

The Relationship Context of Human Behavior and Development

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The influence of social relationships on human development and behavior is receiving increased attention from psychologists, who are central contributors to the rapidly developing multidisciplinary field of relationship science. In this article, the authors selectively review some of the significant strides that have been made toward understanding the effects of relationships on development and behavior and the processes by which relationships exert their influence on these, with the purpose of highlighting important questions that remain to be answered, controversial issues that need to be resolved, and potentially profitable paths for future inquiry. The authors' thesis is that important advances in psychological knowledge will be achieved from concerted investigation of the relationship context in which most important human behaviors are developed and displayed.

Because interpersonal relationships are the foundation and theme of human life, most human behavior takes place in the context of the individual's relationships with others. Psychologists actively participating in the multidisciplinary effort to develop a science of relationships (Berscheid, 1999) are doing so because they believe that the human's omnipresent relationship context strongly influences each individual's behavior and his or her development over the life span. As a consequence, they believe that a science of human behavior and development that neglects the influence of the individual's interpersonal relationships is destined to be inaccurate and incomplete (see Kelley, 1983).

The goal of relationship science is an understanding of relationship dynamics and the antecedents and consequences of these. Central to this mission is the task of mapping the causal pathways by which an individual's interpersonal relationships influence his or her behavior and developmental course. Because psychologists have directly addressed this task only recently (e.g., no unified theoretical and empirical knowledge directly addressed to relationships exists within psychology) and because relationship science itself is a relatively young multidisciplinary endeavor, theory and research pertinent to the pervasive impact of relationships on behavior and development are both sparse and fragmented. Nevertheless, such evidence as is available supports the thesis that relationship context strongly influences human behavior and life span development.

The evidence clearly shows that humans do not respond to the same stimuli in the same way across relationship contexts; indeed, the meaning of stimuli to the individual may change dramatically with changes in relationship context. Thus, to predict and understand behavior, it is necessary to appreciate and understand the

relationship context in which the individual is embedded. In addition, because relationship experiences often change the individual's mental, physical, and spiritual properties, relationships influence his or her developmental course. Moreover, as a consequence of changing the individual's properties, relationships past and present also influence the individual's current behavior in other relationships and in many nonrelationship contexts as well.

In this article, we selectively review and discuss theory and research that bear on the thesis that interpersonal relationships importantly influence human behavior and development. In doing so, we highlight certain advances within psychology and within relationship science itself that promise to further psychological understanding of how behavior and development are influenced by relationship context. We begin with an important advance within relationship science that is necessary to such understanding: greater clarity and definition of the concept of relationship.

Conceptualization of Relationships

The Concept of Relationship

The systematic study of interpersonal relationships and their impact on human behavior and development was hindered for many years by neglect of the conceptual challenges and complexities posed by the concept of relationship. These ambiguities led Hinde (1979) to declare that relationship science was a "conceptual jungle that chokes the unwary" (p. 6). An important source of the neglect of conceptual issues was the fact that the term *relationship* is part of common language (Berscheid & Peplau, 1983), and thus, relationship scholars, like laypersons, often assumed that the meaning of the word was obvious and not in need of conceptual scrutiny and elaboration. As interest in studying relationship phenomena increased, however, it became clear that not only did the term carry a wide variety of meanings among theorists and investigators but also that the referents of the term, in those rare instances in which referents were supplied, often were not tied to observables but, rather, to other concepts and abstractions that themselves often had unspecified or nonempirical referents. The descriptive term *close* when applied to relationships was similarly

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vague and undefined, with most investigators identifying close relationships with reference to the type of relationship (e.g., all marital relationships were assumed to be close relationships, an assumption that endures to this day despite a rocketing divorce rate that calls its validity into question; Berscheid, Snyder, & Omoto, 1989).

Most scholars who have undertaken the critical task of providing a conceptual analysis of the term relationship (see, e.g., Hinde, 1979; Kelley et al., 1983) have agreed that the essence of an interpersonal relationship lies in the interactions that take place between the relationship partners. The defining hallmark of interaction is influence; each partner's behavior influences the other partner's subsequent behavior (Berscheid & Reis, 1998). As Hinde (1999) has observed, however, "a relationship is more than the sum of its constituent interactions" (p. 326) because each partner's behavior affects the other partner's subsequent behavior within a single interaction episode and each interaction episode influences future episodes. Relationships thus are inherently temporal in nature.

The study of relationships, then, is not equivalent to the study of social influence, the usual definition of the task of social psychology. Barone (1999) has provided an exegesis of how social interaction was moved from the center of social psychology to its periphery. Despite the fact that social interaction was initially the primary subject of social psychological study, for the past half century, interaction processes and patterns seldom have been the subject of direct social psychological investigation. More usually, if interaction is incorporated at all into the investigation, it simply is allowed to intervene between the independent and dependent variable and constitutes the vehicle by which the former is assumed to produce its effect. Traditional exceptions have been research derived from interdependence theory (Kelley & Thibaut, 1978; Thibaut & Kelley, 1959; see Rusbult & Van Lange, 1996, for an overview) and Bales's (1999) systematic study of interaction in task-oriented groups.

Today, however, exceptions are growing in number and include research using the Rochester Interaction Record (Reis & Wheeler, 1991) and Ickes' Dyadic Interaction Paradigm (Ickes, Bissonnette, Garcia, & Stinson, 1990), as well as observational studies of marital and family interaction (see Gottman, 1998, and Grotevant & Carlson, 1989, respectively, for reviews). Adding impetus to these efforts is Kelley's (2000) argument that "the proper study of social psychology is the study of interaction and its immediate determinants and consequences" (p. 11). His argument hinges on a needed differentiation between the task of social psychology and other areas of psychological inquiry, along with the requirement of any science to systematically study observables. Kelley elaborated that, empirically, the study of interaction would require that social psychology focus on "what we can see and hear when observing small numbers of people in face-to-face interaction" (p. 11). It would also require the development of a clear theoretical core to support this empirical focus: "a theory of personality in and of situations: 'in' situations insofar as personalities determine situation interaction, and 'of' situations inasmuch as personality is shaped by, and takes its meaning from, the interactional possibilities of situations" (p. 11). Kelley noted that his prescription for social psychology is reminiscent of Theodore Newcomb's (1950) early description of "interaction as the subject matter of social psychology" (p. 18). It is reminiscent, too, of Forgas's (1979)

arguments for the study of typical and reoccurring social interaction episodes. That social psychologists may need to be reminded that the ultimate destination of their theory and research must be social interaction in natural settings is illustrated by S. T. Fiske's (1992) peroration to social cognition theorists and researchers that "thinking is for doing" and that the doing usually takes place in interaction with others (Reis & Downey, 1999).

The study of social interaction has fared somewhat better within developmental psychology, as we later discuss. Many developmental psychologists heeded Sears's (1951) suggestion that they expand their horizon from the individualistic unit of analysis to the dyad. Developmental psychologists, however, have almost exclusively focused on children's relationships with their parents or caretakers. Although recognition of the importance of peer interactions in development has increased dramatically (Hartup, 1989), the role of social interaction in human development beyond the early years and throughout the life span remains relatively neglected.

A coherent body of knowledge centered on social interaction would immeasurably facilitate the development of relationship science. Nevertheless, the study of social interaction is not equivalent to the study of relationships. Social interaction is necessary for a relationship to exist, but it is not sufficient (a prime example being a fleeting interaction episode between two strangers, as frequently occurs within the context of a psychology experiment). The study of social interaction most particularly is not equivalent to the study of close relationships, which often are viewed as relationships in which the partners have exhibited strong mutual influence on each other's behavior for an extended period of time and for which the partners' mental representations of the relationship are idiosyncratic to the relationship along several dimensions (Berscheid & Reis, 1998). In addition, close relationships usually are more affect-laden than less close relationships are (Reis & Patrick, 1996). Because many of the processes that underlie relationship phenomena are believed to be causally linked to the closeness of the relationship, the concept of closeness has received much attention (see, e.g., Aron, Aron, & Smollan, 1992; Berscheid et al., 1989), and close relationships are the focus of most relationship investigations.

Types of Relationship

The concept of relationship, even the concept of close relationship, encompasses many different nominal types of relationships (e.g., romantic, parental, friendship, coworker, neighbor). An important question facing relationship science is whether the similarities underlying different types of relationships are sufficient to develop a superordinate body of relationship knowledge or whether relatively independent bodies of knowledge, each addressed to a specific nominal relationship type, are required (Berscheid, 1994; M. S. Clark & Reis, 1988). The answer to this question hinges on two considerations: first, whether mechanisms that serve to organize different categories of relationships (and not just close relationships) can be identified, and second, the extent to which the laws governing behavior with the same partner differ depending on the type of relationship in which interaction takes place (e.g., in a romantic or employment-supervisory context). Such similarities and differences in behavior due to relationship type have yet to be systematically catalogued. Indeed, attempts to

develop taxonomies of relationship type are relatively recent, although some progress has been made in identifying commonalities underlying certain subsets of relationships and the functional properties that differentiate them.

Many taxonomic models incorporate the early work of M. S. Clark and Mills (1979, in press) who have gathered a great deal of evidence to support their distinction between communal relationships, in which people respond to the other's needs, and exchange relationships, in which benefits are exchanged in repayment for prior benefits or in expectation of future benefits. In one such model, which adopts the notion of modularity from cognitive psychology (Hirschfeld & Gelman, 1994), Bugental and Goodnow (1998) argued that over evolutionary time, certain relationship "domains" became incorporated as discrete modules in human neural architecture. (See de Waal, 1996, for a similar argument concerning relationship structures among primates.) According to Bugental and Goodnow (1998), these relationship domains represent distinct "bodies of knowledge that act as guides to partitioning the world and that facilitate the solving of recurring problems faced by organisms within that world" (p. 400). In contrast to the traditional view that socialization consists of the individual learning one set of principles that is then applied to all social situations, Bugental and Goodnow maintained that socialization is the process of learning the "distinctive sensitivities and regulatory processes" (p. 400) appropriate to different social domains (to which we would add the task of discerning which relationships should be parsed into which domain).

Bugental (2000) has proposed five social domains: (a) an attachment domain, characterized by proximity-maintenance within a protective relationship; (b) a hierarchical power domain, characterized by use and recognition of social dominance; (c) a coalitional group domain, which concerns the identification and maintenance of lines that divide "us" and "them"; (d) a reciprocity domain, characterized by the negotiation of matched benefits with functional equals; and (e) a mating domain, concerned with the selection and protection of access to sexual partners. Each domain is theorized to be distinguished not only by its distinctive cognitive representations but also by components that regulate emotion and social behavior. Thus, each domain is proposed to differ functionally from the others by differing sensitivities to certain social cues and by different operating principles. An earlier and somewhat similar model was proposed by A. P. Fiske (1992), who also argued that relationships can be differentiated into

discrete structures: there are no intermediate forms and they are not reducible to any set of continuous dimensions. . . . They are fundamental and they are also incommensurable, in the sense that there is no general, systematic, higher-level schema that mediates among them. (A. P. Fiske, Kitayama, Markus, & Nisbett, 1998, pp. 950-951)

Relationship taxonomies are more than a useful organizing descriptive tool; they help highlight important questions about the characteristic rules and processes that govern interaction, and thus, these recent taxonomic efforts represent a valuable advance. Nevertheless, it must be noted that typological approaches are sometimes misleading; under certain circumstances, the underlying phenomena may be better represented by continuous dimensions (N. G. Waller & Meehl, 1998). Fraley and Waller's (1998) finding that attachment styles, long construed as categorical, are more accurately viewed as dimensional is instructive in this regard.

Some dimensions underlying relationships have been tentatively identified. For example, Wish, Deutsch, and Kaplan's (1976) multidimensional scaling studies identified four dimensions that appear to underlie people's characterizations of their relationships: cooperative/friendly versus competitive/hostile, equal versus unequal status, intense versus superficial, and socioemotional/informal versus task-oriented/formal. Dimensional models, although inconsistent with the logic of modularity, do not necessarily argue against the value of examining discrete relationship types. It might be useful, however, to investigate whether such types might be better viewed as exemplifying extremes of dimensions rather than as discrete modules (e.g., romantic relationships occupy the cooperative-equal status-intense-socioemotional poles of Wish et al.'s four dimensions).

Finally, it must be noted that none of the relationship taxonomies advanced to date has yet generated sufficient empirical research to allow confidence that the interaction patterns said to uniquely characterize each domain actually do so. Obtaining that evidence is made difficult by the individualistic approach to the study of behavior that dominates psychology.

The Individualistic Perspective Versus the Systems Perspective

As many (e.g., Bales, 1999; Berscheid, 1999; Forgas, 1979) have discussed, psychologists typically seek laws governing the behavior of a single individual. Some of these laws are general across all individuals in the species and derive from biological properties most individual humans share. Other behavioral laws pertain to differences among individuals' properties (e.g., personality, genes, attitudes, habits) and the associations between these differences and differential behaviors. The latter "individualistic-psychometric" approach to understanding behavior has occupied much of psychology, but how the associations between an individual's behavior and his or her currently measured properties were formed, how they are maintained, and how they change over the span of a lifetime have received less attention than simply identifying the associations themselves. As we shortly discuss, an important part of the answers to how these individual property-behavior associations are formed, maintained, and change lies in the nature of that individual's prior and current relationships with others.

Psychologists contributing to relationship science have, somewhat ironically, transferred the traditional individualistic-psychometric approach to understanding dyadic relationship dynamics; that is, the lion's share of relationship theory and research is individualistic in nature (Sarason, Sarason, & Pierce, 1995). Most relationship researchers have focused on identifying associations between properties of the individual (e.g., neuroticism, adult attachment style) and the individual's relationship experiences and outcomes (e.g., marital stability). Although such research is an important step in understanding relationships, its value is limited because dyadic relationships are initiated and maintained by two individuals. As a consequence, the nature of their interaction is determined not by one partner's properties but by the interaction of the properties of both partners, by the social and physical environments in which they interact, and by how all these causal conditions interact with each other. Relationship researchers' heavy focus on the individual's properties and relationship phe-

nomena is understandable, if regrettable; most psychological constructs, methodologies, and analytical techniques were designed for the individual unit of analysis rather than the dyadic unit required by the study of relationships. However, some psychologists have begun the task of developing more appropriate methodological strategies (e.g., the Dyadic Interaction Paradigm; Ickes et al., 1990) and data analytic methods (see, e.g., Gonzalez & Griffin, 1997; Kashy & Kenny, 2000; G. R. Patterson & Dishion, 1988).

It is possible that such methodological and analytical efforts eventually will result in the paradigm shift for which many have hoped (Forgas, 1979)—a paradigm shift in Kuhn's (1962) sense of a change in prevailing concepts, values, and methodologies similar to those experienced in physics and in biology, which successfully made a transition from individualistic thinking to "systems thinking" (von Bertalanffy, 1950). On the surface at least, the systems perspective appears to be more appropriate to the study of social interaction in natural settings than the individualistic perspective. Within psychology, however, attempts to shift to a systems perspective have yet to be successful. At midcentury, for example, a number of psychologists attempted to develop a "general theory" for the behavioral sciences based on the systems approach (J. G. Miller, 1955), but it failed to attract adherents.

In the relationship domain, family scholars in sociology and communication studies were among the first to try to adopt the systems approach, viewing the family as a system and advocating, for example, the treatment of distressed families as a whole as opposed to distressed individuals within the family unit (see, e.g., Bateson, Jackson, Haley, & Weakland, 1956; Bowen, 1978). Unfortunately, the Achilles' heel of the system approach in relationship research was revealed soon after, when Riskin and Faunce (1972) reported they could find only a handful of studies of family interaction they deemed methodologically sound. An absence of methodological and analytical tools to support the general systems conceptual framework, exacerbated by vague conceptualization and operationalization of key constructs, continues to present obstacles to adoption of the systems perspective. Today, skeptics argue with good reason that in the study of family relationships, including the role of such relationships in child development (for a review, see Cox & Paley, 1997), the systems approach serves as little more than a metaphor (see, e.g., Sameroff, 1983; Vetere & Gale, 1987).

It is, nonetheless, a powerful metaphor. Insofar as a relationship functions as a whole through the interdependence of its parts, a relationship constitutes a system. The aims of general system theory are "to classify systems according to the way the parts are organized or interrelated, and . . . to describe typical patterns of behavior for the different classes of systems as defined" (Vetere, 1987, pp. 18–19). Systems research thus is concerned with organized complexity within a hierarchy of levels of organization. As Capra (1996) observed, "an outstanding property of all life is the tendency to form multileveled structures of systems within systems. . . . Throughout the living world we find living systems nesting within other living systems" (p. 28). Thus, the systems perspective is especially compatible with the study of dynamic organic matter. In the systems view, each succeeding level of organization within a hierarchy of systems is more complex than the levels subordinate to it; moreover, each is characterized by emergent properties not existing at lower levels and thus not

predicted by them. Relationships not only are systems but they are "open" systems: They exchange information, energy, and material with the many other systems in which they are nested and which they themselves encompass.

In the study of relationships, the systems perspective would acknowledge that:

1. From the moment of conception, individuals are nested in social relationships that influence the nature and operation of the many hierarchically organized biological and behavioral systems each individual encompasses.

2. Each relationship is itself nested in a social environmental system and in a physical environmental system, which together represent each relationship's ecological niche.

3. The specific ecological niche of each relationship is, in turn, embedded in larger societal and cultural systems (see, e.g., Levinger, 1994).

4. All of these systems are simultaneously evolving and influencing each other over time.

Like biologists, most relationship scientists endorse these four propositions. As a consequence, virtually all believe that relationship systems are of critical importance to an understanding of human behavior and the course of human development.

Constructing the methodological and conceptual infrastructure the systems approach demands is proving difficult, however. Even description of relationship phenomena is not always easy. As Hinde (1999) observed, "description must involve clear distinction between successive levels of complexity (psychological-physiological processes, the self-system and individual behavior, interactions, relationships, groups, and society, and also the socio-cultural structure)" (p. 326). Causal analysis is even more problematic. Describing the paradigm shifts that have taken place in other sciences, for example, Capra (1996) stated that: "the relationship between the parts and the whole has been reversed. In the systems approach the properties of the parts can be understood only from the organization of the whole" (pp. 29–30). Thus, reductionism—which often requires causal dissection of a flash-frozen slice of a system for examination—cannot illuminate the nature of the system because its nature lies in its processes of organization, including the processes by which it regulates itself over time and interfaces with other systems, both the systems of which it is a part and those that it encapsulates.

As previously noted, in the context of relationship research, the individualistic-psychometric approach to understanding behavior is the most prevalent form of psychological reductionism, and its limitations are becoming increasingly evident. For example, identification of the determinants of relationship satisfaction and stability has been at the top of the relationship research agenda for over 60 years, beginning with Terman's (1938) study of marital stability. Most satisfaction and stability research, however, has consisted of correlations between a property of an individual relationship partner (e.g., neuroticism, feelings for the partner) at one point in time and the individual's concurrent or later satisfaction with the relationship or a relationship outcome (e.g., dissolution). As Glenn (1990) and others (e.g., Karney & Bradbury, 1995) have noted, myriad attempts to find associations between the individual's properties and relationship satisfaction and stability have yielded discouragingly modest gains.

If it is recognized that a relationship is a system, then to understand whether a relationship is maintained or dissolved and

what the likely impact of that relationship is on the individual's current and future behavior, both in that specific relationship context and in other relationship and nonrelationship contexts, it is necessary to understand its principles of organization. Some relationship researchers have succeeded in identifying some of these principles. For example, systems generally have feedback loops that are important in regulating and maintaining the system. Some of these feedback loops are self-reinforcing; that is, the feedback increases the probability that the next event in the loop will occur, and it also often increases the intensity of the event. A particularly important class of self-reinforcing feedback loops in relationship systems centers on the partners' interaction expectancies. A great deal of research has demonstrated that such expectancies may be more likely than not to be confirmed in interaction (for a review, see Snyder & Stukas, 1999). A relationship partner's interaction expectations may be confirmed not because those expectations are necessarily accurate, but because the partner's expectations influence his or her own interaction behavior, which then influences the other partner's interaction behavior, which, in turn, reinforces the first partner's original expectations, which then increases the probability that the interaction cycle will repeat itself in the future.

An illustration of a common self-reinforcing relationship feedback loop is provided by Downey, Freitas, Michaelis, and Khouri (1998), who have demonstrated that rejection-sensitive women perceive their partners to be rejecting (often inaccurately) and thus treat them in a hostile fashion, which elicits actual rejection from the partner, which, in turn, reinforces the woman's perception that her partner is rejecting. Another example is provided by Bugental and her colleagues (e.g., Bugental & Shennum, 1984), who have demonstrated the role of interaction expectancies in families at risk for violence. A third illustration of a common self-reinforcing relationship feedback loop is the spiraling of negativity in distressed marriages, observed early by family scholars (e.g., W. Waller, 1930) and currently believed by some researchers to be the most important proximal cause of marital dissolution (see, e.g., Gottman, 1998). Interaction between spouses in distressed marriages is often characterized by sequences of "negative reciprocity"; that is, a negative act by one partner increases the probability that the other partner will respond with a negative act, which increases the probability that the first partner will respond with an even more negative act. Another destructive self-reinforcing feedback loop associated with marital distress is the demand-withdraw pattern (Christensen & Heavey, 1990), whereby one partner demands, the other withdraws, prompting more intense demands by the first partner, followed by even greater withdrawal by the second. The repetition of destructive interaction cycles over time in distressed relationships often results in an "organizational crisis" of the system. An organizational crisis in a relationship can be viewed as the point at which the system either crashes (e.g., in divorce, spousal murder, child abuse, or other mayhem that forces the system's disintegration) or is modified by events outside the relationship system (e.g., court-dictated anger therapy, relationship or parent counseling, or other interventions) that help replace the destructive feedback loops with self-balancing loops that maintain homeostasis.

Feedback loops represent system processes. They also represent patterns of organization. Another pattern of relationship organization of significance, at least to marital relationships, illustrates the principle of "equifinality" whereby the system can reach the same

end by different routes. Gottman and Levenson (1992) concluded from their studies that "marital stability requires regulation of interactive behavior at a high set point ratio of positive to negative codes [of communicative behaviors] of approximately 5.0" (p. 232); that is, positive behaviors appear to be at least 5 times more frequent than negative behaviors in satisfied couples. This set point can be reached in different ways. Emotionally volatile couples might display a great deal of negative affect but even more positive affect, whereas emotionally subdued couples might exhibit lesser amounts of emotion and more affectively neutral interaction but maintain the optimal ratio.

As the above illustrates, systems thinking is not alien to relationship researchers. It cannot be said, however, that a systems methodological paradigm has been developed or even that one is imminent. Nevertheless, the seeds necessary for this development are in view, if for no other reason than the growing recognition by researchers in diverse areas of psychology and the other behavioral sciences that an understanding of relationships and of the processes by which relationship partners interact with each other is fundamental to a science of human behavior.

Cultural Variations in Relationships

Cultural variations in relationships are of interest to relationship scholars for many reasons. Although cross-cultural research has traditionally sought to identify similarities and differences in behavior within similar relationship contexts across cultures (e.g., parent-child relationships), in part because of the intrinsic interest of such similarities and differences, more recent studies are predicated on the assumption that findings replicated across cultures may highlight universal processes derived from evolutionary adaptations (whereas differences reflect conditions and practices unique to one or more cultures). Well-known examples of the former include Buss's (1989) finding of highly similar sex differences in mate preferences in 37 cultures, Scherer and Wallbott's (1994) demonstration of similar relationship consequences for several emotion terms in 37 countries, and Shaver, Morgan, and Wu's (1996) analysis of romantic love as a cross-cultural universal.

Of particular prominence in recent work is cross-cultural variability in the nature and implications of the bond between the self and relationship partners, which has provided a new perspective for understanding the self, social cognition, and interpersonal behavior. On the basis of concepts originally promulgated by Markus and Kitayama (1991), A. P. Fiske et al. (1998) distinguished two models of the self: One model conceives of the self in relatively autonomous, individualistic terms, whereas the other stresses that personhood is "embedded in a web of relationships and roles" (p. 923). This latter view, which tends to prevail in Asian cultures, posits interdependence as the defining feature of the self and self-regulation: Because relationships constitute people's primary focus, behavior is "principally oriented toward the harmonious functioning of these social entities (which are centered on collective needs and purposes)" (p. 922). Relationships are not unimportant in individualistic cultures, they argued, but social activity, even in close relationships, tends to focus on satisfying personal needs and individual goals. In collective cultures, in contrast, "attention, cognition, affect, and motivation are organized with respect to relationships and norms" (p. 925); individuals act

to a considerable extent on the perceived ramifications of their actions for their important relationships.

The few existing studies of this more relational view of self suggest that its implications may be substantial. For example, whereas people from individualistic cultures tend to rely on dispositional explanations for behavior, people from collectivistic cultures tend to emphasize the social context in which behavior occurs (which includes norms, role-based expectations, and interpersonal influences; see Choi, Nisbett, & Norenzayan (1999) for a review). Spontaneous self-descriptions among individualistic Westerners tend to feature personal qualities, especially traits that distinguish the self from others, whereas social roles and relationships figure more prominently for persons from collective cultures (see, e.g., Markus & Kitayama, 1998; Rhee, Uleman, Lee, & Roman, 1995). Collectivists tend to socialize less extensively but more intimately (Wheeler, Reis, & Bond, 1989). In a somewhat different vein, personal choice enhances intrinsic motivation among American children, but Asian American children are most intrinsically motivated when choices are made for them by their mothers or an in-group peer (Iyengar & Lepper, 1999).

Acknowledging cultural influences on basic psychological phenomena provides implicit recognition of the significance of relationships, if only because social interactions and interpersonal relationships supply the vehicle by which cultural factors are transmitted to individuals. Research and theorizing has only begun to scratch the surface, with many important questions remaining to be addressed. Although existing research has emphasized the dimension of individualism–collectivism, various other distinctions await attention; one of these is power distance, or the degree to which unequal power distributions are endorsed or discouraged (Hofstede, 1980). Psychological research also must examine other interpersonal manifestations of culture of longstanding interest to anthropologists, such as matrilineality and patrilineality, the implications of voluntary and arranged marriages, and whether marriage is construed in socioemotional terms or as an economic–childrearing arrangement. Progress on these fronts is likely to further understanding of the determinants of human social behavior and to advance relationship science.

The Role of Relationships in Human Survival and Well-Being

Increased appreciation of the potent role that interpersonal relationships play in human behavior and development has been spurred by recent advances in evolutionary psychology and by studies of the associations between the status of an individual's relationships and his or her morbidity and mortality.

Social Relationships and Human Evolution

Interest among psychologists in the evolutionary development of the human's innate predispositions to respond to specific stimulus configurations in physical and social environments has increased dramatically in the past few decades. The role of social factors in the so-called environment of evolutionary adaptedness (EEA) has increasingly captured the attention of evolutionary psychologists. Currently, as Buss and Kenrick (1998) described:

evolutionary psychology places social interaction and social relationships squarely within the center of the action. In particular, social

interactions and relationships surrounding mating, kinship, reciprocal alliances, coalitions, and hierarchies are especially critical, because all appear to have strong consequences for successful survival and reproduction. From an evolutionary perspective, the functions served by social relationships have been central to the design of the human mind. (p. 994)

Extensive links between relationships and evolutionarily derived mechanisms have been suggested, resulting in many specific, testable hypotheses (Buss & Kenrick, 1998; Kenrick & Trost, 1997).

Among those who propose that evolutionary psychology should be based on the premise that the most important feature of human evolutionary history was, and is, selection for small group living are Brewer and Caporael (1990). They argued that the small, cooperative group has been the primary survival strategy of the human species from the beginning of the EEA to the present. Social organization "provided a buffer between early hominids and the natural physical environment, including protection from predators, access to food supplies, and insulation from the elements" (p. 240). Thus, they proposed that the social group constitutes the selection environment for human evolution at the individual level. As a consequence, "the species characteristics that we would expect to be biologically built in would be those associated with human sociality—propensities toward cooperativeness, group loyalty, adherence to socially learned norms, and fear of social exclusion" (pp. 240–241). Newly emerging evidence concerning the integration of social and biological mechanisms underlying behavior—and the necessity for viewing them as complementary systems to obtain a full understanding of human behavior—provides further testimony of the role of relationship contexts in human evolutionary heritage (Cacioppo, Berntson, Sheridan, & McClintock, 2000).

Similarly, Cosmides and Tooby (1992) argued that many of our most basic social–cognitive processes are likely to have evolved for the specific purpose of facilitating interpersonal functioning. Caporael's (1997) more recent "core configurations model," which considers the probable role of various group configurations (e.g., dyads, work/family groups, demes) in the evolution of social cognition, highlights the role of social groups in "social organization and entrainment of biological clocks, rhythmicity, and temporal patterning" (p. 285). Her model extends these principles to such fundamental regulating principles as interaction synchrony, mimicry, and mirroring, which she views as essential to the coordination of all dyadic interaction and as having been selected for in human evolution. Bugental's (2000) relationship taxonomy, previously discussed, also incorporates the evolutionary perspective for it assumes that each social domain evolved to enable our ancestors to contend with recurrent tasks intrinsic to survival and reproduction; it also assumes that each domain is associated with highly specific neurohormonal, cognitive, and socioemotional mechanisms specialized to those forms of interaction.

Others also have emphasized the adaptive value of social relationships and of biological systems that facilitate the formation and maintenance of social bonds. Baumeister and Leary (1995), for example, have theorized that over evolutionary time, humans developed a "need to belong," a drive to form and maintain at least a minimum number of lasting, positive, and significant interpersonal relationships. They posit that fulfillment of this drive requires that the individual engage in frequent and affectively pleas-

ant interactions with at least a few other people—interactions that take place in the context of a temporally stable and enduring framework of mutual concern for each other's welfare. Baumeister and Leary reviewed a great deal of evidence in support of their hypothesis, including, for example, the fact that people in virtually every known society typically belong to small, primary groups that involve face-to-face interactions; that people universally appear to respond with distress and protest to the end of a relationship; and that interpersonal concerns and relational structures strongly influence cognitive processing.

Within the evolutionary psychology framework, many behaviors of longstanding interest to social psychologists have been reinterpreted in terms of their adaptive significance. For example, the tendency to identify with in-groups and to distance oneself from out-groups, which has well-documented implications for important behaviors such as cooperation and competition, intergroup conflict, stereotyping, prejudice, and discrimination (see Brewer & Brown, 1998, for a review), may be at least partly derived from the survival advantages of engaging the physical environment within small exclusive alliances composed of relatives and others with whom one has an ongoing committed relationship. That this tendency may be fundamental to human development is suggested by research documenting tendencies toward in-group/out-group categorization and its cognitive sequelae in children as young as ages 3 to 5 (Yee & Brown, 1992). Finally, many of the behaviors characteristic of human social organization also have been observed in primates' social structures and interactions—for example, attachment, reciprocity, sympathy, social regulation of individual behavior, and the ability to follow and internalize social rules (see de Waal, 1996, for an overview of this literature).

In sum, the growing belief that social groups and interactions were of great importance in human evolution and played a wider role in shaping the human's biological make-up than previously thought dictates more attention to relationship context as a determinant of behavior.

Innate Social Response Systems

The importance of relationships to human survival suggests that humans may have evolved with innate social response systems. Interest in identifying and understanding these innate systems has been continuous at least since James (1893) to the present day, although the conceptualization of the term innate has become progressively more sophisticated and complex to reflect evidence that virtually all behavior is a product of interactions between genetically determined biological properties and the environment, including the molecular and cellular environments internal to the individual as well as the external environment, which contains that portion of the external environment typical of the species and that portion unique to the individual (see, e.g., Elman et al., 1996). Extensive progress has been made in understanding a number of such systems, including face perception and attachment.

Face perception. Human infants, like Harlow's infant monkeys (Harlow & Suomi, 1970), appear to possess an innate predisposition to attend to the faces of conspecifics. Newborns visually track face-like stimuli, in preference to scrambled faces, within the first hours of life (Johnson, Dziurawiec, Ellis, & Morton, 1991). Infants' unlearned preference for physically attractive over unat-

tractive faces (Langlois et al., 1987) may be another manifestation of a socially relevant innate predisposition that once had survival value. Because attractive faces appear to be more representative of the average of faces in the species (Langlois & Roggman, 1990) and because very early preference for the familiar over the strange has been shown in virtually all primates (Harlow & Mears, 1983), it seems at least plausible that present at birth are not only neural sensitivities to the human's probable social environment (e.g., faces of conspecifics) but certain evaluative preferences with respect to those frequently encountered stimuli as well. Evidence that certain regions of the brain are selectively involved in face perception but not in perceiving inanimate objects (see, e.g., Kanwisher, McDermott, & Chun, 1997) further supports the thesis that face perception represents an innate system specialized to the task of social relations.

Implications of face perception for specific social exchanges are apparent in the first hours and weeks of life. Recognition of the mother's face can occur soon after birth (Barrera & Maurer, 1981; Field, Cohen, Garcia, & Greenberg, 1984), and 10-week-old infants differentially respond to their mother's sad, happy, and angry expressions (Ludemann, 1991; see Ekman & Davidson, 1994, for discussion of apparent universals in facial emotional expression). Evidence that these predispositions facilitate early social interaction is provided by Eisenberg, Murphy, and Shepard's (1997) review of research pertaining to the development of "empathic accuracy" (e.g., the ability to decode the meaning of others' behaviors), a skill critical to social interaction (Ickes, 1997).

Attachment. The necessary criteria for designating a syndrome of responses to a specific configuration of stimuli as an innate social response system are not clear, in part because it is becoming evident that almost all of the human infant's innate biological properties facilitate its social interactions in some way and these social interactions, in turn, influence the further development and expression of these properties (Siegel, 1999). Nevertheless, there is widespread agreement that if anything qualifies, it is the attachment system proposed by Bowlby. His theory, developed in reaction to earlier secondary-drive formulations (see, e.g., Freud, 1938; Sears, Maccoby, & Levin, 1957), regards initial bonds between infants and their caregivers as governed by evolved tendencies to maintain proximity to assure the infant's safety and survival. Bowlby's (1969/1982, 1973, 1980) theoretical works spurred systematic empirical studies of childhood attachment, as well as myriad theoretical elaborations and refinements, activities that continue unabated today (see Cassidy & Shaver, 1999, for an overview).

Evidence of a bond between child and caregiver has been shown to emerge universally in the second half of the first year of life, signified by infants' protesting when left by their primary caregiver, especially if stressed. These attachments are determined by both members of the dyad. Infants' preference for and capacities for recognizing caregivers' voices, faces, and odors facilitate interaction with their caregivers in the hours and days immediately following birth. Caregivers, if attentive, show cross-culturally robust tendencies to respond to the infants' cues (for recent reviews, see Bugental, 2000; Marvin & Britner, 1999; R. A. Thompson, 1998). Patterns of exchange and interdependency are apparent from the early weeks of life. Exchanges are more often initiated by the adult partner and terminated by the infant in the first half of the first year, but infants increasingly initiate and terminate interac-

tions by the age of 9 months (Cohn & Tronick, 1987). Development thereafter affords multiple relationships, some, but not most, of which merit the label attachments. The sine qua non of attachment across ages is that the partner serves as a source of reassurance and enhanced confidence in the face of perceived stress or threat (the "secure base"; Waters, Kondo-Ikemura, Posada, & Richters, 1991).

The functional significance of attachments is underscored by evidence from nonhuman species that even minor deprivation of contact with responsive others results in abnormal neuroanatomical structures and impaired endocrinological sensitivity related to stress and coping (see, e.g., Ginsberg, Hof, McKinney, & Morrison, 1993a; 1993b; see Siegel, 1999, for an overview). Studies of human children adopted from orphanages, some having impoverished opportunities for human interaction, also reveal neurohormonal sequelae of restricted social contact (Chisholm, 1998; Gunnar, in press; Rutter & the English and Romanian Adoptees [ERA] Study Team, 1998). Behavioral risks from deprivation may be partly ameliorated by subsequent attachments, although remediation typically requires intensive interventions in extreme cases (Rutter, 1981, 1996).

Beyond these normative attachment patterns, researchers also have established that early caregiver relationships vary reliably across caregiver-child pairs. The well-known categories for classifying attachment patterns (Ainsworth, Blehar, Waters, & Wall, 1978) discriminate insecure attachment patterns from secure ones by the degree to which the child manifests anxiety or avoidance, respectively, toward the mother, whose own behavior seems implicitly to encourage one or the other. Further distinctions have been advanced to recognize variations not readily captured by Ainsworth's classifications (see, e.g., Cassidy & Berlin, 1994). Measures for older children, adolescents, and adults generally are intended to create roughly parallel classifications, although the empirical data on which they draw diverge, sometimes substantially so, from the kinds of situations and relationships for which Ainsworth's system was designed (for reviews, see Crowell, Fraley, & Shaver, 1999; Solomon & George, 1999).

Research on the long-term significance of early attachments has yielded some compelling findings of continuity with relationships in childhood, adolescence, and adulthood (see, e.g., Elicker, Englund, & Sroufe, 1992; Grossmann, Grossmann, Winter, & Zimmermann, in press; Weinfield, Sroufe, Egeland, & Carlson, 1999) but many instances of null findings as well (for a review, see R. A. Thompson, 1999). Although many of these studies have failed to disentangle the role of various individual factors in producing continuities (e.g., genetically influenced characteristics; Reiss, 2000), contemporary longitudinal designs and laboratory experiments with infrahuman species reveal compelling evidence of the significance of relationships in influencing behavior, after controlling for the characteristics of individuals, including their genes (for a review, see W. A. Collins, Maccoby, Steinberg, Hetherington, & Bornstein, 2000). Moreover, even when later behavior is attributed to earlier relationship characteristics, few experts now espouse a simple "early determinism" model, embracing instead multivariate accounts that acknowledge the sometimes overlapping contributions of multiple kinds of dyads and that also attempt to explain discontinuities (Belsky, Campbell, Cohn, & Moore, 1996; Weinfield et al., 1999). For example, qualities of early caregiver-child attachment relationships are correlated with the qualities of peer

relations in early and middle childhood and adolescence, which in turn account substantially for several important properties of young adults' romantic relationships (W. A. Collins & Sroufe, 1999).

The process by which relationships are linked to behavior patterns at a much later time is thought to be one instance of the more general process by which experiences in prior situations foster expectancies that are applied to newly encountered situations. Bowlby (1969/1982) proposed that the history of the infant's interaction with caregivers gives rise to internal working models. The essential components for a secure working model are representations of the self as worthy of love and care and a complementary representation of the other (caregiver) as available, sensitive, and responsive to one's needs (Hartup & Laursen, 1999; Sroufe & Fleeson, 1986). Extensive findings reveal that mental representations at successive ages are related significantly to features of early caregiver-child relationships and to concurrent relationship behavior throughout childhood and adolescence (see, e.g., Fury, Carlson, & Sroufe, 1997). Disjunctions are lawfully related to changes in current relationships or other life events in both adults (see, e.g., Kirkpatrick & Hazan, 1994) and children (see, e.g., Weinfield, Sroufe, & Egeland, in press). These findings support Bowlby's hypothesis that both continuity and change in mental representations reflect changing relational experiences. Moreover, a recent meta-analysis (Van IJzendoorn, 1995) reported large effect sizes for concordances between adults' security of attachment with their own parents (as assessed by the Adult Attachment Interview [AAI]; George, Kaplan, & Main, 1985) and their children's Strange Situation ratings, thus supporting Bowlby's prediction of cross-generational continuities in attachment. The groundwork thus exists for yet more detailed understanding of the fundamental processes by which relationships in one period of life may affect interpersonal events in later life.

Much recent research has adopted Bowlby's attachment construct to characterize adults' orientations toward close relationships. This work typically involves self-report instruments for assessing attachment-relevant dimensions or attributes (see, e.g., Griffin & Bartholomew, 1994; Hazan & Shaver, 1987). Although there is debate about the extent to which such measures accurately assess the attachment construct (in part because correlations tend to be low between them and interview-based measures such as the AAI), recent work suggests that the discrepancy may reflect differences in focus (e.g., relationships in general vs. romantic pairings vs. parent-child relations), specific content, method, and assumptions about which processes people are and are not aware of (Crowell et al., 1999).

Adult attachment styles have been correlated with adult relationship characteristics such as self-disclosure (Mikulincer & Nachshon, 1991), nurturance toward a partner under stress (Kobak & Hazan, 1991; Simpson, Rholes, & Nelligan, 1992), social participation (Tidwell, Reis, & Shaver, 1996), and affect regulation (Mikulincer, 1998). Correlations of this sort, although provocative, point to important questions about continuity of attachment classifications over the life span, as well as about the consistency of attachment style classifications across different relationships. Both the meaning of adult attachment styles and their links to early attachment histories await further study, but findings to date indicate that the attachment construct may be useful for research with adults.

Despite the impressive evidence for the importance of attachment-related constructs both during childhood and later in life, many questions remain. For example, researchers still must explain the mechanisms by which experiences in one dyad are replicated in other, often quite different dyads, often after many years have passed. One necessary step is better understanding of the representational underpinnings of attachment and its correlates. The "internal working model" construct is only one of a long series of mentalistic constructs invoked to capture the notion that the residuals of early relationship experiences affect later functioning in relationships with the same and other partners (Hartup & Laursen, 1999). Thus far, however, the concept remains somewhat vague, despite frequent and diverse efforts to reduce Bowlby's synoptic descriptions to related psychological constructs (e.g., attitudes, beliefs, coping mechanisms, autobiographical memories, emotions, motives, goals, personality traits, metacognitive strategies, behavioral plans and tactics, scripts, and schemata; see Bretherton & Munholland, 1999, for an overview).

The need for greater specificity regarding the content of internal working models is matched by the need for more detailed understanding of the mechanisms by which they are linked to early relationship experiences. Little is known about how relationship schemata emerge (Hartup & Laursen, 1999), just as little is known about how knowledge structures in general are formed (Siegler, 1991). Key questions remain unanswered, such as how information is acquired, encoded, and abstracted, and how children employ the resulting representation as a template in subsequent social interaction. Similarly, the mechanisms by which established representations are altered or qualified by experience are yet to be identified, notwithstanding evident changes in people's social lives.

Another important question concerns the links between attachment and other seemingly innate social response systems, such as the caregiving system, the reproductive behavioral system, and the affiliative system, links that have received little attention (Bell & Richard, 2000; Berscheid & Collins, 2000). One reason may be that the developmental psychologists who have done most of the research on attachment have focused primarily on child behavior. Another reason has to do with the difficulty of determining which behaviors are heavily genetically determined, which are learned as the human matures, and how nature and nurture interact in these as well as other behaviors. It is clear, however, that caregiving research conducted under other theoretical umbrellas (e.g., altruism, prosocial behavior, social support, friendship) must be integrated with research on caregiving in infant-caregiver relationships.

Finally, although constitutional differences in temperament clearly interact with caregiver behaviors to influence child development, how attachment and temperament interact is not yet well understood. Rothbart and Bates (1998) noted, for example, that although the influence of temperament on attachment security has received some attention, the reverse is seldom examined. Recent findings are promising. Nachmias, Gunnar, Mangelsdorf, Parritz, and Buss (1996), for example, showed that 18-month-old children who tended to inhibit responses in novel circumstances were more likely to manifest stress reactions, measured by salivary cortisol, if they were insecurely attached than if they were securely attached. Similarly, Kochanska (1995, 1997) demonstrated that high versus low inhibition is associated with different outcomes of mother-

child interactions paralleling effects shown for attachment. In a longitudinal study, Sroufe, Egeland, and Carlson (1999) found that both temperament and attachment contributed significantly to later functioning but that each related distinctively. Resistant attachment measured at 12 months of age predicted anxiety problems at age 17 with early measures of temperament controlled, but predictions were far stronger when the temperament measure and the attachment rating were considered together. Further studies of links between attachment and later functioning that control for temperamental characteristics may illuminate this complex association (W. A. Collins et al., 2000).

Brain Development and Relationships

Innate response systems are usually viewed as causal influences on relationships, but, as noted earlier, recent theory and research suggest that the causal pattern is transactional. Accumulating research in behavioral neuroscience indicates that the infant's biological heritage interacts with his or her important life experiences to affect the developing structure and organization of neural systems (see, e.g., Panksepp, 1994). These neural systems, in turn, are theorized to "initiate, synchronize, and energize sets of coherent physiological, behavioral, and psychological changes that are primal instinctive solutions to various archetypal life-challenging situations" (Panksepp, 1998, p. 123, italics in the original). Panksepp contended that even "neurons in specific adult motivational systems can expand and shrink depending on the environmental challenges and the resulting hormonal tides" (p. 55).

Many, if not most, of the infant's life experiences occur in a relationship context. Greenough, Black, and Wallace (1987) considered how experience may influence both the developing and the mature brain and proposed a classification scheme based on the type of information stored and the brain mechanisms involved in its storage. Their "experience-expectant" information storage category refers to the incorporation of information that is ubiquitous in the environment and common to all species members. Much of this information refers to social relations. From research with infrahuman species (mostly rats), they and others concluded that a common aspect of the early development of sensory systems may be "overproduction of synapses in expectation of experiences that will determine their selective survival" (p. 552). Emphasizing not only the evolutionary origins of this process but also its adaptive value for the individual and the required timing of particular experiences, Greenough et al. speculated that infants may play an active role in obtaining the appropriate experiences for themselves. They suggested, for example, that infants' responses to a caregiver's speech may make social interaction rewarding to both partners in ways that serve the infant's development (e.g., an innate predisposition to smile and coo may shape the caregiver's speech toward linguistic forms that are optimal for brain development).

As Greenough et al.'s (1987) theory suggests, how early brain structure and processes both influence and are influenced by early social experience is of increasing interest to neuroscientists. Existing neurobiological data have accumulated to the point that some researchers are now seeking to integrate this evidence with psychological findings to create formal theoretical models of the impact of early relationships on brain development. Siegel (1999), for example, summarized much evidence to support his thesis that

the "mind" (viewed as emerging from neuronal activity in the brain) develops at the interface of neurophysiological processes and interpersonal relations. In accord with Hebb's (1949) maxim that "neurons that fire together wire together," Siegel (1999) argued that, "experience—the activation of specific neural pathways—therefore directly shapes gene expression and leads to the maintenance, creation, and strengthening of the connections that form the neural substrate of the mind" (p. 14). Because much of the human brain is relatively undifferentiated at birth, early experience—the lion's share of which has its source in the infant's social environment—interacts with gene expression to shape neurological circuits within the brain's structures. Thus, early attachment relations "have a direct effect on the development of the domains of mental functioning that serve as our conceptual anchor points: memory, narrative, emotion, representations, and states of mind" (p. 68) and help create the foundation from which the mind develops. New developments in cognitive neuroscience, including emerging models that take a connectionist perspective (see, e.g., Elman et al., 1996), make it likely that considerable progress soon will be made in elucidating this link, as well as the continuing bidirectional link between neurobiological processes and interpersonal experiences at later stages in the life cycle (Cacioppo et al., 2000).

Social Relationships and Physical and Mental Well-Being

If evolutionary processes equipped humans with biological systems whose purposes include the satisfaction of social relational needs, it is reasonable to posit a direct and strong connection between relational success and health and well-being. There now is substantial evidence that this connection exists.

Physical health. Research on the health ramifications of relationships began in earnest in the late 1970s when epidemiological studies first demonstrated associations between relational circumstances and physical health. House, Landis, and Umberson's (1988) review of five large-sample, long-term prospective epidemiological studies concluded that low social integration is a major risk factor for mortality, with an age-adjusted relative risk ratio exceeding that of cigarette smoking. Numerous reviews have similarly concluded that both morbidity and mortality are substantially influenced by the formation and disruption of ongoing relationships across specific manifestations such as social isolation and rejection, network size and density, frequency of social contact, and divorce and bereavement (see, e.g., Berkman, 1995; Burman & Margolin, 1992; Cohen, 1988; Seeman & McEwen, 1996; Stroebe & Stroebe, 1987; Uchino, Cacioppo, & Kiecolt-Glaser, 1996). In this respect, the deleterious effects of social isolation in humans match similar effects demonstrated in subhuman species, such as primates, suggesting an underlying evolutionary mechanism (see, e.g., Coe, 1993; Laudenslager, Boccia, & Reite, 1993).

In addition to evidence linking the existence of relationships to mortality and morbidity, relationship qualities also have been implicated. For example, social support, the person's subjective assessment of the availability within relationships of resources that may help fulfill important needs and goals, is associated with diverse indicators of health and well-being (see Cohen, 1988, and Uchino et al., 1996, for reviews). Although there is little agreement as to how the construct of social support should be defined, nearly all existing research incorporates some of the basic themes in-

cluded in positive-quality relationships, such as affection, caring, reassurance of worth, advice and guidance, proximity to caregivers, coping assistance, opportunities to nurture, reliable alliances, and tangible assistance (Wills & Shinar, in press).

Relationships are also implicated in health in another way: Illness, especially severe or chronic illness, has far-reaching effects that extend beyond the ill person to close relationship partners, typically spouses and other family members. In most cases, illness has both affective (e.g., threat of partner loss, empathic distress) and behavioral consequences (e.g., readjustment of everyday activities and long-term plans) for partners. The manner in which illness reverberates through the family system tends to be particularly pronounced in the case of chronically ill children, for whom the requisite adaptations necessarily fall on parents and sometimes on siblings and other family members as well (Kazak, Segal-Andrews, & Johnson, 1995).

Health psychologists also have shown that relationship factors may influence health-promoting and health-impairing behaviors. For example, Hauser et al. (1990) found that family conflict, cohesion, and organization predicted adolescents' adherence to treatment plans for recently diagnosed diabetes. Coping with and recovering from serious illness more often than not involve assistance and emotional support from family members or close friends (Stroebe & Stroebe, 1996). For example, Lyons, Mickelson, Sullivan, and Coyne (1998) discussed the process of "communal coping"—cooperative problem solving within interdependent relationships—with chronic disease and disability. Health-promoting behaviors (e.g., exercise, drug abstinence) are affected by the social environment, both through explicit social pressure and through exposure to the behavior of significant others. Finally, there is growing recognition that the patient-provider relationship is itself a key ingredient of health care. For example, adherence to treatment plans and follow-up tends to improve when providers are perceived to be supportive, caring, and available (DiNicola & DiMatteo, 1984).

Although the correlation between interpersonal circumstances and physical health is well documented, its causal mechanisms have not yet been identified. Because therapeutic applications necessarily depend on causal knowledge, many see the identification and verification of these pathways as the field's most pressing question. Three categories of causal mechanism may help explain the health-relationships link (Baum & Posluszny, 1999): direct biological effects, behaviors that impair or enhance health, and illness-relevant coping and appraisal. These categories encompass various specific, often interrelated processes, and it seems likely that multiple, interacting mechanisms ultimately will be found.

Direct biological mechanisms involve immediate links between the individual's social situation and his or her internal physiological functioning. Uchino et al.'s (1996) review discussed three such systems corresponding to the cardiovascular, neuroendocrine, and immunological consequences of social integration and support. For example, negative behaviors during marital conflict are associated with decrements across several markers of all three systems (see, e.g., Kiecolt-Glaser, Glaser, Cacioppo, & Malarkey, 1998), persons with less diverse social networks are more susceptible to experimentally introduced cold viruses (Cohen, Doyle, Skoner, Rabin, & Gwaltney, 1997), neuroendocrine reactivity to stress is lessened by the existence of affectively satisfying relationships (Carter, 1998; Seeman & McEwen, 1996), and positive

social attachments, especially those involving affective properties such as romantic love and social attachment, appear to stimulate beneficial neuropeptides such as oxytocin (Uvn aes-Moberg, 1998). These last two examples (see Taylor et al., 2000, for a review) are particularly valuable in suggesting that the impact of relationships on physiological well-being may not be limited to the deleterious effects of negative or conflictual relationships or even to stress-buffering provided by supportive relationships (Rook, 1998); participating in positive relationships may have its own favorable effects, biological and otherwise (Gable & Reis, in press). Existing theory has tended to focus on the significance of the dark side of relationships (e.g., conflict, social exclusion, rejection, loss) because negative events usually have stronger and more immediate adaptive consequences (Baumeister, Finkenauer, & Bratslavsky, 2000; Taylor, 1991).

Although direct biological effects have dominated recent work, the possibility remains that at least some, if not most, of the obtained correlations between relationship success and physical health are the result of indirect causes. Social support, for example, may not be directly beneficial but, rather, may encourage health-protecting behaviors. Because these health-protecting practices are causally implicated in the biological functioning of many important organ systems, an indirect effect would be obtained. Similarly, the third causal pathway suggests that support–health effects may be mediated by appraisal processes. For example, traits such as negative affectivity appear to predispose individuals to assess their health and their relationships more negatively than warranted (Watson & Pennebaker, 1989).

Another issue requiring concerted attention concerns the relevance and application of existing research to intervention. Statistically significant results may not be clinically significant, especially for biological systems that tend to vary markedly under ordinary circumstances (e.g., immune function, stress reactivity; Herbert & Cohen, 1993). It is currently unknown whether the accumulated impact of small effects is clinically significant or whether homeostatic regulation minimizes their impact. Whether and how social support research might be translated into interventions also needs scrutiny. The dramatic demonstration of an average longevity increase of almost 18 months among women with metastatic breast cancer who had participated in an emotionally supportive group psychotherapeutic experience has renewed interest in supportive group interventions (Spiegel, Bloom, Kraemer, & Gottheil, 1989). Nevertheless, and notwithstanding the widespread popularity of support groups for a host of illnesses and conditions, evidence for a beneficial impact of peer-based emotional support groups is tenuous at best (Helgeson & Cohen, 1996). Researchers also need to examine the moderating role of natural social networks, especially families, which may enhance or undermine the impact of interventions. Existing research points to the greater effectiveness of indigenous support (i.e., from existing relationships) than of grafted support (i.e., from newly formed or temporary relationships; see, e.g., Helgeson & Cohen, 1996; Rook & Dooley, 1985), in part because grafted support typically comes from others with whom there is no ongoing relationship.

Mental health and happiness. Morbidity and mortality aside, existing research overwhelmingly supports the conclusion that “relationships are people’s most frequent source of both happiness and distress” (Berscheid & Reis, 1998, p. 243) and that “positive relations with others” (Ryff, 1995) contribute to mental health,

subjective well-being, and effective functioning across nearly all domains of life activity (see Myers, 1999, for a review). These effects are readily apparent throughout the life cycle, from childhood and adolescence (see, e.g., Hartup & Stevens, 1997) to old age (see, e.g., Carstensen, Isaacowitz, & Charles, 1999); in large-scale public opinion surveys (see, e.g., Veroff, Douvan, & Kulka, 1981), late-life retrospections (see, e.g., Sears, 1977), and studies of everyday activity (see, e.g., Reis, Sheldon, Gable, Roscoe, & Ryan, 2000); and across contexts as diverse as peer relations, marriage and family, work, and community involvement.

Family relationships, especially marital relationships, have received the greatest attention in recent years, reflecting their status as most people’s primary relationship. Diener, Suh, Lucas, and Smith (1999) reviewed extensive evidence indicating that married persons tend to be happier than unmarried persons (whether single, widowed, or divorced) irrespective of cultural factors, such as individualism–collectivism and the divorce rate, or of individual differences, such as sex and age. Nevertheless, these factors may moderate the degree to which happiness varies as a function of marital status. For example, Glenn and Weaver (1988) argued that the “happiness gap” between married and unmarried individuals has shrunk as the divorce rate has risen (although this conclusion has been challenged; see, e.g., Kurdek, 1991). Similarly, family relationships play a profound role in children’s emotional well-being, as noted, for example, in reviews of the impact of parental conflict (Davies & Cummings, 1994) and divorce (Amato & Keith, 1991b).

Research also has underscored the importance of extrafamilial relationships as a positive determinant of well-being, notwithstanding the fact that friendships may also be a significant source of distress (Berscheid & Reis, 1998; Hartup, 1989). Children’s peer relationships provide essential resources for socioemotional and cognitive development (Hartup, 1989) and, if anything, grow in importance by adolescence (Harris, 1995). Social isolation, rejection, and antisocial behavior in childhood are major risk factors for later mental health problems (Dodge, 1986; Parker & Asher, 1987). Among adults, the evidence also is strong that the ability to socialize effectively contributes significantly to well-being. For example, in several studies, social relations produced stronger effects on positive mood than any other general type of activity (see, e.g., L. A. Clark & Watson, 1988), and insufficient social involvement is a well-documented cause of loneliness (Rook, 1998).

In sum, whatever the adaptive value of relationships during the era of human evolution, it is evident that sociality remains central today to human health and well-being. However, as with physical health, “there is inadequate evidence of the causal mechanisms responsible and of the types of relationships that are most beneficial or harmful” (Berscheid & Reis, 1998, p. 243). Because studies linking relationships to happiness tend to be correlational, causal mechanisms are undocumented, leading some investigators to speculate that certain personality factors (e.g., negative affectivity and extraversion), perhaps having genetic origin, may underlie both relational success and psychological well-being (see, e.g., Lykken & Tellegen, 1996). Although there is abundant evidence that interpersonal experiences influence well-being over and above the impact of stable individual differences, just what aspects of interactions matter most remains to be learned. Greater attention to the ecological niches of marital and other relationships also is

needed (Berscheid & Lopes, 1997; Karney & Bradbury, 1995). By focusing on partners' dispositional properties (i.e., their attitudes, values, cognitions, or personalities) or on the interaction of these properties with one another, existing research has failed to consider how the context in which a relationship exists, particularly its wider social context, may influence the initiation, progression, maintenance, and potential disruption of relationships. These effects may be considerable (see, e.g., Bryant & Conger, 1999; Milardo & Allen, 1997; Sprecher, Felmlee, Orbuch, & Willetts, in press).

Finally, better integration of relationship science with clinical applications is needed. Contemporary disintegration of marital relationships, with its strong link to family violence and the attendant heavy toll on spousal mental health and children's well-being, has heightened public demand for couples and family counseling in many parts of the world. Yet, although interventions abound, the scientific basis for such treatments is suggestive at best. Christensen and Heavey's (1999) review of relationship interventions found that although comparisons with no-treatment controls tend to demonstrate clear decreases in marital distress, the magnitude and durability of these improvements is not great; moreover, "there is no convincing evidence at this point that any couple therapy is better than another" (p. 173; but see Baucom, Shoham, Meuser, Daiuto, & Stickle, 1998).

Relationship Processes

Relationship Cognition

Virtually everyone recognizes that cognitions about other persons and one's connection with them play an influential role in the nature and development of a relationship. Less appreciated is the manner in which cognitive processing itself reflects both the central functions of relating to others and the relational context in which behavior occurs. Thus, when Reis and Downey (1999) posited that "thinking is for relating," adapting S. T. Fiske's (1992) assertion that social understanding operates in the service of interaction goals, they contended that many social-cognitive processes are "designed to address key issues in the development and maintenance of relationships, as well as to capitalize on relational interdependence in dealing with major life tasks" (Reis & Downey, p. 99; see also Ostrom, 1984). For example, conditional reasoning strategies may have evolved to facilitate detection of noncompliance with social exchange rules, a judgment with important evolutionary implications (Cosmides & Tooby, 1992). More generally, as described below, it seems clear that much human activity is shaped by cognitions about self, others, and relationships.

Substantial and diverse evidence has advanced theoretical understanding of relationship cognition along two broad themes: the nature of relationship cognition and how the existence of a relationship, as well as the process of interacting, influences social perception and cognition.

The nature of relationship cognition. Relationship cognition, by its very nature, reflects the organization of social life around interactions with others with whom one has an ongoing association, each of whom may also have interactions and ongoing associations with each other. For example, because it is important to know who is associated with whom in the social world, memory for acquaintances tends to be organized according to social con-

texts (see, e.g., Bond & Brockett, 1987), and mental representations of others tend to be linked if those persons are thought to be involved in a close relationship with each other (Sedikides, Olsen, & Reis, 1993). Also, perceptions of others tend to be influenced by impressions of their known associates, an interpersonal example of the "halo effect" (Heider, 1958).

Baldwin (1992) proposed that relationship knowledge is composed of a self-schema for how the self is experienced in a particular social context, a parallel schema for the partner, and an interpersonal script (i.e., an expected pattern of interaction) that reflects regularities encountered in prior experience. To Baldwin and other theorists (e.g., Bretherton, 1990; N. L. Collins & Read, 1994), these components are themselves thought to be elaborate and hierarchically structured. Thus, at the highest level, models describing people and relationships in general are represented. The next level includes exemplars of particular others, corresponding to experiences with those persons and incorporating, in all likelihood, comparisons and contrasts with other persons (Smith & Zarate, 1992). The lowest level, which has received little empirical attention, contains a series of role- and situation-specific representations (e.g., spouse-as-lover, spouse-as-domestic-partner; Srull & Wyer, 1989). This reasoning suggests that self-models, which are typically construed in fairly dispositional terms, might be better construed as varying across relationship contexts, that is, self-in-this-relationship, self-in-that-relationship.

Recognizing the complex organization that may exist among different levels of mental representation of relationship information provides a helpful framework for accommodating several important distinctions that have emerged in the literature. Research has most commonly focused on the highest level of generalization, showing how chronically accessible models of people-in-general may influence interpersonal expectations and behavior. For example, depression (Coyne & Whiffen, 1995), insecure attachment (Baldwin, Fehr, Keedian, Seidel, & Thomson, 1993; Baldwin, Keelan, Fehr, Enns, & Koh-Rangarajoo, 1996), loneliness (Wittenberg & Reis, 1986), low self-esteem (Murray, Holmes, McDonald, & Ellsworth, 1998), and parental divorce (Amato & Keith, 1991a, 1991b) are all associated with more negative interpersonal beliefs and expectations. Less common are studies emphasizing the circumstances and history of the person's relationship with a particular partner (but see Fincham & Bradbury, 1991; Rusbult, Yovetich, & Verette, 1996). Higgins's (1987) self-discrepancy theory, for example, describes the self-regulatory impact of guides (expectations) internalized from significant others, and McNulty and Swann (1994) discussed the process by which feedback from roommates shapes self-perception.

One program of research that has emphasized the exemplar level of representation is the work of Andersen and colleagues (summarized in Andersen & Glassman, 1996; Chen & Andersen, 1999). These studies demonstrate that representations of significant others, either when chronically accessible or when experimentally activated, may transfer to new partners and situations. For example, when a previously unknown interaction partner was portrayed as possessing several traits similar to those of a significant other, inferences, recollections, and evaluations of the new partner tended to resemble those of the significant other. Activation of a significant-other representation similarly leads to shifts in mood and self-evaluation to reflect the self as experienced with that significant other, even when that other is not present and no

explicit associations (beyond the new partner's superficial resemblance) are evident. Berk and Andersen (in press) further showed that the individual experiencing transference may elicit from the new partner behaviors that confirm the transference-based expectation, highlighting the important process by which exemplar-level representations of past relationship partners may provide the expectancy seed for behavior confirmation in present relationships (cf. Snyder & Stukas, 1999).

One type of cognition with special importance for relationships is expectations. Fincham and Bradbury's (1991) contextual model of marital interaction, which is easily applied to interaction with any known associate, views expectations as part of an interaction's distal context, thereby contributing to the spontaneous thoughts and feelings that arise during interaction, the proximal context. As Snyder and Stukas (1999) discussed, expectations derive from various sources: personal experience with the target, third-party reports, category-based generalizations (i.e., stereotypes), and personality-based proclivities (acquired in part from repeated relational experiences). Their function is to provide guidelines for moderating one's behavior during an interaction so as to facilitate obtaining the most favorable outcomes. In so doing, expectations may shape a partner's behavior as well, thereby exerting fundamental effects on the interaction that transpires (Snyder, 1992) and on the long-term qualities of a dyad's relationship. For example, the same behaviors may be interpreted more negatively to the extent that spouses have negative expectations of each other (Bradbury & Fincham, 1990; Noller & Ruzzene, 1991) and even a positive act may be discounted (Holtzworth-Munroe & Jacobson, 1988). Expectations add a dynamic, interactive component to what is known more generally about mental representations of others.

Viewing expectations as cognitive guides for regulating behavior in social interaction implicates the well-known distinction between "controlled" (deliberate, thoughtful, relatively slow and effortful) and "automatic" (reflexive, fast, and efficient) processing. The latter may be particularly important in long-term relationships, which are characterized by several conditions that promote automatic processing, such as repetitive routinized (or "overlearned") behavior sequences; situations that require fast, efficient processing; high emotional involvement; and chronic accessibility of relevant expectations (Bargh, 1994; Berscheid, 1994; Scott, Fuhrman, & Wycr, 1991). Although the contrast between automatic and controlled processing has received minimal attention within the relationships arena, the distinction is likely to be important. For example, Bargh and colleagues (summarized in Bargh, 1997) have shown that chronically accessible expectations activated outside of awareness can induce behavior consistent with those expectations, as may be seen in the tendency of low self-esteem persons to create self-fulfilling cycles of interpersonal rejection (Murray et al., 1998). Automatic activation of beliefs about a partner and the resultant behaviors may help explain why changing long-term relationships is so difficult.

Recent advances in cognition research make possible more sophisticated models of relationship-specific cognition. This is a critical area for expanding research. Cognitions specific to a particular partner or relationship (i.e., cognitions that go beyond general tendencies to perceive others in characteristic ways) are important to relationship functioning, as illustrated by the finding that trust for a particular partner, but not trait levels of trust, contributed to commitment and well-being in romantic relation-

ships (Weiselquist, Rusbult, Foster, & Agnew, in press). The trait-like models that have dominated relationship cognition research typically assume that others are perceived in fairly uniform terms and, similarly, that the self is perceived as more or less the same in all relationships. That the field's failure to examine the partner-exemplar and role-specific level of analysis may be misguided is suggested by a longstanding program of research by Kenny and colleagues (summarized in Kenny, 1994) who have found that across diverse judgments and contexts, a perceiver's unique impression of another person tends to account for considerably more variance than either the perceiver's general tendency to see others in characteristic ways or the target's personal qualities as they are generally seen by others. Relationship cognition, in other words, is about relationships with particular persons and not just about chronic tendencies in perceiving others, even close others. Similarly, cognition about the self often depends on its relationship context. To the extent that self-evaluation incorporates social cues and feedback—sometimes in manifest reaction to a partner's behavior, at other times through associations outside of awareness—different aspects of self may be expressed with different partners or during different interactions with the same partner. This point is underscored by Harter, Waters, and Whitesell's (1998) finding that adolescents' evaluations of their own self-worth differed across relationship contexts (e.g., with parents, teachers, or classmates) as a function of the validation support they reported receiving in that context.

In short, although it is clear that relationship knowledge has both generalized and differentiated elements, little is known about how these levels of representation develop, about their internal organization, or about the factors that determine which level becomes activated in which circumstances. Moreover, just how these representations relate to cognition about the self remains to be determined. One promising candidate for such theorizing is the connectionist model proposed by Smith, Coats, and Walling (1999), who speculated that

representations of the self and others are not isolated and independent structures that are stored separately as retrieved as discrete entities. . . . Instead, self and other nodes are linked, both by the direct connection signifying the relationship between self and other and by indirect connections through commonly shared traits (or goals, activities, emotions, or other characteristics). (p. 880)

With such a network, as cognition occurs, activation flows directly across nodes representing self and close other, suggesting a structural basis for a process by which relationships "may deeply influence cognition, affect, and behavior in relationship and group contexts" (p. 881). We turn next to discussing these influences.

The influence of relationship context on social cognition. The importance of understanding the effects of relationship context on social cognition is highlighted by demonstrations that relationship partners are not simply neutral stimuli to be cognized about in much the same manner as one would cognize about inanimate objects or even hypothetical others. Rather, ongoing, interdependent relationships have significant implications for how people process information both when thinking about their partners and while interacting with them. In other words, the process and content of social cognition depends on interpersonal goals and involvement. A simple example of this principle is the well-established fact that active participants in social interaction (and

also those anticipating future interaction) often make different judgments than uninvolved observers do. For example, relative to happily married couples, spouses in distressed couples typically report lower frequencies of positive and prosocial behavior from their partners and higher frequencies of negative behaviors, even when independent observers see little or no difference (D. H. Olson, 1977; Robinson & Price, 1980). A similar bias has been shown among parents who fail to note differences in their children's behavior that independent observers do recognize (G. R. Patterson, 1982).

Perhaps more strikingly, and reflecting the idea that cognitive processes evolved to permit human ancestors to contend with the adaptive problems inherent in social living (Cosmides & Tooby, 1992), relationships may alter the very processes by which social perception and cognition operate. Findings from several representative research areas illustrate the necessity of integrating relational contexts into theoretical models of real-world cognitive processes.

1. In a series of programmatic studies (summarized in Aron & Aron, 1997), Aron and his colleagues have investigated the proposition that in close relationships, people "include the other in the self." Their research has demonstrated that cognition about close others but not about superficial acquaintances tends to resemble cognition about the self (Aron, Aron, Tudor, & Nelson, 1991; Aron & Fraley, 1999). Similarly, other investigators have shown that other-representations tend to be comparable in form and impact to self-representations to the extent that the other is familiar and close (Prentice, 1990). Moreover, participants in committed relationships tend to cognitively encode those relationships in collective and interdependent, rather than individualistic, terms (Agnew, Van Lange, Rusbult, & Langston, 1998). These effects are not limited to emotionally close dyads. In-groups and important collective identities may also be incorporated into the self (Gardner, Gabriel, & Hochschild, in press; Smith & Henry, 1996).

2. Compared with cognitions about members of one's in-group, cognitions about out-group members tend to be less favorable and more homogeneous and are more likely to reflect stereotypic rather than personal assessments (Brewer & Brown, 1998). In other words, social categorization, which often takes place automatically and outside of awareness, influences the manner in which one thinks about others. Among several explanations for these effects is the possibility that in-group representations are mentally incorporated into the self-concept (see, e.g., Smith et al., 1999), as social identity theorists originally proposed (see, e.g., Tajfel, 1982).

3. Self-serving biases in social judgment depend on whether the target is a close other or a stranger. For example, members of close dyads do not exhibit self-serving attributional biases for success and failure, as members of distant dyads do (Sedikides, Campbell, Reeder, & Elliot, 1998). Likewise, "unrealistic optimism" may apply to close friends as it does to the self, but not to acquaintances (Regan, Snyder, & Kasson, 1995).

4. Participation in ongoing relationships requires social shared cognition. L. Thompson and Fine (1999) reviewed extensive evidence demonstrating that interdependent individuals often share certain cognitive activities in ways that not only facilitate social coordination but also enhance their cognitive products. For example, cognitive tasks may be divided into portions and distributed among individuals, as in the case of transactive memory systems—

shared understandings that allocate specialized domains of knowledge to the individual with greater expertise in that domain, thereby enhancing the dyad's overall performance on memory tasks (Hollingshead, 1998; Wegner, Erber, & Raymond, 1991). Small work groups often show similar advantages of specialization (Hinsz, Tindale, & Vollrath, 1997; Moreland, Argote, & Krishnan, 1996). Another example of social shared cognition is "shared reality"—that is, social verification that improves the accuracy and usefulness of subjective impressions (Hardin & Higgins, 1996).

More needs to be known about how cognition about neutral stimuli and strangers is different from cognition about relationship partners. From an epistemic point of view, it is clear that by observing each other's behavior across time and situations, friends acquire knowledge that affords relatively more accurate assessments of each other's personality in general (Funder, Kolar, & Blackman, 1995) and each other's specific thoughts and feelings at a given moment (Colvin, Vogt, & Ickes, 1997), compared with unacquainted individuals. Information of this sort is likely to fundamentally shape the process and output of social cognition, yet how this occurs and how particular pieces of information are represented and retrieved are not well understood, nor is the relative role of automatic and controlled processes or of implicit and explicit beliefs.

Relationship cognition is not just epistemic, however. Interdependent relationships involve motives, emotions, communication, and conflicts of interest, all of which may influence social cognition. How these processes unfold among two or more individuals, each contributing to the interaction while simultaneously being affected by the other's behavior and each representing a history of interaction not only with each other but with other persons as well, is central to understanding the process of interaction within relationships but has yet to receive adequate investigation.

In sum, at its core, social cognition is an action-control system designed to facilitate goal-directed behavior (Gollwitzer & Moskowitz, 1996). Inasmuch as social interdependence and ongoing relationships are fundamental to many of the most important goals and tasks of everyday life, both evolved and learned processes of social cognition are likely to function most effectively when adapted to relational contexts and concerns. Thus, investigating social cognition from a purely individualistic perspective is likely to misrepresent its complexity and functional significance within the larger picture of human behavior.

Emotion and Relationships

Like social cognition, emotional behavior influences relationships, and relationships influence emotional behavior. Recognizing this intrinsic link, Darwin (1899), in the first systematic study of human emotion, emphasized the social communicative function of emotion and its role in the survival of the species. Contemporary emotion theorists continue to acknowledge both the evolutionary role of emotion (see, e.g., Plutchik, 1994) and its social nature. Lazarus (1994), for example, stated that "most emotions involve two people who are experiencing either a transient or stable interpersonal relationship of significance" (p. 209), and Zajonc (1998) observed that:

Emotions, even though their hallmark is the internal state of the individual—the viscera, the gut—are above all social phenomena.

They are the basis of social interaction, they are the products of social interaction, their origins, and their currency. (pp. 619–620)

Nevertheless, emotion theorists and researchers have neglected the pervasive influence of social relationships on emotional behavior by taking an individualistic approach to emotion. Of particular interest have been the neural substrates of the affect system (for a review, see LeDoux, 1995) and its structure and operating characteristics (for a review, see Panksepp, 1998). At least a portion of the neglect of the implications and ramifications of the relationship-to-emotion connection can be attributed to the difficulty of studying emotion in ongoing relationships in naturalistic settings. However, recent advances in electronics and the ambulatory monitoring of affective states promise to facilitate examination of the external validity of emotion theoretical models and laboratory research findings (Cacioppo & Gardner, 1999).

In contrast to emotion theorists and researchers, relationship scholars have accorded the relationship–emotion association great importance, and for good reason: There is little about a relationship that can be understood without understanding its affective tenor and the emotions and feelings the partners experience in their association with each other. Bowlby (1979) observed that “many of the most intense emotions arise during the formation, the maintenance, the disruption, and the renewal of attachment relationships” (p. 130). Baumeister and Leary (1995), in support of their thesis that the “need to belong” is a fundamental human motivation, reviewed much evidence that positive affect is frequently experienced with increases in belonging (e.g., love at the beginning of a romantic relationship) and negative affect with decreases in belonging (e.g., grief following a partner’s death). The maintenance of relationships also is strongly associated with emotional experience precipitated by the relationship partner (see, e.g., Fitz & Gerstenzang, 1978; L. A. Clark & Watson, 1988; Reis, in press). Thus, to better understand the association between emotion and relationships, it has been necessary for relationship researchers to address issues of traditional concern to emotion researchers.

Communication of emotion. Darwin’s (1899) thesis that from infancy onward, an individual’s emotional displays serve the important function of informing others about the individual’s internal state has been well supported. To predict and understand the expression of emotion, however, the relationship context must be considered (M. S. Clark, Fitness, & Brissette, in press). People are more likely to express their emotional experiences in close, usually communal relationships (M. S. Clark & Taraban, 1991). Barrett, Robin, Pietromonaco, and Eyssell (1998) found that the intensity of emotional experiences and the degree to which emotions are expressed in interaction are positively associated with the degree of relational closeness with the interaction partner. Moreover, Brissette and Clark (1999) found that as a communal relationship grows, the partners express more emotion, both positive and negative, to each other; in less close relationships, however, people are likely to suppress expression of negative emotion (R. L. Collins, 1994; R. L. Collins, & DiPaula, 1997). Indeed, another’s expression of negative emotion in noncommunal relationships appears to reduce attraction for that person, whereas its expression in a communal relationship does not (M. S. Clark, Pataki, & Carver, 1996; M. S. Clark & Taraban, 1991). Given the social consequences of emotional displays, it is not surprising that people

sometimes intentionally misrepresent their internal states to conform to normative display rules (Fridlund, 1994) or for self-presentational purpose (see, e.g., M. S. Clark et al., 1996).

Other studies have shown that people who care about their relationship partners also experience more empathic compassion for their partner’s expression of emotion than those who do not (see, e.g., M. S. Clark et al., in press; Williamson & Clark, 1989). Emotional communication often leads to shared emotional experience through such processes as emotional contagion (Hatfield, Cacioppo, & Rapson, 1994), physiological synchrony (Levenson & Ruef, 1992), and vicarious responding (Eisenberg et al., 1997). Emotional communication is important to the maintenance of all social relationships because it facilitates coordination of activities for mutual benefit, promotes bonding and group cohesion, helps identify potential antagonists, and helps maintain well-regulated social hierarchies. It is not surprising, then, that accurate emotional communication, which usually occurs spontaneously and outside of awareness, appears to be a characteristic of satisfying close relationships (Ickes, 1997), whereas inaccurate decoding of the partner’s affective state appears to be one of the hallmarks of distressed relationships (see, e.g., Noller & Ruzzene, 1991).

Socioemotional development. Relationships also affect emotional development. Virtually all emotion and relationship theorists recognize the vital role of emotional expression in infants’ interactions with the social environment (see, e.g., Eisenberg et al., 1997). Socialization of emotional expressions begins very early, as Van Lieshout, Cillessen, and Haselager (1999) discussed. For example, Malatesta and Haviland (1982) demonstrated that mothers of 3-month-old infants consistently responded positively to their baby’s positive emotions and neutrally or negatively to its negative emotions. Seemingly as a consequence, the infants were expressing positive emotions more frequently than negative emotions by the age of 6 months. By 10 months of age, the infant’s tendency to smile appears to be at least partially dependent on whether an audience is present to observe the smile (Jones, Collins, & Hong, 1991). The socialization of emotion continues to be an important function of social interactions throughout childhood (Bugental & Goodnow, 1998) and undoubtedly throughout the life span. The factors responsible for individual differences in emotional disposition, intensity, and reactivity, a traditional focus of emotion theory and research, are receiving increased attention with researchers now seeking the answers in studies of socioemotional development (Cacioppo & Gardner, 1999).

Much more needs to be learned about the processes of emotional socialization despite the growth of research on the topic occurring under the aegis of attachment theory. Early relationship environments have been linked to a number of emotional disorders in later life (for a review, see Berenbaum, Raghavan, Le, Vernon, & Gomez, 1999). For example, Berenbaum and James (1994) found that people who reported having grown up in family environments in which they were not permitted to openly and directly express their feelings or otherwise felt emotionally unsafe showed elevated levels of alexithymia, a diminished ability to identify one’s own emotional state. One of the consequences of this emotional disorder was revealed in a perspective, longitudinal study of over 2,000 men: Those with elevated levels of alexithymia had a twofold risk of death that could not be explained by behavioral or physiological risk factors (Kauhanen, Kaplan, Cohen, Julkunen, & Salonen, 1996).

People who suffer from chronic emotional disturbances have been shown to have poor relationships (see, e.g., Fadden, Bebbington, & Kuipers, 1987), including distressed marriages (see, e.g., Coyne, 1985). Berenbaum et al. (1999) emphasized that the toll taken by emotional disturbances (e.g., depression) must include their negative impact not only on the individual but also on those with whom the individual interacts. Among these emotional disorders, antisocial behavior has been of special concern. The search for early family and other social environmental factors in antisocial behavior has yielded evidence that although genetic factors are strongly implicated, they interact with social environmental factors. For example, in a study of antisocial behavior in individuals who had been adopted soon after birth, genetic and environmental factors interacted such that those who possessed both genetic (i.e., biological relative with antisocial histories) and environmental (i.e., adoptive environment characterized by marital, legal, or substance abuse) risk factors were especially prone to exhibit antisocial behavior (Cadoret, Yates, Troughton, Woodworth, & Stewart, 1995). Sociopathy also has been linked to abnormalities in the processing of emotion-relevant and emotion-eliciting stimuli. Thus, questions about the effects of early relationships on the child's emotional development intersect with questions about the effects of early relationships on the neural architecture of the affective system (Blakemore, 1998; Siegel, 1999), and both present an important challenge for future research.

Affective space. One longstanding controversy in the emotion arena appears to be approaching resolution, with implications for future research on the relationship-emotion link. Whether affective space is more accurately conceptualized as a single bipolar evaluative dimension, ranging from positive to negative, or whether it should be viewed as two relatively independent dimensions, one ranging from neutral to strongly positive and the other from neutral to highly negative, has been a subject of concern not only to emotion researchers but to relationship researchers as well.

The nub of the controversy was formed by the fact that studies of the conceptual organization of emotion revealed that the primary dimension underlying subjective reports is a single bipolar dimension ranging from positive to negative (Russell & Carroll, 1999; Watson, Wiese, Vaidya, & Tellegen, 1999), but, in contrast, there also is substantial evidence that

the module in the affect system that computes attitudes, preferences, and actions derives input from at least two specialized evaluative channels that process information in parallel—one in which threat-related (i.e., negative) information is derived from the flow of sensation and a second in which safety and appetitive (i.e., positive) information is derived. (Cacioppo & Gardner, 1999, p. 201)

The model of evaluative space presented by Cacioppo and Berntson (1994) reconciles these findings by positing that the common metric governing approach/withdrawal is a single dimension at the response stage, but underlying it at the initial processing stages are two intervening metrics, or evaluative channels: the activation function for positivity and the activation function for negativity.

Cacioppo and Gardner (1999) warned that the assumption that "the affect system consists only of a single bipolar evaluative channel can . . . be costly in terms of the fertile avenues of research it precludes" (p. 203). This is particularly true in the relationship arena (Gable & Reis, in press). Although bipolar unidimensional scales, including measures of interpersonal attraction and marital

satisfaction (see, e.g., Berscheid, 1985; but see Fincham & Linfield, 1997, for an exception), have dominated relationship research, the utility of obtaining separate measures of positive and negative affect is reflected by findings that positive and negative affective experiences appear to interact with the age of the relationship such that their association with each other and with various relationship outcomes may differ over the course of the relationship (Berscheid & Reis, 1998). For example, in Kelly, Huston, and Cate's (1985) longitudinal study of newlyweds, premarital conflict was unrelated to the love partners reported having felt for each other before marriage, but it predicted marital dissatisfaction after 2 years of marriage.

Affect and cognition. Although early pioneers of cognitive science did not view emotion as a cognitive process (LeDoux, 1995), much evidence has forced recognition that affect and cognition are inseparable at all stages of human development (Siegel, 1999). Nevertheless, precisely how cognition and emotion interact remains one of the most controversial topics in the psychology of emotion. Investigations of the affect-cognition link have focused on two forms of affect, mood and emotion, each of which has different associations with cognition and different implications for understanding emotional phenomena in relationships.

All studies addressed to emotional phenomena, including those addressed to affect-cognition associations, suffer from definitional controversies. As Frijda (1999) discussed, "what we call emotions are responses to significant events that consist of several components belonging to the domains of subjective experience, behavior, and physiological reaction" (p. 190). Different theorists consider different components essential, and thus, their definitions of emotion differ. One enduring controversy divides those theorists who posit a finite number of basic emotions, usually believed to be innately preprogrammed (see, e.g., Campos & Barrett, 1985; Izard, 1977; Panksepp, 1998), and those who take a constructionist approach, maintaining that each emotional experience is freshly constructed on-line from the elements present in a specific situation (see, e.g., Mandler, 1975, 1997). Another controversy concerns the degree of inclusiveness of the definition of emotion. Some regard an emotion to be any experienced state that carries positive or negative valence (e.g., a preference for chocolate over vanilla); others believe such definitions are too broad to be useful (Mandler, 1997). Despite these differences, many would agree with Forgas (2000b) that moods and emotions can be differentiated:

Moods . . . can be defined as relatively low-intensity, diffuse, and enduring affective states that have no salient antecedent cause and therefore little cognitive content (such as feeling good or feeling bad, being in a good or a bad mood). In contrast, distinct emotions are more short-lived, intense phenomena and usually have a highly accessible and salient cause, as well as clear, prototypical cognitive content (e.g., disgust, anger, fear). (p. 6)

Spurred by studies demonstrating that an individual's affective mood influences retrieval of past events from memory (Bower, 1981; Isen, 1984), research addressed to the association between mood and cognition has increased dramatically (Forgas, 2000a). Although this research is still somewhat fragmented and studies of the links between the two are still carried out primarily in laboratory and nonrelationship settings, new integrative theoretical frameworks that treat the interaction between mood and cognition

as bidirectional have recently been offered, and some progress has been made in identifying variables that moderate and mediate mood–cognition links. The former is important for understanding the influence of mood on relationships because some factors currently suspected to make a difference are more likely to be operative in active social interaction and ongoing relationships (e.g., cognitive load) than in laboratory settings.

Like mood, a better understanding of emotion in the context of ongoing relationships is critical to an improved understanding of relationships. For example, much evidence indicates that how spouses manage their emotions about their partners and the relationship, especially their negative emotions, is critical to marital success (Gottman, 1998). As a consequence, relationship therapists have tried to develop techniques that promote positive affective experiences on the one hand and that manage or ameliorate negative emotion on the other (see, e.g., Jacobson & Christensen, 1996; Notarius, Lashley, & Sullivan, 1997). These therapeutic techniques, however, have been derived primarily from clinical experience and wisdom and owe little to formal emotion theory and research, which, at present, are not easily applicable to complex natural settings.

An understanding of emotion as it occurs in relationship contexts promises to be improved by means of increased attention to the construct of cognitive expectancy, which may provide an important connecting corridor between cognition and emotion. In their review of expectancy theory and research, J. M. Olson, Roese, and Zanna (1996) observed that “the concept of ‘expectancy’ forms the basis for virtually all behavior” (p. 211). Emotional behavior is no exception. For example, the expectancy construct is central to Mandler’s (1997) emotion theory. He argued that one of the human’s most important evolutionary inheritances is the ability to detect whether the environment is the same as that experienced in the past, and thus expected, or different from it. Discrepancy detection typically is accompanied by automatic bodily changes (e.g., autonomic nervous system arousal) that facilitate survival-promoting reactions to the changed environment (see, e.g., MacDowell & Mandler, 1989). Mandler theorized that arousal combines with a positive or negative cognitive evaluation of the environmental change (i.e., as potentially harmful or beneficial) to produce emotional experience.

Other emotion theories also incorporate the expectancy construct. For example, Gray’s (e.g., Gray, 1987, 1994) description of the information processing function of the behavioral inhibition system importantly includes a hypothetical construct he termed “the comparator,” which represents a continuous monitoring of whether the current state of the world is the same as or different from that expected. Sroufe’s (1979, 1996) theory of emotional development also emphasizes the discrepancy between internal expectation and the perceived environment in the generation of emotion. Attachment theory, too, which, in its proximate mechanisms, is concerned with how people regulate emotions during interaction and while thinking about others, assumes that infants possess the cognitive ability to note discrepancies in the environment: “Learning to distinguish the familiar from the strange is a key process in the development of attachment” (Bowlby, 1979, p. 131). Indeed, infants as young as 8 weeks show anger in response to the violation of a learned expectancy (Lewis, Alessandri, & Sullivan, 1990).

Cognitive expectancies about the relationship partner play a central role in Berscheid’s (1983) “emotion-in-relationships” model (ERM), which extends Mandler’s theory of emotion to better understand why close relationships are the most frequent context in which people experience intense emotion and also to predict when it will be experienced in a specific relationship. This model posits that the closer the relationship (i.e., the greater the partners’ behavioral interdependence), the stronger and more numerous the expectations people hold for their partner’s behavior and thus the greater the potential for expectancy disconfirmation and for the experience of emotion in the relationship. Predictions derived from the model have been confirmed in several studies (Berscheid & Ammazzalorso, in press). The ERM helps explain why close relationships provide a particularly fertile ground for intense emotions. For example, the dramatic emotional upheaval created by relationship betrayal, dissolution, and bereavement follows as unexpected disruptions of behavioral interdependencies with the now-absent partner reach into nearly all domains of an individual’s life.

The association between negative emotion and the violation of expectancies about the partner’s behavior and the relationship has long been recognized by relationship therapists. Unrealistic expectations are doomed to be repeatedly disconfirmed, resulting in the chronic experiencing of negative emotion in the relationship—one of the most frequent presenting problems in relationship therapy (Berscheid & Reis, 1998). Ellis’s rational–emotive therapy (Ellis & Dryden, 1987) is based on the assumption that “irrational” beliefs about the probable occurrence of events and the consequences of disconfirmation set the stage for the experience of negative emotion. Eidelson and Epstein (1982), who developed the Relationship Belief Inventory to assess the degree to which partners hold unrealistic expectations about their relationship, along with other investigators (e.g., Bradbury & Fincham, 1993), have found that holding unrealistic expectations is negatively associated with marital satisfaction.

In sum, understanding the emotions as they occur in the context of interpersonal relationships may be advanced by increased consideration of the role of expectancy violation in relationships and the development of partner and relationship expectancies. In comparison to the physical environment, which remains relatively constant and predictable, the social environment is far more ambiguous, fluid, and thus unpredictable. For this reason, it seems understandable that the individual is relatively more vulnerable to expectancy violations—and to emotional experience—in the context of social relationships than in nonsocial contexts.

Relationship Development

All relationships, like lives, have beginnings, all have ends, if only through death, and many have substantial middles as well. Existing research has emphasized the relatively more salient and dramatic fare of beginnings and endings rather than the complex dynamics by which relationships are maintained, are renewed, or deteriorate over time. To understand the influence of relationships on the individual’s behavior and development, it is necessary to view relationships themselves in a developmental context, both in their progression from one level of interdependence to another and as a function of the partners’ maturation. In this section, we briefly

discuss research on relationship development in adulthood and across the life span.

Development of adult relationships. Efforts to understand adult relationships have inspired theories of how a relationship moves from a superficial stage to deeper and more interdependent levels of involvement (see, e.g., Aron & Aron, 1986, 1996; Huston, 1994; Levinger & Snoek, 1972; Surra, 1987). A key finding is that romantic relationships may follow different trajectories from courtship to marriage and that these varying pathways provide important clues about the nature and future course of the relationship (see, e.g., Huston, 1994; Surra, 1987). For example, couples who commit to marriage relatively early report less conflict and more love and satisfaction as newlyweds than other couples do, whereas those who delay marriage and show more ambivalence about marriage later report weaker feelings of love and attachment and, indeed, are more likely to be separated or divorced 2 years after marriage (Huston, 1994).

Attention to relationship trajectories, in turn, has intensified research on processes that commonly determine pathways in relationships. Prominent among these processes is self-disclosure. N. L. Collins and Miller's (1994) meta-analysis concluded that self-disclosure affects relationship beginnings because people disclose more to others whom they initially like and people like others as a result of having been disclosed to. Once a relationship is established, couples have correspondingly less new information to disclose, and self-disclosure levels are sometimes observed to drop (see, e.g., Hays, 1985), but self-disclosure nevertheless continues to be important to long-term relationships that are not highly interdependent (Fehr, 1996; Rubin, Hill, Peplau, & Dunkel-Schetter, 1980). Self-disclosure is one behavior for which members of an ongoing relationship generally establish reciprocity, although not necessarily within the same interaction episode (Derlega, Wilson, & Chaikin, 1976). Nonreciprocity, in fact, may signal one partner's desire not to deepen a beginning relationship or to pull back in an existing one (Miell & Duck, 1986; L. C. Miller & Read, 1987). Intimacy, another characteristic of relationship development, has been closely linked to self-disclosure, although newer models emphasize other determinants of intimacy, such as perceived responsiveness (Laurenceau, Barrett, & Pietromonaco, 1998; Reis & Patrick, 1996; Reis & Shaver, 1988), shared self-understandings (Swann, De La Ronde, & Hixon, 1994), "minding" the relationship (Harvey & Omarzu, 1997), and responsiveness to nonverbal cues (M. L. Patterson, 1994).

Although relationship trajectories have long been linked to the extent of conflict, recent research suggests that conflict is normative in close relationships. Indeed, the closer a relationship, the greater the interdependence and the more opportunities for disagreement or lack of convergence between the members of a dyad (Canary, Cupach, & Messman, 1995; Peterson, 1983; Shantz & Hartup, 1992). Unless conflict occurs at a sustained high level, the manner in which a dyad manages conflict—for example, whether it escalates or is used to successfully resolve disagreements—better differentiates well- and poorly functioning relationships than the occurrence of conflict alone (W. A. Collins, 1997; Gottman, 1998; Rusbult, Verette, Whitney, Slovik, & Lipkus, 1991; Shantz & Hartup, 1992).

Paralleling most processes within developmental psychology, the importance of understanding relationship trajectories emphasizes principles of change and not just of global dyadic function-

ing. Growing interest in longitudinal designs promises to add new insights to this relatively neglected area of research. Two general themes should be addressed in the new millennium:

First, normative patterns of relationship change must be better understood. Although most researchers would agree that relationships are dynamic, not static, the possibility that the temporal pattern of change in relationship function may predict its later qualities better than onetime measures do is rarely examined. It is often difficult, however, to distinguish normative changes experienced by most dyads from atypical patterns, dysfunctions, or problematic trajectories. Normative data that takes account of relationship practices and expectations in diverse ethnic, cultural, and regional settings is needed. The advent of growth-curve techniques (L. M. Collins & Sayer, 2000) makes this sort of analysis more feasible than in the past.

Second, although traditional group-differential methods have accustomed researchers to thinking about change primarily in terms of valence—that is, as relatively better or worse—the properties and conditions of a relationship may change without subverting the relationship. Many developmental psychologists regard transformations as necessary processes that enable a dyad to negotiate adaptations as its individual members change over time (W. A. Collins, 1995, 1997). Thus, relationships may survive and even thrive precisely because they evolve in ways that meet the partners' changing needs and circumstances. Other models and further research are needed to identify the key components and processes of functional changes in relationships.

Relationship contexts over the life span. As human capacities, needs, and activities change across the life span, relationships change as well. Some of these changes are voluntary, especially in adolescence and adulthood, when individuals have relatively robust capacities for selecting, maintaining, and terminating social contacts. Early caregiving relationships require virtually no voluntary action by the child, however, and in old age, greater infirmity and dependency often necessitate involuntary restrictions on the selection of relationship contexts.

Individuals "tend to construct relationships consistent with their psychological goals, cognitive abilities, and social demands" (Larsen & Bukowski, 1997, p. 748). Considerable research has established that capabilities for social understanding, the nature and forms of internal representations of relationships, and the degree of interdependence in the dyad are powerful components of change. Furthermore, age-graded social and cultural norms impose opportunities, demands, and constraints on the selection of relationship partners and the typical exchanges within dyads. For example, school-age friendships often depend on classroom and school arrangements; in adulthood, relationships commonly arise in connection with work; and the elderly frequently experience separation from longtime friends by death or care arrangements, as well as by constraints imposed by reduced mobility and residential limitations. Thus, cognitive and social structural factors combine to determine which relationships partners are most influential and also how social networks are organized.

Infants' limited capacities for self-care make relationships with parents and other caregivers most salient, but as their capabilities increase, caregiver-child relationships typically are reorganized to reflect more mutual interdependence (Larsen & Bukowski, 1997; Sroufe & Fleeson, 1986). Developmental changes in social understanding in early and middle childhood further support less asym-

metrically dependent and hierarchical dyadic structures (Youniss, 1980). In adolescence, age-graded norms and the continued growth of social-cognitive understanding favor greater autonomy by the child while affording more balanced interdependence between parents and children. In adulthood, parent-child interdependence often reflects subtle but mutually understood expectations about when and how parents and children will interact (see, e.g., Gans, 1957).

Mutual attractions and coordinated interactions among young peers are evident as early as the second year of life (Hartup & Laursen, 1991). In early childhood, relationships with peers and siblings typically are less salient than those with adult caregivers, but as children mature, age-graded social arrangements increasingly expose them to other children. Children tend to describe their attraction and interactions in concrete terms (e.g., liking the same activities, reciprocally providing favors). The more common expectations of adult friends—trust, intimacy, and sustained caring and support—do not emerge until late childhood and adolescence (Bigelow, 1977) but thereafter characterize descriptions of friendships by adults of all ages (Hinde, 1997). The pronounced shift toward construing friendship in more abstract terms may also result from transitions in age-graded social structures. For example, shared activities and simple reciprocities may suffice to sustain friendships in elementary school classrooms, but the multiple daily changes in classrooms and teachers in middle and junior high schools necessitate attention to personal qualities and skill in social understanding (Epstein, 1989; Higgins & Parsons, 1983).

As voluntary relationships, friendships and romantic relationships depend on the degree of interdependence between partners and their willingness to make the necessary adaptations to maintain the relationship. The specific adaptations needed vary with age and circumstances. The “deep structure,” or social meaning, of friendships remains essentially the same across age periods; for example, social reciprocities signify friendship in old age much as they do in toddlerhood. This essential quality accounts for the consistent finding that, regardless of age, having friends is associated with a sense of security, self-worth, well-being, and successful coping during life transitions (e.g., entering school, puberty, marriage, parenthood, retirement, and bereavement; Hartup & Stevens, 1997). The “surface structures” of friendship, in contrast,

vary based on how old the individuals are: Four-year olds, for example, engage in rough-and-tumble play; 14-year-olds socialize in shopping malls and over the telephone; 34-year-olds relate to one another by discussing jobs, parenting, and golf scores; 74-year-olds reminisce and discuss their health and what the world is coming to. Surface structure changes, however, are precisely why these relationships are adaptational advantages. Friendship reciprocities are cast and recast so that they can support the individuals involved in developmentally relevant ways. (Hartup & Stevens, 1997, p. 366)

The changing panorama of relationships is especially evident in the contrast between young and middle adulthood and other periods. More so than in either childhood or old age, adult friendships tend to be blended with work roles and with contacts and common interests associated with marriage. The importance of spouses' shared social environment is underscored by Caspi, Herbener, and Ozer's (1992) finding that this environment played a greater role

than preexisting values in maintaining spouses' attitudinal similarities over a 20-year span.

The relative impact of different types of relationships may change across life periods. For example, voluntary interactions with peers and, eventually, romantic partners account for larger proportions of social activity in late adolescence than interactions with one's family of origin do (Furman, 1989; Larson & Richards, 1991). Parents remain important sources of information and support in some areas, but their general influence relative to peers decreases (Harris, 1995; Youniss & Smollar, 1985). Whereas parents are primary sources of intimacy and support in childhood, friends become more important in middle and late adolescence (Hunter & Youniss, 1982), followed by opposite-sex relationships during young adulthood (Reis, Lin, Bennett, & Nezek, 1993). (This last shift may be moderated by sexual orientation.) In old age, contacts with acquaintances tend to diminish, but interaction with emotionally significant partners remains important (Carstensen, Isaacowitz, & Charles, 1999). Despite these normative changes, relationships of varying types remain remarkably interconnected. For example, characteristics of parent-child interactions are correlated with both choice of and interactions with peers and romantic partners (W. A. Collins & Sroufe, 1999; Hartup & Laursen, 1991; Sroufe et al., 1999).

Laursen and Bukowski (1997) conceptualized relational contexts as varying across the life span along three dimensions: power (i.e., the degree to which one partner dominates the other), permanence (i.e., the potential for stability or instability), and gender. Parent-infant relationships are initially high on both power and permanence, but differential power gradually becomes less salient as children mature, at least in Western cultures, partly because of normative expectations. Only in relatively unusual circumstances does the degree of permanence change, however. For example, increasingly serious involvement in romantic relationships is associated with gradual withdrawal from peripheral members of one's social network, but not from kin and close friends (Milardo & Allan, 1997). By contrast, friendships, as voluntary relationships, depend on conditions of relatively equal power and necessitate active striving to assure permanence (Laursen & Collins, 1994).

Laursen and Bukowski's (1997) third dimension, gender, permeates social interaction throughout life (Canary & Dindia, 1998), although its specific manifestations may vary across cultures. Nearly all published studies have examined Western cultures. According to Maccoby (1990), the elementary school years are a period in which strong segregation by gender appears to be driven largely by children themselves, partly because of gender-linked differences in preferred activities and in modes of interpersonal influence. During adolescence and adulthood, men are more likely to form socially inclusive, hierarchically organized social networks, whereas women's relationships tend to be more exclusive and more typically intimate (Reis, 1998). Sexual attraction “affords a set of interconnections that are unavailable in other dyads” (Laursen & Bukowski, 1997, p. 754). Romantic relationships arise conjointly from biologically programmed hormonal changes and behavioral morphologies that support reproduction, from individual and developmental processes that foster capabilities for intimacy, and from changes in representations of romantic partners that facilitate pair bonding (W. A. Collins & Sroufe, 1999; Furman & Wehner, 1994; Laursen & Jensen-Campbell, 1999). Changes in

social-role expectations, however, may strain these bonds, as shown by Ruble, Fleming, Hackel, and Stangor's (1988) finding of first-time mothers' less positive feelings about their spouses as a function of division of labor (and expectations thereof). The degree to which relationships are differentiated by gender, although an ever-present theme in pop psychology, is nonetheless difficult to describe precisely, and the developmental origins and course of gender-related phenomena in all age ranges continue to attract considerable conceptual and research attention.

Development also appears to involve integration of the properties of various relationships into a more unified social structure (W. A. Collins & Laursen, in press). For example, in childhood, family relationships are involuntary and thus are governed by authority and obligation, whereas voluntary affiliations with friends and romantic partners depend on interdependence and shared power. Young adulthood marks a gradual synthesis of these parallel trajectories, such that relationships with family members increasingly incorporate the more egalitarian principles of peer relationships, whereas friendships and romantic relationships may incorporate a greater sense of obligation (as marital vows indicate). In later life, relationships among the elderly may blend egalitarian features with unilateral provision of help and support, as some become enfeebled or environmentally restricted. An example is generational role-reversal, in which adult children assume the caregiving role for elderly parents (see, e.g., Aldous, Klaus, & Klein, 1985). Other examples occur when work roles and personal friendships are blended or when retirement changes the pattern of spousal interdependence. Prospective longitudinal studies that broaden the present strategy of focusing on one type of dyad during one slice of time are needed.

Finally, the expanding and contracting networks of relationships across the life span imply that change within a particular relationship may be affected by the context of the other relationships in which that relationship is embedded (Hinde & Stevenson-Hinde, 1987; Huston & Robins, 1982; Kelley et al., 1983). For example, existing social networks, such as one's family of origin, may exert considerable impact on the initiation, maintenance, and possible termination of new friendships or a marriage (Bryant & Conger, 1999; Sprecher et al., in press). The extent of these interrelations among relationships, as well as the processes by which they develop, is an important future research focus.

Conclusion

The theory and research discussed in this article indicate that to give due consideration to the widely accepted dictum that behavior depends on the interaction between the properties of the person and of the environment—or, as Kurt Lewin (1936) put it, Behavior = $f(\text{Person, Environment})$ —psychologists must pay more attention to the individual's social relationships. That is, if behavior varies as a function of the environmental context, as nearly all psychologists would agree, then the interpersonal context—who one is with, one's history with this partner and with similar others in related situations, and what one is trying to accomplish with the partner—represents a potent causal factor. Ironically, studies of situational influences on behavior—social psychology's oft-declared focus—have emphasized the situation's impersonal periphery rather than its interpersonal core. To fail to consider interpersonal factors, arguably the focal feature of the context from

the individual's perspective, is to underestimate, perhaps substantially, situational influences on behavior.

The influence of relationship contexts on development and behavior has only recently begun to claim the attention of psychologists. Although this attention is auspicious, further progress requires something more than the simple act of incorporating a new independent variable into the field's existing paradigms. The individualistic perspective that seeks the causes of behavior within the properties of a single individual must be augmented, and in some cases replaced, by methods for seeking the causes of behavior within the interconnections of individuals and their relationship partners, as well as the interconnections between those relationships and the larger systems within which they are embedded.

Novel as this perspective may be, signs of the requisite theoretical and methodological developments can be discerned. Scholars are becoming increasingly cognizant of the types of conceptual formulations that are needed on the one hand for the study of interaction and relationships and on the other hand for the application of such theories to the study of the fundamental phenomena of behavior and development (see, e.g., Collins & Laursen, 1999; Hinde, 1997; Kelley, 2000; Kelley et al., 1983). Recent methodological and statistical innovations specialized for studying interaction and relationships both in the laboratory and in natural contexts make possible empirical studies well suited to their conceptual underpinnings; these developments seem likely to grow exponentially with the rapid advances in contemporary research technology. Although much remains to be done, the prospects for an empirically rigorous science of relationships appear bright.

Finally, it should be noted that decades of scholarship have shown the folly of treating nature and nurture as independent entities, for it is clear that nature and nurture are interacting systems. Nature has imbued humans with certain basic processes and proclivities to act on, and be acted on by, the environment. Many of the most important of these processes and proclivities concern the tasks inherent in sociality, interaction, and relating. We find it somewhat ironic, therefore, that the current blossoming of biological approaches in psychology has not been accompanied by attention to the environmental variable to which so many biological processes are fundamentally oriented. Concerted attention to the role of relationship contexts in the development and expression of human functioning can only enhance the validity and applicability of psychological science.

References

- Agnew, C. R., Van Lange, P. A. M., Rusbult, C. E., & Langston, C. A. (1998). Cognitive interdependence: Commitment and the mental representation of close relationships. *Journal of Personality and Social Psychology, 74*, 939–954.
- Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. (1978). *Patterns of attachment: A psychological study of the strange situation*. Hillsdale, NJ: Erlbaum.
- Aldous, J., Klaus, E., & Klein, D. M. (1985). The understanding heart: Aging parents and their favorite children. *Child Development, 56*, 303–316.
- Amato, P. R., & Keith, B. (1991a). Parental divorce and adult well-being: A meta-analysis. *Journal of Marriage and the Family, 53*, 43–58.
- Amato, P. R., & Keith, B. (1991b). Parental divorce and the well-being of children: A meta-analysis. *Psychological Bulletin, 110*, 26–46.
- Andersen, S. M., & Glassman, N. S. (1996). Responding to significant

- others when they are not there: Effects on interpersonal inference, motivation, and affect. In R. M. Sorrentino & E. T. Higgins (Eds.), *Handbook of Motivation and Cognition: Vol. 3. The interpersonal context* (pp. 262–321). New York: Guilford Press.
- Aron, A., & Aron, E. N. (1986). *Love as the expansion of self: Understanding attraction and satisfaction*. New York: Hemisphere.
- Aron, A., & Aron, E. N. (1996). Self and self-expansion in relationships. In G. J. O. Fletcher & J. Fitness (Eds.), *Knowledge structures in close relationships: A social psychological approach* (pp. 325–344). Hillsdale, NJ: Erlbaum.
- Aron, A., & Aron, E. N. (1997). Self-expansion motivation and including other in the self. In S. Duck (Ed.), *Handbook of personal relationships: Theory, research, and interventions* (2nd ed., pp. 251–270). Chichester, England: Wiley.
- Aron, A., Aron, E. N., & Smollan, D. (1992). Inclusion of Other in the Self Scale and the structure of interpersonal closeness. *Journal of Personality and Social Psychology*, *63*, 596–612.
- Aron, A., Aron, E. N., Tudor, M., & Nelson, G. (1991). Close relationships as including other in self. *Journal of Personality and Social Psychology*, *60*, 241–253.
- Aron, A., & Fraley, B. (1999). Relationship closeness as including others in the self: Cognitive underpinnings and measures. *Social Cognition*, *17*, 140–160.
- Baldwin, M. W. (1992). Relational schemas and the processing of social information. *Psychological Bulletin*, *112*, 461–484.
- Baldwin, M. W., Fehr, B., Keedian, E., Seidel, M., & Thomson, D. W. (1993). An exploration of the relational schemata underlying attachment styles: Self-report and lexical decision approaches. *Personality and Social Psychology Bulletin*, *19*, 746–754.
- Baldwin, M. W., Keelan, J. P. R., Fehr, B., Enns, V., & Koh-Rangarajoo, E. (1996). Social-cognitive conceptualization of attachment working models: Availability and accessibility effects. *Journal of Personality and Social Psychology*, *71*, 94–109.
- Bales, R. F. (1999). *Social interaction systems: Theory and measurement*. New Brunswick, NJ: Transaction.
- Bargh, J. A. (1994). The four horsemen of automaticity: Awareness, intention, efficiency, and control in social cognition. In R. S. Wyer & T. K. Srull (Eds.), *Handbook of social cognition* (2nd ed., pp. 1–40). Hillsdale, NJ: Erlbaum.
- Bargh, J. A. (1997). The automaticity of everyday life. In R. S. Wyer & T. K. Srull (Eds.), *Advances in social cognition* (Vol. 10, pp. 1–61). Mahwah, NJ: Erlbaum.
- Barone, D. F. P. (1999, June). *The problem of interaction in experimental social psychology: An historical inquiry*. Paper presented at the meeting of Cheiron, International Society of the History of the Behavioral and Social Sciences, Ottawa, Ontario, Canada.
- Barrera, M. E., & Maurer, D. (1981). Recognition of mother's photographed face by the three-month-old infant. *Child Development*, *52*, 714–716.
- Barrett, L. F., Robin, L., Pietromonaco, P. R., & Eysell, K. M. (1998). Are women the "more emotional" sex? Evidence from emotional experience in social context. *Cognition & Emotion*, *12*, 555–578.
- Bateson, G., Jackson, D. D., Haley, J., & Weakland, J. H. (1956). Toward a theory of schizophrenia. *Behavioral Science*, *1*, 251–264.
- Baucom, D. H., Shoham, V., Meuser, K. T., Daiuto, A. D., & Stickle, T. R. (1998). Empirically supported couple and family interventions for marital distress and adult mental health problems. *Journal of Consulting Clinical Psychology*, *66*, 53–88.
- Baum, A., & Posluszny, D. M. (1999). Health psychology: Mapping biobehavioral contributions to health and illness. *Annual Review of Psychology*, *50*, 137–163.
- Baumeister, R. F., Finkenauer, C., & Bratslavsky, E. (2000). *Bad is stronger than good*. Unpublished manuscript, Case Western Reserve University.
- Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, *117*, 497–529.
- Bell, D. C., & Richard, A. J. (2000). Caregiving: The forgotten element in attachment. *Psychological Inquiry*, *11*, 69–83.
- Belsky, J., Campbell, S. B., Cohn, J. F., & Moore, G. (1996). Instability of infant-parent attachment security. *Developmental Psychology*, *32*, 921–924.
- Berenbaum, H., & James, T. (1994). Correlates and retrospectively reported antecedents of alexithymia. *Psychosomatic Medicine*, *56*, 353–359.
- Berenbaum, H., Raghavan, C., Le, H., Vernon, L., & Gomez, J. (1999). Disturbances in emotion. In D. Kahneman, E. Diener, & N. Schwarz (Eds.), *Well-being: The foundations of hedonic psychology* (pp. 267–287). New York: Russell Sage Foundation.
- Berk, M. S., & Andersen, S. M. (in press). The impact of past relationships on interpersonal behavior: Behavioral confirmation in the social-cognitive process of transference. *Journal of Personality and Social Psychology*.
- Berkman, L. F. (1995). The role of social relations in health promotion. *Psychosomatic Medicine*, *57*, 245–254.
- 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, *Close relationships* (pp. 110–168). New York: Freeman.
- Berscheid, E. (1985). Interpersonal attraction. In G. Lindzey & E. Aronson (Eds.), *Handbook of social psychology* (3rd ed., pp. 413–484). New York: Random House.
- Berscheid, E. (1994). Interpersonal relationships. *Annual Review of Psychology*, *45*, 79–129.
- Berscheid, E. (1999). The greening of relationship science. *American Psychologist*, *54*, 260–266.
- Berscheid, E., & Ammazalorso, H. (in press). Emotional experience in close relationships. In M. Hewstone, & M. Brewer (Series Eds.), G. Fletcher & M. Clark (Vol. Eds.), *Blackwell handbook of social psychology: Vol. 2. Interpersonal processes*. Oxford, England: Basil Blackwell.
- Berscheid, E., & Collins, W. A. (2000). Who cares?: For whom and when, how, and why? *Psychological Inquiry*, *11*, 107–109.
- Berscheid, E., & Lopes, J. (1997). A temporal model of relationship satisfaction and stability. In R. J. Sternberg & M. Hojjat (Eds.), *Satisfaction in close relationships*. (pp. 129–159). New York: Guilford Press.
- Berscheid, E., & Peplau, L. A. (1983). The emerging science of close relationships. In H. H. Kelley, E. Berscheid, A. Christensen, J. H. Harvey, T. L. Huston, G. Levinger, E. McClintock, L. A. Peplau, & D. R. Peterson, *Close relationships* (pp. 20–67). New York: Freeman.
- Berscheid, E., & Reis, H. T. (1998). Attraction and close relationships. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology* (4th ed., Vol. 2, pp. 193–281). New York: McGraw-Hill.
- Berscheid, E., Snyder, M., & Omoto, A. M. (1989). Issues in studying relationships: Conceptualizing and measuring closeness. In C. Hendrick (Ed.), *Review of personality and social psychology: Vol. 10. Close relationships* (pp. 63–91). Newbury Park, CA: Sage.
- Bigelow, B. J. (1977). Children's friendship expectations: A cognitive developmental study. *Child Development*, *48*, 246–253.
- Blakemore, C. (1998). How the environment helps to build the brain. In B. Cartledge (Ed.), *Mind, brain, and the environment* (pp. 28–56). New York: Oxford University Press.
- Bond, C. F., Jr., & Brockett, D. R. (1987). A social context-personality index theory of memory for acquaintances. *Journal of Personality and Social Psychology*, *52*, 1110–1121.
- Bowen, M. (1978). *Family therapy in clinical practice*. New York: Jason Aronson.
- Bower, G. H. (1981). Mood and memory. *American Psychologist*, *36*, 129–148.

- Bowlby, J. (1973). *Attachment and loss: Vol. 2. Separation: Anxiety and anger*. New York: Basic Books.
- 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 Books.
- Bowlby, J. (1982). *Attachment and loss: Vol. 1. Attachment* (2nd ed.). New York: Basic Books. (Original work published 1969)
- Bradbury, T. N., & Fincham, F. D. (1990). Attributions in marriage: Review and critique. *Psychological Bulletin*, *107*, 3–33.
- Bradbury, T. N., & Fincham, F. D. (1993). Assessing dysfunctional cognition in marriage: A reconsideration of the Relationship Belief Inventory. *Psychological Assessment*, *5*, 91–101.
- Bretherton, I. (1990). Communication patterns, internal working models, and the intergenerational transmission of attachment relationships. *Infant Mental Health Journal*, *11*, 237–252.
- Bretherton, I., & Munholland, K. A. (1999). Internal working models in attachment relationships: A construct revisited. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 89–111). New York: Guilford Press.
- Brewer, M. B., & Brown, R. J. (1998). Intergroup relations. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology* (4th ed., Vol. 2, pp. 554–594). New York: McGraw-Hill.
- Brewer, M. B., & Caporael, L. R. (1990). Selfish genes vs. selfish people: Sociobiology as origin myth. *Motivation and Emotion*, *14*, 237–243.
- Brisette, I., & Clark, M. S. (1999). *Communal orientation, arousal, perceived social support, and help-seeking*. Manuscript submitted for publication.
- Bryant, C., & Conger, R. (1999). Marital success in domains of social support in long-term relationships: Does the influence of network members ever end? *Journal of Marriage and the Family*, *61*, 437–450.
- Bugental, D. B. (2000). Acquisition of the algorithms of social life: A domain-based approach. *Psychological Bulletin*, *126*, 187–219.
- Bugental, D. B., & Goodnow, J. J. (1998). Socialization processes. In W. Damon & N. Eisenberg (Eds.), *Handbook of child psychology: Vol. 3. Social, emotional, and personality development* (5th ed., pp. 389–462). New York: Wiley.
- Bugental, D. B., & Shennum, W. A. (1984). "Difficult" children as elicitors and targets of adult communication patterns: An attributional-behavioral transactional analysis. *Monographs of the Society for Research in Child Development*, *49* (1, Serial No. 79).
- Burman, B., & Margolin, G. (1992). Analysis of the association between marital relationships and health problems: An interactional perspective. *Psychological Bulletin*, *112*, 39–63.
- Buss, D. M. (1989). Sex differences in human mate preferences: Evolutionary hypotheses tested in 37 cultures. *Behavioral and Brain Sciences*, *12*, 1–49.
- Buss, D. M., & Kenrick, D. T. (1998). Evolutionary social psychology. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology* (4th ed., Vol. 2, pp. 982–1026). New York: McGraw-Hill.
- Cacioppo, J. T., & Berntson, G. G. (1994). Relationship between attitudes and evaluative space: A critical review, with emphasis on the separability of positive and negative substrates. *Psychological Bulletin*, *115*, 401–423.
- Cacioppo, J. T., Berntson, G. G., Sheridan, J. F., & McClintock, M. K. (2000). Multilevel integrative analyses of human behavior: Social neuroscience and the complementing nature of social and biological approaches. *Psychological Bulletin*, *126*, 829–843.
- Cacioppo, J. T., & Gardner, W. L. (1999). Emotion. *Annual Review of Psychology*, *50*, 191–214.
- Cadoret, R. J., Yates, W. R., Troughton, E., Woodworth, G., & Stewart, M. A. (1995). Genetic-environmental interaction in the genesis of aggression and conduct disorders. *Archives of General Psychiatry*, *52*, 916–924.
- Campos, J. J., & Barrett, K. C. (1985). Toward a new understanding of emotions and their development. In C. E. Izard, J. Kagan, & R. B. Zajonc (Eds.), *Emotions, cognition, and behavior* (pp. 229–263). New York: Cambridge University Press.
- Canary, D. J., Cupach, W. R., & Messman, S. J. (1995). *Relationship conflict: Conflict in parent-child, friendship, and romantic relationships*. Thousand Oaks, CA: Sage.
- Canary, D. J., & Dindia, K. (Eds.). (1998). *Sex differences and similarities in communication: Critical essays and empirical investigations of sex and gender in interaction*. Mahwah, NJ: Erlbaum.
- Caporael, L. R. (1997). The evolution of truly social cognition: The core configurations model. *Personality and Social Psychology Review*, *1*, 276–298.
- Capra, F. (1996). *The web of life: A new scientific understanding of living systems*. New York: Anchor.
- Carstensen, L. L., Isaacowitz, D. M., & Charles, S. T. (1999). Taking time seriously: A theory of socioemotional selectivity. *American Psychologist*, *54*, 165–181.
- Carter, C. S. (1998). Neuroendocrine perspectives on social attachment and love. *Psychoneuroendocrinology*, *23*, 779–818.
- Caspi, A., Herbener, E. S., & Ozer, D. J. (1992). Shared experiences and the similarity of personalities: A longitudinal study of married couples. *Journal of Personality and Social Psychology*, *62*, 281–291.
- Cassidy, J., & Berlin, L. J. (1994). The insecure/ambivalent pattern of attachment: Theory and research. *Child Development*, *65*, 971–991.
- Cassidy, J., & Shaver, P. R. (1999). *Handbook of attachment: Theory, research, and clinical applications*. New York: Guilford Press.
- Chen, S., & Andersen, S. M. (1999). Relationships from the past in the present: Significant other representations and transference in interpersonal life. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 31, pp. 123–190). San Diego, CA: Academic Press.
- Chisholm, K. (1998). A three-year follow-up of attachment and indiscriminate friendliness in children adopted from Romanian orphanages. *Child Development*, *69*, 1092–1106.
- Choi, I., Nisbett, R. E., & Norenzayan, A. (1999). Causal attribution across cultures: Variation and universality. *Psychological Bulletin*, *125*, 47–63.
- Christensen, A., & Heavey, C. L. (1990). Gender and social structure in the demand/withdraw pattern of marital conflict. *Journal of Personality and Social Psychology*, *59*, 73–81.
- Christensen, A., & Heavey, C. L. (1999). Interventions for couples. *Annual Review of Psychology*, *50*, 165–190.
- Clark, L. A., & Watson, D. (1988). Mood and the mundane: Relations between daily life events and self-reported mood. *Journal of Personality and Social Psychology*, *54*, 296–308.
- Clark, M. S., Fitness, J., & Brissette, I. (in press). Understanding people's perceptions of relationships is crucial to understanding their emotional lives. In M. Hewstone & M. Brewer (Eds.), *Blackwell handbook of social psychology: Vol. 2. Interpersonal processes*. Oxford, England: Basil Blackwell.
- Clark, M. S., & Mills, J. (1979). Interpersonal attraction in exchange and communal relationships. *Journal of Personality and Social Psychology*, *37*, 12–24.
- Clark, M. S., & Mills, J. (in press). Behaving in such a way as to maintain and enhance relationship satisfaction. In J. H. Harvey & A. E. Wenzel (Eds.), *Relationship maintenance and enhancement*. Mahwah, NJ: Erlbaum.
- Clark, M. S., Pataki, S. P., & Carver, V. (1996). Some thoughts and findings on self-presentation of emotions in relationships. In G. J. O. Fletcher & J. Fitness (Eds.), *Knowledge structures in close relationships: A social psychological approach* (pp. 247–274). Mahwah, NJ: Erlbaum.
- Clark, M. S., & Reis, H. T. (1988). Interpersonal processes in close relationships. *Annual Review of Psychology*, *39*, 609–67.
- Clark, M. S., & Taraban, C. B. (1991). Reactions to and willingness to

- express emotion in two types of relationships. *Journal of Experimental Social Psychology*, 27, 324–336.
- Coe, C. L. (1993). Psychosocial factors and immunity in nonhuman primates: A review. *Psychosomatic Medicine*, 55, 298–308.
- Cohen, S. (1988). Psychosocial models of the role of social support in the etiology of physical disease. *Health Psychology*, 7, 269–297.
- Cohen, S., Doyle, W. J., Skoner, D. P., Rabin, B. S., & Gwaltney, J. M., Jr. (1997). Social ties and susceptibility to the common cold. *JAMA*, 277, 1940–1944.
- Cohn, J. F., & Tronick, E. Z. (1987). Mother–infant face-to-face interaction: The sequence of dyadic states at 3, 6, and 9 months. *Developmental Psychology*, 23, 68–77.
- Collins, L. M., & Sayer, A. G. (2000). Modeling growth and change processes: Design, measurement, and analysis for research in social psychology. In H. T. Reis & C. M. Judd (Eds.), *Handbook of research methods in social and personality psychology* (pp. 478–495). New York: Cambridge University Press.
- Collins, N. L., & Miller, L. C. (1994). Self-disclosure and liking: A meta-analytic review. *Psychological Bulletin*, 116, 457–475.
- Collins, N. L., & Read, S. J. (1994). Cognitive representations of attachment: The content and function of working models. In K. Bartholomew & D. Perlman (Eds.), *Advances in personal relationships* (Vol. 5, pp. 53–90). London: Jessica Kingsley.
- Collins, R. L. (1994). Social support provision to HIV-infected gay men. *Journal of Applied Social Psychology*, 24, 1848–1869.
- Collins, R. L., & DiPaula, A. (1997). Personality and the provision of support: Emotions felt and signaled. In G. R. Pierce, B. Lakey, I. G. Sarason, & B. R. Sarason (Eds.), *Sourcebook of social support and personality* (pp. 429–443). New York: Plenum.
- Collins, W. A. (1995). Relationships and development: Family adaptations to individual change. In S. Shulman (Ed.), *Close relationships and socioemotional development* (pp. 128–154). Norwood, NJ: Ablex.
- Collins, W. A. (1997). Relationships and development during adolescence: Interpersonal adaptation to individual change. *Personal Relationships*, 4, 1–14.
- Collins, W. A., & Laursen, B. (1999). *Relationships as developmental contexts*. Mahwah, NJ: Erlbaum.
- Collins, W. A., & Laursen, B. (in press). Adolescent relationships: The art of fugue. In C. Hendrick & S. S. Hendrick (Eds.), *Sage sourcebook on close relationships*. Thousand Oaks, CA: Sage.
- Collins, W. A., Maccoby, E. E., Steinberg, L., Hetherington, E. M., & Bornstein, M. H. (2000). Contemporary research on parenting: The case for nature and nurture. *American Psychologist*, 44, 218–232.
- Collins, W. A., & Sroufe, L. A. (1999). Capacity for intimate relationships: A developmental construction. In W. Furman, C. Feiring, & B. B. Brown (Eds.), *The development of romantic relationships in adolescence* (pp. 125–147). New York: Cambridge University Press.
- Colvin, C. R., Vogt, D. S., & Ickes, W. (1997). Why do friends understand each other better than strangers do? In W. Ickes (Ed.), *Empathic accuracy* (pp. 169–193). New York: Guilford Press.
- Cosmides, L., & Tooby, J. (1992). Cognitive adaptations for social exchange. In J. H. Barkow, L. Cosmides, & J. Tooby (Eds.), *The adapted mind: Evolutionary psychology and the generation of culture* (pp. 163–228). New York: Oxford University Press.
- Cox, M. J., & Paley, B. (1997). Families as systems. *Annual Review of Psychology*, 48, 243–267.
- Coyne, J. (1985). Studying depressed persons' interactions with strangers and spouses. *Journal of Abnormal Psychology*, 94, 231–232.
- Coyne, J. C., & Whiffen, V. E. (1995). Issues in personality as diathesis for depression: The case of sociotropy–dependency and autonomy–self-criticism. *Psychological Bulletin*, 118, 358–378.
- Crowell, J. A., Fraley, R. C., & Shaver, P. R. (1999). Measurement of individual differences in adolescent and adult attachment. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 434–465). New York: Guilford Press.
- Darwin, C. (1899). *The expression of the emotions in man and animals*. New York: Appleton.
- Davies, P. T., & Cummings, E. M. (1994). Marital conflict and child adjustment: An emotional security hypothesis. *Psychological Bulletin*, 116, 378–411.
- Derlega, V. J., Wilson, M., & Chaikin, A. L. (1976). Friendship and disclosure reciprocity. *Journal of Personality and Social Psychology*, 34, 578–582.
- de Waal, F. (1996). *Good natured: The origins of right and wrong in humans and other animals*. Cambridge, MA: Harvard University Press.
- Diener, E., Suh, E. M., Lucas, R. E., & Smith, H. L. (1999). Subjective well-being: Three decades of progress. *Psychological Bulletin*, 125, 276–302.
- DiNicola, D. D., & DiMatteo, M. R. (1984). Practitioners, patients, and compliance with medical regimes: A social psychological perspective. In A. Baum, S. E. Taylor, & J. E. Singer (Eds.), *Handbook of psychology and health* (Vol. 4, pp. 55–84). Hillsdale, NJ: Erlbaum.
- Dodge, K. A. (1986). A social information processing model of social competence in children. In M. Perlmutter (Ed.), *Minnesota Symposium on Child Psychology: Vol. 18. Cognitive perspectives on children's social and behavioral development* (pp. 77–125). Hillsdale, NJ: Erlbaum.
- Downey, G., Freitas, A. L., Michaelis, B., & Khouri, H. (1998). The self-fulfilling prophecy in close relationships: Rejection sensitivity and rejection by romantic partners. *Journal of Personality and Social Psychology*, 75, 545–560.
- Eidelson, R. J., & Epstein, N. (1982). Cognition and relationship maladjustment: Development of a measure of dysfunctional relationship beliefs. *Journal of Consulting and Clinical Psychology*, 50, 715–720.
- Eisenberg, N., Murphy, B. C., & Shepard, S. (1997). The development of empathic accuracy. In W. Ickes (Ed.), *Empathic accuracy* (pp. 73–116). New York: Guilford Press.
- Ekman, P., & Davidson, R. J. (1994). Afterword: How is evidence of universals in antecedents of emotion explained? In P. Ekman & R. J. Davidson (Eds.), *The nature of emotion: Fundamental questions* (pp. 176–177). New York: Oxford University Press.
- Elicker, J., Englund, M., & Sroufe, L. A. (1992). Predicting peer competence and peer relationships in childhood from early parent–child relationships. In R. D. Parke & G. W. Ladd (Eds.), *Family–peer relationship: Modes of linkage* (pp. 77–106). Hillsdale, NJ: Erlbaum.
- Ellis, A., & Dryden, W. (1987). *The practice of rational-emotive therapy*. New York: Springer.
- Elman, J. L., Bates, E. A., Johnson, M. H., Karmiloff-Smith, A., Parisi, D., & Plunkett, K. (1996). *Rethinking innateness: A connectionist perspective on development*. Cambridge, MA: MIT Press.
- Epstein, J. (1989). The selection of friends: Changes across the grades and in different school environments. In T. J. Berndt & G. W. Ladd (Eds.), *Peer relationships in child development* (pp. 158–187). New York: Wiley.
- Fadden, G., Bebbington, P., & Kuipers, L. (1987). Caring and its burdens: A study of the spouses of depressed patients. *British Journal of Psychiatry*, 151, 660–667.
- Fehr, B. A. (1996). *Friendship processes*. Thousand Oaks, CA: Sage.
- Field, T. M., Cohen, D., Garcia, R., & Greenberg, R. (1984). Mother–stranger face discrimination by the newborn. *Infant Behavior and Development*, 7, 19–25.
- Fincham, F. D., & Bradbury, T. N. (1991). Cognition in marriage: A program of research on attributions. In W. H. Jones & D. Perlman (Eds.), *Advances in personal relationships* (Vol. 2, pp. 159–204). London: Jessica Kingsley.
- Fincham, F. D., & Linfield, K. J. (1997). A new look at marital quality:

- Can spouses feel positive and negative about their marriage? *Journal of Family Psychology*, 4, 489–502.
- Fiske, A. P. (1992). The four elementary forms of sociality: Framework for a unified theory of social relations. *Psychological Review*, 99, 689–723.
- Fiske, A. P., Kitayama, S., Markus, H. R., & Nisbett, R. E. (1998). The cultural matrix of social psychology. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology* (4th ed., Vol. 2, pp. 915–981). New York: McGraw-Hill.
- Fiske, S. T. (1992). Thinking is for doing: Portraits of social cognition from Daguerreotype to laserphoto. *Journal of Personality and Social Psychology*, 63, 877–889.
- Fitz, D., & Gerstanzang, S. (1978). *Anger in everyday life: When, where, and with whom*: St. Louis, MO: University of Missouri–St. Louis, 1978.
- Forgas, J. P. (1979). *Social episodes: The study of interaction routines*. London: Academic Press.
- Forgas, J. P. (Ed.). (2000a). *Feeling and thinking: The role of affect in social cognition*. Cambridge, England: Cambridge University Press.
- Forgas, J. P. (2000b). Introduction: The role of affect in social cognition. In J. P. Forgas (Ed.), *Feeling and thinking: The role of affect in social cognition* (pp. 1–28). Cambridge, England: Cambridge University Press.
- Fraley, R. C., & Waller, N. G. (1998). Adult attachment patterns: A test of the typological model. In J. A. Simpson & S. W. S. Rholes (Eds.), *Attachment theory and close relationships* (pp. 77–114). New York: Guilford Press.
- Freud, S. (1938). *An outline of psychoanalysis*. New York: Norton.
- Fridlund, A. J. (1994). *Human facial expression: An evolutionary view*. San Diego, CA: Academic Press.
- Frijda, N. H. (1999). Emotions and hedonic experience. In D. Kahneman, E. Diener, & N. Schwarz (Eds.), *Well-being: The foundations of hedonic psychology* (pp. 190–210). New York: Russell Sage Foundation.
- Funder, D. C., Kolar, D. C., & Blackman, M. C. (1995). Agreement among judges of personality: Interpersonal relations, similarity, and acquaintanceship. *Journal of Personality and Social Psychology*, 69, 656–672.
- Furman, W. (1989). The development of children's social networks. In D. Belle (Ed.), *Children's social networks and social supports* (pp. 151–172). New York: Wiley.
- Furman, W., & Wehner, E. A. (1994). Romantic views: Toward a theory of adolescent romantic relationships. In R. Montemayor, G. R. Adams, & T. P. Gullotta (Eds.), *Personal relationships during adolescence* (pp. 168–195). Thousand Oaks, CA: Sage.
- Fury, G., Carlson, E. A., & Sroufe, L. A. (1997). Children's representations of attachment relationships in family drawings. *Child Development*, 68, 1154–1164.
- Gable, S. L., & Reis, H. T. (in press). Appetitive and aversive social interaction. In J. H. Harvey & A. E. Wenzel (Eds.), *Relationship maintenance and enhancement*. Mahwah, NJ: Erlbaum.
- Gans, H. (1957). *The urban villagers*. Glencoe, IL: Free Press.
- Gardner, W. L., Gabriel, S., & Hochschild, L. (in press). When you and I are "we," you are not threatening: The role of self-expansion in social comparison processes. *Journal of Personality and Social Psychology*.
- George, C., Kaplan, N., & Main, M. (1985). *Adult Attachment Interview* [Revised version]. Unpublished manuscript, University of California at Berkeley.
- Ginsberg, S. D., Hof, P. R., McKinney, W. T., & Morrison, J. H. (1993a). The noradrenergic innervation density of the monkey paraventricular nucleus is not altered by early social deprivation. *Neuroscience Letters*, 158, 130–134.
- Ginsberg, S. D., Hof, P. R., McKinney, W. T., & Morrison, J. H. (1993b). Quantitative analysis of tuberoinfundibular tyrosine hydroxylase- and corticotropin-releasing-factor-immunoreactive neurons in monkeys raised with differential rearing conditions. *Experimental Neurology*, 120, 95–105.
- Glenn, N. D. (1990). Quantitative research on marital quality in the 1980s: A critical review. *Journal of Marriage and the Family*, 52, 818–831.
- Glenn, N. D., & Weaver, C. N. (1988). The changing relationship of marital status to reported happiness. *Journal of Marriage and the Family*, 50, 317–324.
- Gollwitzer, P. M., & Moskowitz, G. B. (1996). Goal effects on action and cognition. In E. T. Higgins & A. W. Kruglanski (Eds.), *Social psychology: Handbook of basic principles* (pp. 361–399). New York: Guilford Press.
- Gonzalez, R., & Griffin, D. (1997). On the statistics of interdependence: Treating dyadic data with respect. In S. Duck (Ed.), *Handbook of personal relationships: Theory, research, and interventions* (2nd ed., pp. 271–302). Chichester, England: Wiley.
- Gottman, J. M. (1998). Psychology and the study of marital processes. *Annual Review of Psychology*, 49, 169–197.
- Gottman, J. M., & Levenson, R. W. (1992). Marital processes predictive of later dissolution: Behavior, physiology, and health. *Journal of Personality and Social Psychology*, 63, 221–233.
- Gray, J. A. (1987). *The psychology of fear and stress* (2nd ed.). Cambridge, England: Cambridge University Press.
- Gray, J. A. (1994). Three fundamental emotion systems. In P. Ekman & R. J. Davidson (Eds.), *The nature of emotion: Fundamental questions* (pp. 243–247). New York: Oxford University Press.
- Greenough, W. T., Black, J. E., & Wallace, C. S. (1987). Experience and brain development. *Child Development*, 58, 539–559.
- Griffin, D. F., & Bartholomew, K. (1994). Models of the self and other: Fundamental dimensions underlying measures of adult attachment. *Journal of Personality and Social Psychology*, 67, 430–445.
- Grossmann, K. E., Grossmann, K., Winter, M., & Zimmermann, P. (in press). Attachment relationships and appraisal of partnership: From early experience of sensitive support to later relationship representation. In L. Pulkkinen & A. Caspi (Eds.), *Paths to successful development: Personality in the life course*. New York: Cambridge University Press.
- Grotevant, H. D., & Carlson, C. I. (1989). *Family assessment: A guide to methods and measures*. New York: Guilford Press.
- Gunnar, M. R. (in press). Early adversity and the development of stress reactivity and regulation. In C. A. Nelson (Ed.), *Minnesota Symposia on Child Psychology: Vol. 31. The effects of adversity on neurobehavioral development*. Mahwah, NJ: Erlbaum.
- Hardin, C. D., & Higgins, E. T. (1996). Shared reality: How social verification makes the subjective objective. In R. M. Sorrentino & E. T. Higgins (Eds.), *Handbook of motivation and cognition* (pp. 28–84). New York: Guilford Press.
- Harlow, H. F., & Mears, C. E. (1983). Emotional sequences and consequences. In R. Plutchik & H. Hellerman (Eds.), *Emotion: Theory, research, and experience: Vol. 2. Emotions in early development* (pp. 171–197). New York: Academic Press.
- Harlow, H. F., & Suomi, S. J. (1970). The nature of love—simplified. *American Psychologist*, 25, 161–168.
- Harris, J. R. (1995). Where is the child's environment? A group socialization theory of development. *Psychological Review*, 102, 458–489.
- Harter, S., Waters, P., & Whitesell, N. R. (1998). Relational self-worth: Differences in perceived worth as a person across interpersonal contexts among adolescents. *Child Development*, 69, 756–766.
- Hartup, W. W. (1989). Social relationships and their developmental significance. *American Psychologist*, 44, 120–126.
- Hartup, W. W., & Laursen, B. (1991). Relationships as developmental contexts. In R. Cohen & A. W. Siegel (Eds.), *Context and development* (pp. 253–279). Hillsdale, NJ: Erlbaum.
- Hartup, W. W., & Laursen, B. (1999). Relationships as developmental contexts: Retrospective themes and contemporary issues. In W. A. Collins & B. Laursen (Eds.), *Minnesota Symposia on Child Psychology: Vol. 30. Relationships as developmental contexts* (pp. 13–35). Mahwah, NJ: Erlbaum.
- Hartup, W. W., & Stevens, N. (1997). Friendships and adaptation in the life course. *Psychological Bulletin*, 121, 355–370.

- Harvey, J. H., & Omarzu, J. (1997). Minding the close relationship. *Personality and Social Psychology Review, 1*, 224-240.
- Hatfield, E., Cacioppo, J. T., & Rapson, R. L. (1994). *Emotional contagion*. New York: Cambridge University Press.
- Hauser, S., Jacobson, A., Lavori, P., Wolfsdorf, J., Herskowitz, R., Milley, J., Bliss, R., Wertslieb, D., & Stein, J. (1990). Adherence among children and adolescents with insulin-dependent diabetes mellitus over a four-year longitudinal follow-up: II. Immediate and long-term linkages with the family milieu. *Journal of Pediatric Psychology, 15*, 527-542.
- Hays, R. B. (1985). A longitudinal study of friendship development. *Journal of Personality and Social Psychology, 48*, 909-924.
- Hazan, C., & Shaver, P. R. (1987). Romantic love conceptualized as an attachment process. *Journal of Personality and Social Psychology, 52*, 511-524.
- Hebb, D. O. (1949). *The organization of behavior: A neuropsychological theory*. New York: Wiley.
- Heider, F. (1958). *The psychology of interpersonal relations*. New York: Wiley.
- Helgeson, V. S., & Cohen, S. (1996). Social support and adjustment to cancer: Reconciling descriptive, correlational, and intervention research. *Health Psychology, 15*, 135-148.
- Herbert, T. B., & Cohen, S. (1993). Depression and immunity: A meta-analytic review. *Psychological Bulletin, 113*, 472-476.
- Higgins, E. T. (1987). Self-discrepancy: A theory relating self and affect. *Psychological Review, 94*, 319-340.
- Higgins, E. T., & Parsons, J. (1983). Social cognition and the social life of the child: Stages as subcultures. In E. T. Higgins, D. N. Ruble, & W. W. Hartup (Eds.), *Social cognition and social development: A sociocultural perspective* (pp. 15-62). New York: Cambridge University Press.
- Hinde, R. A. (1979). *Towards understanding relationships*. London: Academic Press.
- Hinde, R. A. (1997). *Relationships: A dialectical perspective*. East Sussex, England: Psychology Press.
- Hinde, R. A. (1999). Commentary: Aspects of relationships in child development. In W. A. Collins & B. Laursen (Eds.), *Minnesota Symposium on Child Psychology: Vol. 30. Relationships as developmental contexts* (pp. 323-329). Mahwah, NJ: Erlbaum.
- Hinde, R. A., & Stevenson-Hinde, J. (1987). Interpersonal relationships and child development. *Developmental Review, 7*, 1-21.
- Hinsz, V. B., Tindale, R. S., & Vollrath, D. A. (1997). The emerging conceptualization of groups as information processors. *Psychological Bulletin, 121*, 43-64.
- Hirschfeld, L. A., & Gelman, R. A. (1994). Toward a topography of mind: An introduction to domain specificity. In L. A. Hirschfeld & R. A. Gelman (Eds.), *Mapping the mind* (pp. 3-36). Cambridge, England: Cambridge University Press.
- Hofstede, G. (1980). *Culture's consequences: International differences in work related values*. Beverly Hills, CA: Sage.
- Hollingshead, A. B. (1998). Retrieval in transactive memory systems. *Journal of Personality and Social Psychology, 74*, 659-671.
- Holtzworth-Munroe, A., & Jacobson, N. S. (1988). Toward a methodology for coding spontaneous causal attributions: Preliminary results with married couples. *Journal of Social and Clinical Psychology, 7*, 101-112.
- House, J. S., Landis, K. R., & Umberson, D. (1988, July 29). Social relationships and health. *Science, 241*, 540-545.
- Hunter, F. T., & Youniss, J. (1982). Changes in the functions of three relations during adolescence. *Developmental Psychology, 18*, 806-811.
- Huston, T. L. (1994). Courtship antecedents of marital satisfaction and love. In R. Erber & R. Gilmour (Eds.), *Theoretical frameworks for personal relationships* (pp. 43-66). Hillsdale, NJ: Erlbaum.
- Huston, T. L., & Robins, E. (1982). Conceptual and methodological issues in studying close relationships. *Journal of Marriage and the Family, 44*, 901-925.
- Ickes, W. (1997). Introduction. In W. Ickes (Ed.), *Empathic accuracy* (pp. 1-16). New York: Guilford Press.
- Ickes, W., Bissonnette, V., Garcia, S., & Stinson, L. L. (1990). Implementing and using the dyadic interaction paradigm. In C. Hendrick & M. S. Clark (Eds.), *Review of personality and social psychology: Vol. 11. Research methods in personality and social psychology* (pp. 16-44). Newbury Park, CA: Sage.
- Isen, A. (1984). Towards understanding the role of affect in cognition. In R. S. Wyer & T. K. Srull (Eds.), *Handbook of social cognition* (Vol. 3, pp. 179-236). Hillsdale, NJ: Erlbaum.
- Iyengar, S. S., & Lepper, M. R. (1999). Rethinking the value of choice: A cultural perspective on intrinsic motivation. *Journal of Personality and Social Psychology, 76*, 349-366.
- Izard, C. E. (1977). *Human emotions*. New York: Plenum.
- Jacobson, N. S., & Christensen, A. (1996). *Acceptance and change in couple therapy: A therapist's guide to transforming relationships*. New York: Norton.
- James, W. (1893). *Psychology*. New York: Holt.
- Johnson, M. H., Dziurawiec, S., Ellis, H., & Morton, J. (1991). Newborns' preferential tracking of face-like stimuli and its subsequent decline. *Cognition, 40*, 1-19.
- Jones, S., Collins, K., & Hong, H. (1991). An audience effect on smile production in 10-month-old infants. *Psychological Science, 2*, 45-48.
- Kanwisher, N., McDermott, J., & Chun, M. M. (1997). The fusiform face area: A module in human extrastriate cortex specialized for face perception. *Journal of Neuroscience, 17*, 4302-4311.
- Karney, B. R., & Bradbury, T. N. (1995). The longitudinal course of marital quality and stability: A review of theory, method, and research. *Psychological Review, 118*, 3-34.
- Kashy, D. A., & Kenny, D. A. (2000). The analysis of data from dyads and groups. In H. T. Reis & C. M. Judd (Eds.), *Handbook of research methods in social and personality psychology* (pp. 451-477). New York: Cambridge University Press.
- Kauhanen, J., Kaplan, G. A., Cohen, R. D., Julkunen, J., & Salonen, J. T. (1996). Alexithymia and the risk of death in middle-aged men. *Journal of Psychosomatic Research, 41*, 541-649.
- Kazak, A. E., Segal-Andrews, A. M., & Johnson, K. (1995). Pediatric psychology research and practice: A family/systems approach. In M. Roberts (Ed.), *Handbook of pediatric psychology*, (pp. 84-100). New York: Guilford Press.
- Kelley, H. H. (1983). Epilogue: An essential science. 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. 486-503). New York: Freeman.
- Kelley, H. H. (2000). The proper study of social psychology. *Social Psychology Quarterly, 63*, 3-15.
- Kelley, H. H., Berscheid, E., Christensen, A., Harvey, J. H., Huston, T. L., Levinger, G., McClintock, E., Peplau, L. A., & Peterson, D. R. (1983). *Close relationships*. New York: Freeman.
- Kelley, H. H., & Thibaut, J. W. (1978). *Interpersonal relations: A theory of interdependence*. New York: Wiley.
- Kelly, C., Huston, T. L., & Cate, R. M. (1985). Premarital relationship correlates of the erosion of satisfaction in marriage. *Journal of Social and Personal Relationships, 2*, 167-178.
- Kenny, D. A. (1994). *Interpersonal perception: A social relations analysis*. New York: Guilford Press.
- Kenrick, D. T., & Trost, M. R. (1997). Evolutionary approaches to relationships. In S. Duck (Ed.), *Handbook of personal relationships: Theory, research, and interventions* (2nd ed., pp. 151-177). Chichester, England: Wiley.
- Kiecolt-Glaser, J. K., Glaser, R., Cacioppo, J. R., & Malarkey, W. B. (1998). Marital stress: Immunologic, neuroendocrine, and autonomic correlates. *Annals of the New York Academy of Sciences, 840*, 656-663.
- Kirkpatrick, L. A., & Hazan, C. (1994). Attachment styles and close

- relationships: A four-year prospective study. *Personal Relationships*, 1, 123-142.
- 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.
- Kochanska, G. (1995). Children's temperament, mothers' discipline, and security of attachment: Multiple pathways to emerging internalization. *Child Development*, 66, 597-615.
- Kochanska, G. (1997). Multiple pathways to conscience development for children with different temperaments: From toddlerhood to age five. *Developmental Psychology*, 33, 228-240.
- Kuhn, T. S. (1962). *The structure of scientific revolutions*. Chicago: University of Chicago Press.
- Kurdek, L. A. (1991). The relations between reported well-being and divorce history, availability of a proximate adult, and gender. *Journal of Marriage and the Family*, 53, 71-78.
- Langlois, J. H., & Roggman, L. A. (1990). Attractive faces are only average. *Psychological Science*, 1, 115-121.
- Langlois, J. H., Roggman, L. A., Casey, R. J., Ritter, J. M., Rieser-Danner, L. A., & Jenkins, V. Y. (1987). Infant preferences for attractive faces: Rudiments of a stereotype? *Developmental Psychology*, 23, 363-369.
- Larson, R., & Richards, M. H. (1991). Daily companionship in late childhood and early adolescence: Changing developmental contexts. *Child Development*, 62, 284-300.
- Laudenslager, M. L., Boccia, M. L., & Reite, M. L. (1993). Biobehavioral consequences of loss in nonhuman primates: Individual differences. In M. S. Stroebe & W. Stroebe (Eds.), *Handbook of bereavement: Theory, research, and intervention* (pp. 129-142). New York: Cambridge University Press.
- Laurenceau, J. P., Barrett, L. F., & Pietromonaco, P. (1998). Intimacy as an interpersonal process: The importance of self-disclosure, partner disclosure, and perceived partner responsiveness in interpersonal exchanges. *Journal of Personality and Social Psychology*, 74, 1238-1251.
- Laursen, B., & Bukowski, W. M. (1997). A developmental guide to the organization of close relationships. *International Journal of Behavioral Development*, 21, 747-770.
- Laursen, B., & Collins, W. A. (1994). Interpersonal conflict during adolescence. *Psychological Bulletin*, 115, 197-209.
- Laursen, B., & Jensen-Campbell, L. (1999). The nature and functions of social exchange in adolescent romantic relationships. In W. Furman, C. Feiring, & B. B. Brown (Eds.), *The development of romantic relationships in adolescence* (pp. 50-74). New York: Cambridge University Press.
- Lazarus, R. (1994). Appraisal: The long and the short of it. In P. Ekman & R. J. Davidson (Eds.), *The nature of emotion: Fundamental questions* (pp. 208-215). New York: Oxford University Press.
- LeDoux, J. E. (1995). Emotion: Clues from the brain. *Annual Review of Psychology*, 46, 209-235.
- Levenson, R. W., & Ruef, A. M. (1992). Empathy: A physiological substrate. *Journal of Personality and Social Psychology*, 63, 234-246.
- Levinger, G. (1994). Figure versus ground: Micro- and macroperspectives on the social psychology of personal relationships. In R. Erber & R. Gilmour (Eds.), *Theoretical frameworks for personal relationships* (pp. 1-28). Hillsdale, NJ: Erlbaum.
- Levinger, G., & Snoek, J. D. (1972). *Attraction in relationship: A new look at interpersonal attraction*. New York: General Learning Press.
- Lewin, K. (1936). *Principles of topological psychology*. New York: McGraw-Hill.
- Lewis, M., Alessandri, S. M., & Sullivan, M. W. (1990). Violation of expectancy, loss of control, and anger expressions in young infants. *Developmental Psychology*, 26, 745-751.
- Ludemann, P. M. (1991). Generalized discrimination of positive facial expressions by seven- and ten-month-old infants. *Child Development*, 62, 55-67.
- Lykken, D., & Tellegen, A. (1996). Happiness is a stochastic phenomenon. *Psychological Science*, 7, 186-189.
- Lyons, R. F., Mickelson, K. D., Sullivan, M. J., & Coyne, J. C. (1998). Coping as a communal process. *Journal of Social and Personal Relationships*, 15, 579-605.
- Maccoby, E. E. (1990). Gender and relationships: A developmental account. *American Psychologist*, 45, 513-520.
- MacDowell, K., & Mandler, G. (1989). Constructions of emotion: Discrepancy, arousal, and mood. *Motivation and Emotion*, 13, 105-124.
- Malatesta, C. Z., & Haviland, J. M. (1982). Learning display rules: The socialization of emotion expression in infancy. *Child Development*, 53, 991-1003.
- Mandler, G. (1975). *Mind and emotion*. New York: Wiley.
- Mandler, G. (1997). *Human nature explored*. New York: Oxford University Press.
- Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review*, 98, 224-253.
- Markus, H. R., & Kitayama, S. (1998). The cultural psychology of personality. *Journal of Cross-Cultural Psychology*, 29, 63-87.
- Marvin, R. S., & Britner, P. A. (1999). Normative development: The ontogeny of attachment. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 44-67). New York: Guilford Press.
- McNulty, S., & Swann, W. B. (1994). Identity negotiation in roommate relationships: The self as architect and consequences of social reality. *Journal of Personality and Social Psychology*, 67, 1012-1023.
- Miell, D. E., & Duck, S. W. (1986). Strategies in developing friendships. In V. J. Derlega & B. A. Winstead (Eds.), *Friendship and social interaction* (pp. 129-143). New York: Springer.
- Mikulincer, M. (1998). Adult attachment style and affect regulation: Strategic variations in self-appraisals. *Journal of Personality and Social Psychology*, 75, 420-435.
- Mikulincer, M., & Nachshon, O. (1991). Attachment styles and patterns of self-disclosure. *Journal of Personality and Social Psychology*, 61, 321-331.
- Milardo, R. M., & Allan, G. (1997). Social networks and marital relationships. In S. Duck (Ed.), *Handbook of personal relationships: Theory, research, and interventions* (2nd ed., pp. 505-522). Chichester, England: Wiley.
- Miller, J. G. (1955). Toward a general theory for the behavioral sciences. *American Psychologist*, 10, 513-531.
- Miller, L. C., & Read, S. J. (1987). Why am I telling you this? Self-disclosure in a goal-based model of personality. In V. J. Derlega & J. H. Berg (Eds.), *Self-disclosure: Theory, research, and therapy* (pp. 35-58). New York: Plenum.
- Moreland, R. L., Argote, L., & Krishnan, R. (1996). Socially shared cognition at work: Transactive memory and group performance. In J. L. Nye & A. M. Brower (Eds.), *What's social about social cognition? Research on socially shared cognition in small groups* (pp. 57-84). Thousand Oaks, CA: Sage.
- Murray, S. L., Holmes, J. G., McDonald, G., & Ellsworth, P. C. (1998). *Journal of Personality and Social Psychology*, 75, 1459-1480.
- Myers, D. G. (1999). Close relationships and the quality of life. In D. Kahneman, E. Diener, & N. Schwarz (Eds.), *Well-being: The foundations of hedonic psychology* (pp. 376-393). New York: Russell Sage Foundation.
- Nachmias, M., Gunnar, M., Mangelsdorf, S., Parritz, R. H., & Buss, D. M. (1996). Behavioral inhibition and stress reactivity: The moderating role of attachment security. *Child Development*, 67, 508-522.
- Newcomb, T. M. (1950). *Social psychology*. New York: Dryden.
- Noller, P., & Ruzzene, M. (1991). Communication in marriage: The influence of affect and cognition. In G. J. O. Fletcher & F. D. Fincham

- (Eds.), *Cognition and close relationships* (pp. 203–234). Hillsdale, NJ: Erlbaum.
- Notarius, C. I., Lashley, S. L., & Sullivan, D. J. (1997). Angry at your partner? Think again. In R. J. Sternberg & M. Hojjat (Eds.), *Satisfaction in close relationships* (pp. 219–248). New York: Guilford Press.
- Olson, D. H. (1977). Insiders' and outsiders' view of relationships: Research studies. In G. Levinger & H. Raush (Eds.), *Close relationships* (pp. 115–135). Amherst: University of Massachusetts Press.
- Olson, J. M., Roese, N. J., & Zanna, M. P. (1996). Expectancies. In E. T. Higgins & A. W. Kruglanski (Eds.), *Social psychology: Handbook of basic principles* (pp. 211–238). New York: Guilford Press.
- Ostrom, T. M. (1984). The sovereignty of social cognition. In R. S. Wyer, Jr., & T. K. Srull (Eds.), *Handbook of social cognition* (Vol. 1, pp. 1–38). Hillsdale, NJ: Erlbaum.
- Panksepp, J. (1994). Emotional development yields lots of "stuff" . . . especially mind "stuff" that emerges from brain "stuff." In P. Ekman & R. J. Davidson (Eds.), *The nature of emotion: Fundamental questions* (pp. 367–372). New York: Oxford University Press.
- Panksepp, J. (1998). *Affective neuroscience: The foundations of human and animal emotions*. New York: Oxford University Press.
- Parker, J. G., & Asher, S. R. (1987). Peer relations and later personal adjustment: Are low-accepted children at risk? *Psychological Bulletin*, *102*, 357–389.
- Patterson, G. R. (1982). *Coercive family processes*. Eugene, OR: Castalia Press.
- Patterson, G. R., & Dishion, T. J. (1988). Multilevel family process models: Traits, interactions, and relationships. In R. A. Hinde & J. Stevenson-Hinde (Eds.), *Relationships within families: Mutual influences* (pp. 283–310). Oxford, England: Oxford University Press.
- Patterson, M. L. (1994). Strategic functions of nonverbal exchange. In J. A. Daly & J. M. Wiemann (Eds.), *Strategic interpersonal communication* (pp. 273–293). Hillsdale, NJ: Erlbaum.
- Peterson, D. R. (1983). Conflict. In H. H. Kelley, E. Berscheid, A. Christensen, J. H. Harvey, T. L. Huston, G. Levinger, E. McClintock, L. A. Peplau, & D. R. Peterson, *Close relationships* (pp. 110–168). New York: Freeman.
- Plutchik, R. (1994). *The psychology and biology of emotion*. New York: HarperCollins.
- Prentice, D. A. (1990). Familiarity and differences in self- and other-representations. *Journal of Personality and Social Psychology*, *59*, 369–383.
- Regan, P. C., Snyder, M., & Kassin, S. M. (1995). Unrealistic optimism: Self-enhancement or person positivity? *Personality and Social Psychology Bulletin*, *21*, 1073–1082.
- Reis, H. T. (1998). Gender differences in intimacy and related behaviors: Context and process. In D. J. Canary & K. Dindia (Eds.), *Sex differences and similarities in communication: Critical essays and empirical investigations of sex and gender in interaction* (pp. 203–231). Mahwah, NJ: Erlbaum.
- Reis, H. T. (in press). Relationship experiences and emotional well-being. In C. Ryff, B. Singer, & R. J. Davidson (Eds.), *Wisconsin Symposium on Emotion*. New York: Oxford University Press.
- Reis, H. T., & Downey, G. (1999). Social cognition in relationships: Building essential bridges between two literatures. *Social Cognition*, *17*, 97–117.
- Reis, H. T., Lin, Y.-C., Bennett, M. E., & Nezek, J. B. (1993). Change and consistency in social participation during early adulthood. *Developmental Psychology*, *29*, 633–645.
- Reis, H. T., & Patrick, B. C. (1996). Attachment and intimacy: Component processes. In A. Kruglanski & E. T. Higgins (Eds.), *Social psychology: Handbook of basic principles* (pp. 523–563). New York: Guilford Press.
- Reis, H. T., & Shaver, P. (1988). Intimacy as an interpersonal process. In S. Duck (Ed.), *Handbook of personal relationships* (pp. 367–389). Chichester, England: Wiley.
- Reis, H. T., Sheldon, K. M., Gable, S. L., Roscoe, J., & Ryan, R. M. (2000). Daily well-being: The role of autonomy, competence, and relatedness. *Personality and Social Psychology Bulletin*, *26*, 419–435.
- Reis, H. T., & Wheeler, L. (1991). Studying social interaction with the Rochester Interaction Record. *Advances in Experimental Social Psychology*, *24*, 269–318.
- Reiss, D. (with Neiderhiser, J. M., Hetherington, E. M., & Plomin, R.) (2000). *The relationship code: Deciphering genetic and social influences on adolescent development*. Cambridge, MA: Harvard University Press.
- Rhee, E., Uleman, J. S., Lee, H., & Roman, R. (1995). Spontaneous self-descriptions and ethnic identities in individualistic and collectivistic cultures. *Journal of Personality and Social Psychology*, *69*, 142–152.
- Riskin, J., & Faunce, E. E. (1972). An evaluative review of family interaction research. *Family Process*, *11*, 365–455.
- Robinson, E. A., & Price, M. G. (1980). Pleasurable behavior in marital interaction: An observational study. *Journal of Consulting and Clinical Psychology*, *48*, 117–118.
- Rook, K. S. (1998). Investigating the positive and negative sides of personal relationships: Through a lens darkly? In B. H. Spitzberg & W. R. Cupach (Eds.), *The dark side of close relationships* (pp. 369–393). Mahwah, NJ: Erlbaum.
- Rook, K. S., & Dooley, D. (1985). Applying social support research: Theoretical problems and future directions. *Journal of Social Issues*, *41*, 5–28.
- Rothbart, M. K., & Bates, J. E. (1998). Temperament. In W. Damon & N. Eisenberg (Eds.), *Handbook of child psychology: Vol. 3. Social, emotional, and personality development* (5th ed., pp. 105–176). New York: Wiley.
- Rubin, Z., Hill, C. T., Peplau, L. A., & Dunkel-Schetter, C. (1980). Self-disclosure in dating couples: Sex roles and the ethic of openness. *Journal of Marriage and the Family*, *42*, 305–317.
- Ruble, D. N., Fleming, A. S., Hackel, L. S., & Stangor, C. (1988). Changes in the marital relationship during the transition to first-time motherhood: Effects of violated expectations concerning division of household labor. *Journal of Personality and Social Psychology*, *55*, 78–87.
- Rusbult, C. E., & Van Lange, P. A. M. (1996). Interdependence processes. In E. T. Higgins & A. Kruglanski (Eds.), *Social psychology: Handbook of basic mechanisms and processes* (pp. 564–596). New York: Guilford Press.
- Rusbult, C. E., Verette, J., Whitney, G. A., Slovik, L. F., & Lipkus, I. (1991). Accommodation processes in close relationships: Theory and preliminary empirical evidence. *Journal of Personality and Social Psychology*, *60*, 53–78.
- Rusbult, C. E., Yovetich, N. A., & Verette, J. (1996). An interdependence analysis of accommodation processes. In G. J. O. Fletcher & J. Fitness (Eds.), *Knowledge structures in close relationships: A social psychological approach* (pp. 63–90). Mahwah, NJ: Erlbaum.
- Russell, J. A., & Carroll, J. M. (1999). On the bipolarity of positive and negative affect. *Psychological Bulletin*, *125*, 3–30.
- Rutter, M. (1981). *Maternal deprivation revisited* (2nd ed.). New York: Penguin Books.
- Rutter, M. (1996). Transitions and turning points in developmental psychopathology: As applied to the age span between childhood and mid-childhood. *International Journal of Behavioral Development*, *19*, 603–626.
- Rutter, M., & the English and Romanian Adoptees (ERA) Study Team. (1998). Developmental catch-up, and deficit, following adoption after severe global early privation. *Journal of Child Psychology and Psychiatry*, *39*, 465–476.
- Ryff, C. D. (1995). Psychological well-being in adult life. *Current Directions in Psychological Science*, *4*, 99–103.
- Sameroff, A. J. (1983). Developmental systems: Context and evolution. In P. H. Mussen & W. Kessen (Eds.), *Handbook of child psychology:*

- Vol. 1. *History, theory, and methods*. (4th ed., pp. 237–294). New York: Wiley.
- Sarason, I. G., Sarason, B. R., & Pierce, G. R. (1995). Social and personal relationships: Current issues, future directions. *Journal of Social and Personal Relationships*, 12, 613–619.
- Scherer, K. R., & Wallbott, H. G. (1994). Evidence for universality and cultural variation of differential emotion response patterning. *Journal of Personality and Social Psychology*, 66, 310–328.
- Scout, C. K., Fuhrman, R. W., & Wyer, R. S., Jr. (1991). Information processing in close relationships. In G. J. O. Fletcher & F. D. Fincham (Eds.), *Cognition and close relationships* (pp. 37–68). Hillsdale, NJ: Erlbaum.
- Sears, R. R. (1951). A theoretical framework for personality and social behavior. *American Psychologist*, 6, 476–482.
- Sears, R. R. (1977). Sources of life satisfactions of the Terman gifted men. *American Psychologist*, 32, 119–128.
- Sears, R. R., Maccoby, E. E., & Levin, H. (1957). *Patterns of child rearing*. Evanston, IL: Peterson.
- Sedikides, C., Campbell, W. K., Reeder, G., & Elliot, A. J. (1998). The self-serving bias in relational context. *Journal of Personality and Social Psychology*, 74, 378–386.
- Sedikides, C., Olsen, N., & Reis, H. T. (1993). Relationships as natural categories. *Journal of Personality and Social Psychology*, 64, 71–82.
- Seeman, T. E., & McEwen, B. S. (1996). Impact of social environment characteristics on neuroendocrine regulation. *Psychosomatic Medicine*, 58, 459–471.
- Shantz, C. U., & Hartup, W. W. (Eds.). (1992). *Conflict in child and adolescent development*. New York: Cambridge University Press.
- Shaver, P. R., Morgan, H. J., & Wu, S. (1996). Is love a “basic” emotion? *Personal Relationships*, 3, 81–96.
- Siegel, D. J. (1999). *The developing mind: Toward a neurobiology of interpersonal experience*. New York: Guilford Press.
- Siegler, R. S. (1991). *Children’s thinking* (2nd ed.). Englewood Cliffs, NJ: Prentice Hall.
- Simpson, J. A., Rholes, W. S., & Nelligan, J. (1992). Support-seeking and support-giving within couples in an anxiety provoking situation: The role of attachment styles. *Journal of Personality and Social Psychology*, 62, 434–446.
- Smith, E. R., Coats, S., & Walling, D. (1999). Overlapping mental representations of self, in-group, and partner: Further response time evidence and a connectionist model. *Personality and Social Psychology Bulletin*, 25, 873–882.
- Smith, E. R., & Henry, S. (1996). An in-group becomes part of the self: Response time evidence. *Personality and Social Psychology Bulletin*, 22, 635–642.
- Smith, E. R., & Zarate, M. A. (1992). Exemplar-based model of social judgment. *Psychological Review*, 99, 3–21.
- Snyder, M. (1992). Motivational foundations of behavioral confirmation. In M. P. Zanna (Ed.), *Advances in experimental psychology* (pp. 67–114). San Diego, CA: Academic Press.
- Snyder, M., & Strukas, A. A. (1999). Interpersonal processes: The interplay of cognitive, motivational, and behavioral activities in social interaction. *Annual Review of Psychology*, 50, 273–303.
- Solomon, J., & George, C. (1999). The measurement of attachment security in infancy and childhood. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 287–316). New York: Guilford Press.
- Spiegel, D., Bloom, J. R., Kraemer, H. C., & Gottheil, E. (1989, October 14). Effect of psychosocial treatment on survival of patients with metastatic breast cancer. *Lancet*, 888–891.
- Sprecher, S., Feinlee, D., Orbuch, T. L., & Willetts, M. C. (in press). Social networks and change in personal relationships. In A. Vangelisti, H. T. Reis, & M. A. Fitzpatrick (Eds.), *Advances in personal relationships: Vol. 2. Stability and change in relationship behavior*. New York: Cambridge University Press.
- Sroufe, L. A. (1979). The coherence of individual development: Early care, attachment, and subsequent developmental issues. *American Psychologist*, 34, 834–841.
- Sroufe, L. A. (1996). *Emotional development: The organization of emotional life in the early years*. New York: Cambridge University Press.
- Sroufe, L. A., Egeland, B., & Carlson, E. A. (1999). One social world: The integrated development of parent-child and peer relationships. In W. A. Collins & B. Laursen (Eds.), *Minnesota Symposia on Child Psychology: Vol. 29. Relationships as developmental contexts* (pp. 241–261). Mahwah, NJ: Erlbaum.
- Sroufe, L. A., & Fleeson, J. (1986). Attachment and the construction of relationships. In W. W. Hartup & Z. Rubin (Eds.), *Relationships and development* (pp. 51–71). Hillsdale, NJ: Erlbaum.
- Srull, T. K., & Wyer, R. S. (1989). Person memory and judgment. *Psychological Review*, 96, 58–83.
- Stroebe, W., & Stroebe, M. S. (1987). *Bereavement and health: The psychological and physical consequences of partner loss*. New York: Cambridge University Press.
- Stroebe, W., & Stroebe, M. (1996). The social psychology of social support. In A. Kruglanski & E. T. Higgins (Eds.), *Social psychology: Handbook of basic principles* (pp. 597–621). New York: Guilford Press.
- Surra, C. A. (1987). Reasons for changes in commitment: Variations by courtship type. *Journal of Social and Personal Relationships*, 4, 17–33.
- Swann, W. B., Jr., De La Ronde, C., & Hixon, J. G. (1994). Authenticity and positivity strivings in marriage and courtship. *Journal of Personality and Social Psychology*, 66, 857–869.
- Tajfel, H. (1982). *Social identity and intergroup relations*. Cambridge, England: Cambridge University Press.
- Taylor, S. E. (1991). Asymmetrical effects of positive and negative events: The mobilization-minimization hypothesis. *Psychological Bulletin*, 110, 67–85.
- Taylor, S. E., Klein, L. C., Lewis, B. P., Gruenewald, T. L., Gurung, R. A. R., & Updegraff, J. A. (2000). Behavioral responses to stress in females: Tend-and-befriend, not fight-or-flight. *Psychological Review*, 107, 411–429.
- Terman, L. M. (1938). *Psychological factors in marital happiness*. New York: McGraw-Hill.
- Thibaut, J. W., & Kelley, H. H. (1959). *The social psychology of groups*. New York: Wiley.
- Thompson, L., & Fine, G. A. (1999). Socially shared cognition, affect, and behavior: A review and integration. *Personality and Social Psychology Review*, 3, 278–302.
- Thompson, R. A. (1998). Early sociopersonality development. In W. Damon & N. Eisenberg (Eds.), *The handbook of child psychology: Vol. 3. Social, emotional, and personality development* (pp. 25–104). New York: Wiley.
- Thompson, R. A. (1999). Early attachment and later development. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 265–286). New York: Guilford Press.
- Tidwell, M.-C. O., Reis, H. T., & Shaver, P. R. (1996). Attachment, attractiveness, and social interaction: A diary study. *Journal of Personality and Social Psychology*, 71, 729–745.
- Uchino, B. N., Cacioppo, J. T., & Kiecolt-Glaser, J. K. (1996). The relationship between social support and physiological processes: A review with emphasis on underlying mechanisms and implications for health. *Psychological Bulletin*, 119, 488–531.
- Uvnæs-Moberg, K. (1998). Oxytocin may mediate the benefits of positive social interaction and emotion. *Psychoneuroimmunology*, 23, 819–835.
- Van IJzendoorn, M. H. (1995). Adult attachment representations, parental responsiveness, and infant attachment: A meta-analysis on the predictive

- validity of the Adult Attachment Interview. *Psychological Bulletin*, 117, 387–403.
- Van Lieshout, C. F. M., Cillessen, A. H. N., & Haselager, G. J. T. (1999). Interpersonal support and individual development. In W. A. Collins & B. Laursen (Eds.), *Minnesota Symposia on Child Psychology: Vol. 30. Relationships as developmental contexts* (pp. 37–60). Mahwah, NJ: Erlbaum.
- Veroff, J., Douvan, E., & Kulka, R. A. (1981). *Mental health in America: Patterns of help-seeking from 1957 to 1976*. New York: Basic Books.
- Vetere, A. (1987). General system theory and the family: A critical evaluation. In A. Vetere & A. Gale (Eds.), *Ecological studies of family life* (pp. 18–33). Chichester, England: Wiley.
- Vetere, A., & Gale, A. (1987). The family: A failure in psychological theory and research. In A. Vetere & A. Gale (Eds.), *Ecological studies of family life* (pp. 1–17). Chichester, England: Wiley.
- von Bertalanffy, L. (1950, January 31). The theory of open systems in physics and biology. *Science*, 111, 23–29.
- Waller, N. G., & Meehl, P. M. (1998). *Multivariate taxometric procedures: Distinguishing types from continua*. Newbury Park, CA: Sage.
- Waller, W. (1930). *The old love and the new: Divorce and readjustment*. New York: Liveright.
- Waters, E., Kondo-Ikemura, K., Posada, G., & Richters, J. E. (1991). Learning to love: Mechanisms and milestones. In M. R. Gunnar & L. A. Sroufe (Eds.), *Minnesota Symposia on Child Psychology: Vol. 23. Self processes and development* (pp. 217–255). Mahwah, NJ: Erlbaum.
- Watson, D., & Pennebaker, J. W. (1989). Health complaints, stress, and distress: Exploring the central role of negative affectivity. *Psychological Review*, 96, 234–254.
- Watson, D., Wiese, D., Vaidya, J., & Tellegen, A. (1999). The two general activation systems of affect: Structural findings, evolutionary considerations, and psychobiological evidence. *Journal of Personality and Social Psychology*, 76, 820–838.
- Wegner, D. M., Erber, R., & Raymond, P. (1991). Transactive memory in close relationships. *Journal of Personality and Social Psychology*, 61, 923–929.
- Weinfield, N., Sroufe, L. A., & Egeland, B. (in press). Attachment and the representation of relationships from infancy to adulthood: Continuity, discontinuity, and their correlates. *Child Development*.
- Weinfield, N., Sroufe, L. A., Egeland, B., & Carlson, E. A. (1999). The nature of individual differences in infant-caregiver attachment. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 68–88). New York: Guilford Press.
- Weiselquist, J., Rusbult, C. E., Foster, C. A., & Agnew, C. R. (in press). Commitment and trust in close relationships. *Journal of Personality and Social Psychology*.
- Wheeler, L., Reis, H. T., & Bond, M. H. (1989). Collectivism-individualism in everyday social life: The middle kingdom and the melting pot. *Journal of Personality and Social Psychology*, 57, 79–96.
- Williamson, G. M., & Clark, M. S. (1989). Providing help and desired relationship type as determinants of changes in moods and self-evaluations. *Journal of Personality and Social Psychology*, 56, 722–734.
- Wills, T. A., & Shinar, O. (in press). Measuring perceived and received social support. In S. Cohen, L. Underwood, & B. Gottlieb (Eds.), *Social support measurement and intervention: A guide for health and social scientists*. New York: Oxford University Press.
- Wish, M., Deutsch, M., & Kaplan, S. J. (1976). Perceived dimensions of interpersonal relations. *Journal of Personality and Social Psychology*, 33, 409–420.
- Wittenberg, M. T., & Reis, H. T. (1986). Loneliness, social skills, and social perception. *Personality and Social Psychology Bulletin*, 12, 121–130.
- Yee, M. D., & Brown, R. (1992). Self-evaluations and intergroup attitudes in children aged 3 to 9. *Child Development*, 63, 619–629.
- Youniss, J. (1980). *Parents and peers in social development*. Chicago: University of Chicago Press.
- Youniss, J., & Smollar, J. (1985). *Adolescent relations with mothers, fathers, and friends*. Chicago: University of Chicago Press.
- Zajonc, R. B. (1998). Emotions. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology* (4th ed., Vol. 2, pp. 591–632). New York: McGraw-Hill.

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