The Insecure/Ambivalent Pattern of Attachment: Theory and Research

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CASSIDY, JUDE, and BERLIN, LISA J. The Insecure/Ambivalent Pattern of Attachment: Theory and Research. CHILD DEVELOPMENT, 1994, 65, 971–991. Relatively little has been written about one group of infants identified with Ainsworth's "Strange Situation" assessment of infant-parent attachment, those classified insecure/ambivalent. Although virtually all samples contain some insecure/ambivalent infants, these infants are uncommon, comprising 7%-15% of most American samples. Recently developed assessments of attachment in children and adults have identified attachment groups of older individuals thought to parallel the insecure/ambivalent infant group. Empirical work in which insecure/ambivalent individuals are examined as a separate group is reviewed within the context of attachment theory, and a coherent picture emerges of the antecedents (relatively low or inconsistent maternal availability; biological vulnerability) and sequelae (limited exploratory competence) of this group. This picture is used as the basis for additional theoretical proposals, and suggestions for future research are presented.

Research conducted across the past two decades has offered compelling support for the use of the "Strange Situation" to assess infant attachment. In this procedure, the 12–18-month-old infant remains in a laboratory playroom while the parent and a female "stranger" alternately leave and return (Ainsworth, Blehar, Waters, & Wall, 1978). Substantial data suggest that the three principal attachment patterns that emerge from this procedure both reflect early caregiving history and predict various important aspects of social development (for reviews, see Belsky & Cassidy, in press, and Bretherton, 1985; for a divergent view, see Lamb, Thompson, Gardner, & Charnov, 1985).

The behavior of one group of infants, those classified insecure/ambivalent (group C), is, on the surface, particularly puzzling. Although the parent's departure causes the infant extreme distress, the parent's return is not soothing. Instead, during reunion, these babies vacillate abruptly between angry, frustrated resistance to contact (these infants are also referred to "insecure/resistant"), clingy, dependent, contact-maintaining behavior. Infants classified insecure/ambivalent are characterized by their preoccupation with, as well as their ambivalence toward, their parent (Ainsworth et al., 1978; Braungart & Stifter, 1991; Shiller, Izard, & Hembree, 1986).

The insecure/ambivalent group is the least understood of the three attachment groups, in large part because so few infants are classified in this group. Approximately 7%-15% of infants in nonpathological samples in the United States are classified insecure/ambivalent (Ainsworth et al., 1978; Campos, Barrett, Lamb, Goldsmith, & Stenberg, 1983; see also van IJzendoorn & Kroonenberg, 1988, for evidence of generally similar cross-national distributions). Because of the small numbers, insecure/ambivalent babies are often combined with other insecure babies (i.e., those in the insecure/avoidant group), and comparisons are made within the secure versus insecure dichot-
Even when the two insecure groups are examined separately, small sample sizes and limited statistical power hinder researchers' ability to illuminate the distinctive correlates (antecedents, sequelae) of this particular attachment pattern. Thus, in order to understand the insecure/ambivalent pattern, examination of a range of studies is critical.

In this article, we aim to review and integrate information about the insecure/ambivalent attachment pattern. Some factors associated with the insecure/ambivalent pattern are thought to be a function of insecurity (as opposed to security), and other factors are thought to be a function of a particular type of insecurity (i.e., insecure/ambivalent vs. insecure/avoidant) (Ainsworth et al., 1978). Given our goal of describing all that is known about the insecure/ambivalent pattern, findings that identify either of these factors are important, and thus are reported here.

We begin by describing briefly the propositions of attachment theory regarding both precursors and sequelae of the insecure/ambivalent attachment pattern (Ainsworth et al., 1978; Bowlby, 1969, 1973). Next, we review the empirical studies of infant attachment in which the insecure/ambivalent group is examined separately. We follow a convention of presenting all comparisons involving the insecure/ambivalent group that were reported in the original publication. We then examine studies exploring attachment beyond infancy. Subsequently, we present a theoretical discussion of the ways in which patterns of mother and child behaviors associated with the insecure/ambivalent pattern may work together, contributing to an incompetent, overdependent child whose attachment behavioral system is frequently activated. Finally, we discuss future research that would address these propositions.

**Attachment Theory: Implications of Uncertainty about Maternal Availability**

According to attachment theory, repeated daily experiences with the caregiver contribute to the infant’s developing an internal representation (a “working model”) of the caregiver (Bowlby, 1969). It is thought that the Strange Situation behavior of insecure/ambivalent infants reflects a working model of the caregiver as inconsistently available, where even on reunion these infants continue to act as if she were unavailable (Ainsworth, 1984). This uncertainty about maternal availability is thought to result neither from consistent maternal availability nor consistent maternal unavailability, but rather from inconsistent maternal availability (Ainsworth, 1984).

A working model of “uncertain maternal availability” differs importantly from the working models of other infants. Secure infants are thought to develop working models of the “certain maternal availability” because of their repeated experiences of sensitive responsiveness. Insecure/avoidant infants, because of their daily experiences, are thought to develop working models of their mothers as consistently rejecting.

Bowlby (1969, 1973) predicted several consequences of infant uncertainty about maternal availability. First, because the infant does not trust the mother’s availability and thus remains close to her in order to ensure access, heightened attachment behavior is expected. Second, because the infant does not trust the mother to leave his sight, an increase in infant monitoring of the mother is predicted. Third, given that attention to the mother constrains attention to the environment, a decrease in exploratory competence is expected.

In sum, attachment theory proposes that heightened attachment behavior and increased fearfulness characteristic of the Strange Situation behavior of insecure/ambivalent infants ought to (a) result from experiences contributing to uncertainty about maternal availability, and (b) lead to incompetent exploration. In the following section, infant attachment research that addresses these and related issues is reviewed.

**Infancy Research**

**Precursors of Insecure/Ambivalent Attachment**

**Maternal Behavior**

In the first part of this section, we review literature related to maternal availability, and in the second part, we examine studies of maternal behavior in response to infant exploration.

**Maternal Availability**

The theoretically based proposition that inconsistent maternal availability is associated with insecure/ambivalent attachment has not been tested directly. The only research examining maternal behavior has fo-
cused on mean levels of behavior. Thus, mothers who are sometimes available and sometimes unavailable will appear, on average, less available than those who are consistently available. Given the nature of existing research, associations between relatively low maternal availability and the insecure/ambivalent pattern are expected. It is important to underscore that it is low availability relative to that of other mothers that is considered, rather than inherently low (or nearly nonexistent) availability. According to learning theory, an unpredictable (i.e., intermittent) reinforcement schedule maintains consistent responding; a predictably low schedule could lead to extinction of attachment behavior.

Ainsworth's Baltimore study.—In the first study to examine the relation between maternal behavior in the home and security of attachment, Ainsworth and her colleagues reported a link between relatively low maternal availability and insecure/ambivalent attachment (Ainsworth et al., 1978). Ainsworth made extensive narrative records of naturalistic home observations of white, middle-class dyads every 3 weeks during the infants' first year, and assessed attachment at 12 months. During the fourth quarter of the infants' first year, mothers of insecure/ambivalent babies scored significantly lower than mothers of secure babies in 7 of 11 areas (affection when picking up the baby, skill in handling the infant, responsiveness to infant crying, sensitivity to infant signals, accessibility, cooperation, and acceptance). In sum, although in Ainsworth's study only four infants were classified insecure/ambivalent, the mothers of these babies emerged as less available and less sensitive to their infants than mothers of secure babies. However, unlike mothers of avoidant infants, these mothers showed no aversion to close bodily contact, "affording some comforting experience when in close bodily contact, albeit inconsistently" (Ainsworth, 1984, p. 582). We now examine several sets of studies that followed Ainsworth's pioneering investigation.

Home observation studies: Middle-income families.—A characterization of mothers of insecure/ambivalent babies as the least involved with and responsive to their babies in the first year also emerged from three cohorts of Belsky's Pennsylvania Child and Family Development Project in which mother-infant dyads were visited at 1, 3, and 9 months. Families were white and predominantly middle class. In the first cohort, linear trend analyses revealed that insecure/ambivalent babies experienced the least amount of reciprocal interaction and involvement with their mothers at 1, 3, and 9 months, although this difference achieved statistical significance at 9 months only (Belsky, Rovine, & Taylor, 1984). Furthermore, mothers of insecure/ambivalent babies, compared to mothers of secure babies, were significantly less responsive to their infants' distress at 3 and 9 months and to their infants' vocalizations at 9 months. Data from a second cohort of this project revealed that dyads containing insecure/ambivalent infants were characterized by "relatively few" (p. 18) mutual and reciprocal exchanges, with mothers tending to be unresponsive to their infants' vocalizations at 3 and 9 months (Isabella, Belsky, & von Eye, 1989). In a third cohort, also examined at 3 and 9 months, mothers of insecure/ambivalent infants were again characterized as relatively less involved with their infants than mothers of avoidant infants at both ages—a characterization that reflected, in part, a disproportionately frequent number of occasions on which these babies vocalized and the mothers did not respond (Isabella & Belsky, 1991).

Data from two additional longitudinal home observation studies of white middle-class American dyads also reported an association between relatively low levels of maternal availability over the first year and the insecure/ambivalent attachment pattern. One investigation found that, compared to both other groups of mothers, those of insecure/ambivalent babies initiated the fewest number of interactions with their infants at age 6 months (Kiser, Bates, Maslin, & Bayles, 1986). In another study, mothers of insecure/ambivalent babies showed significantly less responsiveness at 3 months than mothers of both secure and avoidant infants, and significantly less initiation than mothers of avoidant but not secure babies. No attachment group differences emerged for maternal distal and proximal behavior (Lewis & Petring, 1989). Data from other countries are similar. An investigation in northern Germany that included three home visits across the first year found that at 2 and 6 months, mothers of insecure/ambivalent infants were significantly less sensitive to their babies' signals than were mothers of secure infants, but did not differ from mothers of avoidant babies (Grossmann, Grossmann, Spangler, Suess, & Unzner, 1985). At 10 months, however, there were no attachment group differ-
Home observation studies: Low-income families.—A large research project examining low-income, predominantly white mothers and their infants during the first year partly supported findings from studies using predominantly white middle-class samples (Egeland & Farber, 1984). At 3 (but not at 6) months, mothers of insecure/ambivalent infants verbalized to their infants significantly less than did both other groups of mothers. In contrast, however, to findings with some middle-class samples (e.g., Ainsworth et al., 1978), these mothers were as responsive to their babies’ crying as mothers of secure infants and significantly more so than mothers of avoidant infants. This discrepancy may be a function of the fact that responsiveness to crying was assessed only during a single feeding session, a context that may not provide much opportunity for maternal responsiveness to crying.

Observations in kibbutzim.—Examinations of Israeli kibbutzim-raised infants have provided additional information about the connection between maternal availability and insecure/ambivalent attachment. Traditional kibbutzim use communal sleeping arrangements in which a single, frequently unfamiliar night-time caregiver is responsible for all infants. This arrangement, which begins with infants as young as 6 weeks old, increases the likelihood that when upset, infants receive delayed attention from unknown caregivers. These infants, who can be considered to experience inconsistent and relatively low caregiver availability, have a higher than normal rate of insecure/ambivalent attachment to both mother (33% and 52% in two samples) and metapelet (32%) (Sagi et al., 1985; Sagi, van IJzendoorn, Aviezer, Donnell, & Mayseless, 1994, in this issue). Some kibbutzim-raised infants, however, live in infant houses only during the day, and the distribution of attachment group classifications for these infants more closely approximates the American distribution (20%; Sagi et al., 1994, in this issue).

Home observation studies: Maltreated infants.—Investigations of maltreated infants support a pattern wherein mothers of insecure/ambivalent infants are the least available to their babies. In one study of low-income, mostly white families, although there were only two insecure/ambivalent infants, analyses using behavioral ratings of Strange Situation resistance (the characterizing behavior of the insecure/ambivalent pattern) provided indirect information about the insecure/ambivalent pattern (Lyons-Ruth, Connell, & Zoll, 1989; Lyons-Ruth, Connell, Zoll, & Stahl, 1987). Greater infant resistance was significantly associated with relatively low maternal availability assessed in several ways in the home: flatness of affect, time out of the room, and (less) verbal communication; greater maternal disengagement and lower relational touching were marginally significantly related to infant resistance.

Neglect can be viewed as an extreme form of low maternal availability. Following arguments proposed here, an association should exist between neglect and insecure/ambivalence. Support for this expectation comes from a meta-analysis in which attachment was assessed in a total of 122 maltreated 12-month-olds (Youngblade & Belsky, 1990). The majority of the 17 neglected children (52%) were classified insecure/ambivalent, and 50% of all insecure/ambivalent infants had experienced neglect. It is important to note that by 18 months, most neglected children were classified insecure/avoidant.

In sum, a largely consistent pattern in which relatively low maternal availability is linked with insecure/ambivalent attachment has emerged from home observation research involving samples of infants from both middle- and low-income families, from American samples as well as those from other countries, and from maltreated as well as non-maltreated infants. The extent to which this pattern emerges from laboratory studies is considered next.

Laboratory studies.—Paralleling the pattern in the home observation studies, links between relatively low maternal availability and the insecure/ambivalent pattern have emerged from several laboratory-based investigations. In one investigation of white, largely middle-class families, parenting behavior observed while the mother completed a questionnaire was coded as either appropriate, insufficient, or intrusive (Smith & Pederson, 1988). Compared to both other...
groups of mothers, mothers of insecure/ambivalent 1-year-olds received significantly more "insufficient" ratings and significantly fewer "appropriate" ratings. Convergent findings emerged from Matas, Arend, and Sroufe's (1978) examination of problem solving at 24 months in a white, middle-class sample. Mothers of insecure/ambivalent toddlers were rated significantly lower than mothers of secure toddlers (and equal to mothers of avoidant toddlers) on two dimensions of maternal behavior related to availability—supportive presence ("being involved") and quality of assistance ("giving assistance when needed"). Similar, although only marginally significant, findings emerged from a replication study (Frankel & Bates, 1990). In another investigation that focused principally on toddler-peer relations, mothers' responses to their children's contacts were also observed (Pastor, 1981). The sample contained approximately equal numbers of white and minority low-SES subjects. Compared to both other groups of mothers, those of insecure/ambivalent children were significantly less likely to accept their children's contacts, and significantly more likely to ignore their children's contacts. They were also significantly more likely than mothers of secure infants, but not mothers of avoidant infants, to reject their children's contact and to be unsupportive. There were no attachment group differences for maternal directiveness.

Summary.—Although exceptions exist, taken as a whole, findings from numerous research projects examining a variety of samples and assessing maternal availability in a variety of ways and contexts converge to offer considerable support for the proposition that relatively low maternal availability and the insecure/ambivalent pattern are associated. This relation emerged from Ainsworth's original study, based on 72 hours of home observations over the course of the infants' first year, and even though the observations of none of the subsequent home investigations were nearly as extensive (most lasted 2–6 hours), findings have been largely consistent. It is noteworthy that in no home or laboratory inquiry have mothers of insecure/ambivalent infants, unlike mothers of insecure/avoidant infants, emerged as more available than other mothers.

Maternal Behavior in Response to Infant Exploration

Ainsworth (1984) has emphasized the relation between mothers' facilitation of exploration and children's attachment security: "Among a child's behavioral cues are those indicating that he enjoys the adventures of exploring, he dislikes being interrupted when absorbed in autonomous activity, and he is gratified when he masters a new skill or problem on his own. A parent cannot be truly sensitive to a child's cues if she ignores these" (p. 568). Whereas mothers of insecure/ambivalent infants appear relatively unavailable in many contexts, this does not appear to be the case in the context of the child's exploration. Three studies have reported that mothers of insecure/ambivalent infants are not only relatively less available to their infants, but are also in some way directly interfering with their infant's exploration. More specifically, this research reveals a pattern in which mothers of these infants are relatively less involved at times when their infants might want attention, yet relatively more involved at times when their infants might not want attention (e.g., when they may prefer to explore).

In Ainsworth's Baltimore investigation, although by the fourth quarter of the first year mothers of insecure/ambivalent infants were significantly less available than mothers of secure infants, they were also more likely to be "occupied with routines," frequently holding their infants to feed them. This holding, because these mothers tended to "resist any effort the baby made to feed himself" (Ainsworth et al., 1978, p. 146), was interpreted as thwarting the infant's first attempts at autonomy. A similar pattern emerged from the Isabella and Belsky (1991) investigation: although, unlike other mothers, mothers of insecure/ambivalent infants were characterized as relatively less attentive to their infants' signals, they were also most likely to initiate interaction with their babies "at times when babies were otherwise involved or seemingly unwilling to interact" (p. 381). Finally, in the Miyake et al. (1985) sample, which contained secure and insecure/ambivalent Japanese infants, at 1 month, mothers of insecure/ambivalent infants held their infants only half as frequently as mothers of secure infants. Yet, when their infants were 7½ months old, these mothers were significantly more likely than mothers of secure infants to intrude by "interrupting the baby's ongoing activity without a bid by the baby" (p. 292).

In sum, although there are only three examinations of maternal behavior related to infant exploration, these consistently demonstrated that mothers of insecure/ambivalent infants directly interfered with their children's exploration. This interference may contribute to infant preoccupation with
the mother in the Strange Situation: maternal interference with child exploration shifts the child’s attention from the environment to the mother. Although this direct interference may seem to contradict the mother’s relatively low availability, the context in which each occurs is critical, and it may well be that both contribute to a common outcome: the child’s exaggerated dependence and lack of autonomy. Furthermore, this combination of relatively low availability and direct interference may contribute to the child’s perception of the mother as inconsistent. Isabella and Belsky (1991) come to a similar conclusion, describing the mothers of insecure/ambivalent infants as “...not only underinvolved but also tending to exhibit poorly timed interactive bids—that is, mothers are inconsistent” (p. 381).

**INFANT CHARACTERISTICS**

It is important to consider not only maternal contributions but also infant contributions to the insecure/ambivalent attachment pattern. There is evidence that temperament may be related to certain infant behaviors occurring within the Strange Situation (i.e., distress and crying, response to the stranger; Gunnar, Mangelsdorf, Larson, & Hertsgaard, 1989; Vaughn, Lefever, Seifer, & Barglow, 1989). A meta-analysis that drew upon 15 investigations, each containing both Strange Situation and temperament data, revealed a modest association between temperament proneness to distress and Strange Situation crying and resistance (Goldsmith & Alansky, 1987).

It is essential to remember, however, that evidence of a connection between infant temperament and attachment behavior is quite different from evidence of a connection between temperament and attachment classification. Results from many empirical investigations examining attachment classifications in conjunction with infant characteristics indicate, for the most part, that the two are not directly associated (e.g., Belsky et al., 1984; Belsky & Rovine, 1987; Crockenberg, 1981; Egeland & Farber, 1984; Gunnar et al., 1989; Mangelsdorf, Gunnar, Kessenbaum, Lang, & Andreas, 1990; Vaughn et al., 1989) but may relate indirectly via moderating factors such as maternal social support (e.g., Crockenberg, 1981) and maternal personality (e.g., Mangelsdorf et al., 1990). Furthermore, the only study that examined distress during separations separately from distress during reunions found difficult temperament to relate to distress during separations, but not to distress during reunions (the episodes important for attachment classification) (Vaughn et al., 1989). It is important to note that one possible interpretation of a recent meta-analysis indicating some concordance between an infant’s attachment classification to mother and to father (Fox, Kimmerly, & Schafer, 1991) is that infant temperament may, in fact, be related to attachment classification.

Even though the connections between attachment classification and temperament are generally weak, it is intriguing and relevant to the present review to note that the relatively few instances in which attachment quality and infant characteristics are directly related all involve the insecure/ambivalent pattern. In Ainsworth’s Baltimore sample (M.D. Ainsworth, personal communication, October 17, 1981), two of the four insecure/ambivalent infants (and none of the other infants) had perinatal complications. In another study, nurses in the newborn nursery found infants later classified insecure/ambivalent to be less alert and active than both other groups of infants, although no attachment group differences emerged on indices of contentment or ease of care (Egeland & Farber, 1984). In addition, newborns later classified insecure/ambivalent, compared to a group consisting of all other infants, had lower 5-min (but not 1-min) Apgar scores, and lower 7-day (but not 10-day) Brazelton Neonatal Behavioral Assessment Scale summary scores (Waters, Vaughn, & Egeland, 1980). A similar association between the insecure/ambivalent pattern and early physical difficulty emerged from another study of American middle-class mother-infant dyads (Belsky & Rovine, 1987). Furthermore, in the study of Japanese infants (Miyake et al., 1985), insecure infants, all of whom were insecure/ambivalent, were significantly more irritable than secure infants as newborns. (It is notable, however, that a recent study of high-risk infants, all of whom had been irritable newborns, revealed that 79% of the insecure infants were avoidant, not ambivalent; van den Boom, in press.)

In sum, studies addressing the relation between infant characteristics and attachment security generally demonstrate few direct associations. However, the links that do emerge repeatedly distinguish the insecure/ambivalent infants and point to a relation between these infants and some sort of biological vulnerability. The fact that infant variables are linked only to the insecure/ambivalent group suggests that characteristics
intrinsic to the infant may affect the development of these infants more than any others. Future studies of the relations among attachment, neonatal characteristics, and infant temperament examined within a perspective in which the mutually influential nature of attachment and temperament is considered (see Stevenson-Hinde, 1991) may well be particularly relevant for further understanding of the insecure/ambivalent pattern.

Sequelae of Insecure/Ambivalent Attachment

A converging body of empirical work in which mothers' physical or psychological presence was experimentally manipulated has indicated that maternal unavailability hinders infant exploration and increases attention to the mother (Ainsworth & Wittig, 1969; Carr, Dabbs, & Carr, 1975; Rheingold, 1969; Sorce & Emde, 1981). Furthermore, naturally occurring “experiments” in which children are separated from their mothers for a few days or more (experiences thought to undermine confidence in the availability of the mother) document a connection between the mother’s inaccessibility and the child’s fearfulness and inhibited exploration (Bowlby, 1973; Dunn, Kendrick, & Main, 1981; Robertson & Robertson, 1969). If experimentally manipulated or naturally occurring brief reduced maternal availability can heighten infant attention to the mother and hinder exploration, it seems reasonable to expect that chronic, long-term, naturally occurring experiences may have similar effects. In this section, research examining infant attention to mother and infant exploration is reviewed.

INFANT ATTENTION TO MOTHER

Although few attachment studies have directly addressed the issue of infant attention to mother, several have found greater attention to be characteristic of insecure/ambivalent babies. No study has revealed discrepant findings.

One Strange Situation investigation examined social referencing (specifically, the extent to which infants looked to their mothers directly after looking at the stranger, presumably to gain reassurance in the face of uncertainty) (Dickstein, Thompson, Estes, Malkin, & Lamb, 1984). Insecure/ambivalent babies referenced their mothers significantly more than both secure and avoidant babies during the initial 3 min of the stranger’s presence. Furthermore, whereas the referencing of other babies declined linearly, the referencing of the insecure/ambivalent babies increased sharply when the stranger initiated interaction with the mother, not when the stranger initiated interaction with the baby himself. Perhaps what threatened these infants most was not the stranger, but the diversion of maternal attention from them as their mothers began to talk with the stranger. It is conceivable that these infants, unsure that the mother’s attention could be regained, felt it necessary to monitor her activities. Ainsworth (1992) made a similar interpretation in considering social referencing in her own sample: “the main issue for the infant seemed to be the availability of the mother rather than any information she might offer him that would resolve uncertainty about how to respond to the stranger” (p. 350). In another Strange Situation study, insecure/ambivalent infants were significantly more likely to reference their mothers on the stranger’s initial entrance than were both other groups of infants, and spent significantly more time during the preseparation episodes looking at their mothers than did secure (but not avoidant) babies (Cassidy, 1983).

EXPLORATORY COMPETENCE

In this section, several components of exploratory competence are reviewed: uncertainty and fearfulness, exploration of the
general physical environment, exploration with toys, and exploration with peers.

Uncertainty and Fearfulness

The heightened distress during the Strange Situation of insecure/ambivalent infants can be viewed as at least partly reflecting fear of a new place, fear of the stranger, and fear of separation from the parent. Ainsworth (1979) conducted post-hoc analyses of her original Baltimore data and reported that insecure/ambivalent infants were overrepresented among the babies who showed clear-cut fear in the Strange Situation before the entrance of the stranger, when babies are free to play in the presence of their mothers. Two studies have examined attachment and fearfulness in other situations. In one, insecure/ambivalent infants showed greater behavioral indices of fear in a laboratory setting than did secure infants; attachment groups did not differ on physiological indices of fearfulness (Miyake et al., 1985). The second revealed that infants classified insecure/ambivalent were more behaviorally inhibited at 2 years than insecure/avoidant infants, although not more than secure infants (Calkins & Fox, 1992).

Inhibited Exploration

Exploration of the general environment.—Three investigations, all with largely white, middle-class samples, have examined attachment in conjunction with exploration of the environment in relatively general terms. In the first, Hazen and Durrett (1982) studied 2½-year-olds during a free-play situation in an unfamiliar multiroom playhouse. Although attachment groups did not differ in amount of exploration, they did differ in the quality of exploration, with insecure/ambivalent toddlers showing significantly more restricted exploration than secure toddlers. A second study revealed insecure/ambivalent infants to have significantly greater difficulty “negotiating the environment” than secure (but not avoidant) toddlers (Cassidy, 1986). A third inquiry revealed that children who had been insecure/ambivalent were significantly less likely than secure children (but not avoidant children) to study the environment, and significantly more likely to engage in solitary play with toys and in interaction with their mothers (Jacobson & Wille, 1986). The authors interpreted these findings as reflecting a tendency for insecure/ambivalent children to be less interested in attending to exploration of the novel elements of a situation (in this case, the environment, a new peer) and more interested in attending to the familiar (in this case, play with familiar toys, their mothers).

Play with toys.—Six studies have examined attachment and toy play, and all have reported an association between the insecure/ambivalent pattern and inhibited exploration with toys. In one study, insecure/ambivalent 3-month-olds played significantly less with objects/toys in the home than did both other groups of infants (Lewis & Feiring, 1989). In another inquiry, insecure/ambivalent babies spent significantly less time than secure babies manipulating toys in the lab (Miyake et al., 1985). There is evidence to suggest that this pattern continues into toddlerhood. Compared to both secure and insecure/avoidant toddlers, insecure/ambivalent toddlers have been found to engage in significantly less imaginative symbolic play (Matas et al., 1978) and in significantly poorer exploration of a “curiosity box” (see Sroufe & Egeland, 1991). In yet another investigation, insecure/ambivalent toddlers were found to engage in significantly lower quality play than secure, but not avoidant, toddlers (Cassidy, 1983).

Finally, an investigation designed to assess attachment group differences in infants’ tendencies to exercise fully their exploratory abilities is particularly relevant (Belsky, Garduque, & Hrnecir, 1984). The quality of infants’ solitary play with toys in a laboratory (“performance”) was compared to the quality of their elicited play (“competence”). Although attachment groups did not differ on either play performance or play competence, a linear trend analysis revealed that the gap between competence and performance was significantly larger for insecure/ambivalent infants than for others: these infants were the least likely to exercise their full range of abilities when playing alone. Thus, although insecure/ambivalent infants were able to play at higher levels, they did not. It appears as if something stood in the way of their ability to use their full capabilities. According to Bowlby (1973), and indicated by the studies associating the insecure/ambivalent pattern with relatively high degrees of attention to mother, the interfering factor is the child’s preoccupation with the mother, provoked by uncertainty about her availability.

Play with peers.—With development, peers come to be one of the most salient “objects” in the environment, and peers can be viewed as one of the most important features of the environment that merits exploration. Data from several studies examining attach-
ment and peer interaction reveal associations between inhibited peer play and insecure/ambivalence that parallel other forms of inhibited exploration.

Five studies provide converging data. In one study, toddlers classified insecure/ambivalent as infants exhibited relatively constrained peer-directed behaviors in a laboratory free-play session (Pastor, 1981). These toddlers were, compared to both secure and avoidant toddlers, significantly less likely to direct social offers to their peers and significantly more likely to ignore the social offers of their peers, a combination that suggests that the insecure/ambivalent toddlers were more withdrawn from their playmates. In the second study, children who had been insecure/ambivalent infants were significantly more dependent and helpless in the preschool than previously secure children, but not than previously avoidant children (Sroufe, 1983). In the third study, the interactions of peer dyads containing an insecure/ambivalent toddler suggested that these children are viewed as dependent: eliciting nurturance from secure peers, exploitation from avoidant peers, and reciprocal immaturity from insecure/ambivalent peers (Troy & Sroufe, 1987). Neither secure nor avoidant children elicited these particular responses. In the fourth study, preschool children who had been insecure/ambivalent infants were found to be less assertive (confident, assertive) than children who had been secure, but not than children who had been avoidant, a finding that the authors interpreted as "consistent with the pattern of passivity predicted for [ambivalent] children" (Erickson, Stroufe, & Egeland, 1985, p. 162). However, contrary to expectations (and to Stroufe's [1983] findings), insecure/ambivalent children were found to be more dependent than avoidant but not secure children, a finding that the authors attributed to insufficient measurement of dependency in their study. In the fifth study, although no differences in rates of social behaviors were found, children who had been classified insecure/ambivalent were less likely than all other children (combined) to be involved with preschool classmates and less likely to dominate them (LaFreniere & Stroufe, 1985). When examined separately by gender, the data revealed significant differences for girls only. This gender difference differs from that found in a sample of 6-year-olds whose mothers completed Achenbach's Child Behavior Profile, which examines children's peer behavior and social activities in school as well as behavior problems (Lewis, Feiring, McCaffog, & Jaskir, 1984). Infant insecure/ambivalent attachment was associated with later withdrawal and incommunicativeness for boys only.

A connection between social inhibition and submissiveness and the insecure/ambivalent pattern also emerged from a follow-up investigation of 5-year-old Israeli kibbutzim children, all of whom has been secure or insecure/ambivalent as infants (Oppenheim, Sagi, & Lamb, 1988). Children classified insecure/ambivalent to the meta-pelet were significantly less dominant, purposive, goal-directed, achievement-oriented, and independent than children classified secure. There were no differences among children based on attachment classifications to mothers or fathers. However, this should not necessarily be viewed as inconsistent with findings from other studies: for these kibbutzim-raised children, the attachment figure with principal developmental influence may well have been the metapelet (Oppenheim et al., 1988).

A pattern of social inhibition and submissiveness can, when chronic and extreme, develop into the behavior problem of passive withdrawal. In one follow-up study, three groups of early school-aged children were identified: passive-withdrawn, aggressive, and control (Renken, Egeland, Marvinney, Mangelsdorf, & Stroufe, 1989). Contingency table analyses provided support for the expected association between 18-month (but not 12-month) insecure/ambivalent attachment and later passive withdrawal. The effect was significant for boys only.

A recent study of attachment and loneliness in young children also provided relevant data (Berlin, Cassidy, & Belsky, in press). A linear trend analysis revealed that 5–7-year-olds who had been insecure/ambivalent in infancy reported the most loneliness. Considered in the context of literature describing some lonely children as shy and withdrawn (Cassidy & Asher, 1992), these data are congruent with a pattern in which withdrawal and insecure/ambivalent attachment are linked.

Summary.—A particular form of exploratory incompetence appears to relate to the insecure/ambivalent pattern: insecure-ambivalent children seem the most fearful and inhibited in exploration with both toys and peers. However, it is important to acknowledge the sporadic nature of some of the findings related to exploration with
In one study, exploratory competence was predicted by attachment to metaplot but not to mothers or fathers, in another study by attachment at 18 months but not 12 months, and for girls only in one study and boys only in another. Although these complexities, which may result from varying methods, samples, and procedures, are difficult to reconcile, the data nonetheless form a coherent pattern. Indeed, in no case have insecure/ambivalent children shown greater exploratory competence than other children.

The Insecure/Ambivalent Pattern of Attachment across the Life Span

Certainty about the availability of an attachment figure is thought to be important for healthy functioning across the life span (Bowlby, 1979, 1988). Whereas infant exploration may be hampered unless an attachment figure is physically present, with increasing age, people can tolerate greater distance from attachment figures and greater time between contacts (Maccoby & Feldman, 1972; Marvin & Greenberg, 1982). Nonetheless, it is clear that a pattern marked by clinging, immature overdependency, preoccupation with attachment figures, and limited exploration—all mixed with ambivalence—exists in some children and adults. Parents and teachers describe difficult, “clingy” children. Clinicians address problems associated with children’s refusal to separate from parents (Bowlby, 1973; Minuchin, 1974). In adults, these patterns are evident in the relationships of adult children to their parents and in romantic attachments (Bowlby, 1980; Hazen & Shaver, 1987). In particularly pathological “role-reversing” relationships, adults may cling to their young children and attempt to derive security from them. In this section, in an attempt to illuminate these behavior patterns in older individuals, several new techniques for assessing attachment organization beyond infancy are described.

Attachment in Young Children

Patterns of attachment in preschool children (3- and 4-year-olds) have been identified recently using a modified version of the Strange Situation and a new classification system (Cassidy & Marvin, with the MacArthur Attachment Working Group, 1992). A system for coding attachment in 5-7-year-olds based on the child’s reunion behavior following a 1-hour laboratory separation has also been devised (Main & Cassidy, 1988). At these older ages, parallels with the infant patterns emerge. One group of children, also called insecure/ambivalent, respond on reunion similarly to insecure/ambivalent infants, emphasizing their dependence on the parent in several ways. Their attachment behaviors are heightened, their exploratory behaviors reduced. Dependence may also be emphasized through conflicted and unresolved interaction about parental leavetaking. Ambivalence and anger directed at both parent and stranger may also be present. Although there are considerable similarities across ages, a developmental shift is evident, and the behaviors of the school-aged children are generally more subtle than those of the preschool children.

Extensive research involving home observation is needed for validation of both of these new classification systems, as is research examining the correlates of this attachment pattern in young children. However, the following are already evident: (a) the reunion behaviors of children in this group are similar to those of insecure/ambivalent infants in terms of their ambivalent preoccupation with the attachment figure, (b) the proportion of insecure/ambivalent children in nonpathological samples consisting of predominantly white, working- and middle-class families is similar to that of insecure/ambivalent infants from similar samples, (c) this classification is stable from infancy to age 6, (d) this classification is stable in 6-year-olds across a 1-month period, and (e) this classification is associated in theoretically predicted ways with children’s socioemotional functioning (Achermann, Dinneen, & Stevenson-Hinde, 1991; Bretherton, Ridgeway, & Cassidy, 1990; Cassidy, 1988; Cicchetti & Barnett, 1992; DeMulder & Radke-Yarrow, 1991; Greenberg, Speltz, DeKlyen, & Endriga, 1992; Main & Cassidy, 1988; Shouldice & Stevenson-Hinde, 1992; Speltz, Greenberg, & DeKlyen, 1990; Stevenson-Hinde & Shouldice, 1990; Turner, 1991, 1993; Wartner, Grossmann, Fremmer-Bombik, & Suess, 1994, in this issue).

The Adult Attachment Interview

A similar pattern in which attachment is emphasized, a pattern in fact termed “preoccupied,” has emerged from the use of the Adult Attachment Interview (AAI; George, Kaplan, & Main, 1985; Main & Goldwyn, 1984, in press-a). This interview was designed to tap the adult’s “present state of mind with respect to attachment” rather than the nature of the individual’s relationship with a particular attachment figure in the past. This 1-hour, semistructured interview probes attachment-related experiences.
During childhood such as memories of feeling loved or unloved, memories of being upset or ill, and memories of separations and losses. (For further information about the AAI, see Main & Goldwyn, in press-a.)

Adults in the preoccupied group appear preoccupied with their relationships with their parents. Their family background may be characterized by a weak or incompetent mother, and at least one overinvolved parent. The interviews of these individuals can be viewed as similar to the behaviors of insecure/ambivalent infants and children in several ways. First, the "inability to move beyond a sense of involvement in particular relationships or attachment-related experiences, while either accepting this state passively, or else struggling against it without success" (Main & Goldwyn, in press-b, p. 96) is strikingly reminiscent of the insecure/ambivalent baby's "inability to move beyond" the immediate presence of the mother to explore. Second, the ambivalence of preoccupied adults, manifested by their oscillating descriptions of their parent(s), parallels the behavioral ambivalence seen in younger individuals. Finally, the anger and conflict expressed by some individuals in this group closely parallels the anger characteristic of insecure/ambivalent infants and children. These adults are embroiled in current anger or disagreements that they are unable to resolve or convincingly analyze. Recent evidence has emerged to suggest that the AAI has good test-retest reliability, intercoder reliability, and discriminant validity (Bakermans-Kranenburg & van IJzendoorn, 1993). In both American and British (nonpathological) samples examined to date, in which subjects are mostly white and middle class, the proportion of adults classified in this category is similar to that of infants classified insecure/ambivalent: 10%-20% in seven samples (Ainsworth & Eichberg, 1991; Benoit, Vidovic, & Roman, 1991; Benoit, Zeanah, & Barton, 1989; Benoit, Zeanah, Boucher, & Minde, 1992; Crowell & Feldman, 1991; Fonagy, Steele, & Steele, 1991; Kobak & Screery, 1988). It is interesting to note that in two separate samples of African-American and Hispanic high-risk adolescent mothers, only 3% and 6% of the subjects were classified in this group (Ward, Botyanski, Plunket, & Carlson, 1991; Ward, Plunket, Carlson, & Kessler, 1990).

Information about the concurrent functioning of adults classified in the preoccupied group has come from a study of 53 college students (Kobak & Screery, 1988). The preoccupied college students were rated by peers as significantly more anxious than both secure and other insecure ("dismissing") individuals. These peer reports meshed with the fact that these individuals, compared to secure (but not avoidant) individuals, reported significantly greater concerns about their social competence. This concern can be viewed as an example of hindered exploration of the environment. The heightened anxiety of these individuals may also be reflected in their reports of more physical symptoms at the end of their first college year than both other groups of subjects.

Several recent studies have provided information about the parenting behavior of mothers in the preoccupied group as well as information about their children. All of these studies reported findings suggesting that preoccupied mothers behave in ways that interfere with their children's autonomy or exploration. One of these examined mothers' "affect attunement" with their 12-month-olds during several laboratory situations (Haft & Slade, 1989). The authors coded mothers' affective responses to their infants' affective expressions as signaling either acceptance or rejection. Preoccupied mothers were found to be "attracted to" expressions of fear in their babies, and infant fear, of course, generally results in reduced infant exploration. Furthermore, "unlike the dismissing [and secure] subjects, these mothers did not attune to or validate their babies' expressions of initiative and exuberance during play. They either totally ignored these kinds of expressions in their babies or misattuned to them" (p. 167).

Kobak and his colleagues (Kobak, Ferenz-Gillies, Everhart, & Seabrook, in press) also reported an association between maternal preoccupation assessed in the AAI and maternal interference with child autonomy in a mainly white, middle-class sample. For older adolescents (but not younger adolescents), greater preoccupation was related to poorer performance in a mother-adolescent discussion task about the adolescents' impending departure from home for college. Mothers with greater preoccupation showed greater anxiety during the conversation, directed the conversation toward their own emotions, and communicated doubts about the adolescent's ability to function autonomously. These adolescents, in turn, were less autonomous than other adolescents during the discussion. (See also Allen & Hauser, 1993, for related, convergent findings.)

Converging data emerged from a labora-
tory investigation of 64 white toddlers and their mothers (Crowell & Feldman, 1988, 1991). During a problem-solving task, the style of maternal assistance characteristic of preoccupied mothers, but not of secure or dismissing mothers, was labeled “confusing or chaotic . . . complicated and difficult for the child to understand” (p. 1277). In relation to separation and reunion, preoccupied mothers were poorer at preparing their children for separation and less responsive to their children than secure mothers, had greater separation difficulty and anxiety than both secure and dismissing mothers, and a slower leave-taking than dismissing mothers. It seems likely that all of these maternal behaviors could constrain children’s exploratory competence. This study also provided information about the behavior of the children of adults in the preoccupied group. These children were rated as significantly more negative, avoidant, controlling, and noncompliant than both other groups of children when interacting with their mothers, and were significantly more anxious and less affectionate than children of secure but not dismissing mothers. Children of preoccupied mothers were also rated as less persistent in problem-solving tasks than both other groups of children. Finally, compared to children of both secure and dismissing mothers, children of preoccupied mothers were more anxious when their mothers were preparing to leave, and were more avoidant and more negative on reunion (Crowell & Feldman, 1991).

These similarities between children of mothers classified preoccupied and insecure/ambivalent children is not surprising, because in four of the six studies in which connections between parent classification and infant classification have been examined, there have been striking matches between parent classification as preoccupied and child classification as insecure/ambivalent. In Main and Goldwyn’s (in press—a) original sample, seven of eight insecure/ambivalent babies had parents whose interviews were classified as preoccupied; seven of nine preoccupied parents had infants classified as insecure/ambivalent (see also Ainsworth & Eichberg, 1991; Benoit et al., 1991; and Ward et al., 1991). Thus, it appears that many insecure/ambivalent babies have parents whose own “state of mind” in relation to attachment is characterized by confusion, anger, and ambivalence. It is important to note, however, that in two studies with significant overall AAI–Strange Situation concordance, one in which adult attachment was assessed before the infants’ births and one in which it was assessed at the time of the Strange Situation, insecure/ambivalent attachment and the preoccupied pattern were not significantly linked (Fonagy et al., 1991; Zeanah et al., 1993). Nonetheless, data from studies using the Adult Attachment Interview may be providing not only information about a group of adults who are similar in organization to insecure/ambivalent infants, but also information about the representations and behaviors of parents of insecure/ambivalent infants.

Understanding Behavior Associated with the Insecure/Ambivalent Pattern: Child and Maternal Strategies

In this section, we review the concept of behavioral strategies as a means for both children and parents to increase the likelihood that attachment-related needs will be met. Ways in which this concept can contribute to an understanding of the insecure/ambivalent attachment pattern are described. Child strategies for responding to relatively low or inconsistent maternal availability are examined first. Next, maternal strategies for maintaining a given “state of mind” in relation to attachment are examined. Finally, the interconnections between mother and child strategies are considered.

Child Strategies: Adapting to Relatively Low Maternal Availability

Just as other organisms are genetically endowed to be flexibly responsive to the range of environments in which they may find themselves, so too, according to Main (1990; Main & Solomon, 1986), does the infant possess the biologically based flexibility to adapt to a range of caregiving “environments” or behavior. Such tailoring of the infant’s behavior to conform to environmental circumstances is described as a “strategy” which leads to behavior that has the ultimate function of protection. Strategies are thought to be automatically employed and need not be in any way conscious for the individual (Main, 1990).

In response to a parent who is minimally or inconsistently responsive, the insecure/ambivalent infant is thought to develop an understandable strategy of increasing his bids for attention. The insecure/ambivalent infant is viewed in this scheme as having a coherent strategy of exhibiting extreme dependence on the attachment figure. Main
and Solomon (1986) state that "in its height-
ened display of emotionality and depend-
ence upon the attachment figure, this infant
successfully draws the attention of the par-
et" (p. 112).

This strategy of heightening attachment
behavior can be viewed in both positive and
negative lights. It is adaptive because it
serves to increase or maintain proximity to
the attachment figure, which in turn in-
creases the infant's chances of survival
(Bowlby, 1969). This strategy, however, is
not wholly satisfactory. One drawback is that
it requires the infant to take on "more than
optimal responsibility for maintaining con-
tact" (Bretherton, 1985, p. 11), and thus pre-
vents the infant from attending to his own
developmentally appropriate tasks. The in-
fant's subjective experience is also clearly
less than optimal. For instance, fearfulness
may result from limited familiarity and suc-
cess with the environment. Moreover, the
infant who must resort to extremes of af-
fective signaling with unpredictable success
in gaining the parent's response is poorly
equipped to understand and organize his af-
fective experiences (Kobak & Sceery, 1988).
A clear distinction must be made, then, be-
 tween biological adaptation and psychologi-
cal adaptation when discussing behavior of
the insecure/ambivalent group (Lamb et al.,
1985).

This strategy of emphasizing immaturity
in order to increase care is not restricted to
the context of routine parent-child interac-
tion. For instance, this strategy is commonly
used by young children following the birth
of a sibling in order to regain the degree of
caregiving received previously, a tendency
long described as regression (Dunn et al.,
1981; Trivers, 1974). This strategy is also
used by the young of other species as well.
For instance, when their mothers become
less available to them during weaning, free-
ranging infant baboons dramatically in-
crease their clinging and suckling behaviors
(DeVore, 1963). In addition, the strategy is
used by some human adults both to elicit
caregiving in others and to enhance the feel-
ings of competence in these caregivers. A
stereotypic scenario appears occasionally in
children's cartoons: a helpless heroine exag-
gerates her immaturity (pulls in her shoul-
ders to make her body appear smaller, puts
her fingers in her mouth) to evoke protection
and care from the strong, capable hero, a
strategy generally effective in engendering
the hero's feelings of competence. Similarly,
family systems theorists describe a pattern
in some dysfunctional families wherein one
family member plays the role of the "sacri-
ficial lamb" by engaging in immature, inept
behavior with the result of bolstering the
sense of competence of another family mem-
ber who supposedly serves as guide/protect-
 tor (Minuchin, 1974; see also Marvin &
Stewart, 1990). Social psychologists too have
described a similar pattern. Jones and Pitt-
man (1982), for instance, referred to a "self-
presentationational strategy" in which a person
exploits his own weakness and dependence
in an attempt to have his needs met. Consis-
tent with the view presented here, this stra-
 tegy is viewed as largely nonconscious, and
in some ways detrimental to the individual.¹

Maternal Strategies: Inconsistent Maternal
Availability, Interference with Exploration,
and the Preservation of a "State of Mind"

Just as children can be thought to have
attachment-related strategies, so can adults.
Maternal strategies are thought to emerge as
attempts to preserve a particular "state of
mind" in relation to attachment (Main &
Goldwyn, in press—a). For mothers of in-
sure/ambivalent babies, it has been sug-
gested that what is important is the mainte-
nance of a "preoccupied" state in which
attachment is emphasized to an extent which
precludes autonomy.

If it is important for some parents that
they maintain a state of mind in which at-
tachment is emphasized, it seems reason-
able that they may develop strategies di-
rected to this end. Main (Main & Goldwyn,
in press—a) has proposed that mothers with
an insecure state of mind may use a strategy
of selective filtering of infant signals in order
to preserve their state of mind. Why might
inconsistent maternal responsiveness be an
effective strategy for preserving a state of

¹ Jones and Pittman (1982) also proposed that these individuals might come to emphasize
the family, a notion that meshes with findings that mothers of insecure/ambivalent infants are
often classified as "preoccupied" with their own childhood attachment relationships (Ainsworth
& Eichberg, 1991; Goldwyn & Main, in press—a). According to Jones and Pittman, "the suppli-
cant's self-esteem must be threatened by his cultivation of dependence and ineptitude. . . . An
emphasis of the team, the organization, the family, the ethnic group may perhaps be a saving
feature of the supplicant's phenomenal self. If one is dependent on others, it may be comforting
to think in terms of larger symbiotic units when reflecting on one's identity" (p. 258).
mind in which attachment is emphasized? According to Main (1990), infant signals for caregiving may interfere with the mother's preoccupation with her own attachment figures and with her model of herself as child rather than as caregiver. In addition, the mother's selective ignoring of her infant's interest in autonomous exploration may reflect the fact that attention to such signals would disrupt a model in which mother-child closeness is of prime importance.

An additional explanation for inconsistent maternal responsiveness to infant signals for care is proposed here: if a mother (consciously or nonconsciously) wants to be particularly assured of her importance to the infant, of his dependency on her, and of his availability to meet her own attachment needs, a highly efficient parental strategy is one of low or intermittent responsiveness. Relative unresponsiveness may be viewed as a maternal strategy for increasing the infant's bids for attention. Ready responsiveness significantly reduces or terminates infant attachment behavior (Ainsworth et al., 1978; Korner & Thoman, 1972). A parent with a conscious or nonconscious desire to prolong the baby's need for her will not quickly respond to attachment behavior. Although a mother may find infant clinginess aversive in many respects (Kagan, Reznick, Clarke, Snidman, & Garcia-Coll, 1984), this clinginess may, at the same time, fulfill her needs and provide comfort. Mahler (Mahler, Pine, & Bergman, 1975) described a similar process within a different framework: a parent threatened by the child's emerging autonomy (in Mahler's words, "separation-individuation") may fail to respond to the attachment needs that naturally arise during his early attempts at exploration (fail to "satisfy residual dependency needs"). Within Mahler's framework, the increased dependency that results from this "rapprochement crisis" is viewed as potentially satisfying to the parent. Mahler's clinical observations are strikingly similar to clinical observations of some insecure/ambivalent infants, whose mothers are "gratified by their children's dependence and who discourage their unfolding autonomy through exploration by either withdrawing emotionally or becoming punitive. These children are likely to equate exploration and physical distance from the mother with maternal emotional unavailability and lack of protection" (Lieberman & Pawl, 1988, p. 334).

Another strategy for increasing dyadic proximity involves parental incompetence. The incompetent individual is more likely to elicit certain types of proximity and care than the competent individual. The parent's incompetence may increase parent-child proximity in several ways. First, just as child incompetence may elicit parental caregiving, so may parental incompetence elicit child caregiving. Given both experimental and observational evidence that young children respond with caregiving to the vulnerability and distress of others (Strayer, 1980; Zahn-Waxler, Radke-Yarrow, & King, 1979), it seems reasonable to suppose that a child undergoing repeated daily experiences with an incompetent parent would be concerned about her well-being and would want to stay close and to monitor her. These children might choose closeness not only because they need to monitor the parent's availability (as Bowlby suggests) but also, as they get older, because they want to monitor her safety. Yet this too is a form of monitoring the availability of the attachment figure, because if something happens to her, the secure base is gone. Second, parental incompetence can mean that the child lacks a secure base from which to explore and for that reason remains close to the parent. Third, parental incompetence may engender incompetence in the child, which may, in turn, promote proximity.

Parental incompetence, however, can be viewed in ways other than as a strategy. The concept of strategies suggests intentionality (albeit nonconscious intentionality). In relation to the insecure/ambivalent pattern, the mother is thought to "choose" (nonconsciously) not to respond to her child's attachment signals. However, it is important to consider the possibility that the mother may not have the ability to respond. Her own background may not have provided her with opportunities for learning competent parenting skills.

Just as children use different strategies across time that nonetheless serve the same function, so may parents. Beyond infancy, maternal insensitivity may increasingly take the form of ignoring the child's signals for autonomy and overemphasizing the parent-child relationship. The parent of an older child, who may be by this time a dependent, clinging child, may then emphasize the intimacy and specialness of the relationship and become much more (perhaps overly) involved with the child. Parental "infantilization" of the young child may also occur. As Bowlby stated, "treating the child as younger than he or she is is one technique
for ensuring that the child remains available as an attachment figure” (J. Bowlby, personal communication, cited in Stevenson-Hinde, 1990, p. 223). (See Marvin & Stewart, 1990, and Bowlby, 1980, for further discussion of this paradoxical combination wherein the parent both uses the child as an attachment figure and treats him as if he were younger or less competent than he actually is.)

Strategies and Cooperation

Although infant behavior patterns may begin as understandable responses to parental behavior, the infant later may come to recognize that these behavior patterns are ones with which the parent feels most comfortable. It seems likely that the child himself would feel most comfortable when the parent is most comfortable. It is proposed here, as it has been by others (Main & Goldwyn, in press-a; Sullivan, 1953) that children are skillful in recognizing what leads to parental comfort and then attempt to “cooperate” with their parents in maintaining the desired state. It is proposed that in the case of insecure/ambivalent children, the child recognizes at some level that the parent desires a relationship in which attachment is emphasized. The child may realize that this pattern of preoccupation with the parent, heightened dependency, and reduced exploration are at some level reassuring to the parent: his immaturity reassures the parent that she will be needed; his dependency reassures the parent that the child will remain close, that is, “reassures the parent that he will not become an adult and leave” (Bacciagaluppi, 1985, p. 371).

Main (1990) has proposed that in attempting to cooperate with the parent, the insecure infant is in the difficult position of considering two sets of behavior: his own and his parent’s. Unlike the secure infant, who in times of distress has only one consideration (how to alert the parent of his wish for proximity), the insecure infant has two considerations (how to alert the parent of his wish for proximity and how the parent is likely to respond). The strategy of the insecure infant is thought to evolve as the infant’s attempt to address both considerations. For the insecure/ambivalent infant, the strategy of heightened attachment behavior can be viewed as useful for both himself (by increasing the likelihood of gaining the attention of an unpredictably available caregiver) and for his parent (by assuring the parent that he will stay close to her).

The infant’s attempts to cooperate with the parent necessitate alterations of what might be his normally occurring responses to the environment. Main (1990) has speculated that such alterations involve changes in infant attention, perception, and memory. For an infant whose caregiver requires exaggerated infant dependence, a shift in attention toward attachment-eliciting situations through manipulation of perception and thought may occur. Similarly, such an infant may selectively attend to the frightening aspects of the environment, interpreting, as Main (1990) has suggested, “an environment known at some level to be quiescent as threatening” (p. 61). Heightened recall of memories that activate attachment-related behaviors and emotions may also occur. Thus, according to Main’s speculations, the infant’s perception (based on previous interactions) of probable parental unresponsiveness is accurate. This accurate perception of parental behavior is thought to necessitate a distorted perception of the environment as frightening. This distortion, in turn, serves to heighten attachment behavior and usefully increases the likelihood that the child will gain access to the attachment figure when needed. It is proposed here that because another of the infant’s perceptions—that the parent prefers him to emphasize attachment—is also accurate, infant distortion of the environment can be viewed as useful in meeting the parent’s needs as well as his own needs.

Future Directions

A review of studies in which data about insecure/ambivalent individuals are reported reveals that this pattern may (a) result from relatively low or inconsistent maternal involvement, direct maternal interference with infant exploration, and infant biological vulnerability, and (b) lead to increased attention to mother and decreased exploratory competence. Additional work examining all of these components of maternal and infant functioning is needed. Of particular importance are issues that have been relatively little examined—maternal direct interference in exploration and infant attention to mother.

The extensive findings of relatively low maternal availability are consistent with theoretical propositions that it is inconsistent maternal availability that contributes to insecure/ambivalence. When frequencies of maternal behaviors are examined, mothers who are inconsistently available will, on average, appear to be less available than those more consistently available. Research examining
that focus on insecure/ambivalent children does in fact reflect inconsistent rather than uniformly low availability is important. This will require the use of measures designed specifically to address this issue in studies in which data are gathered across considerable time and contexts. Examination of within-group variation should also prove useful in differentiating these two response patterns; groups with inconsistent mothers should have larger variances than those with consistent mothers.

The theoretical framework proposed here to interpret both maternal and child behavior leads directly to specific testable research questions. Do the parents of insecure/ambivalent children in fact want to maintain a state of mind in which attachment is emphasized? Are they threatened by their child's exploration and desires for autonomy? Do the ways in which these individuals process attachment-relevant stimuli (e.g., attentional, interpretive, and memory processes) reflect these proposed models? For instance, do they attend more to attachment-relevant stimuli than do other individuals? Do they interpret stimuli related to separation and autonomy as more threatening than do other individuals? If maintenance of a state of mind in which attachment is emphasized is, in fact, important to these parents, how might they behave toward their children in order to achieve this? Are there ways in which these parents encourage dependency? Examination of the beliefs that parents of insecure/ambivalent children hold about themselves as parents and about their children is also important (see Bretherton, Biringin, Ridgeway, Maslin, & Sherman, 1989).

There are also many research questions that focus on insecure/ambivalent children. Do insecure/ambivalent children view the attachment figure as unpredictable? What are insecure/ambivalent children's working models of likely parental responses to the children's signals both for care and for autonomy? Do these children process attachment-related information differently from other children? Do these children behaviorally demonstrate greater dependency, fearfulness, or incompetence in the presence of the parent than psychophysiological measures reflect (e.g., Miyake et al., 1985) or than they demonstrate when their parents are not present?

There are several additional ways in which future research can contribute to understanding of the insecure/ambivalent pattern. For instance, cross-national work can provide information about this pattern. Although insecure/ambivalent infants consistently comprise a small proportion of American samples, distributions vary across countries. Whereas in northern Germany there are nearly no insecure/ambivalent infants (Grossmann et al., 1985), in both Israel and Japan virtually all insecure children are classified insecure/ambivalent (Miyake et al., 1985; Sagi et al., 1985; see also van Ijzendoorn & Kroonenberg, 1988). Although it is not clear that classifications emerging from use of the Strange Situation in other countries have the same meaning as they do in America, preliminary findings related to the insecure/ambivalent pattern in Israel and Japan converge in large part with those from American samples. Research examining why cultures vary in the proportion of infants classified insecure/ambivalent will shed important light on this pattern.

Examination of subgroups of insecure/ambivalent individuals can also provide relevant information. Throughout this review, insecure/ambivalent infants and children have been described as a homogenous group. In fact, there are two subgroups of insecure/ambivalent infants, and perhaps not coincidentally, these parallel two subgroups of adults classified Preoccupied in the Adult Attachment Interview (Main & Goldwyn, in press—b). One subgroup of infants (C1) is characterized by angry, active reunion behavior; this parallels a subgroup of adults preoccupied with current active anger toward their parents. The other subgroup of infants (C2) is characterized by passivity; this parallels a subgroup of adults characterized by vagueness, confusion, and passivity of discourse. The subgroups have not been examined separately here because extremely little has been reported about them. Due to sample sizes, few researchers report findings related to subgroups. Although this is understandable, this practice obscures understanding of the subgroups. In Ainsworth's original sample, mothers in the two subgroups were described differently, with the two mothers of C1 babies characterized as "highly interfering in the baby's exploration," and the two mothers of the C2 babies characterized as "grossly ignoring" (Ainsworth, Bell, & Stayton, 1971, p. 48).

The important issue of distinguishing insecure/ambivalent children from insecure/avoidant children has been addressed...
by others (Sroufe & Egeland, 1991). Attempts to understand differences between these two groups have been difficult, and the fact that many reports do not present differences between these two insecure groups hinders attempts to distinguish these groups. Although insecure/ambivalent and insecure/avoidant individuals may be similar at a global level (e.g., insensitive, unskilled with peers), they may differ at a more specific level. Thus, theoretically based examination of, for instance, differences in the ways in which mothers of these two groups of children are insensitive or in the ways in which these two groups of children manifest their dependency (Sroufe, Fox, & Pancake, 1983) is crucial.

All of these avenues of research should be broad enough to include examination of insecure/ambivalent individuals during all phases of the lifespan, of clinical as well as nonclinical samples, and of child-father as well as child-mother attachment. To address these issues, large data sets and collaborative multisample projects containing relatively large numbers of insecure/ambivalent infants will be particularly valuable. More modest samples can also provide useful information if, in the context of statistical comparisons of secure versus insecure groups, data for each insecure group are also reported separately. These methods are essential for further understanding of the insecure/ambivalent pattern of attachment. Such an understanding can, in turn, illuminate attachment processes as a whole.

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