

Handbook of Attachment

THEORY, RESEARCH, AND CLINICAL APPLICATIONS

Edited by

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CIP

Relations among Relationships

Contributions from Attachment Theory and Research



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Nobody loves me but my mother
and she could be jivin' too.
Now you see why I act funny, Baby
when you do the things you do.

—B. B. KING (1970)

Questions concerning relations among relationships cut to the heart of attachment theory and research. According to Bowlby, "there is a strong causal relationship between an individual's experiences with his parents and his later capacity to make affectional bonds" (1979, p. 135). By "affectional bonds," Bowlby was referring to particularly close ties "in which the partner is important as a unique individual and interchangeable with none other" (Ainsworth, 1989, p. 711). An attachment is a specific type of affectional bond that one person has to another from whom he or she attempts to derive security, such as the bond of an infant to a mother. Bowlby argued that early attachments play a key role in people's subsequent close relationships—in attachment and nonattachment relationships. Bowlby also specified that the mechanisms underlying the "causal" associations between early attachments and subsequent affectional bonds are "internal working models," mental representations that are forged in repeated daily transactions between infant and parent, and that tend to become stable over time.

In this chapter we focus on the contributions

of attachment theory and research to understanding relations among relationships. Attachment theory, of course, offers but one of many perspectives on the links among people's close relationships and on the influence of early relationship experiences on later bonds (see, e.g., Duck, 1988; Dunn, 1988a, 1993; Hartup & Rubin, 1986; Hinde & Stevenson-Hinde, 1988; Maccoby, 1992; Weber & Harvey, 1994). Social learning theories, for example, emphasize children's acquisition of social skills via their learning from and modeling of their parents (e.g., Bandura, 1977). What distinguishes attachment theory from this and other theories is the specificity of its predictions about individual differences and its arguments that mental representations (internal working models) underlie the associations between early attachments and subsequent close relationships. In this chapter we address the distinctive tenets of the theory and the research that has tested them.

We begin this chapter with a brief overview of Bowlby's attachment theory, focusing on its claims about relations among relationships. We

then consider the attachment theory and research addressing several specific types of relations among relationships: (1) the influence of infant-parent attachments on subsequent bonds (on relationships with siblings, friends, romantic partners, children, peers), (2) the influence of parents' other relationships (parents' relationships with their own parents, with spouses, with providers of social support, with therapists) on infant-parent attachments, and (3) the concordance of attachment patterns across a caregiver's multiple children, and across a child's multiple caregivers. We aim throughout this review to examine the extent to which attachment research, inspired by Ainsworth's pioneering work (e.g., Ainsworth, Blehar, Waters, & Wall, 1978), supports the claims of the theory. We also aim to identify pressing questions and to suggest next steps for attachment theory and research.

A BRIEF OVERVIEW OF ATTACHMENT THEORY AND ITS PREDICTIONS ABOUT RELATIONS AMONG RELATIONSHIPS

According to attachment theory, the infant-parent attachment relationship is an evolutionarily adaptive relationship whose principal function is the protection of the child (Bowlby, 1969/1982). Bowlby (1969/1982) maintained that the "attachment behavioral system" is one of several species-specific "control systems" that have evolved to facilitate protection, survival, and ultimately "reproductive fitness." According to Bowlby (1969/1982, 1973) individuals develop "cognitive maps" or "internal working models" (also called "representational models") to guide each control system (see also Bretherton & Munholland, Chapter 5, this volume). With respect to the attachment behavioral system, Bowlby (1973) asserted that repeated daily transactions between an infant and a parent lead the infant to develop expectations about the parent's caregiving. These expectations in turn are gradually organized into internal working models of the caregiver, the self in relation to this caregiver, and the attachment relationship as a whole. Sensitive caregiving potentiates a secure attachment and the concomitant development of internal working models of the caregiver as trustworthy and helpful and of the self as deserving of the caregiver's sensitive treatment. Conversely, insensitive caregiving leads to an insecure attachment and to working models of the caregiver as

unavailable and untrustworthy and of the self as unworthy of the caregiver's benevolent treatment.

People's working models guide the development of subsequent relationships. This occurs initially by their guiding individual expectations about others' emotional availability: "...the kinds of experiences a person has, especially during childhood, greatly affect... whether he expects later to find a secure personal base, or not" (Bowlby, 1979, p. 104). Internal working models also guide both treatment *of* and treatment elicited *from* relationships partners. As Sroufe and Fleeson (1988) noted, "Others are selected, responded to, and influenced in ways that are compatible with previous relationship learning" (p. 29). Sroufe and Fleeson (1986, 1988) also stressed that the working model of the attachment relationship as a coherent whole—the model of how a close relationship should *be*—is what is carried forward. Barring major changes in the environment or the individual, the principal qualities of the infant-parent attachment(s) will be replicated in subsequent close relationships: Secure infants will subsequently form supportive, nurturing close relationships, whereas insecure infants will form close relationships in which the giving of care, the receiving of care, or both are incomplete.

A consideration of Main's (1990) concept of "conditional behavioral strategies" yields even more specific predictions about relations among relationships. Main asserted that in addition to their adaptive propensity to form attachments, infants are equipped with biologically based abilities to tailor the output of the attachment behavioral system to particular caregiving contexts. These tailoring abilities, which function to garner as much parental investment and protection as possible, are attachment strategies. Attachment strategies can also be viewed as unconscious plans, guided by internal working models of relationships, which in turn guide cognition and behavior. In sensitive caregiving environments, attachment strategies allow for a relatively direct relation between the activation of the attachment system and its output. In insensitive caregiving environments, the output of the attachment system must be manipulated to fit the particular demands of the caregiver.

Main (1990) proposed that each of the three principal attachment patterns ("secure," "avoidant," and "ambivalent") reflects a particular attachment strategy. Each pattern in turn is proposed to be linked to particular ways of behaving in close relationships. Secure infants are

expected to form relationships in which attachment figures are used as a secure base. Avoidant infants are expected to form relationships in which their attachment behaviors are decreased and muted. Ambivalent infants are hypothesized to form subsequent relationships in which their attachment behaviors are increased and heightened (see also Cassidy & Berlin, 1994; Cassidy & Kobak, 1988; Main, 1981, 1990).

Both Bowlby (1969/1982, 1979) and Ainsworth (1989; Ainsworth & Marvin, 1995) have stressed that attachment theory's predictions about relations among relationships apply principally to *close* relationships. These predictions are in fact more relevant to relationships consisting of attachments than relationships which do not consist of attachments, and more relevant to relationships including affectional bonds than relationships which do not include affectional bonds (see also Belsky & Cassidy, 1994, and Sroufe, 1988). Ironically, much of attachment research has not distinguished between children's subsequent affectional and nonaffectional bonds, and/or has focused on connections between attachments and nonaffectional bonds. Accordingly, one of our aims in reviewing the attachment research on relations among relationships is to examine the extent to which there are stronger associations between attachments and affectional bonds than between attachments and nonaffectional bonds (Belsky & Cassidy, 1994).

Attachment theory addresses not only the influence of early attachments on subsequent relationships but also two other types of relations among relationships. The first is the influence of parents' other relationships on the infant-parent attachment. The second concerns concordance of patterns of attachment across (1) a caregiver's multiple children and (2) a child's multiple caregivers. In the remainder of this chapter, we examine all of these relations among relationships.

THE INFLUENCE OF THE INFANT-PARENT ATTACHMENT ON SUBSEQUENT AFFECTIONAL AND NONAFFECTIONAL BONDS

We begin this section by examining connections between early attachments and what we presume to be early affectional relationships—relationships with siblings and with childhood friends. We next consider the associations between early attachments and subsequent affectional relationships with romantic partners and children. We

then examine the relations between early attachments and what we presume to be nonaffectional bonds—ties to peers and strangers. We conclude the section with a discussion of linking mechanisms between early attachments and subsequent affectional and nonaffectional bonds. Throughout this section we review investigations of both longitudinal and contemporaneous relations among child-parent attachments and affectional and nonaffectional bonds. Although the longitudinal data speak most directly to Bowlby's claims about early attachments and individuals' subsequent abilities to form bonds, the contemporaneous data are also relevant. We also note that all of the data we review are correlational findings, which do not provide evidence of causation.

The Influence of the Infant-Parent Attachment on Early Affectional Bonds: Relationships with Siblings and Friends

Relationships with Siblings

Presuming that most sibling relationships consist of affectional bonds (see, e.g., Dunn & Kendrick, 1982, for empirical support for this presumption), attachment theory predicts close links between the qualities of early attachments and sibling relationships. To date, there have been two studies on the associations between infant-parent attachment and sibling relationships, both of which support the predictions of attachment theory by illustrating secure infant-mother attachments going hand in hand with more harmonious sibling interactions. In the first of these investigations, in which the authors examined the contemporaneous connections among the quality of infant-mother attachment, (older) sibling-mother attachment, and sibling interaction, child-mother attachment security was related not only to positive treatment *of* but also to positive treatment *from* the sibling (Teti & Ablard, 1989).

A second study of the associations between infant-parent attachment and the sibling relationship yielded similar results (Volling & Belsky, 1992). Infant-mother—but not infant-father—attachment security was associated with sibling interaction observed in the home approximately 5 years later: Children who had been securely attached were significantly less likely to participate in sibling conflicts than children who had been insecurely attached, and this association held above and beyond associations with both contemporaneous and 3-year maternal behaviors;

there were, however, no attachment group differences in siblings' prosocial interactions.

Relationships with Friends

Several inquiries have addressed the association between infant-parent attachment and affectional bonds in early childhood friendships; all provide theoretically predicted evidence of associations between early attachments and subsequent close relationships. Researchers have examined connections between infant-parent attachment and children's friendships in children as young as 2 years of age and as old as 12. One study revealed connections between infant-mother attachment and "social responsiveness" during a play session with a "best playmate," with children classified as secure at 2 years observed to be more responsive at ages 2 and 5 than children who had been insecure (Pierrehumbert, Ianotti, Cummings, & Zahn-Waxler, 1989). Another study used *Q*-Sort methods to examine concurrent links between infant-mother attachment and several aspects of laboratory free play between 4-year-old best friends (Park & Waters, 1989). Best friendships consisting of two "secure" children received higher scores on "positive interaction" than dyads comprised of one secure and one insecure best friend, but there were no attachment differences in "coordinated interaction," "self-disclosure," or "tempo of play." In a 1-year follow-up study with about half of these dyads, the secure-secure dyads again received higher scores than the secure-insecure pairs on "positive interaction"; the secure-secure dyads also scored higher on "coordinated interaction" (Kerns, 1994).

In a similar longitudinal investigation of infant-parent attachment and best friendship at 6 years of age, children who had been classified as secure with their mothers were less likely to engage in "dyad negative" behavior during laboratory play than children who had been classified as insecure. This relation, however, did not emerge for "dyad positive" behavior, which was, surprisingly, *less* evident in children who had been securely attached to their fathers (Youngblade & Belsky, 1992). Additional analyses of these data with Park and Waters's (1989) Dyadic Relationships *Q*-Sort revealed parallel findings for infant-parent attachment as assessed with the strange situation, though not with the Attachment *Q*-Sort (Youngblade, Park, & Belsky, 1993).

In addition to examining infant-parent attach-

ment and children's early friendships, researchers have recently extended the study of early attachments and friendships to middle childhood. In a follow-up of the pioneering Minnesota Parent-Child Project of low-income families, children were assessed over the course of a 1-month summer camp (Elicker, Englund, & Sroufe, 1992; Shulman, Elicker, & Sroufe, 1994). Children classified as secure with their mothers at both 12 and 18 months were more likely to make friends with other children with secure attachment histories. Similarly, in a longitudinal study of north German families, infant-mother (but not infant-father) attachment predicted children's interviewer-rated "competence in establishing close friendships" at age 10, with children who had been securely attached to their mothers rated as more competent than children who had been insecurely attached (Freitag, Belsky, Grossmann, Grossmann, & Scheuerer-Engelsch, 1996).

Consistent with these longitudinal findings are findings from two recent cross-sectional inquiries into attachment quality and fifth- and sixth-grade U.S. children's friendships (Kerns, Klepac, & Cole, 1996). In one study, children who reported a "more secure" attachment to their mothers were more likely to be in reciprocated friendships; they were not, however, more likely to report being in more positive or less negative friendships. In the second investigation, children in "secure-secure" dyads were less critical, more responsive, and marginally more balanced about power than children in "secure-insecure" dyads. Children in secure-secure dyads also reported more companionship in friendship than children in secure-insecure dyads, although there were no attachment differences in self-reported intimacy and affection, or in friendship stability.

Children's attachments to their parents may influence not only the quality but also the quantity of children's friendships. It is intriguing to note that across three studies, children who had been securely attached infants were judged to have made more friends in middle childhood than children who had been insecure (Elicker et al., 1992; Grossmann & Grossmann, 1991; Lewis & Feiring, 1989). Especially notable among these investigations is a follow-up of the same north German children discussed earlier—the only inquiry into early attachment and later affectional bonds to provide any hint regarding minimizing-maximizing processes (Grossmann & Grossmann, 1991). Specifically, 10-year-olds who had been judged secure with their mothers

could, when discussing their friendships, identify a number of friends by name, whereas the children who had been judged insecure (83% of whom were classified as avoidant) professed to having many friends but could not name any of them. The discrepancy between these avoidant children's general claims and lack of support for their assertions is strikingly reminiscent of the idealizing discourse of some adults classified as "dismissing" (avoidant) in the Adult Attachment Interview (AAI). Such adults also describe their experiences in glowing generalities, yet fail to substantiate their global descriptions with specific examples. In the AAI, this type of idealizing is considered to reflect defensive exclusion of painful memories, which in turn is consistent with minimizing attachment (i.e., not acknowledging the pain in past attachment experiences precludes the need for comfort and nurturance). For the avoidant north German children, the discrepancy between their claims to have many friends and their inability to name them may have reflected defensive exclusion of painful thoughts about a lack of friends.

Relationships with Siblings and Friends: Summary

In sum, the existing studies of the associations between infant-parent attachment and sibling and friend relationships all lend at least some support to attachment theory's predictions about the influence of the infant-parent attachment on the developing child's subsequent close relationships, with secure infant-mother attachments going hand in hand with more harmonious sibling interactions and friendship quality and quantity.

It is notable that the research on early attachment and subsequent affectional bonds that has included assessments of infant-father attachment has generally indicated either no relation between infant-father attachment (Freitag et al., 1996; Volling & Belsky, 1992) or (in one study—Youngblade & Belsky, 1992) a counterintuitive association. These findings highlight the need for attachment researchers to devote more attention to understanding infant-father attachment, especially vis-à-vis its influence on the child's subsequent relationships (see Belsky, 1996, and van IJzendoorn & DeWolff, 1997). It may be that infant-father relationships influence subsequent relationships quite differently than do infant-mother relationships. Other elements of the child-father relationship, such as the father's be-

havior in play, may overshadow or interact with the influences of the infant-father attachment (see, e.g., Parke, 1995).

Finally, in all of these investigations except the Grossmann and Grossmann (1991) north German inquiry (in which most of the insecure children were avoidant), the avoidant and ambivalent attachment groups were combined, thereby preventing the analysis of minimizing and maximizing attachment strategies. Especially in light of the intriguing hint in the Grossmanns' (1991) data of the insecure (predominantly avoidant) children's possible idealizing—and minimizing—self-reports, we suggest the analysis of minimizing and maximizing processes as an important goal for future inquiries into the links between early attachments and children's sibling relationships and friendships.

The Influence of the Infant-Parent Attachment on Later Affectional Bonds: Relationships with Romantic Partners and Children

Bowlby (1979) highlighted marriage and child-rearing relationships as the subsequent relationships in which the influence of early attachments is likely to be strongest. Understanding the influence of early attachments on romantic and child-rearing relationships, however, requires prospective data on infant-parent attachment and the infant's later (adult) romantic relationships and parenting, which to date are not available. Nonetheless, as we will discuss, some hints into the influence of early attachments on these later relationships have begun to emerge.

A large portion of the research into adult attachment processes has relied on the AAI, which is not a measure of early attachment, but rather a measure of the adult's "current state of mind with respect to attachment" (George, Kaplan, & Main, 1985; Main, Kaplan, & Cassidy, 1985; for reviews, see Crowell, Fraley, & Shaver, Chapter 20, this volume, Crowell & Treboux, 1995, and Hesse, Chapter 19, this volume). Although the AAI draws heavily on recollections of early attachment experiences, it is the way in which these experiences are discussed in the interview that most informs both an individual's classification (as "autonomous" [secure], "dismissing" [avoidant], or "preoccupied" [ambivalent]) and his or her scores on continuous scales measuring "probable experiences" with early attachment figures (e.g., loving, pressure to achieve, rejection) and "current state of mind" (e.g., coherent,

idealizing, angry). Subsequent experiences—especially attachment relationships with therapists and spouses—may influence individuals' working models and their "current state of mind." It is the adult's current state of mind, in turn, that is expected to influence an individual's behavior in romantic relationships and as a parent (Main & Goldwyn, in press).

Some insight into the influence of the infant–parent attachment on relationships with romantic partners and children has come from analysis of the coder-rated AAI scales for probable early experiences with each parent. Although these scales have yet to be fully validated, studies drawing on the AAI scales can provide intriguing hints about the links between early attachments and subsequent romantic relationships. Some information on the links between early attachments and subsequent romantic relationships has also come from examining adults' self-reported romantic attachment styles. As we will discuss, however, the use of attachment style questionnaires to examine the influence of the early infant–parent attachment on adults' romantic relationships is complicated by some of the same factors that complicate the use of the AAI to examine this issue.

Relationships with Romantic Partners

Some insight into the influence of the infant–parent attachment on subsequent romantic relationships has come from a recent study in which both mothers' and fathers' (coder-rated) early attachment experiences were associated with the quality of their marriages (Cowan, Cohn, Cowan, & Pearson, 1996). Mothers and fathers who were rated as having had loving parents were also observed to interact more positively with each other at home.

Insight into the links between early attachments and subsequent romantic relationships has also come from a body of research stimulated by Hazan and Shaver's (1987) proposal of a tripartite classification scheme of adults' "attachment styles" in romantic relationships (e.g., Hazan & Shaver, 1987, 1994; Shaver & Hazan, 1993; for reviews, see Crowell & Treboux, 1995, and Feeney, Chapter 17, this volume). Adults' self-reported romantic attachment styles as measured with Hazan and Shaver's (or similar) questionnaires have been linked in theoretically predictable ways to their recollections of their early relationships with their parents (Bartholomew & Horowitz, 1991; Collins & Read, 1990; Feeney

& Noller, 1990; Hazan & Shaver, 1987; Simpson, 1990). For example, in one study, secure adults reported having warmer early relationships with their parents than insecure adults reported having (Hazan & Shaver, 1987). In another inquiry, college students' descriptions of their opposite-sex parents were associated with the students' partners' self-reported tendencies in romantic relationships (Collins & Read, 1990).

Limitations inherent to using these questionnaires, however, demand that these findings be interpreted cautiously. Specifically, in light of the fact that attachment strategies are thought to include distortions (minimizing and maximizing tendencies), attachment research questions and self-report measures may be particularly ill matched. Moreover, like the AAI data, these findings do not speak to the extent to which romantic attachment style is derived from early attachments, and/or the extent to which individuals' current romantic partnerships are coloring their recollections of their parents. Most promising among the measures of attachment style may be Bartholomew's peer and family attachment interviews, which, like the AAI, are scored by trained coders (Bartholomew & Horowitz, 1991; Griffin & Bartholomew, 1994; see also Crowell's [1990] Close Relationship Interview).

We raise two additional issues that are especially pertinent to understanding the influence of early attachments on later romantic partnerships. The first concerns the differences between infant–parent attachments and romantic partnerships. Specifically, although Bowlby singled out future romantic relationships as particularly likely to be influenced by early attachments, infant–parent relationships differ from romantic partnerships in ways that may make understanding the relations between these types of relationships especially challenging. In particular, although both infant–parent relationships and most marriages can be considered attachment relationships, the infant–parent relationship is not reciprocal: Whereas the infant is attached to the parent, and seeks the parent as a secure base, the parent is not attached to the infant. Rather, the parent is said to be bonded to the infant, as that infant's caregiver (Ainsworth, 1989). In most romantic partnerships, however, each partner is an attachment figure to the other: Each is the other's caregiver, and each typically seeks the other as a secure base (Shaver, Hazan, & Bradshaw, 1988). These differences in the two types of close relationships must be considered when researchers

are thinking about the influence of early attachments on later romantic bonds.

A second important issue concerns the influence of another type of attachment relationship on individuals' romantic partnerships: their own parents' marriages. Hazan and Shaver (1987), in fact, found links between adults' recollections of the quality of their parents' marriages and these adults' self-reported romantic attachment styles. It is likely that individuals' working models of romantic attachments are informed not only by their relationships with their parents but also by their parents' marital relationships, and that both of these types of relationships influence people's romantic partnerships.

Relationships with Children

A number of inquiries have revealed associations between the AAI coder-rated scores for parents' probable early attachment-related experiences and (1) their own parenting behavior and (2) their infants' attachment to them (e.g., Fonagy, Steele, & Steele, 1991; Main & Goldwyn, 1984). In the first of these inquiries, there was a strong correlation between a mother's (AAI coder-rated) experience of rejection by her own mother and her infant's avoidance of her during the strange situation (Main & Goldwyn, 1984). More recently, mothers of secure infants were found to have reported, during pregnancy, having had more loving mothers than mothers of avoidant (but not ambivalent) infants; notably, there were no differences based on these mothers' early experiences with their fathers (Fonagy et al., 1991).

Perhaps the most intriguing information about the influence of parents' early relationships with their parents on the infant-parent attachment has come from examining the connections among parents' early experiences, parents' current state of mind, and infant-parent attachment in cases when early experiences and current state of mind are *discordant*, as has been illustrated by two recent investigations. In the first study, the researchers examined the parenting behavior of two subgroups of adults classified according to the AAI as autonomous (secure): One "continuously secure" subgroup was coded as having supportive early attachments, and one "earned secure" subgroup had unsupportive early attachments (Pearson, Cohn, Cowan, & Cowan, 1994). Although the earned and continuously secure parents had different early attachment experiences, there were no differences in the observed

parenting of earned secure versus continuously secure parents. In addition, the earned secure parents were observed to be warmer and to provide more structure to their preschoolers than insecure parents.

Parallel findings have emerged from another investigation of earned and continuous security in which mothers' "positive" parenting of toddlers was observed under varying degrees of daily parenting stress (Phelps, Belsky, & Crnic, 1998). Under conditions of high stress, earned and continuously secure mothers demonstrated equally positive parenting, again demonstrating that early attachments do not necessarily forecast later relationships. In addition, both groups of secure mothers were more positive with their toddlers than were mothers classified as insecure. There were no attachment group differences under conditions of low stress.

Both of these innovative inquiries speak to the limits of the influence of early attachments on subsequent attachment relationships. These data are consistent with Bowlby's arguments that although working models created within early attachments are expected to exert far-reaching effects, changes in working models can occur and can disrupt the influence of early experiences. Moreover, according to the theory, if there is discontinuity between early and later working models of attachment, current relationships can reflect current as well as former models (Bowlby, 1969/1982, 1979, 1988; Main & Goldwyn, in press).

Another question concerns the parameters of changes in working models. For example, in Pearson et al.'s (1994) study, there were significant differences between the earned and continuously secure parents on depressive symptomatology, with earned secure parents reporting more symptoms of depression than continuously secure parents. This finding implies that there may have been lingering psychological effects of the difficult early attachments that these earned secure parents reported. Depressive symptomatology can in turn affect relationships (DeMulder & Radke-Yarrow, 1991; Downey & Coyne, 1990; Teti, Gelfand, Messinger, & Isabella, 1995). Finally, Bowlby (1979) wrote that "the stronger the emotions . . . the more likely are the earlier and less conscious models to become dominant" (p. 142). Thus, in the same way that attachment group differences in parenting behavior have been illuminated under stressful conditions (Phelps et al., 1998), particular situations or particular relationships—especially those evoking

strong feelings—may affect the extent to which people rely on current versus former working models (see also Mikulincer, Florian, & Weller, 1993; Simpson, Rholes, & Nelligan, 1992).

Relationships with Romantic Partners and Children: Summary

In sum, although romantic and child-rearing relationships are hypothesized to be especially susceptible to the influences of early attachments, understanding the links between early attachments and later romantic and child-rearing relationships has been hampered by the absence of prospective studies of infant–parent attachment and adult romantic relationships and parenting. Some insights into the influence of early attachments on these later relationships have come from studies drawing on objective ratings and self-reports of adults' recollections of their early relationships. Researchers have also begun to illuminate the limits of the contributions of early attachments to subsequent relationships.

Interestingly, the further examination of discontinuity between early attachment experiences and later attachment relationships appears to hold the most promise for elucidating the workings of internal models of attachment and attachment strategies. Continuing to probe the connections—and lack of connections—among early experiences, current state of mind, and relationships with romantic partners and children should help illuminate the relative contributions of early and later attachment experiences to adults' close relationships. These types of data in turn may have important clinical implications for understanding how and when change is possible, and may illuminate fundamental issues in developmental psychology, such as the notion of “sensitive periods” in a person's life for various developmental phenomena (see, e.g., Gallagher & Ramey, 1987; Gollin, 1981; Wachs & Gruen, 1982).

The Influence of the Infant–Parent Attachment on Nonaffectional Bonds: Relationships with Peers and Interactions with Strangers

Relationships with Peers

Despite Bowlby's emphasis on the influence of early attachments on later *close* relationships, arguably the largest single body of attachment research addresses the connections between

child–parent attachment and children's nonaffectional bonds. In response to findings illustrating the importance of early peer relationships for later mental health (see Parker & Asher, 1987, for a review), many researchers have examined the contribution of the infant–parent attachment to children's relationships with their peers. The research on the links between early attachment and children's peer relationships is multifaceted. There exist contemporaneous and longitudinal investigations of toddlers, preschoolers, and school-age children, with data provided by mothers, teachers, independent observers, and peers on children's behavior *toward* others, as well as treatment received and/or elicited *from* others. Although the findings are by no means uniform, they are strikingly consistent in illustrating a relation between secure child–mother attachment and more harmonious interactions with peers, higher regard from peers, and fewer behavior problems in both preschool and elementary school classrooms.

Relations between attachment quality and children's interactions with peers first emerged in a series of studies conducted by Sroufe and his colleagues (see Ellicker et al., 1992, and Kerns, 1996, for reviews). One early investigation used a modified version of the strange situation, in which 15-month-old infants were classified as either “secure” or “anxious” (Waters, Wippman, & Sroufe, 1979). Two years later, observers' *Q*-sorts of children's “peer competence” in the preschool classroom consistently favored the children who had been classified as secure. In another preschool inquiry, teachers rated 4- to 5-year-olds who had been classified as secure as higher on ego control and ego resiliency than children who had been classified as insecure (Arend, Gove, & Sroufe, 1979). In still another preschool study, two classrooms of 4- to 5-year-olds whose attachment classifications were stable from 12 to 18 months were observed extensively over at least one semester (LaFreniere & Sroufe, 1985). Teachers rated secure preschoolers as more socially competent than insecure children, and observers scored the secure children higher on measures of social participation and social dominance than ambivalent children and lower on negative affect than avoidant children. Secure children were also better liked by their classmates than insecure children.

Three additional preschool investigations were based on these same children. One demonstrated attachment group differences on a composite measure of empathy (based on teacher reports

and independent observations): Secure children received higher empathy scores than avoidant children, although the ambivalent children did not differ from either the secure or the avoidant children (Kestenbaum, Farber, & Sroufe, 1989). In an inquiry into children's bullying when they were paired with same-sex classmates, secure children were less likely than their insecure counterparts to act as bullies; moreover, none of the children who had been classified as secure was bullied (Troy & Sroufe, 1987). Finally, these same secure children were viewed by both teachers and observers as exhibiting fewer behavior problems than their avoidant and/or ambivalent counterparts (Erickson, Sroufe, & Egeland, 1985; see Fagot & Kavanagh, 1990, for both parallel and contradictory findings; see Bates & Bayles, 1988, and Bates, Maslin, & Frankel, 1985, for contradictory findings).

Findings consistent with those of Sroufe and his colleagues have emerged from a longitudinal inquiry conducted in southern Germany (Suess, Grossmann, & Sroufe, 1992), as well as from two other European investigations in which attachment quality and preschool behavior were examined concurrently at ages 4 (Turner, 1991) and 6 (Wartner, Grossmann, Fremmer-Bombik, & Suess, 1994). Parallel evidence has also come from an inquiry into hostile/aggressive behavior in the preschool classroom: In this study, the recently identified "disorganized/disoriented" attachment classification was most strongly linked to preschool hostility and aggression (Lyons-Ruth, Alpern, & Repacholi, 1993). Contradictory findings emerged from a longitudinal investigation including measures of attachment quality at 12 months and 4 years of age, as well as teacher and observer ratings of preschool behavior: No connections emerged between attachment quality and behavior with peers (Howes, Matheson, & Hamilton, 1994).

Several studies have linked attachment and behavior toward peers in school-age children. In two inquiries, both attachment quality and school behavior were examined at age 6 (Cohn, 1990; Solomon, George, & De Jong, 1995). In the first of these investigations, insecure boys were described by their teachers as less personally and socially competent and as having more behavior problems than secure boys. Insecure boys also were viewed by their classmates as more aggressive than secure boys and were less well liked than secure boys; no attachment group differences emerged for girls (Cohn, 1990). In the sec-

ond of these investigations, which focused on attachment problems, disorganized/controlling children were rated by teachers as having more behavior problems than their secure, avoidant, and ambivalent classmates, and in particular as being more hostile than the secure and ambivalent children (Solomon et al., 1995; see Shaw, Owens, Vondra, Keenan, & Winslow, 1996, for convergent longitudinal data). In a similar study of first- through third-graders in which the focus was on teacher-rated behavior problems, attachment group differences based on 18-month (but not 12-month) assessments were discerned for boys only, with insecure boys less likely than boys who had been securely attached to be classified as aggressive or passive/withdrawn (Renken, Egeland, Marvinney, Mangelsdorf, & Sroufe, 1989; see also Lewis, Feiring, McGuffog, & Jaskir, 1984, for similar findings with mother-rated behavior problems). Finally, in the Minnesota summer camp follow-up, 10- and 11-year-old children who had been secure infants were rated by their counselors as more socially competent than children who had been insecure (Elicker et al., 1992; Shulman et al., 1994), even after concurrent indices of socioemotional functioning were controlled (Sroufe, Egeland, & Kreutzer, 1990).

Interactions with Strangers

As we have discussed, attachment theory emphasizes the influence of early attachments on later close relationships. To the extent that children's interactions with strangers are not relationships at all, children's interactions with strangers may not be influenced by early attachments. Children's interactions with strangers may have more roots in the sociable (affiliative) system than in the attachment system (see Cassidy & Berlin, *in press*).

At the same time, all close relationships (except, arguably, for familial relationships) begin with interactions between strangers. The way in which people approach strangers—what Main and Weston (1981) discussed as "the readiness to establish new relationships"—may reflect their internal working models of themselves, others, and relationships. Moreover, the extent to which sociability (as opposed to internal working models) "drives" interactions with strangers may depend on the potential for forming a relationship with a given stranger. For example, the attachment system may be more influential in an indi-

vidual's interactions with someone with whom he or she hopes to form a relationship (e.g., an attractive stranger at a cocktail party), whereas the sociable system may be more influential in an individual's interactions with someone with whom he or she is less likely to form a relationship. Considering the relations between attachment quality and interactions with new people should help elucidate these issues.

Investigations of attachment and children's interactions with unfamiliar children and adults have yielded mixed results. Associations between attachment quality and behavior with unfamiliar children have been indicated in three studies (Lieberman, 1977; Pastor, 1981; van den Boom, 1995), but have not been found in two studies (Jacobson & Wille, 1986; Howes et al., 1994). Two investigations have indicated connections between attachment security and sociability with adults (Main & Weston, 1981; Plunkett, Klein, & Meisels, 1988), but three studies have not revealed such links (Frodi, 1983; Lamb, Hwang, Frodi, & Frodi, 1982; Thompson & Lamb, 1983).

Relationships with Peers and Interactions with Strangers: Summary

In sum, the extensive and multifaceted literature on the associations between child-parent attachment and children's peer relationships offers generally consistent evidence of an association between a secure child-mother attachment and more harmonious interactions with peers. As Belsky and Cassidy (1994) have suggested, in comparison to the research on the relations between early attachments and (1) affectional bonds and (2) interactions with (familiar) peers, the less consistent body of studies on early attachment and interactions with strangers can be taken as tentative support for Bowlby's and Ainsworth's emphasis on the greater contribution of infant-parent attachments to *close* relationships.

It is not enough, however, to compare findings of the relations between attachment quality and affectional and nonaffectional bonds across studies. More conclusive evidence of a closer connection between child-parent attachment and affectional bonds than between child-parent attachment and nonaffectional bonds would come from researchers' identifying "attachments," "affectional bonds," and "nonaffectional bonds" (see Ainsworth, 1989).

In addition, we suggest within-study and/or

within-person comparisons of the links between early attachments and nonaffectional bonds, affectional bonds, and attachments. The existing research may be clouded by the likelihood that some of the peer interactions investigated were in fact "unidentified" interactions between friends. Moreover, research on children's peer relationships has indicated that peer acceptance and friendship each play unique roles in children's socioemotional functioning (e.g., Parker & Asher, 1993). It may be that a child's behavior in a classroom in which he or she has a friend differs markedly from the same child's behavior in a classroom in which he or she has no friends, and that the influence of the child-parent attachment is different in these different settings. We propose that attachment researchers attend more carefully not only to the distinctions between children's relationships, but also to the interactions among the influences of these various relationships.

Finally, since the time of Bowlby's writings, scholars focusing on "nature" (vs. "nurture") have argued convincingly for the contributions of genes and/or temperament to individual differences in sociability (e.g., Plomin, 1986; Suomi, 1997). It may be that temperament plays a larger role in interactions with strangers, whereas attachment security plays a larger role in the initiation and maintenance of relationships. In particular, future studies of the development of relationships vis-à-vis people's interactions with peers and strangers could benefit from including measures of temperament.

The literature on the connections between early attachments and nonaffectional relationships also offers some food for thought on minimizing and maximizing attachment strategies, especially in regard to the ways in which behaviors in one relationship can serve the "goals" of another. Specifically, given that peers and strangers are not by definition attachment figures, children's interactions with peers and/or unfamiliar others may serve as an arena in which the children minimize or maximize their attachment to *their parents*. For example, at a birthday party, an ambivalent child may withdraw from peers and cling to the mother's skirt to emphasize (nonconsciously) his or her dependence on the mother.

At the same time, children's interactions with peers and unfamiliar others may contain the seeds of close relationships, and these interactions may serve to minimize or maximize a *potential* attachment to the peer (e.g., at a birth-

day party an ambivalent child may demonstrate maximizing behavior to another child by shadowing or clinging to the child). These two possibilities are not necessarily mutually exclusive; they may depend on such factors as the child's age and the nature of the situation, including the presence or absence of established attachment figures. For example, the ambivalent child's clinging to the mother at the hypothetical birthday party may also serve as a signal to the child's peers, which may elicit caregiving or, alternatively, bullying. Similarly, a child's clinging to the mother every time the child is dropped off for preschool may elicit extra caregiving from the teacher.

With regard to the avoidant pattern, avoidant children might be expected to minimize attachment to both parents and peers by interacting with their classmates and peers in a neutral, cool, and distant manner that in no way draws attention to themselves, their needs, or their vulnerabilities. In fact, however, the most definitive characterization of avoidant children's interactions with peers comes from the studies of attachment and behavior problems, which have portrayed avoidant children as aggressive and hostile. In Troy and Sroufe's (1987) study of bullying among peers, it is notable that all of the children who bullied were avoidant (see also Renken et al., 1989, for consistent findings; see Fagot & Kavanagh, 1990, for both parallel and contradictory findings). It is also important to note that since the identification of the disorganized/disoriented attachment classification, attachment disorganization has been linked more closely than avoidance to children's hostile/aggressive behaviors, although in several studies this disorganization has also included a high degree of avoidance (e.g., Lyons-Ruth et al., 1993; Solomon et al., 1995; see Lyons-Ruth, 1996, and Lyons-Ruth & Jacobvitz, Chapter 23, this volume, for comprehensive reviews and discussions).

Posthoc reflection on the seemingly antithetical connections between avoidance and hostility suggests ways in which aggression and hostility toward peers are consistent with a minimizing strategy. First, aggressive and hostile behaviors are alienating as well as derogating patterns of behavior, both of which are consistent with the minimization of attachment (Main & Goldwyn, in press). Second, the hostility and aggression associated with the avoidant group may reflect a pattern of unsuccessfully attempting to suppress negative emotions: The individual attempts to

suppress negative emotions which eventually build up beyond control and erupt in hostile outbursts (see Cassidy, 1994, and Malatesta-Magai, 1991, for reviews of the notion that the minimization of attachment involves suppression of negative affect). These outbursts, however, may only make the avoidant individual all the more concerned about his negative feelings and the importance of controlling them. In an effort to prevent further outbursts, negative emotions are bottled up again, and the cycle continues.

The Influence of the Infant-Parent Attachment on Subsequent Affectional and Nonaffectional Bonds: Linking Mechanisms

As described earlier, Bowlby posited that people's internal working models guide both cognitive and emotional processes—including expectations, attention deployment, interpretation, and memories—which in turn guide behavior. Given the array of evidence on the connections between early attachments and subsequent relationships, both theorists and researchers have begun to focus more on linking mechanisms and, specifically, on representational models (see Bretherton & Munholland, Chapter 5, this volume; Cassidy & Berlin, in press).

There is increasing evidence to support the argument that representations mediate the associations between early attachments and children's other relationships. First, numerous studies have indicated associations between attachment quality and representations of self, others, and attachment in general (e.g., Cassidy, 1988; Main et al., 1985; Slade, Belsky, Aber, & Phelps, in press). Furthermore, one investigation revealed connections between infant-mother attachment and not only children's representations of their peers but also these children's peer relationships (Suess et al., 1992). A follow-up study reported identical findings when attachment was assessed at age 6 (Wartner et al., 1994). Finally, one investigation has simultaneously linked attachment quality, representations, and relationship quality: Cassidy and her colleagues presented evidence that children's peer/friend representations mediate the association between child-mother attachment and the quality of children's friendships (Cassidy, Kirsh, Scolton, & Parke, 1996). Parallel findings have come from a study of one aspect of college students' representations of relationships, termed "rejection sensitivity" (Feldman & Downey,

1994). This study did not include direct assessments of early attachment quality, but rather focused on early (attachment-relevant) experiences of family violence as assessed via self-reported frequency and severity of parental physical maltreatment and parent–parent aggression. The students’ “rejection sensitivity” was found to mediate the association between early experiences of family violence and these students’ self-reported romantic attachment styles.

Continued research along these lines, especially research that integrates established assessments of representational processes developed within different but parallel research traditions, should prove fascinating (see Baldwin, 1992, for a discussion of the ubiquity of the emphasis on representational processes across different research traditions). Other promising avenues include examining the development and evolution of cognitive “structures” (see Piaget, 1954) and examining the influence of experience on brain functioning and the development of neural pathways (see, e.g., Cicchetti & Tucker, 1994; Siegel, 1999).

In addition to representational processes, it is also important to consider other types of mechanisms linking early attachments and subsequent affectional and nonaffectional bonds. There may be more direct connections between attachments and other bonds. Parents of secure children may provide their children with more opportunities to establish social networks and to make friends. Some evidence for this supposition comes from Lieberman’s (1977) investigation of attachment security and peer relationships, in which attachment security was positively related to the extent of children’s contacts with peers. Parents of secure children may also teach their children to value relationships and may advise their children in such a way as to help them develop and maintain harmonious friendships. Secure children also may be more likely to receive supportive treatment from their parents and (as discussed earlier) to observe their parents in harmonious interactions with each other and with the parents’ own adult peers and friends. Thus secure children may model their parents’ relationships.

THE INFLUENCE OF PARENTS’ OTHER RELATIONSHIPS ON THE INFANT–PARENT ATTACHMENT

In the same way that the infant–parent attach-

ment is proposed to contribute importantly to other relationships, parents’ other relationships are proposed to contribute importantly to their abilities to provide their infants with a secure base, and thus to the infant–parent attachment. Parents’ attachments, especially their bonds to their own parents and to each other, are expected to be especially influential. We begin this section with a brief discussion of the influence of parents’ relationships with their parents. Then we consider the influences of parents’ marital relationships and parents’ social support. Finally, we discuss a less commonplace but equally important influence on infant–parent attachment—the influence of parents’ psychotherapeutic relationships.

The Influence of Parents’ Relationships with Their Parents on the Infant–Parent Attachment

Arguably the single most important set of relationships to influence the infant–parent attachment are parents’ relationships with their own parents. As discussed earlier (under the rubric of the influence of early attachments on subsequent child-rearing relationships), however, understanding the influence of parents’ early attachments on their own parenting behavior has been limited by the absence of prospective studies. Some insight has come from the studies using the AAI scales to examine the link between parents’ early attachment experiences and their own child-rearing behaviors (as discussed earlier—e.g., Fonagy et al., 1991; Phelps et al., 1998).

In addition to examining parents’ retrospective accounts of their early relationships with their parents, researchers have also investigated contemporaneous associations between parents’ relationships with their parents and the infant–parent attachment. Although none of these studies include data on parents’ early attachments to their parents, they do provide some preliminary evidence of contemporaneous relations between supportive mother–grandmother relationships and a greater likelihood of a secure infant–mother attachment (Frodi et al., 1984; Levitt, Weber, & Clark, 1986; Spieker & Bensley, 1994). In light of the theory’s emphasis on the influence of parents’ early attachments on their own parenting, the lack of conclusive data on this issue highlights the need for further research on the topic.

The Influence of the Marital Relationship on the Infant-Parent Attachment

In his earliest writings, Bowlby discussed marital harmony as key to infant development: "By providing love and companionship [the husband] support[s] the mother emotionally and help[s] her maintain that harmonious contented mood in the atmosphere of which the infant thrives" (1953, p. 13). Bowlby thus argued that marital quality contributes *indirectly* to the infant-parent attachment. Similarly, Belsky has argued that marital quality is one of several "distal" factors (vs. "proximal" processes, such as mother-infant interaction) that acts in concert—interactively and/or additively—to predict infant-parent attachment (Belsky, 1981, 1984, 1996; Belsky & Isabella, 1988; Belsky, Rosenberger, & Crnic, 1995).

The research on the connections between marital quality and attachment quality has yielded generally consistent evidence of a positive association between the two: These associations have been documented in both low- and high-risk samples in cross-sectional inquiries conducted in the United States (Crnic, Greenberg, & Slough, 1986; Goldberg & Easterbrooks, 1984 [with more consistent findings for infant-father than for infant-mother attachment]; Teti, Nakagawa, Das, & Wirth, 1991), in Japan (Durrett, Otaki, & Richards, 1984), and in England (Stevenson-Hinde & Shouldice, 1995). They have also been documented in longitudinal studies, three of which have linked prenatal and/or postnatal marital quality to infant attachment quality (Belsky & Isabella, 1988; Howes & Markman, 1989; Isabella & Belsky, 1985; Jacobson & Frye, 1991; Lewis, Owen, & Cox, 1988 [for daughter-mother but not son-mother attachment quality]; Spieker & Booth, 1988; Teti, Sakin, Kucera, Corns, & Das Eiden, 1996; see Levitt et al., 1986, and Zeanah et al., 1993, for null findings; see Belsky et al., 1995, for a review).

As Belsky et al. (1995) have discussed, especially provocative findings on the associations between marital quality and early attachment come from two inquiries in particular. The first illustrated the indirect effects of marital quality on infant-mother attachment. Specifically, prenatal marital quality predicted mothers' role satisfaction, which in turn forecast both maternal sensitivity and infant-mother attachment (Isabella, 1994). In the second study, the effects of marital quality were moderated by mothers' current

working models: Mothers' self-reported marital quality correlated positively with children's security, but only for mothers classified as insecure according to the AAI (Das Eiden, Teti, & Corns, 1995). It may be that for secure mothers, current state of mind "drives" marital quality, sensitive parenting, and child attachment, whereas for insecure mothers, current state of mind with respect to attachment is more malleable and open to the influence of the current marriage. That is, relationships that contribute to the infant-parent attachment may be differentially influential for different people. Only additional research will clarify these processes. Especially in light of the fact that marital quality is hypothesized to contribute indirectly to infant-mother attachment, multigenerational, multimeasure studies of the direct and indirect effects of adults' past and present relationships with their parents and with their spouses are essential.

Furthermore, greater attention to methodological issues may facilitate future investigations of the associations between marital quality and child-parent attachment. Specifically, most studies to date have relied on self-report assessments of marital quality, which may in turn obscure associations between marital quality and child-parent attachment, especially if the insecure attachment groups are combined. In particular, given the apparent inclinations of dismissing/avoidant individuals to disavow personal troubles (e.g., Berlin, Cassidy, & Belsky, 1995; Kobak & Sceery, 1988; Main & Goldwyn, in press; see also Stevenson-Hinde & Shouldice, 1995), and given the generally concordant attachment patterns between infants and their parents (van IJzendoorn, 1995), one might expect parents of avoidant infants to deny marital difficulties, perhaps even to the point of defensively idealizing their marriages and reporting the most positive marriages of all three attachment groups. If this is the case, examining the insecure groups individually should prove fruitful. Including more observational measures of marital quality should also be helpful.

In addition, assessments of marital quality vary; some are more global, whereas others tap specific aspects of the marital relationship. It may be that the most important aspect of the marital relationship for the infant-parent attachment is the extent to which an infant's attachment figure perceives emotional support from his or her spouse or partner (i.e., the extent to which the partner serves as a secure base). Other aspects of the spousal relationship, such as partners' abili-

ties to work and have fun together, their financial security, and their sexual compatibility, may be less relevant to understanding attachment processes.

The Influence of Parents' Social Support on the Infant-Parent Attachment

In the same way that parents' close relationships are expected to influence parenting and the infant-parent attachment, parents' more general social support has also been hypothesized to enhance parenting and infant security. Just as the theory posits stronger connections between early attachments and subsequent close (vs. nonaffectional) relationships, attachment theory also calls for stronger influences of the parents' close (vs. nonaffectional) relationships on the infant-parent attachment. More studies than not have in fact found *no* direct connections between parents' social support and infant-parent attachment (Belsky, 1996; Belsky et al., 1995; Belsky & Isabella, 1988; Crockenberg, 1981; Isabella, 1994; Levitt et al., 1986; Zeanah et al., 1993; see Belsky et al., 1995, for a review)—findings that can be taken as support for attachment theory's emphasis on close relationships.

As with the associations between marital quality and infant-parent attachment, the links between social support and infant-parent attachment are complex. One pioneering work, for example, revealed associations between social support and infant-mother attachment only in dyads with temperamentally "irritable" infants (Crockenberg, 1981). Similarly, it is notable that the only study to yield evidence of direct connections between infant-mother attachment and social support was an investigation of high-risk premature infants (Crnic et al., 1986). Taken together, these two investigations raise the question of whether the effects of social support on infant-parent attachment may be moderated by infant risk status. The influence of social support on infant-parent attachment has also been shown to be mediated by maternal role satisfaction (Isabella, 1994), and to act in concert with other "distal" factors (e.g., marital satisfaction and work-family relations) to predict infant-father attachment (Belsky, 1996).

In sum, consistent with some of our previous recommendations for future research, we suggest that studies of social support and attachment will be enhanced by more precise distinctions between affectional and nonaffectional bonds. For

example, in Crockenberg's (1981) study, mothers' perceptions of support from their husbands were considered part of "social" support, making it impossible to separate marital quality from the quality of nonaffectional social support. We suggest that it is crucial to separate "social" support derived from intimate relationships from more general social support within the context of nonaffectional bonds. In addition, to the extent that assessments of social support are bound to self-report procedures, researchers must take care to use measures that either circumvent or assess individuals' minimizing and maximizing biases.

The Influence of Parents' Psychotherapeutic Relationships on the Infant-Parent Attachment

Bowlby viewed the psychotherapeutic relationship as a potential attachment relationship with the power to modify the influence of early attachments on subsequent affectional and nonaffectional bonds—in other words, to change relations among relationships. According to Bowlby (1988), a principal job of the therapist is, in fact, to serve as an attachment figure: to provide the patient with a secure base from which to explore and to rework his or her representational models of self, others, and relationships.

Several experimental intervention studies have addressed the effects of parents' participation in attachment-directed interventions (Barnard et al., 1988; Booth, Mitchell, Barnard, & Spieker, 1989; Erickson, Korfmacher, & Egeland, 1992; Jacobson & Frye, 1991; Lambermon & van IJzendoorn, 1989; van den Boom, 1994, 1995; see van IJzendoorn, Juffer, & Duyvesteyn, 1995, for a review and meta-analysis; see also Lieberman & Zeanah, Chapter 24, this volume). What is not completely clear from this body of studies, however, is the extent to which the therapeutic *relationship* per se (1) was designed to be the principal agent of change, and (2) functioned as the principal agent of change. Some of the interventions were explicitly focused on relationships, whereas others were more practical (e.g., didactic) interventions. And even when therapy is explicitly didactic, an important therapeutic relationship may develop. For example, although mothers in one study were assigned to two different types of intervention services, "mental health" and "information/resource," home visitors' records indicated that many of the information/resource mothers actually received mental health services which centered on the establish-

ment of a therapeutic relationship (Booth et al., 1989). In this study, it was receiving mental health services that predicted the quality of mother-child interaction.

Some insight into the influence of mothers' psychotherapeutic relationships on the infant-mother attachment has come from two attachment intervention studies. In one intervention designed to provide a "corrective attachment experience," mothers' "level of involvement" in the therapeutic process was found to relate to these mothers' subsequent interactions with their toddlers, to their toddlers' Attachment *Q*-Sort security scores, and to a dyadic assessment of the "goal-corrected partnership" (Lieberman, Weston, & Pawl, 1991; see also Lieberman & Pawl, 1988).

In another study, in which the effects on infant-mother attachment of mothers' participation in psychodynamically oriented therapeutic sessions were compared to the effects of more practical intervention services (toy demonstrations and linking families to social services), there were no differences in the two intervention groups' effects on infant-mother attachment (Lyons-Ruth, Connell, Grunebaum, & Botein, 1990). This null finding, however, may be explained by qualitative ratings indicating that both groups of mothers reported "strong positive" relationships with their home visitors (Lyons-Ruth, Botein, & Grunebaum, 1984). These investigations underscore the importance of future studies measuring the quality of the psychotherapeutic relationship and its influence on attachments (see also Berlin, O'Neal, & Brooks-Gunn, 1998; Horvath & Symonds, 1991; Korfmacher, 1998; Nezowski, Belsky, & Tolan, 1988).

Another suggestion for future studies of the connections between parents' psychotherapeutic relationships and infant-parent attachment concerns long-term effects. Although van IJzendoorn et al. (1995) have suggested that longer-term interventions are less effective in changing attachments than short-term interventions, we believe that this conclusion may be premature. It may be instead that deeper-reaching therapeutic interventions require extensive time in which to yield effects (i.e., longer time than the existing studies permitted). That interventions can effect important changes in the infant-mother relationship (e.g., in maternal sensitivity), even if the infant-mother attachment does not change, has been illustrated by several inquiries (Barnard et al., 1988; Beckwith, 1988; Erickson et al., 1992; Lieberman et al., 1991). Moreover, qualitative

analyses within some of these investigations have suggested that deeper changes may have been in progress at the time that intervention outcomes were assessed. For example, in Lieberman et al.'s (1991) inquiry, although there were no associations between mothers' participation in psychotherapy and infant-mother attachment per se, after 6 months of therapy it was noted that the intervention infants who had been avoidant were more likely than the avoidant infants in the control group to have changed attachment classifications—a finding that the authors suggest may have indicated a reduction of defensiveness in the intervention group. Moreover, in Lyons-Ruth et al.'s (1990) investigation, in addition to there being significantly fewer infants classified as disorganized/disoriented in the intervention group, the authors noted that the disorganized infants who were in the intervention group were disproportionately likely to be classified as "disorganized/secure"—that is, as showing some underlying elements of security. This finding may have reflected a growing potential for attachment security within these insecurely attached intervention group infants.

The Influence of Parents' Other Relationships on the Infant-Parent Attachment: Summary

In this section we have reviewed the evidence of the influence of parents' other relationships on the infant-parent attachment. Perhaps the most intriguing data come from the attachment intervention studies. Although these data do not illustrate that the therapeutic *relationship* is what influences or changes the infant-parent attachment, they do provide some intriguing hints along these lines. In their suggestion of the power of therapeutic relationships to change (i.e., to *discontinue*) relations among relationships, the attachment intervention studies highlight the importance of understanding discontinuity. Taken together with our earlier discussions of discontinuity in attachment experiences (such as for the AAI "earned secure" subgroup), these inquiries highlight the value of elucidating *discontinuity* for understanding attachment processes and relations among relationships on the whole.

It is also important for researchers to continue to examine the ways in which the influences of parents' early and later attachments interact. The suggestion from Das Eiden et al.'s (1995) work that people may be differentially susceptible to

the influences of certain relationships is especially intriguing; it brings up the question of what factors may influence this susceptibility. There may be attachment-related factors (i.e., the working models of insecurely attached people may be more malleable than the working models of securely attached people) or factors that are not related to attachment, such as age, gender, and temperament (see also Belsky, 1997, for further discussion of this issue). Finally, researchers should consider further the mechanisms linking these other relationships to the infant–parent attachment. Supportive spouses and therapists may, as Bowlby (1953) first suggested, increase parents' security and their abilities to serve as a secure base. These relationships may also enhance self-awareness and awareness of others, which in turn may enhance the parents' sensitivity to their infants' attachment signals (see Belsky, 1984). These possibilities are not necessarily mutually exclusive and, again, may differ for different people.

THE CONCORDANCE OF INFANT–CAREGIVER ATTACHMENTS

Although much of attachment theory and research addresses the bond of one infant to one parent, both the theory and the research also speak to caregivers' multiple bonds to different children and to children's multiple attachments (e.g., Ainsworth, 1989; Bowlby, 1969/1982, 1979; Howes, Chapter 29, this volume; van IJzendoorn & Sagi, Chapter 31, this volume). Given that most parents have more than one child and that most children have more than one attachment figure, understanding these multiple bonds is essential to understanding relations among relationships. Moreover, considering the concordance of infant–parent attachments requires addressing a key argument within attachment theory and research: that the principal mechanisms underlying relations among relationships are internal working models. Specifically, if a primary caregiver's working models of attachment do in fact guide her caregiving behaviors, the caregiver's children should show similar infant attachment patterns, barring major changes between pregnancies. At the same time, if an infant's working models of attachment are in fact specific to each early caregiver, if early caregivers have different working models of at-

tachment and different caregiving styles, infants should form different attachments across caregivers. Investigators have addressed both of these sets of propositions.

The Concordance of Infant–Caregiver Attachments across a Caregiver's Multiple Infants

Researchers have examined the attachment quality of caregivers' multiple infants across twins, siblings, and children assigned to Israeli kibbutz caregivers (Goldberg, Perotta, Corter, & Minde, 1986; Sagi et al., 1985, 1995; Szajnborg, Skrinjaric, & Moore, 1989; Teti & Ablard, 1988; Ward, Vaughn, & Robb, 1988). Four diverse inquiries have indicated approximately 60% concordance of child–mother attachment across (1) high- and low-risk twins (Goldberg et al., 1986; Szajnborg et al., 1989); (2) low-income mothers' infants, each seen in a strange situation at 12 months of age (Ward et al., 1988); and (3) middle-class mothers' infants and young children assessed contemporaneously via the strange situation and maternal Attachment *Q*-Sort, respectively (Teti & Ablard, 1988). Moreover, in two separate kibbutz investigations, individual caregivers or *metaplot* were found to have infants who formed similar attachments to them, although in the second of these studies this effect emerged only for infants who spent nights with their parents and not for infants who slept in group housing (Sagi et al., 1985, 1995). As Sagi et al. (1995) point out, the lack of biological link between the *metaplot* and their infants and among the infants themselves rules out genetic explanations for attachment concordance, which makes these data especially informative. Taken as a whole, this group of studies illustrates concordance of attachment quality of different children to the same caregiver.

It is also important to remember that attachment theory fully allows for discordant attachments across a caregiver's children, especially in the face of significant change in maternal behavior. Bowlby (1979) explicitly stated that "parents do not treat every child alike and may provide excellent conditions for one and very adverse ones for another" (p. 136). In Ward et al.'s (1988) study, discordance of attachment between siblings was related to instability of maternal behavior over time. This finding raises the question of what factors changed these mothers' parenting behaviors and in turn influenced their infants' at-

tachments. Given some evidence of discordance as well as concordance, researchers now need to scrutinize the conditions under which caregivers' children are similarly and dissimilarly attached.

The Concordance of Infant-Caregiver Attachments across an Infant's Multiple Caregivers

There have been several studies of the relations among infants' attachments to multiple caregivers, including mothers, fathers, child care providers, and kibbutz *metaplot* (Belsky & Rovine, 1987; Easterbrooks, 1989; Fox, Kimmerly, & Schafer, 1991; Goossens & van IJzenendoorn, 1990; Grossmann, Grossmann, Huber, & Wartner, 1981; Howes & Hamilton, 1992; Main & Weston, 1981; Sagi et al., 1985, 1995; Steele, Steele, & Fonagy, 1996). These studies have yielded mixed findings. Specifically, although several studies have indicated that one infant can form different types of attachments to different caregivers (Belsky & Rovine, 1987; Goossens & van IJzenendoorn, 1990; Grossmann et al., 1981; Howes & Hamilton, 1992; Main & Weston, 1981), there is equally (if not more) substantial evidence of associations between an infant's multiple attachments, especially across the infant's parents (Fox et al., 1991; Goossens & van IJzenendoorn, 1990; Steele et al., 1996; van IJzenendoorn & DeWolff, 1997).

As Fox et al. (1991) discussed in light of their meta-analytic findings of concordance between infant-mother and infant-father attachment, the two most compelling explanations of concordance of attachment across an infant's multiple caregivers center on (1) infant characteristics and (2) caregivers' shared child-rearing values and practices. There are limited data to address both of these arguments.

With respect to infant characteristics, concordance across an infant's multiple caregivers may be explained by the phenomenon of particular infant characteristics' "eliciting" the same type of caregiving and/or attachment strategy from different caregivers. One study addressed this possibility by examining the association between infant risk status (very low birthweight and prematurity) and the concordance of infant-mother and infant-father attachment (Easterbrooks, 1989). There was no association, however, between infant risk status and the extent of the match between infant-mother and infant-father attachment.

With respect to overlap in caregivers' childrearing

values and practices, Howes and Matheson (1992) reported stronger associations between child-mother and child-(nonparental) caregiver attachment when mothers' and caregivers' child-rearing values were more similar. In Steele et al.'s (1996) inquiry, however, it was not the case that when parents had similar AAI classifications (classifications that should have overlapped at least partially with their child-rearing values and practices), there was also greater concordance between infant-mother and infant-father attachment.

The evidence of concordance of attachment across an infant's multiple caregivers also raises the question of whether the quality of one attachment influences the quality of the other. According to Bowlby's concept of "monotropy," infants tend to have a principal attachment figure who is sought preferentially (above other attachment figures) as a secure base in times of trouble (Bowlby, 1958, 1969/1982). The attachment to the principal attachment figure may be more likely than other attachments to influence other bonds, including attachments to other caregivers. In Steele et al.'s (1996) study, which revealed concordance of infant-mother and infant-father attachment, one *post hoc*, empirically supported explanation was in fact that infant-mother attachment was influencing infant-father attachment.

Additional support for the notion that the principal attachment may be especially influential comes from the considerable number of inquiries suggesting a greater contribution from the child-mother attachment (usually the principal attachment) than from the child-father attachment to children's subsequent relationships. Furthermore, findings from more than one investigation have suggested that when children have a secure attachment to one attachment figure and an insecure attachment to another, children whose secure attachment is to their mothers are more socially competent than children whose secure attachment is to other caregivers (e.g., Howes, Rodning, Galuzzo, & Myers, 1988; Main & Weston, 1981).

The Concordance of Infant-Caregiver Attachments: Summary

In sum, the research on the concordance of infant-caregiver attachments has yielded evidence of both concordance and discordance, and has highlighted the importance of understanding the circumstances under which (1) a caregiver's chil-

dren are similarly and dissimilarly attached and (2) an infant forms similar and dissimilar attachments to his or her caregivers. The key features of such circumstances are likely to include caregivers' child-rearing values and practices, caregivers' stress, and children's temperaments, with some temperamental characteristics (e.g., infant "difficultness") likely to be more influential than others. Echoing suggestions made in previous sections of this chapter, we also urge that researchers more carefully identify infants' attachments, affectional bonds, and nonaffectional bonds. Although most infants do become attached to their fathers, and although many may become attached to familiar child care providers, the bonds of infants to their secondary caregivers (be they mothers, fathers, or others) are not automatically attachments. Clarifying the nature of infants' bonds should help clarify the connections among them.

CONCLUSIONS

Our review of attachment theory and research on relations among relationships has revealed considerable support for the claims of attachment theory; it has also illuminated some inconsistencies that require further attention. More specifically, our review illustrates substantial evidence of associations between a secure infant-parent attachment and children's more harmonious and supportive relationships with siblings, friends, and peers, as well as preliminary though intriguing evidence of connections between infant-parent attachment and subsequent romantic and child-rearing relationships. Our review also demonstrates generally theoretically predictable relations between parents' other relationships and the infant-parent attachment. Our review of the work on the concordance of infant-caregiver attachments has revealed less consistent findings.

Taken as a whole, our review indicates some (albeit tentative) evidence of closer connections between attachments and affectional bonds than between attachments and nonaffectional bonds. Specifically, there is more consistent evidence of relations between infant-parent attachment and children's other *relationships* than between infant-parent attachment and their interactions with strangers. Similarly, parents' close relationships seem to contribute both more importantly and more directly to infant-parent attachment than does parents' more general social support.

These apparently differential associations, however, require more rigorous scrutiny. A recurrent theme in our suggestions for future research has in fact centered on the importance of investigators' distinguishing more clearly among people's nonaffectional bonds, affectional bonds, and attachments.

Another recurring theme in our suggestions for next steps concerns the need to understand more about the role of the infant-father attachment in both influencing and being influenced by other relationships. It may be that the infant-father attachment contributes less to other relationships (including other attachments) than does the infant-mother attachment. It may also be, however, that the infant-father attachment simply exerts a different type of influence than does the infant-mother attachment. Furthermore, these influences may differ by the sex of the infant. Chodorow (1978, 1989), for example, has drawn on psychoanalytic theory to argue convincingly that child-mother relationships exert quite different influences on the future relational tendencies of males and females (see also Gilligan, 1982). We suggest further inquiry into (1) attachment to males versus females, (2) attachments of males versus females, and (3) the interaction between the two (e.g., what are the implications for future relationships of father-son attachment vs. father-daughter attachment?). There is also some recent evidence that the infant-father attachment is influenced by the infant-mother attachment (Steele et al., 1996).

A third recurring suggestion for future attachment theory and research concerns the importance of understanding discontinuous and discordant relations among relationships. More specifically, the investigations of adults classified as "earned secure" illustrate that the influence of early attachments on other relationships can be altered. The studies of the influence of parents' other relationships on the infant-parent attachment, moreover, raise the possibility that subsequent attachment experiences (e.g., marriage, psychotherapy) can be a source of such changes. Researchers must illuminate further the points where established working models cease to guide behavior and new working models are forged. These points are also likely to be different for different people at different developmental periods under different circumstances, especially stressful circumstances. We propose that the continued examination of attachment discontinuities and of discordance in infant-parent attachment will be especially valuable in address-

ing these issues. For example, it would be intriguing to conduct case studies of families in which one or both parents' adult attachment classifications do *not* match the quality of the infant-parent attachment (see Slade et al., 1995, for findings relevant to this question).

In a related vein, Bretherton (1985) noted well over a decade ago that, given evidence of discordance between an infant's attachments to different caregivers, we need more information about the sequelae of discordance (see also Ainsworth, 1990). The following are some of the most critical questions: How are discordant working models of attachment integrated into an adult's "current state of mind"? What are the forces that facilitate and/or prevent such integration? Are people with discordant working models of attachment more susceptible to the influence of other relationships than people with concordant working models? Addressing these questions could help illuminate the parameters of the influence of various attachment relationships.

It is important to note the limits of the influence of attachment relationships, and indeed the limits of the influence of relationships, period. As Rutter (1995) has argued, "There is a need to consider . . . dyadic relationships in terms that go beyond attachment concepts and to consider social systems that extend beyond dyads" (p. 556; see also Cowan, 1997; Thompson, 1997). It is important to remember that attachment theory emphasizes one aspect of one relationship (the extent to which a parent provides his or her child with a secure base). Hinde (1976), for example, has provided a detailed taxonomy of various other important dimensions of relationships, and Dunn (e.g., 1988b) has focused on the connections between child-sibling relationships and other relationships (see also Dunn, 1988a, 1993). It would enrich attachment theory and research to incorporate some of these other approaches. For example, it would be interesting to contrast the contributions of the child-mother attachment and the child-sibling relationship to subsequent close relationships. Finally, it is essential to bear in mind that numerous factors that have nothing to do with relationships (attachment or otherwise) contribute importantly to the qualities of people's relationships. These include characteristics of the individual, such as temperamental reactivity, physical appearance, IQ, and athletic abilities; characteristics of the family, such as socioeconomic status; and characteristics of the environment, such as the safety

of neighborhoods and cultural norms regarding relationships.

A final suggestion for understanding the contributions of attachment theory and research to understanding relations among relationships harkens back to the first volume of Bowlby's *Attachment and Loss* trilogy (Bowlby, 1969/1982) and reflects a renewed interest in the intersection of attachment and evolutionary theory (see Belsky, Chapter 7, this volume, and Simpson, Chapter 6, this volume). Specifically, given Bowlby's emphasis on the evolutionary adaptiveness of the infant-mother attachment, we suggest that it is important to question whether and how relations among relationships were evolutionarily adaptive. Belsky, Steinberg, and Draper (1991) have begun to address this question by arguing that connections between the infant-parent attachment and other relationships reflect "reproductive strategies" of mating and parenting that were originally developed to maximize individuals' reproductive fitness. Belsky (Chapter 7, this volume) has argued further that each of the three principal attachment patterns, with its accompanying relational tendencies, reflects a particular reproductive strategy. The questions of whether the existence of associations between early attachments and later relationships was ever or currently is evolutionarily adaptive require empirical attention. We hope that scholars will take up these and other questions raised in this chapter, in order to advance not only attachment theory and research, but also the broader understanding of relations among relationships.

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