual mating).

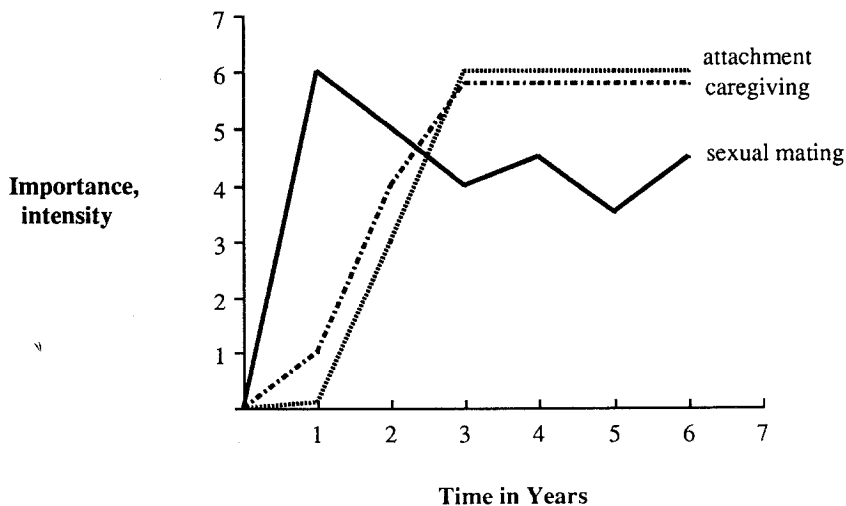


Figure 7. The developmental course of a prototypical adult attachment relationship in terms of three behavioral systems.

close relationships specify and explain the factors that predict each.

According to attachment theory, a relationship is satisfying to the extent that it meets basic needs. At any age, attachment quality turns in large part on the answer to the question, "Can I trust my partner to be available and responsive to my needs?" Trust promotes self-disclosure and the development of intimacy (Reis & Shaver, 1988). Trust is also associated with open communication about and the "voicing" of needs (Holmes & Rempel, 1989; Rusbult & Zembrodt, 1983). Satisfying relationships are not conflict free, but they involve the kind of trust that allows couples to argue constructively (Rands, G. Levinger, & Mellinger, 1981) and to engage in effective problem-solving behaviors (Kobak & Hazan, 1991). The "hidden agendas" that interfere with successful conflict resolution are often about unmet needs (Gottman, Notarius, Gonso, & Markman, 1976). Attachment theory tells us what the needs are likely to be and explains why trust in a partner's responsiveness to these needs is critical.

Many unsatisfying relationships endure, and these are among the most challenging for researchers. What makes a partner decide to leave? The belief that important needs could be better met in another relationship—what has been called *comparison level for alternatives*—is influential in decisions to continue or end a relationship (Kelley, 1983; Rusbult, 1980, 1983). In defining relationship commitment, it is helpful to distinguish between the desire to continue a relationship because it is satisfying and the tendency to stay simply because the constraints against breakup seem too great to overcome (Stanley, 1986). External constraints to break up include joint ownership of property, poverty, children, and a relative absence of alternatives (G. Levinger, 1976).

Attachment theory suggests an additional factor that may contribute to the maintenance of an unsatisfying relationship—the emotional bond of attachment. Recall that an attachment is typically formed in the context of close proximity. Weiss (1982) argued that proximity alone can maintain the bond. Often couples are unaware of the bond between them until it is disrupted or threatened in some way (Berscheid, 1983). Even a burdensome and unsatisfying relationship can contribute to one's sense of security. Perhaps the best evidence for the security-promoting function of an unhappy relationship is the intense anxiety that typically accompanies separation (Weiss, 1975). Bowlby (1973) theorized that separation from an attachment figure is one of many natural cues to potential danger and, as such, triggers a fear response and, in turn, attachment behaviors.

To summarize, from an attachment perspective, relationship satisfaction depends largely on the satisfac-

tion of basic needs for comfort, care, and sexual gratification. Trust in a partner's willingness and ability to meet needs is determined in part by the partner's actual behavior and in part by the expectations or comparison levels (Kelley, 1983; Rusbult, 1983) each person brings to the relationship. A history of close relationships lacking in trust, for example, might be expected to result in the kind of minimal expectations that could lead one to stay in an unsatisfying relationship. Thus, relationship longevity may be influenced by relationship history. After an emotional bond has developed, it can act as a psychological tether that provides some security and holds two people together regardless of whether they still enjoy being together. Anxiety resulting from contemplation of or attempted separation can activate attachment behaviors that lead one back to the relationship, unless there is an available and willing alternative.

What Are the Precursors and Reactions to Relationship Dissolution?

Just as research has uncovered multiple correlates of relationship satisfaction, scores of studies have been directed at revealing the causes of breakup (e.g., Felmlee, Sprecher, & Bassin, 1990; Gottman, Markman, & Notarius, 1977; G. Levinger, 1966; Lund, 1985; Simpson, 1990). At the risk of sounding glib, one can conclude from this research that failure to engage in behaviors that enhance relationship satisfaction and longevity renders dissolution more likely. If partners lack trust in each other and, as a result, do not openly and clearly communicate their thoughts and feelings, do not engage in effective strategies of conflict resolution, or are not committed to remaining together, the probability that the relationship will endure is lessened. Structural factors of the sort mentioned earlier—children, limited financial resources, and religious or societal prohibitions—also figure prominently in a couple's decision to end or maintain their relationship. As long as each member of a pair has confidence (i.e., trust) in the other's ability and willingness to supply essential relational provisions, each will be motivated to maintain the relationship. In G. Levinger's (1976) terms, internal attractions will be so strong that external barriers and alternative attractions will be of little practical importance.

The desire to leave a relationship necessarily comes after the relationship has been formed. The question, then, is what changes between the time a person decides to enter a relationship and the time a decision is made to leave. The answer, we believe, lies in a process model of attachment formation. Relationship satisfaction always reduces to whether needs are being satisfied

or not (Shaver & Hazan, 1984). The problem is that the relative importance of various needs changes over time. In fact, what gets two people into a relationship may be what matters least in the long run. If sexual passion is indeed the initial motivating force in the formation of many adult pair bonds, a decline in satisfaction is inevitable unless the relationship meets other needs after they have become important. Unfortunately, people in the throes of romantic passion may give relatively little thought to whether the people to whom they are attracted will make reliable long-term providers of care and support—which in time will come to dominate their feelings about the relationship. According to the hypothesized time course presented in Figure 7, dissatisfaction would be expected to peak around the time that intense attraction has faded and the partner's competence as a haven of safety and secure base assumes relatively greater importance. It should be at this point in a relationship that expectations, alternatives, and constraints come into play in a major way.

Attachment theory has much to say about how people respond when a relationship ends. Response to separation and loss, after all, was the topic with which Bowlby began his inquiries. It is difficult to discuss the function of attachment without considering disruptions and separations, because the system that regulates attachment feelings and behaviors includes "built-in" responses to disruption. Even though there is tremendous cultural variation in associated rituals and customs, the human response to the breaking of an attachment bond hardly varies (Gorer, 1973; Marris, 1958; S. I. Miller & Schoenfeld, 1973; Palgi, 1973). Moreover, the way in which adults respond to attachment disruption is not essentially different from the way infants and children respond (Bowlby, 1980; Hazan & Shaver, 1992; Heinicke & Westheimer, 1966; Parkes & Weiss, 1983).

The first reaction to the disruption of an attachment relationship, whether due to death or voluntary separation, is intense separation-protest behavior. Individuals report feeling agitated, anxious, and preoccupied with thoughts of the lost partner, coupled with a compulsion to search for him or her, as though trying to undo the loss even if it is consciously known to be irreversible. Eventually, with the realization that the loss cannot be recovered, there comes a period of deep sadness, during which intense activity and rumination give way to depression and despair. Many individuals experience an unusual and marked lack of concern about or interest in life and other people. Gradually, the sadness subsides, and most people achieve an adaptive degree of emotional detachment from the lost partner and return to ordinary living. In adults especially, constructing a causal account of the loss helps bring about acceptance and detachment (Harvey, Orbuch, & Weber, 1990).

When the attachment system is activated—for example, by the sudden unavailability of the primary attachment—the natural response is to seek proximity to the attachment figure, and this seems to happen whether or not establishing proximity is possible or even rationally desirable. That an estranged partner may still be attainable can foster not only hope but also protracted protest (Weiss, 1975, 1988). In some cases, chronic activation of the attachment system in the absence of the former partner may result in premature attachment to another person. Likely candidates would include individuals providing support and care during the difficult postseparation period. By the time a couple decides to separate, all former fondness and affection may have eroded. For this reason, many newly separated individuals, especially the ones who initiate separation, are surprised when they begin to experience a compulsion to be near the former partner. Weiss (1975) argued that this very common feeling is due to the persistence of attachment and suggested that an attachment bond can be broken only by an extended period of separation. The same sequence of responses would not be expected unless an attachment had been fully formed, which may take several years. Weiss (1988) noted that responses to divorce are distinctly different in individuals married for fewer than 2 years.

Most of what attachment theory has to say about separation and loss applies equally well to loneliness (Peplau & Perlman, 1982), which seems to take two major forms—emotional and social isolation (Weiss, 1973). Emotional isolation is the kind of loneliness associated with the lack of an intimate companion, whereas feelings of social isolation result from the lack of a social network or sense of community. The two forms of loneliness correspond well to Bowlby's distinction between the attachment and affiliation behavioral systems, which are thought to have different functions. In addition, the two types of loneliness have different symptoms, causes, and cures (Rubenstein & Shaver, 1982). Weiss (1973) viewed loneliness as an adaptive if uncomfortable emotional state because it serves as a reminder that important social needs are not being met, and it tends to continue until corrective action is taken. Again, reactions to the loss or absence of an emotional bond are hypothesized to be the direct result of the functioning of the attachment behavioral system.

What Is the Role of Relationships in Overall Functioning?

Close relationships are important in the lives of most people and are among the greatest sources of subjective

well-being (Freedman, 1978; Veroff, Douvan, & Kukla, 1981). As further evidence of the significance of close relationships for healthy functioning, the disruption or loss of a relationship, especially through divorce, makes one more susceptible to everything from automobile accidents to alcohol abuse to admission into a psychiatric facility (Bloom, Asher, & White, 1978). In addition, the grieving and lonely are vulnerable to disease, as studies of their hearts and immune systems have demonstrated (e.g., Kiecolt-Glaser, Garner et al., 1984; Kiecolt-Glaser, Ricker et al., 1984; Lynch, 1977), and are at greater risk of death from cancer (Goodwin, Hurt, Key, & Sarret, 1987). Social deficiencies and losses jeopardize not only health and happiness but job performance and achievement as well (Baruch, Barnett, & Rivers, 1983; Lee & Kanungo, 1984; Vaillant, 1977).

The diverse and numerous links between relationships and overall functioning are well documented but poorly understood. Why should the absence of socioemotional connections have such profound psychological, physical, and even occupational consequences? We believe that Bowlby's insights supply the missing link: Social deprivation is harmful because it thwarts the satisfaction of inborn needs. Powerful emotional cues signal when these crucial needs are not being met, and the result is a subjective state of anxiety and discomfort. Stated differently, social deprivation is stressful and, as with any prolonged stressor, can be both psychologically and physically harmful.

Because of the interrelations among behavioral systems, malfunctioning in one system can cause dysfunction in another. Recall that, in studies with infants, attachment and exploratory behavior are closely intertwined. Smooth functioning of the exploratory system requires a quiescent (satisfied) attachment system, which itself depends on the availability and responsiveness of an attachment figure. In adulthood, the balance between relationships and work, between emotional connectedness and independent activity, is in important respects similar to the attachment-exploration balance marking healthy functioning in early life (Hazan & Shaver, 1990). In Bowlby's (1979) words,

Human beings of all ages are happiest and able to deploy their talents to best advantage when they are confident that, standing behind them, there are one or more trusted persons who will come to their aid should difficulties arise. (pp. 103-104)

Thus, attachment theory explains why and how close relationships play a central and critical role in overall feelings about and adjustment to life.

How and Why Do Individuals Differ in the Way They Think, Feel, and Behave in Relationships?

Up to this point, we have emphasized normative aspects of close relationships. However, one cannot ignore the immense variability in the ways people relate to one another. Some people fear intimacy, whereas others embrace it (Hatfield, 1984). Some self-disclose to an excessive degree, whereas others disclose little or not at all (Altman & Taylor, 1973). Attitudes about romantic involvements range from game playing to pragmatism (C. Hendrick & S. Hendrick, 1986). Relationships can involve commitment without passion or passion without intimacy (Sternberg, 1986). Partners may attribute each other's problematic behavior to character flaws or explain it in terms of situational factors (Fincham, Beach, & Nelson, 1987). In response to conflict, partners may withdraw or accommodate (Rusbult, Zembrodt, & Gunn, 1982). Communication may be open and coherent or defensive and disorganized (Bretherton, 1990). Relationships appear to be as diverse as the individuals involved.

Ideally, the multitude of differences could be reduced to a more manageable number of conceptual categories. If we accept that confidence and trust in the responsiveness of others are central issues in close relationships, then a few broad categories of individual differences naturally follow. As Main et al. (1985) saw it, the social environment can be perceived as consistently responsive, inconsistently responsive, or consistently unresponsive to an individual's attempts to establish security-promoting closeness. Given that this important issue appears to be the same in infancy and adulthood, we assume that the important individual-difference categories will also be essentially the same. One would not expect to see the exact same behaviors but rather the same basic strategies for maintaining felt security. In emphasizing normative attachment, we have actually been describing security or the secure attachment type. In this section on individual differences, we focus instead on the other end of the dimension—insecurity.

The strategy associated with inconsistent responsiveness—*anxious/ambivalent (preoccupied) attachment*—is characterized by a lack of confidence in the reliable responsiveness of others. The proximal goal of all attachment behavior is to achieve a state of felt security. In the case of *anxious/ambivalent attachment*, this is attempted and at times accomplished by devoting immense mental energy and behavioral effort to keeping others close by and engaged. It is manifested in intensified expressions of distress and anger and diminished exploratory activity.

In studies of adult attachment, anxious/ambivalent attachment is associated with obsessive preoccupation with a romantic partner's responsiveness; falling in love easily; being extremely jealous; being subject to fear, anxiety, and loneliness (even when involved in a relationship); having low self-esteem (Collins & Read, 1990; Feeney & Noller, 1990); and experiencing a higher rate of relationship dissolution (Hazan & Shaver, 1987). The anxious/ambivalently attached also tend to view partners as reluctant to commit and as inadequate or insufficiently attentive caregivers (Kunce & Shaver, 1991). They engage in indiscriminant and overly intimate self-disclosure (Mikulincer & Nachshon, 1991) and assert their own feelings and needs without adequate regard for the partner's feelings and needs (Daniels & Shaver, 1991). In laboratory problem-solving tasks with their partners, anxious/ambivalent subjects tended to express dysfunctional anger (Kobak & Hazan, 1991). They also reported more physical and psychological symptoms (Fiala, 1991; Hazan & Shaver, 1990) and had greater difficulty making friends in a new setting (Hazan & Hutt, 1991b). At work, anxious/ambivalence is associated with distraction, procrastination, and suboptimal performance (Hazan & Shaver, 1990) and, in discussions of attachment history, with overly effusive and poorly organized discourse (Main et al., 1985). (For a review of additional correlates of anxious/ambivalent attachment, see Shaver & Hazan, 1993.)

In contrast, avoidant attachment is believed to result from consistent unresponsiveness. The avoidant strategy for maintaining felt security involves avoidance of intimate social contact, especially in stressful or distressing circumstances, and compensatory engagement in nonsocial activities. According to research on adult attachment, avoidance is manifested in fear of intimacy and a tendency to maintain distance in "close" relationships, with pessimistic views of relationships and a relatively high rate of relationship dissolution (Hazan & Shaver, 1987). When answering interview questions concerning childhood relationships with parents, avoidantly attached adults (a) use idealized descriptors but are unable to provide supporting examples (Main et al., 1985) and (b) show spikes in skin conductance when probed for such examples (Dozier & Kobak, in press). They avoid self-disclosure and experience discomfort with relationship partners who do self-disclose (Mikulincer & Nachshon, 1991). They are more susceptible to sudden religious conversion (Kirkpatrick & Shaver, 1990). They are judged by their peers to be hostile (Kobak & Sceery, 1988). They tend to use work to avoid social interaction (Hazan & Shaver, 1990) and are prone to engaging in uncommitted sexual relations and using alcohol and other substances to reduce tension (Brennan, Shaver, & Tobey, 1991). (For additional

findings on avoidant attachment, see Shaver & Hazan, 1993.)

Theoretically, these two major patterns of insecurity are based on internal working models constructed from actual attachment experience, beginning with parents. The anxious/ambivalent strategy is "logical" in the sense that it reflects a history of inconsistent responsiveness. Expecting close relationship partners to be somewhat unreliable may lead to heightened vigilance and fears of abandonment and neglect, both of which can interfere with nonattachment activities. The avoidant strategy is equally logical in light of a history of frequent rejection or inhibitions on physical affection and intimate emotional expression. Such experiences can lead to an avoidance of closeness, extreme self-reliance, and a habit of regulating anxiety by keeping oneself distracted. In line with social psychological research showing that actions often follow from beliefs and interpersonal schemas in a way that encourages repeated confirmation (e.g., Snyder & Swann, 1978), internal working models may have self-fulfilling effects on social behavior and social-information processing. For example, there is evidence that mates are selected for their ability to confirm attachment-related expectations, even if the expectations are negative (Kirkpatrick & K. E. Davis, in press; Swann, Hixon, & De La Ronde, 1992). We believe that individual differences in attachment, mediated by internal working models, may underlie many of the interpersonal differences that have been discovered by researchers working from other theoretical bases. Further, insecure attachment might be at the root of many dysfunctional behaviors contributing to relationship dissatisfaction and dissolution.

Despite forces favoring the stability of individual differences in attachment, change is always possible. For example, the experience of just one important relationship that disconfirms insecure expectations of unreliability or rejection increases the likelihood of forming a secure attachment in adulthood (Hazan & Hutt, 1991a). In most cases, these disconfirming relationship experiences were formed with nonparental adults (e.g., teachers, relatives) during childhood or with romantic partners during late adolescence or early adulthood. Consistent with studies of change in infancy and childhood, secure attachment is the most stable pattern.

The distribution of adults across attachment categories—55% secure, 25% avoidant, and 20% anxious/ambivalent—has been replicated in many studies in several different countries (e.g., Feeney & Noller, 1990; Hazan & Shaver, 1987; Mikulincer, Florian, & Tolmacz, 1990). The proportions are similar to those found in infant studies using Ainsworth's Strange Situation procedure (Campos et al., 1983). To date, there

have been no reliable gender differences reported in the distribution of subjects across the three categories.

Gender Differences

No treatment of close relationships would be complete without some discussion of gender differences. Males and females differ significantly in their styles of communication (Tannen, 1990), in their tendency to engage in extra-relationship affairs (Skolnick, 1978), and in their skill at reading nonverbal cues (Hall, 1978). They differ as well in their likelihood of initiating breakups (Hill, Rubin, & Peplau, 1976) and in their subsequent adjustment (Wallerstein & Kelly, 1980). They also differ in the degree to which they value physical attractiveness (Berscheid, Dion, E. Walster, & G. W. Walster, 1971) and material resources (Buss & Barnes, 1986) in a potential mate.

The measure we developed for assessing individual differences in adult attachment (Hazan & Shaver, 1987) might have been expected to show gender differences. The anxious/ambivalent pattern sounds very much like the clingy, dependent aspects of the female stereotype, and the avoidant pattern strongly resembles the stereotypical intimacy-evading male. That males and females do not fall disproportionately into either category lends support to Bowlby's claim that all human beings have an inborn need for felt security.

Informal examination of the data suggests that gender differences lie primarily in the domains of caregiving and sexuality, rather than attachment. In general, females are more oriented toward caregiving, and males are more oriented toward sex. Some of the major differences between lesbian and gay male relationships seem to support this view (Peplau & Gordon, 1983). Buss (1985) developed a sociobiological theory of human mate selection that is also consistent with this conceptualization of gender differences. However, within an attachment framework, gender differences do not entail a biological explanation. Because the caregiving and sexual mating systems develop later than the attachment system, it is likely that they are more subject to sex-role socialization pressures. The extent of biological versus social causation is still a legitimate matter for dispute and further research.

Concluding Remarks

Our review of the literature has necessarily been selective, and there are many additional facts that we have not attempted to integrate, although many seem amenable to explanation within an attachment framework. Even so, we do not believe that the framework

we have proposed will be able to explain all important relationship phenomena. Each theory has its boundaries, and attachment theory is no exception. In fairness to Bowlby, he was not attempting to explain every aspect or type of close relationship. His aim was simply to explain the structure and functions of attachment, and it took him three volumes to do it. Even in beginning to extend his theory to adult attachments, we have taken great liberties.

At the outset, we said that we see attachment and interdependence as largely complementary theories. We asked what a good theory of close relationships should be able to do. A reasonable response is that it should offer a precise and operational definition of *close* and should emphasize relationships more than individual relationship partners. Interdependence theory is superior to attachment theory in both regards, and, in its models of interaction and types of transformations that occur over the course of an interaction, interdependence theory is unparalleled. Attachment theory, in contrast, emphasizes what of psychological value individuals will try to accomplish in their interactions. In other words, it supplies much of the psychological substance of what Kelley (1983) called the *given matrix*. Attachment is a motivated model, and the motives on which it focuses are based in biology. We are active, biological organisms that build internal structures. As with other behavioristic models in psychology, the strength of interdependence theory rests with its operational definitions and measurement of observables. However, it would be a mistake to believe that all important relationship phenomena can be reduced to observable ones.

The theories that emphasize socially constructed, shared meanings and narratives also add something important to attachment theory, which, because of its roots in ethology, does not stress the unique properties of human verbal communication. Nevertheless, attachment theory may provide some of the themes and constraints on interpersonal story construction, whereas communication-oriented theories add to attachment theory's conceptualization of the ways in which internal working models of self, relationships, and relationship partners get constructed. A complete integration of attachment, interdependence, and communication theories would require more space and expertise than we have at present, but we firmly believe that such a union would be fruitful.

It is common to hear attachment theory described as a theory about three (or maybe four) types of babies. Such emphasis on individual differences does not reflect the main thrust of attachment theory, which is first and foremost a normative theory. An added strength is that it can also account for the nature and form of individual differences. Ainsworth's creation of an in-

novative paradigm for assessing attachment quality in infancy focused attention on individual differences. By creating a simple self-report measure of adult attachment styles, we inadvertently helped extend the individual-differences approach to the study of adult relationships. The normative implications of attachment theory have rarely been spelled out or tested.

The prevailing problem with the overemphasis on individual differences has been a lack of consensus concerning how to measure these differences beyond infancy. Four or five different methods are currently used to assess attachment in toddlers and children (Greenberg, Cicchetti, & Cummings, 1990); for adults, there are two highly similar interviews (Bartholomew, 1990; Main, 1991) and several self-report measures that are derivatives of our 1987 measure (e.g., Collins & Read, 1990). Current debate includes questions about whether measures of adult attachment should concentrate on parent-child dyads or adult-pair bonds, how the various methods (e.g., interview, self-report) compare, and how to conceptualize the differences (i.e., in terms of dimensions or types). There is even ongoing debate about how many major types of attachment exist in adulthood (Bartholomew & Horowitz, 1991). We think it is important to point out that attachment theory does not stand or fall with the success of any individual-difference measure. Regardless of which measure is used, the results invariably show that secure attachment is the norm, so we would do well to devote additional research effort to investigating normative (i.e., secure) attachment phenomena.

We imagine that Harlow would be pleased to see that researchers are finally grappling with love and affection and are analyzing these important facets of human behavior into their component variables. Such a bottom-up approach and the construction of a descriptive base constitute a useful first phase in the development of our science, but it is not the ultimate goal. Eventually, the accumulation of facts in the absence of theory becomes inefficient. Without theory as a guide, research is difficult to plan, and findings are difficult to interpret. Our goal here has been to persuade the reader that a theoretical integration of research findings on close relationships is neither premature nor impossible and that attachment theory can provide the core constructs of such an integrative framework. If we have failed to be persuasive, we hope we have at least been provocative enough to inspire the kind of integrative thought and conceptual debate that will help advance the science of close relationships.

Notes

Preparation of this target article was facilitated by a Special Projects Grant from Cornell University to

Cindy Hazan and by National Science Foundation Grant BSN-8808736 to Cindy Hazan and Phillip R. Shaver.

We thank Rick Canfield, Robert Turgeon, and Joanne Sturgeon for their helpful comments on drafts of this target article.

Cindy Hazan, Department of Human Development and Family Studies, Van Rensselaer Hall, Cornell University, Ithaca, NY 14853-4401.

References

- Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. (1978). *Patterns of attachment: A psychological study of the Strange Situation*. Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.
- Altman, I., & Taylor, D. A. (1973). *Social penetration: The development of interpersonal relationships*. New York: Holt, Rinehart & Winston.
- Arend, R., Gove, F., & Sroufe, L.A. (1979). Continuity of individual adaptation from infancy to kindergarten: A predictive study of ego resiliency and curiosity in preschoolers. *Child Development*, 50, 950-959.
- Aron, A. P., Dutton, D. G., Aron, E. N., & Iverson, A. (1989). Experiences of falling in love. *Journal of Social and Personal Relationships*, 6, 243-257.
- Aronson, E. (1988). *The social animal* (5th ed.). New York: Freeman.
- Bartholomew, K. (1990). Avoidance of intimacy: An attachment perspective. *Journal of Social and Personal Relationships*, 7, 147-178.
- Bartholomew, K., & Horowitz, L. M. (1991). Attachment styles among young adults: A test of a four-category model. *Journal of Personality and Social Psychology*, 61, 226-244.
- Baruch, G., Barnett, R., & Rivers, C. (1983). *Lifepprints: New patterns of love and work for today's women*. New York: McGraw-Hill.
- Berscheid, E. (1983). Emotion. In H. H. Kelley, E. Berscheid, A. Christensen, J. H. Harvey, T. L. Huston, G. Levinger, E. McClintock, L. A. Peplau, & D. R. Peterson (Eds.), *Close relationships* (pp. 110-168). New York: Freeman.
- Berscheid, E. (1984). Interpersonal attraction. In G. Lindzey & E. Aronson (Eds.), *Handbook of social psychology* (3rd ed., pp. 413-484). Reading, MA: Addison-Wesley.
- Berscheid, E., Dion, K., Walster, E., & Walster, G. W. (1971). Physical attractiveness and dating choice: A test of the matching hypothesis. *Journal of Experimental Social Psychology*, 7, 173-189.
- Berscheid, E., & Graziano, W. (1979). The initiation of social relationships and social attraction. In R. L. Burgess & T. L. Huston (Eds.), *Social exchange in developing relationships*. New York: Academic.
- Berscheid, E., & Walster, E. (1974). A little bit about love. In T. L. Huston (Ed.), *Foundations of interpersonal attraction* (pp. 355-381). New York: Academic.
- Bloom, B. L., Asher, S. J., & White, S. W. (1978). Marital disruption as a stressor: A review and analysis. *Psychological Bulletin*, 85, 867-894.
- Bowlby, J. (1944). Forty-four juvenile thieves: Their characters and home life. *International Journal of Psycho-Analysis*, 25, 19-52, 107-127.
- Bowlby, J. (1951). *Maternal care and mental health*. Geneva: World Health Organization.
- Bowlby, J. (1973). *Attachment and loss: Vol. 2. Separation: Anxiety and anger*. New York: Basic.
- Bowlby, J. (1979). *The making and breaking of affectional bonds*. London: Tavistock.

- Bowlby, J. (1980). *Attachment and loss: Vol. 3. Loss: Sadness and depression*. New York: Basic.
- Bowlby, J. (1982). *Attachment and loss: Vol. 1. Attachment* (2nd ed.). New York: Basic. (Original work published 1969)
- Bowlby, J. (1988). *A secure base: Parent-child attachment and healthy human development*. New York: Basic.
- Brennan, K., Shaver, P. R., & Tobey, A. E. (1991). Attachment styles, gender, and parental problem drinking. *Journal of Social and Personal Relationships*, 8, 451-466.
- Bretherton, I. (1990). Open communication and internal working models: Their role in the development of attachment relationships. In R. A. Thompson (Ed.), *Nebraska Symposium on Motivation: Vol. 36. Socioemotional development* (pp. 57-113). Lincoln: University of Nebraska Press.
- Buss, D. M. (1985). Human mate selection. *American Scientist*, 73, 47-54.
- Buss, D. M., & Barnes, M. (1986). Preferences in human mate selection. *Journal of Personality and Social Psychology*, 50, 559-570.
- Campos, J. J., Barrett, K., Lamb, M. E., Goldsmith, H. H., & Stenberg, C. (1983). Socioemotional development. In P. H. Mussen (Ed.), *Handbook of child psychology: Vol. 2. Infancy and developmental psychobiology* (pp. 783-915). New York: Wiley.
- Cassidy, J. (1988). Child-mother attachment and the self in six-year-olds. *Child Development*, 59, 121-134.
- Colin, V. L. (1991). *Human attachment: What we know now*. Chevy Chase, MD: U.S. Department of Health and Human Services.
- Collins, N. L., & Read, S. J. (1990). Adult attachment, working models, and relationship quality in dating couples. *Journal of Personality and Social Psychology*, 58, 644-663.
- Crittenden, P. M. (1988). Relationships at risk. In J. Belsky & T. Nezworski (Eds.), *Clinical implications of attachment* (pp. 136-174). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.
- Crockenberg, S. B. (1981). Infant irritability, mother responsiveness, and social support influences on the security of infant-mother attachment. *Child Development*, 52, 857-869.
- Daniels, T., & Shaver, P. R. (1991). *Attachment styles and power strategies in romantic relationships*. Unpublished manuscript, State University of New York at Buffalo, Department of Psychology.
- Dozier, M., & Kobak, R. R. (in press). Psychophysiology and adolescent attachment interviews: Converging evidence for repressing strategies. *Child Development*.
- Driscoll, R., Davis, K. W., & Lipetz, M. E. (1972). Parental interference and romantic love. *Journal of Personality and Social Psychology*, 24, 1-10.
- Duck, S. W. (1991, May). *New lamps for old: A new theory of relationships and a fresh look at some old research*. Paper presented at the meeting of the International Network on Personal Relationships, Normal, IL.
- Dutton, D. G., & Aron, A. P. (1974). Some evidence for heightened sexual attraction under conditions of high anxiety. *Journal of Personality and Social Psychology*, 30, 510-517.
- Egeland, B., & Farber, E. A. (1984). Infant-mother attachment: Factors related to its development and changes over time. *Child Development*, 55, 753-771.
- Feeney, J., & Noller, P. (1990). Attachment style as a predictor of adult romantic relationships. *Journal of Personality and Social Psychology*, 58, 281-291.
- Fehr, B. (1988). Prototype analysis of the concepts of love and commitment. *Journal of Personality and Social Psychology*, 55, 557-579.
- Felmlee, D., Sprecher, S., & Bassin, E. (1990). The dissolution of intimate relationships: A hazard model. *Social Psychology Quarterly*, 52, 13-30.
- Festinger, L., Schachter, S., & Back, K. W. (1950). *Social pressures in informal groups: A study of human factors in housing*. New York: Harper.
- Fiala, K. B. (1991). *Attachment and psychosocial functioning of depressed, remitted depressed, and nondepressed women and their partners*. Unpublished doctoral dissertation, University of Massachusetts, Amherst.
- Fincham, F. D., Beach, S., & Nelson, G. (1987). Attribution processes in distressed and non-distressed couples: Self-partner attribution for spouse behavior. *Cognitive Therapy and Research*, 11, 71-86.
- Fisher, H. E. (1992). *Anatomy of love*. New York: Norton.
- Fiske, S. T., & Taylor, S. E. (1991). *Social cognition*. New York: Random House.
- Folkes, V. S., & Sears, D. O. (1977). Does everybody like a liker? *Journal of Experimental Social Psychology*, 13, 505-519.
- Freedman, J. (1978). *Happy people: What happiness is, who has it, and why*. New York: Harcourt Brace Jovanovich.
- Fullard, W., & Reiling, A. M. (1976). An investigation of Lorenz's "babyness." *Child Development*, 47, 1191-1193.
- Furman, W., & Buhrmester, D. (1985). Children's perceptions of the personal relationships in their social networks. *Developmental Psychology*, 21, 1016-1024.
- Goldsmith, H. H., & Alansky, J. A. (1987). Maternal and infant temperamental predictors of attachment: A meta-analytic review. *Journal of Consulting and Clinical Psychology*, 55, 805-816.
- Goodwin, J. S., Hurt, W. C., Key, C. R., & Sarret, J. M. (1987). The effect of marital status on stage, treatment and survival of cancer patients. *Journal of the American Medical Association*, 258, 3125-3130.
- Gorer, G. (1973). Death, grief and mourning in Britain. In E. J. Anthony & C. Koupernik (Eds.), *The child in his family: The impact of disease and death*. New York: Wiley.
- Gottman, J. M. (1983). How children become friends. *Monographs of the Society for Research in Child Development*, 48(3, Serial No. 201).
- Gottman, J., Markman, H., & Notarius, C. (1977). The topography of marital conflict: A sequential analysis of verbal and nonverbal behavior. *Journal of Marriage and the Family*, 39, 461-477.
- Gottman, J., Notarius, C., Gonso, J., & Markman, H. J. (1976). *A couple's guide to communication*. Champaign, IL: Research Press.
- Greenberg, M., Cicchetti, D., & Cummings, M. (Eds.). (1990). *Attachment in the preschool years: Theory, research, and intervention*. Chicago: University of Chicago Press.
- Grossberg, S. (1980). How does a brain build a cognitive code? *Psychological Review*, 87, 1-51.
- Grossmann, K. E., & Grossmann, K. (1991). Attachment quality as an organizer of emotional and behavioral responses in a longitudinal perspective. In C. M. Parkes, J. Stevenson-Hinde, & P. Marris (Eds.), *Attachment across the life cycle* (pp. 93-114). London: Tavistock/Routledge.
- Hall, J. A. (1978). Gender effects in decoding nonverbal cues. *Psychological Bulletin*, 85, 845-857.
- Harlow, H. (1958). The nature of love. *American Psychologist*, 13, 673-685.
- Hartup, W. (1983). Peer relations. In E. M. Hetherington (Vol. Ed.) & P. H. Mussen (Series Ed.), *Handbook of child psychology: Vol. 4. Socialization, personality, and social development* (pp. 103-196). New York: Wiley.
- Harvey, J. H., Orbuch, T. L., & Weber, A. L. (1990). A social psychological model of account-making: In response to severe stress. *Journal of Language and Social Psychology*, 9, 191-207.
- Hatfield, E. (1984). The dangers of intimacy. In V. J. Derlega (Ed.), *Communication, intimacy and close relationships* (pp. 207-220). New York: Academic.
- Hatfield, E., & Rapson, R. L. (1987). Passionate love: New directions in research. In W. H. Jones & D. Perlman (Eds.), *Advances in personal relationships* (Vol. 1, pp. 109-140). Greenwich, CT: JAI.

- Hazan, C., & Hutt, M. J. (1991a). *Continuity and change in internal working models of attachment*. Unpublished manuscript, Cornell University, Department of Human Development and Family Studies.
- Hazan, C., & Hutt, M. J. (1991b). *From parents to peers: Transitions in attachment*. Unpublished manuscript, Cornell University, Department of Human Development and Family Studies.
- Hazan, C., Hutt, M. J., Sturgeon, J., & Bricker, T. (1991, April). *The process of relinquishing parents as attachment figures*. Paper presented at the meeting of the Society for Research in Child Development, Seattle.
- Hazan, C., & Shaver, P. R. (1987). Romantic love conceptualized as an attachment process. *Journal of Personality and Social Psychology*, 52, 511–524.
- Hazan, C., & Shaver, P. R. (1990). Love and work: An attachment-theoretical perspective. *Journal of Personality and Social Psychology*, 59, 270–280.
- Hazan, C., & Shaver, P. R. (1992). Broken attachments. In T. L. Orbuch (Ed.), *Close relationship loss: Theoretical approaches* (pp. 90–108). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.
- Heinicke, C., & Westheimer, I. (1966). *Brief separations*. New York: International Universities Press.
- Hendrick, C., & Hendrick, S. (1986). A theory and method of love. *Journal of Personality and Social Psychology*, 50, 392–402.
- Hill, C. T., Rubin, Z., & Peplau, L. A. (1976). Breakups before marriage: The end of 103 affairs. *Journal of Social Issues*, 32, 147–168.
- Hinde, R. (1979). *Towards understanding relationships*. London: Academic.
- Hinsz, V. B. (1989). Facial resemblance in engaged and married couples. *Journal of Social and Personal Relationships*, 6, 223–229.
- Holmes, J. G., & Rempel, J. K. (1989). Trust in close relationships. In C. Hendrick (Ed.), *Close relationships* (pp. 187–220). Newbury Park, CA: Sage.
- Huston, T. L., Surra, C. A., Fitzgerald, N. M., & Cate, R. M. (1981). From courtship to marriage: Mate selection as an interpersonal process. In S. Duck & R. Gilmour (Eds.), *Personal relationships: Vol. 2. Developing personal relationships* (pp. 53–88). New York: Academic.
- Kelley, H. H. (1983). Love and commitment. In H. H. Kelley, E. Berscheid, A. Christensen, J. H. Harvey, T. L. Huston, G. Levinger, E. McClintock, L. A. Peplau, & D. R. Peterson (Eds.), *Close relationships* (pp. 265–314). New York: Freeman.
- Kelley, H. H., Berscheid, E., Christensen, A., Harvey, J. H., Huston, T. L., Levinger, G., McClintock, E., Peplau, L. A., & Peterson, D. R. (Eds.). (1983). *Close relationships*. New York: Freeman.
- Kerckhoff, A. C., & Davis, K. E. (1962). Value consensus and need complementarity in mate selection. *American Sociological Review*, 27, 295–303.
- Kiecolt-Glaser, J. K., Garner, W., Speicher, C., Penn, G. M., Holliday, J., & Glaser, R. (1984). Psychological modifiers of immunocompetence in medical students. *Psychosomatic Medicine*, 46, 7–14.
- Kiecolt-Glaser, J. K., Ricker, D., George, J., Messick, G., Speicher, G. E., Garner, W., & Glaser, R. (1984). Urinary cortisol levels, cellular immunocompetence, and loneliness in psychiatric inpatients. *Psychosomatic Medicine*, 46, 15–23.
- Kirkpatrick, L. A., & Davis, K. E. (in press). Attachment style, gender, and relationship stability: A longitudinal analysis. *Journal of Personality and Social Psychology*.
- Kirkpatrick, L., & Shaver, P. R. (1990). Attachment theory and religion: Childhood attachments, religious beliefs, and conversion. *Journal for the Scientific Study of Religion*, 29, 315–334.
- Kobak, R. R., & Hazan, C. (1991). Attachment in marriage: Effects of security and accuracy of working models. *Journal of Personality and Social Psychology*, 60, 861–869.
- Kobak, R. R., & Sceery, A. (1988). The transition to college: Working models of attachment, affect regulation, and perceptions of self and others. *Child Development*, 88, 135–146.
- Konner, M. (1982). *The tangled wing: Biological constraints on the human spirit*. New York: Holt, Rinehart & Winston.
- Kotler, T. (1985). Security and autonomy within marriage. *Human Relations*, 38, 299–321.
- Kunce, L. J., & Shaver, P. R. (1991). *An attachment-theoretical approach to caregiving in romantic relationships*. Unpublished manuscript, State University of New York at Buffalo, Department of Psychology.
- Lamb, M. E., Thompson, R. A., Gardner, W. P., Charnov, E. L., & Estes, D. (1984). Security of infantile attachment as assessed in the Strange Situation: Its study and biological interpretation. *Behavioral and Brain Sciences*, 7, 127–171.
- Lee, M. D., & Kanungo, R. N. (Eds.). (1984). *Management of work and personal life: Problems and opportunities*. New York: Praeger.
- Levenson, R. W., & Gottman, J. M. (1985). Six physiological and affective predictors of change in relationship satisfaction. *Journal of Personality and Social Psychology*, 49, 85–94.
- Levinger, G. (1966). Systematic distortion in spouses' reports of preferred and actual sexual behavior. *Sociometry*, 29, 291–299.
- Levinger, G. (1976). A social psychological perspective on marital dissolution. *Journal of Social Issues*, 32(1), 21–47.
- Levinger, G. (1983). Development and change. In H. H. Kelley, E. Berscheid, A. Christensen, J. H. Harvey, T. L. Huston, G. Levinger, E. McClintock, L. A. Peplau, & D. R. Peterson (Eds.), *Close relationships* (pp. 315–359). New York: Freeman.
- Levinger, G., & Levinger, A. C. (1986). The temporal course of close relationships: Some thoughts about the development of children's ties. In W. W. Hartup & Z. Rubin (Eds.), *Relationships and development* (pp. 111–134). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.
- Levinger, G., & Snoek, J. D. (1972). *Attraction in relationship: A new look at interpersonal attraction*. Morristown, NJ: General Learning Press.
- Lewis, R. A. (1973). A longitudinal test of a developmental framework for premarital dyadic formation. *Journal of Marriage and the Family*, 35, 16–25.
- Lewis, R. A., & Spanier, G. B. (1979). Theorizing about the quality and stability of marriage. In W. R. Burr, R. Hill, F. I. Nye, & I. L. Reiss (Eds.), *Contemporary theories about the family* (Vol. 1). New York: Free Press.
- Lund, M. (1985). The development of investment and commitment scales for predicting continuity of personal relationships. *Journal of Social and Personal Relationships*, 2, 3–23.
- Lynch, J. J. (1977). *The broken heart: The medical consequences of loneliness*. New York: Basic.
- Main, M. (1990). Parental aversion to infant-initiated contact is correlated with the parent's own rejection during childhood: The effects of experience on signals of security with respect to attachment. In K. E. Barnard & T. B. Brazelton (Eds.), *Touch: The foundation of experience* (pp. 461–495). Madison, CT: International Universities Press.
- Main, M. (1991). Metacognitive knowledge, metacognitive monitoring, and singular (coherent) vs. multiple (incoherent) model of attachment: Findings and directions for future research. In C. M. Parkes, J. Stevenson-Hinde, & P. Marris (Eds.), *Attachment across the life cycle* (pp. 127–159). London: Tavistock/Routledge.
- Main, M., & Hesse, E. (1990). Parents' unresolved traumatic experiences are related to infant disorganized status: Is frightened and/or frightening parental behavior the linking mechanism? In M. T. Greenberg, D. Cicchetti, & E. M. Cummings (Eds.), *Attachment in the preschool years* (pp. 161–184). Chicago: University of Chicago Press.
- Main, M., Kaplan, N., & Cassidy, J. (1985). Security in infancy, childhood, and adulthood: A move to the level of representation.

- Monographs of the Society for Research in Child Development*, 50(1-2, Serial No. 209), 66-104.
- Main, M., & Solomon, J. (1990). Procedures for identifying infants as disorganized/disoriented during the Ainsworth Strange Situation. In M. T. Greenberg, D. Cicchetti, & E. M. Cummings (Eds.), *Attachment in the preschool years* (pp. 121-160). Chicago: University of Chicago Press.
- Marris, P. (1958). *Widows and their families*. London: Routledge & Kegan Paul.
- Mikulincer, M., Florian, V., & Tolmacz, R. (1990). Attachment styles and fear of personal death: A case study of affect regulation. *Journal of Personality and Social Psychology*, 58, 273-280.
- Mikulincer, M., & Nachshon, O. (1991). Attachment styles and patterns of self-disclosure. *Journal of Personality and Social Psychology*, 61, 321-331.
- Miller, G. A., Galanter, E., & Pribram, K. H. (1960). *Plans and the structure of behavior*. New York: Holt, Rinehart & Winston.
- Miller, S. I., & Schoenfeld, L. (1973). Grief in the Navajo: Psychodynamics and culture. *International Journal of Psychiatry*, 19, 187-191.
- Mizukami, K., Kobayashi, N., Ishii, T., & Iwata, H. (1990). First selective attachment begins in early infancy: A study using telethermography. *Infant Behavior and Development*, 13, 257-271.
- Murstein, B. I. (1976). *Who will marry whom?* New York: Springer.
- Newcomb, T. M. (1961). *The acquaintance process*. New York: Holt, Rinehart & Winston.
- Owen, M. T., Easterbrooks, M. A., Chase-Lansdale, L., & Goldberg, W. A. (1984). The relation between maternal employment status and the stability of attachments to mother and father. *Child Development*, 55, 1894-1901.
- Palgi, P. (1973). The socio-cultural expressions and implications of death, mourning and bereavement arising out of the war situation in Israel. *Israel Annals of Psychiatry*, 11, 301-329.
- Parkes, C. M., & Weiss, R. S. (1983). *Recovery from bereavement*. New York: Basic.
- Peplau, L. A., & Gordon, S. L. (1983). The intimate relationships of lesbians and gay men. In E. R. Allgeier & N. B. McCormick (Eds.), *The changing boundaries: Gender roles and sexual behavior* (pp. 226-244). Palo Alto, CA: Mayfield.
- Peplau, L. A., & Perlman, D. (Eds.). (1982). *Loneliness: A sourcebook of current theory, research and therapy*. New York: Wiley-Interscience.
- Piaget, J. (1952). *The origins of intelligence in children*. New York: International Universities Press.
- Rands, M., Levinger, G., & Mellinger, G. D. (1981). Patterns of conflict resolution and marital satisfaction. *Journal of Family Issues*, 2, 297-321.
- Reedy, M. N., Birren, J. E., & Schaie, K. W. (1981). Age and sex differences in satisfying love relationships across the adult life span. *Human Development*, 24, 52-66.
- Reis, H. T., & Shaver, P. R. (1988). Intimacy as an interpersonal process. In S. Duck (Ed.), *Handbook of research in personal relationships* (pp. 367-389). London: Wiley.
- Reiss, I. L. (1960). Toward a sociology of the heterosexual love relationship. *Marriage and Family Living*, 22, 139-145.
- Rubenstein, C., & Shaver, P. R. (1982). *In search of intimacy*. New York: Delacorte.
- Rubin, Z. (1973). *Liking and loving*. New York: Holt, Rinehart & Winston.
- Rubin, Z. (1980). *Children's friendships*. Cambridge: Harvard University Press.
- Rubin, Z. (1984). Toward a science of relationships. *Contemporary Psychology*, 29, 856-858.
- Rusbult, C. E. (1980). Commitment and satisfaction in romantic associations: A test of the investment model. *Journal of Experimental Social Psychology*, 16, 172-186.
- Rusbult, C. E. (1983). A longitudinal test of the investment model: The development (and deterioration) of satisfaction and commitment in heterosexual involvements. *Journal of Personality and Social Psychology*, 45, 101-117.
- Rusbult, C. E., & Zembrodt, I. M. (1983). Responses to dissatisfaction in romantic involvement: A multidimensional scaling analysis. *Journal of Experimental Social Psychology*, 19, 274-293.
- Rusbult, C. E., Zembrodt, I. M., & Gunn, L. K. (1982). Exit, voice, loyalty, and neglect: Responses to dissatisfaction in romantic involvements. *Journal of Personality and Social Psychology*, 43, 1230-1242.
- Schachter, S. (1959). *The psychology of affiliation: Experimental studies of the sources of gregariousness*. Stanford, CA: Stanford University Press.
- Schaffer, H. R., & Emerson, P. E. (1964). The development of social attachments in infancy. *Monographs of the Society for Research in Child Development*, 29(3, Serial No. 94).
- Shaver, P. R., & Hazan, C. (1984). Incompatibility, loneliness, and "limerence." In W. Ickes (Ed.), *Compatible and incompatible relationships* (pp. 163-184). New York: Springer-Verlag.
- Shaver, P. R., & Hazan, C. (1993). Adult romantic attachment: Theory and evidence. In D. Perlman & W. Jones (Eds.), *Advances in personal relationships* (Vol. 4, pp. 29-70). Greenwich, CT: JAI.
- Shaver, P. R., Hazan, C., & Bradshaw, D. (1988). Love as attachment: The integration of three behavioral systems. In R. J. Sternberg & M. L. Barnes (Eds.), *The psychology of love* (pp. 68-99). New Haven, CT: Yale University Press.
- Shaver, P. R., & Rubenstein, C. (1980). Childhood attachment experience and adult loneliness. In L. Wheeler (Ed.), *Review of personality and social psychology* (Vol. 1, pp. 42-73). Beverly Hills, CA: Sage.
- Simpson, J. A. (1990). The influence of attachment styles on romantic relationships. *Journal of Personality and Social Psychology*, 59, 971-980.
- Skolnick, A. (1978). *The intimate environment: Exploring marriage and the family* (2nd ed.). Boston: Little, Brown.
- Snyder, M., & Swann, W. B., Jr. (1978). Behavioral confirmation in social interaction: From social perception to social reality. *Journal of Experimental Social Psychology*, 14, 148-162.
- Spanier, G. B., Lewis, R. A., & Cole, C. L. (1975). Marital adjustment over the family life cycle: The issue of curvilinearity. *Journal of Marriage and the Family*, 37, 263-275.
- Sroufe, L. A. (1983). Infant-caregiver attachment and patterns of adaptation in preschool: The roots of maladaptation and competence. In M. Perlmutter (Ed.), *Minnesota Symposium on Child Psychology* (Vol. 16, pp. 41-83). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.
- Sroufe, L. A., & Waters, E. (1977). Attachment as an organizational construct. *Child Development*, 48, 1184-1199.
- Stanley, S. M. (1986). *Commitment and the maintenance and enhancement of relationships*. Unpublished doctoral dissertation, University of Denver.
- Steinberg, L., & Silverberg, S. B. (1986). The vicissitudes of autonomy in early adolescence. *Child Development*, 57, 841-851.
- Sternberg, R. J. (1986). A triangular theory of love. *Psychological Review*, 93, 119-135.
- Swann, W. B., Jr., Hixon, J. G., & De La Ronde, C. (1992). Embracing the bitter "truth": Negative self-concepts and marital commitment. *Psychological Science*, 3, 118-121.
- Tannen, D. (1990). *You just don't understand: Women and men in conversation*. New York: Morrow.
- Taylor, D. A., & Altman, I. (1987). Communication in interpersonal relationships: Social penetration processes. In M. Roloff & G. Miller (Eds.), *Interpersonal processes: New directions in communication research* (pp. 257-277). Newbury Park, CA: Sage.
- Tennov, D. (1979). *Love and limerence: The experience of being in love*. New York: Stein & Day.

- Thibaut, J. W., & Kelley, H. H. (1959). *The social psychology of groups*. New York: Wiley.
- Traupmann, J., & Hatfield, E. (1981). Love: Its effects on mental and physical health. In J. March, S. Kiesler, R. Fogel, E. Hatfield, & E. Shana (Eds.), *Aging: Stability and change in the family*. New York: Academic.
- Vaillant, G. E. (1977). *Adaptation to life: How the best and the brightest came of age*. Boston: Little, Brown.
- van den Boom, D. (1990). Preventive intervention and the quality of mother-infant interaction and infant exploration in irritable infants. In W. Koops, H. J. G. Soppe, J. L. van der Linden, P. C. M. Molenaar, & J. J. F. Schroot (Eds.), *Developmental psychology behind the dikes: An outline of developmental psychology research in The Netherlands*. The Netherlands: Uitgeverij Eburon.
- Vaughn, B., Egeland, B., Sroufe, L. A., & Waters, E. (1979). Individual differences in infant-mother attachment at 12 and 18 months: Stability and change in families under stress. *Child Development*, 50, 971-975.
- Veroff, J., Douvan, E., & Kukla, R. A. (1981). *The inner American: A self-portrait from 1957 to 1976*. New York: Basic.
- Wallerstein, J. B., & Kelly, J. B. (1980). *Surviving the breakup: How children and parents cope with divorce*. New York: Basic.
- Walster, E., Aronson, E., Abrahams, D., & Rottmann, L. (1966). The importance of physical attractiveness in dating behavior. *Journal of Personality and Social Psychology*, 4, 508-516.
- Walster, E., & Walster, G. W. (1978). *A new look at love*. Reading, MA: Addison-Wesley.
- Waters, E. (1978). The reliability and stability of individual differences in infant-mother attachment. *Child Development*, 49, 483-494.
- Weiss, R. S. (1973). *Loneliness: The experience of emotional and social isolation*. Cambridge, MA: MIT Press.
- Weiss, R. S. (1975). *Marital separation*. New York: Basic.
- Weiss, R. S. (1982). Attachment in adults. In C. M. Parkes & J. Stevenson-Hinde (Eds.), *The place of attachment in human behavior* (pp. 171-184). New York: Basic.
- Weiss, R. S. (1988). Loss and recovery. *Journal of Social Issues*, 44, 37-52.
- Zajonc, R. B. (1968). Attitudinal effects of mere exposure. *Journal of Personality and Social Psychology Monograph Supplement*, 9(2, Pt. 2), 1-27.

