

Part IV

The Family Context

Research suggests that a host of variables contribute to the social development of young children. These include individual biologically based genetic and temperament factors (e.g., Chapters 2 and 6) as well as more distal extra-familial influences, including the peer group, schools, media, and culture. Parenting and family interactions are factors proximal to children that combine with individual and extra-familial influences in ways that are linked to childhood social competencies. Although peers and other extra-familial influences become increasingly important across early and middle childhood, parents and siblings continue to constitute a major portion of a child's social milieu in many parts of the world (see Hart, Olsen, Robinson, & Mandleco, 1997).

The focus of this section is on mechanisms in the proximal family environment that are germane to parenting and sibling interactions. How family structures mirror the ebb and flow of societal change in the extra-familial environment is also covered, particularly with regard to explicating how family members interact with one another in varying family contexts.

Parent-child attachment relationships have been the subject of serious inquiry for many decades. Joan Stevenson-Hinde and Karine Verschueren review the historical development of this work, beginning with John Bowlby's ethological framework. They overview attachment quality and the conceptual and methodological issues associated with studying patterns of attachment that are linked to varying parent-child interaction styles. In line with recent meta-analytic approaches (Schneider, Atkinson, & Tardif, 2001), the authors link different attachment indices to children's social competence, behavior disorders, and peer acceptance. Future directions for this line of research are clearly charted (e.g., connecting social cognitive and verbal capacities to attachment indices). This chapter is a must read for those interested in moving the field forward in this area.

Because parents provide a critical environment for children's social development, it is important to consider ways that parent-child relationships are different from other kinds of close relationships. Alan Russell, Jackie Mize, and Kerry Bissaker take on this challenge

by examining levels of complexity regarding individual characteristics that parents and children bring to the relationship and then delineating parent–child relationships from interactions. They show how relationships comprise many interactions that have different features. A helpful scheme for organizing dimensions of parent–child relationships is explicated, emphasizing vertical and horizontal distinctions that parents can make when adjusting to varying childrearing contexts (e.g., disciplinary vs. power sharing contexts). The authors also address how parent–child relationships are bi-directional and co-constructed, with the child assuming an active role in the process. They explicate ways that individual characteristics, including the sex and personality of parents and children, impact parent–child relationships across development. Russell and his colleagues conclude by carefully considering ways that extra-familial neighborhood, social, ethnic, and cultural factors impact on parent–child relationships.

With the exception of countries like mainland China, where the one-child policy is associated with parents encouraging child contact with cousins as substitute siblings (Hart et al., 1998), Judy Dunn notes that the majority of children in Europe and the United States grow up with biological siblings. She reviews systematic research on relationships of brothers and sisters in family interaction. A wealth of information is provided concerning why there is so much variation in how siblings get along. Siblings can be sources of stress or of support to one another, depending on a variety of factors. These factors can include child temperament, relative age, family size, birth order, and security of attachments to, and relationships with, parents. Linkages between the worlds of siblings and peers are also explicated, highlighting evidence for consistency across sibling and peer contexts as well as compensatory patterns. Finally, the question that has puzzled parents throughout the ages is addressed: Why are siblings so often different from one another?

Dale Hay and Alison Nash provide an insightful discussion of children's social development in different family arrangements (e.g., single parents, nuclear family structures, communal childrearing, extended family arrangements). How family members interact with one another and foster social competencies are likely associated with different family structures; however, Hay and Nash show that there is little solid evidence for this claim. Most studies comparing child outcomes in different family arrangements are weakened by serious methodological and theoretical limitations that diminish our ability to reach any firm conclusions. For example, many studies do not distinguish two-parent families where the parents are married and those where the parents' relationship has not been legalized. Despite the limited state of scholarship, the authors carefully synthesize existing research on different family arrangements by utilizing five organizing perspectives: the attachment model, the parenting model, the nuclear family model, the family systems model, and the social networks model. Findings from research on different family types such as never-married mothers, divorced families, nuclear families, same-sex parent families, stepparent families, cohabiting and married parent families, are presented with an eye towards understanding how these different family arrangements may affect children. The message is that children's social development in the context of the multitude of family arrangements that exist in the world today is in dire need of further investigation.

References

- Hart, C. H., Olsen, S. F., Robinson, C., & Mandlco, B. L. (1997). The development of social and communicative competence in childhood: Review and a model of personal, familial, and extra-familial processes. In B. R. Burleson (Ed.), *Communication yearbook 20* (pp. 305–373). Thousand Oaks, CA: Sage.
- Hart, C. H., Yang, C., Nelson, D., Jin, S., Bazarskaya, N., Nelson, L., Wu, X., & Wu, P. (1998). Peer contact patterns, parenting practices, and preschoolers' social competence in China, Russia, and the United States. In P. Slee & K. Rigby (Eds.), *Peer relations amongst children: Current issues and future directions* (pp. 1–30). London: Routledge.
- Schneider, B. H., Atkinson, L., & Tardif, C. (2001). Child–parent attachment and children's peer relationships: A quantitative review. *Developmental Psychology, 37*, 86–100.

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Attachment in Childhood

Joan Stevenson-Hinde and Karine Verschueren

Ever since Mary Ainsworth's original work (e.g., Ainsworth, Blehar, Waters, & Wall, 1978), the bulk of attachment research has concerned behavioral assessments of attachment patterns in infancy. Our focus here is on ways of assessing attachment beyond infancy, from ages 2.5 to 11 years. Observational and representational procedures will be considered, with respect to both validation and implications for development and psychopathology. But first, these procedures must be set within the context of attachment theory.

An Ethological Perspective

In a retrospective paper, John Bowlby described how his early clinical observations pointed to the adverse effects of separation and loss of a mother figure. This led him to ask, "If the disruption of a child's relationship with mother-figure in the early years creates much distress and anxiety, what is so special about the relationship that has been disrupted?" (1991a, p. 303). The prevailing answer was that bond formation stemmed from the association of mother with the provision of food, thereby satisfying a primary need. But, in Bowlby's view, this "cupboard love theory" (1991a, p. 303) was insufficient. Impressed by the phenomenon of imprinting in animals, Bowlby looked to ethology to provide a scientific framework.

Within ethology, the occurrence of species-characteristic behavior patterns suggests that such behavior may have been selected for during the course of evolution. Bowlby applied this thinking to attachment behavior, which he defined as any form of behavior, which attains or maintains proximity to a caregiver in times of need or stress. He argued that individuals who exhibited attachment behavior would have been more apt to survive and leave offspring, who in turn would reproduce (i.e., would have increased their "inclusive

fitness”), compared with those who did not show attachment behavior. Selection for attachment behavior could not have happened without a similar pressure on its complement, caregiving behavior. “During the course of time, the biologically given strategy of attachment in the young has evolved in parallel with the complementary parental strategy of responsive caregiving – the one presumes the other” (Bowlby, 1991b, p. 293).

Taking an ethological perspective a step further, Bowlby suggested that attachment behavior reflects the operation of a distinct control system in its own right, not dependent upon prior association with any other motivational system such as hunger. A behavior system is “distinguished on the basis of common causation . . . [and is] usually found to subserve a particular biological function” (Baerends, 1976, pp. 731–733). Bowlby postulated a function of protection from harm, “by keeping him or her in touch with one or more caregivers” (1991a, p. 306). Activation of a fear behavior system leads to activation of the attachment behavior system; attachment behavior leads to proximity to caregiver, which in turn deactivates the fear system, enabling activation of an exploratory or social system (e.g., Bowlby, 1982; see also Greenberg & Marvin, 1982).

Bowlby realized that an evolutionary argument could provide insight into behavior which otherwise appeared abnormal, including the “irrational fears of childhood.” The tendency to fear unfamiliar situations, darkness, or separation is “to be regarded as a natural disposition of man. . . . that stays with him in some degree from infancy to old age. . . . Thus it is not the presence of this tendency in childhood or later life that is pathological; pathology is indicated either when the tendency is apparently absent or when fear is aroused with unusual readiness and intensity” (Bowlby, 1973, p. 84). In one of his final contributions Bowlby wrote, “Once we postulate the presence within the organism of an attachment behavioural system regarded as the product of evolution and having protection as its biological function, many of the puzzles that have perplexed students of human relationships are found to be soluble. . . . an urge to keep proximity or accessibility to someone seen as stronger or wiser, and who if responsive is deeply loved, comes to be recognised as an integral part of human nature and as having a vital role to play in life. Not only does its effective operation bring with it a strong feeling of security and contentment, but its temporary or long-term frustration causes acute or chronic anxiety and discontent. When seen in this light, the urge to keep proximity is to be respected, valued, and nurtured as making for potential strength, instead of being looked down upon, as so often hitherto, as a sign of inherent weakness” (Bowlby, 1991b, p. 293).

Development of an Inferred Attachment Bond and Internal Working Models

As attachment behavior develops, it forms the basis for an inferred attachment bond. Bowlby described particular phases of its development: pre-attachment (from birth to about 2 months), involving signaling without discriminating one person from another; attachment-in-the-making (2–6 months) where signals become directed to particular persons; clear-cut attachment (0.5–4 years) with locomotion and goal-corrected behavior; and finally a goal-corrected partnership (4 years onwards) with perspective taking,

communication skills, and sharing mutual plans. Although additional attachments may develop throughout life, early attachments endure.

Furthermore, Bowlby (1973) postulated that attachment relationships must become internalized. Internal working models may be defined as “‘operable’ models of self and attachment partner, based on their joint relationship history. They serve to regulate, interpret, and predict both the attachment figure’s and the self’s attachment-related behavior, thoughts, and feelings” (Bretherton & Munholland, 1999, p. 89). This definition reflects Bowlby’s view of the complementary nature of an internal working model, representing both sides of the relationship. “A working model of self as valued and competent, according to this view, is constructed in the context of a working model of parents as emotionally available, but also as supportive of exploratory activities. Conversely, a working model of self as devalued and incompetent is the counterpart of a working model of parents as rejecting or ignoring of attachment behavior and/or interfering with exploration” (Bretherton & Munholland, 1999, p. 91).

The Quality of Attachment

So far, we have been presenting concepts that are applicable to all humans. But what is *not* common to all individuals is the *quality* of attachment, first assessed by Mary Ainsworth in her “strange situation procedure” (Ainsworth et al., 1978). This is a series of short episodes involving mother and a stranger, in which the child’s attachment behavior system is activated by the unfamiliarity of the situation and by mother leaving. The return of mother allows one to see how the child organizes his attachment behavior to her. Ainsworth identified three patterns: Avoidant, Secure, and Ambivalent. A Secure pattern has been associated with antecedent interactions with a “sensitively responsive” mother, as found in Mary Ainsworth’s pioneering Baltimore study and subsequently in other studies (see the meta-analysis by DeWolff & van IJzendoorn, 1997). The insecure patterns have been associated with different maternal styles, including Avoidance with rejection, Ambivalence with inconsistency, and Disorganization (described by Main & Solomon, 1990; Solomon & George, 1999) with fear.

As for which pattern of attachment is desirable, Bowlby was concerned with what might be called “psychological desiderata” (Hinde & Stevenson-Hinde, 1991). Making an analogy with “physical well-being,” Bowlby argued that “psychological well-being” had an absolute meaning, involving security of attachment. Research has supported this view, with security associated with self-reliance and efficacy, as opposed to dependency, anxiety, or anger. Insecure patterns are not seen as pathological in themselves, but rather as risk factors for pathology, while security is viewed as a protective factor (reviewed in Weinfield, Sroufe, Egeland, & Carlson, 1999).

In addition to behavioral assessments of attachment quality, once children reach Bowlby’s “goal-corrected partnership” stage, their verbal behavior may be used to index representations of attachment. Here, we shall outline behavioral and representational approaches to assessing attachment in children aged 2.5 to 11 years. From the above, it follows that assessment of the quality of the attachment bond requires activation of the attachment behavior system, and different methods do this to different degrees. The brilliance of the

strange situation procedure is that it actually involves separation from the attachment figure, with a built-in method of preventing too much stress, through curtailing an episode if that should happen. Representational methods typically require thinking about separation issues or other distress-provoking situations, while a Q-sort based on unstructured home observations typically involves little stress.

The Attachment Q-sort (AQS)

The AQS consists of 90 items, with many reflecting secure-base behavior. Each item is sorted into one of nine piles, according to how characteristic it is of that particular child. Sorts by observers are based on several home visits, totaling several hours. The correlation between an individual's Q-sort and a criterion Q-sort of a theoretically secure child (Waters, 1995; Waters & Deane, 1985) provides a security score, ranging from -1 to $+1$. Such scoring does not make distinctions among the insecure children. While inter-observer reliability tends to be high, relations with other attachment measures are far from clear (see Solomon & George, 1999). A lack of congruence between the Q-sort and a strange situation is not surprising, in view of the very differing contexts. Whereas the home puts little stress on the child or indeed the mother, the strange situation may activate both the child's attachment behavior and mother's caregiving behavior, thereby providing a window for observing particularly salient interactions.

Nevertheless, the Q-sort procedure is efficient, with the advantage of avoiding both a laboratory visit and extensive training of coders. Although additional savings may be achieved by asking parents to do the Q-sort, there is evidence that attachment figures may not be well placed to judge their child's attachment behavior toward them (van IJzendoorn, Vereijken, & Riksen-Walraven, in press). For example in a sample of 2.5 year olds, mothers of children classed *Secure* in a strange situation provided security scores which were significantly *lower* than observer ratings of security based on behavior in the strange situation. This could happen with sensitive mothers who reported openly, without being defensive. Within the *insecure* groups, mothers Q-sorted their children significantly *higher*, or more secure, than observers. Furthermore, mothers of Avoidant and Controlling children Q-sorted them above the observed security-score mean of the whole sample, while mothers of Ambivalent children sorted them well below the mean (Stevenson-Hinde & Shouldice, 1990). "It is likely that these sorting biases reflect the same maternal information-processing biases that are believed to be causal factors in the development of the different types of attachment relationships" (Solomon & George, 1999, p. 309).

Strange Situations

Mary Ainsworth's Strange Situation procedure for 12–18 month olds (Ainsworth et al., 1978) has been applied to children beyond infancy, either in its original form or with modifications. Coding systems for older children are reviewed by Solomon and George

(1999): the Cassidy–Marvin system (1992) for 2.5 to 4.5 year olds, Crittenden’s Preschool Assessment of Attachment (1994), and the Main–Cassidy system (1988) for 5 to 6 year olds. The Cassidy–Marvin system falls coherently between the Ainsworth system for infants (12–18 months) and the Main–Cassidy system for 5 to 6 year olds (see George & Solomon, 1999, Table 14.3). Within these three systems, patterns of attachment and rating scales (security and avoidance) carry similar meanings, but the precise behaviors involved differ in that they are age-appropriate. Because of their coherence with each other and with the original Ainsworth system, the Cassidy–Marvin and the Main–Cassidy systems will be the focus of the following sections.

The Cassidy–Marvin (C–M) System for 2.5 to 4.5 Year Olds

The Cassidy–Marvin (C–M) system reflects a collaborative effort among a number of laboratories. Hosted by the Seattle node of the MacArthur Network on the Transition from Infancy to Early Childhood, the group met over several years, with Mark Greenberg as its leader and guidance from Mary Ainsworth as well as Mary Main. The coding emphasis is upon reunion episodes and how a child organizes his or her behavior to mother following the stress of separation. In brief, a Secure child greets mother’s return with full gaze and positive affect. Interactions are calm, while also intimate and indicative of a special relationship. The two main insecure patterns may be contrasted with this, and indeed, with each other. Whereas the Avoidant child shows minimal responses and maintains a polite neutrality, the Ambivalent child emphasizes dependence on mother, with angry/whiny resistance and/or immature behavior. Within the age range of the C–M system, or from infancy to the Main–Cassidy system at 6 years, one may see a transition from the Disorganized pattern, reflecting confusion and apprehension (see Main & Solomon, 1990), to the Controlling pattern, reflecting a developmentally unnatural effort to reduce uncertainty by taking charge. Such children appear confident, but in a brittle, anxious way (Cassidy & Marvin, 1992; Main & Cassidy, 1988).

Inter-coder reliability has ranged from 75% to 92% (Solomon & George, 1999). Stability was 66% from infancy to preschool (Cassidy, Berlin, & Belsky, 1990), and 72% from 2.5 to 4.5 years for the three main classifications (A, B, & C: Stevenson-Hinde & Shouldice, 1993). Table 10.1 lists publications involving the C–M system, arranged under headings which may be seen as reflecting various forms of validity.

Attachment-related indices

Relations have been found between results from the C–M system and representational methods – the Attachment Story Completion Task (Bretherton, Ridgeway, & Cassidy, 1990) and the Separation Anxiety Test (Shouldice & Stevenson-Hinde, 1992) – as well as with reported knowledge of self and mother (Pipp, Easterbrooks, & Harmon, 1992). However, correspondences with the Q-sort did not occur. When mothers completed the Q-sort, there no significant differences in Q-sort scores according to C–M patterns of

Table 10.1 Publications Using the Cassidy and Marvin (C–M) Coding System for 2.5 to 4.5 Year Olds in Relation to Various Topics

Attachment-related indices

Bretherton, Ridgway, & Cassidy (1990)	3 year olds: C–M & story completion
Pipp, Easterbrooks, & Harmon (1992)	1 to 3 year olds: C–M & knowledge of self and mother
Shouldice & Stevenson-Hinde (1992)	4.5 year olds: C–M & SAT
Stevenson-Hinde & Shouldice (1990)	2.5 year olds: C–M & Attachment Q-sort by mothers

Aspects of caregiving

M/C interactions

Achermann, Dinneen, & Stevenson-Hinde (1991)	2.5 year olds: C–M & observed maternal style while clearing up (in lab)
Barnett, Kidwell, & Ho Leung (1998)	4 year olds: C–M & parenting style
Marvin & Brittner (1995)	Preschool: C–M and parental caregiving patterns in the strange situation
NICHD Early Child Care Research Network (2001)	Infancy to 3 years: Ainsworth, C–M, and maternal sensitivity
Stevenson-Hinde & Shouldice (1995)	4.5 year olds: C–M & maternal interactions (in home and lab) & maternal self-reports

Maternal psychosocial problems

DeMulder & Radke-Yarrow (1991)	Ainsworth for 15–30 months; C–M for >30 months: Affectively ill vs. well mothers
Easterbrooks, Davidson & Chazan (1993)	School age: C–M, psychosocial risk, and behavior problems
Manassis, Bradley, Goldberg, Hood & Swinson (1994)	Ainsworth for ages 18–23 months, $n = 5$; C–M for ages 24–59 months, $n = 15$: Anxiety disordered mothers
Marvin & Pianta (1996)	Children with cerebral palsy, 14–54 months old; Ainsworth coding for 5 locomotor infants; C–M for 34 locomotor preschoolers; & special system for 31 non-locomotor infants/preschoolers: Mothers' non-resolution of child's diagnosis associated with insecure attachment

Maltreatment

Cicchetti & Barnett (1991)	Preschoolers: C–M & maltreatment
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Adoption

Marcovitch, Goldberg, Gold, Washington, Wasson, Krekewich, & Handley-Derry (1997)	Behavioral problems in Romanian children adopted in Ontario. C–M at 3-5 years: Adoptees ($n=44$) differed significantly from normals ($n=38$): Controlling/other most common; none were Avoidant
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Aspects of child*Temperament*

Stevenson-Hinde (2000)	Shyness in the context of close relationships [overview]
Stevenson-Hinde & Marshall (1999)	4.5 year olds: C–M, behavioral inhibition (BI) & heart period (sampled selected for low, medium, high BI)
Stevenson-Hinde & Shouldice (1990)	2.5 year olds: C–M & BI (unselected sample)
Stevenson-Hinde & Shouldice (1993)	2.5 & 4.5 years: C–M & BI (unselected, longitudinal sample)
Vaughn, Stevenson-Hinde, Waters, Kotsaftis, Lefever, Shouldice, Trudel, & Belsky (1992)	Infancy & early childhood: C–M, temperament, Q-sort

Interactions with others

Booth, Rose-Krasnor, McKinnon, & Rubin (1994)	C–M at 3 years: Predicting social adjustment in middle childhood
Turner (1991)	4.5-year-olds: C–M & peer-peer interactions
Turner (1993)	4.5-year-olds: C–M & interactions with adults in preschool

Behavior problems

DeKlyen (1996)	Preschoolers (normal vs. clinic-referred): C–M & behavior disorders
DeKlyen, Speltz, & Greenberg (1998)	Preschoolers: C–M & positive and negative parenting
Goldberg (1991)	Preschool: C–M and behavior problems in normal, at risk, and clinic samples
Greenberg (1999)	Attachment and psychopathology in childhood
Greenberg, DeKlyen, Speltz, & Endriga (1997)	Preschool: C–M & externalizing psychopathology
Greenberg, Speltz, DeKlyen, & Endriga (1991)	Preschool: C–M in children with and without externalizing behavior problems
Moss, Rousseau, Parent, St.-Laurent, & Saintonge (1998)	5–7 year olds: used C–M and Main & Cassidy in combination – maternal reported stress, mother–child interaction, and behavior problems
Speltz, DeKlyen, & Greenberg (1999)	Preschool: C–M in boys with early onset conduct problems
Speltz, DeKlyen, Greenberg, & Dryden (1995)	Preschool: C–M & Oppositional Defiant Disorder

attachment. However, the discrepancies between the two systems occurred in predictable ways (see above), which lent support to the C–M system (Stevenson-Hinde & Shouldice, 1990).

Aspects of caregiving

Reflecting infancy studies, various indices of maternal sensitivity have been associated with security. The studies listed under Caregiving (Table 10.1) indicate that within the C–M system security has been associated with the following parental interactions: mothers' constructive involvement in a free-play situation, and in a clear-up task a high proportion of positive statements and a low proportion of control statements, but of those a high proportion with positive tone (at 2.5 years: Achermann, Dinneen, & Stevenson-Hinde, 1991); and in a low-income sample, caregivers as warm and accepting, less controlling and less apt to use corporal punishment (at 4–5 years: Barnett, Kidwell, & Leung, 1998). Security has been associated with maternal positive mood, meshing, enjoyment of child, and being relaxed in home observations; and with monitoring, planning, affirming, and providing a sensitive framework in a laboratory joint task (3.5 to 4.5 years: Stevenson-Hinde & Shouldice, 1995). In a particularly large sample (NICHD, 2001; $N = 1060$) of variables involving aspects of childcare, family, mother, and child, the strongest predictor of attachment security at 3 years was maternal sensitivity. Furthermore, from 15 months (Ainsworth coding) to 36 months (C–M coding), a change from *secure to insecure*, compared with stably secure, was associated with less sensitive mothering at 24 and 36 months. The least sensitive mothering at 24 and 36 months was associated with *stable insecurity*. Thus, validation for the C–M system is adequate with respect to linking maternal style with security. However, similar validation for fathers is lacking.

Concerning the further question, of whether the differing patterns of insecurity are associated with different caregiver styles, a simple answer is unlikely to be forthcoming. A coherent picture emerges only when both the context and the type of measure are noted. For example, correspondences with each pattern of attachment did emerge with observational measures in a stressful setting, when Marvin and Brittner (1995) observed mothers' behavior upon reunion in the strange situation. However, in a nonstressful home setting, mothers of Avoidant children did *not* differ significantly from mothers of Secure children (although their mean scores did differ by more than a standard deviation in the expected direction). In a more demanding joint task in the laboratory, mothers of Avoidant children did tend to withdraw, in terms of monitoring and planning significantly less than all other groups. Furthermore they showed possible idealization, in terms of reporting themselves in a significantly better light than all other mothers on three temperament scales and a depression scale. In contrast, mothers of Ambivalent children rated themselves as significantly the most depressed and anxious and the least satisfied with their marriages, and their interactions at home were the least positive, particularly in ratings of low meshing with child. Like mothers of Ambivalent children, mothers of Controlling children also had low positive interactions at home. And like mothers of Avoidant children, mothers of Controlling children rated themselves in a good light – least irritable and anxious – while in the laboratory joint task they affirmed least, enjoyed the task least, and provided the least sensitive framework (Stevenson-Hinde & Shouldice, 1995). Further observations of maternal style are needed, particularly regarding the clinically interesting Disorganized/Controlling category, where a lead has been given by infancy research (see Hesse, 1999a, 1999b; Lyons-Ruth & Jacobvitz, 1999).

Consistent with infancy studies (see meta-analyses by van IJzendoorn, Goldberg, Kroonenberg, & Frenkel, 1992; van IJzendoorn, Schuengel, & Bakermans-Kranenburg, 1999), the Disorganized/Controlling category in preschoolers has been associated with maternal problems. Insecurity, particularly Disorganization, has been associated with clinical diagnoses of maternal depression (DeMulder & Radke-Yarrow, 1991) and anxiety (Manassis, Bradley, Goldberg, Hood, & Swinson, 1994), as well as psychosocial risk (Easterbrooks, Davidson, & Chazan, 1993) and maltreatment (Cicchetti & Barnett, 1991).

Turning to adoption, and bearing in mind the caveat that an attachment bond may still be in the making and not fully formed, the C–M system has been used with Rumanian adoptees, aged 3–5 years. Controlling/Insecure-other patterns were most common, and none were Avoidant (Marcovitch et al., 1997).

Aspects of the child

With studies focusing on characteristics of the child, relations have been found between a child's behavioral inhibition (BI) and an Ambivalent pattern (reviewed in Stevenson-Hinde, 2000). Furthermore, attachment status informs the relation between BI and autonomic functioning. That is, only Secure children showed the predicted relation between high BI and high heart rate (Stevenson-Hinde & Marshall, 1999). For an overview of attachment and temperament, see Vaughn & Bost (1999).

With peers, security has been associated with social adjustment (Booth, Rose-Krasnor, McKinnon, & Rubin (1994). With 4.5 year olds, insecurity was associated with dependent behavior in playgroup. However, of more interest was an interaction effect, with *insecure girls* showing the most positive expressive behavior and compliance, and the least assertive and controlling behavior; while *insecure boys* showed the least positive behavior and compliance but the most attention-getting, assertive, controlling and aggressive behavior, thereby reflecting sexual stereotypes (Turner, 1991, 1993).

In infancy, attachment has been related to both acting out and withdrawal behavior with peers, with a suggestion that an Avoidant pattern is associated with the former and an Ambivalent pattern with the latter. However, when Disorganization has been assessed, this proved to be the primary predictor of problem behavior with peers (reviewed in Lyons-Ruth & Jacobvitz, 1999). Similarly with 5–7 year olds, Moss et al. (1998) concluded: "Controlling/other children were most at risk for both externalizing and internalizing problems across both age periods" (p. 1390). Furthermore, Greenberg and colleagues found a high incidence of controlling and insecure-other attachment patterns in clinic samples of 4–6 year olds, including boys with oppositional defiant disorder (see references in Table 10.1). After reviewing results from normal, at-risk, and clinic samples, Goldberg concludes that "as we move along a continuum of risk to clear diagnosis, the likelihood of secure attachment decreases and the likelihood of disorganized, controlling, and insecure-other attachment increases" (1991, p. 190). She goes on to suggest that "further differentiation within these categories based on clinic samples may prove to be more useful than are the normatively derived classification schemes" (p. 190).

Table 10.2 Publications Using the Main–Cassidy (M–C) Coding System for 6 Year Olds in Relation to Various Topics

Attachment-related indices	
Cassidy (1988)	6 year olds: M–C & self-perceptions
Jacobsen, Edelstein, & Hofmann (1994)	Attachment in childhood and cognitive functioning in childhood and adolescence
Slough & Greenberg (1990)	5 year olds: Representations of separation from parents
Solomon, George, & DeJong (1995)	6 year olds: M–C & evidence of disorganized representational strategies and aggression at home and at school
Aspects of caregiving	
George & Solomon (1996)	Representational models of relationships: Links between caregiving and attachment
Interactions with others	
Cassidy, Kirsh, Scolton, & Parke (1996)	6 year olds: M–C & representations of peer relationships
Cohn (1990)	6 year olds: M–C & social competence in school
Wartner, Grossmann, Fremmer-Bombik, & Suess (1994)	6 year olds: M–C predictability from infancy and implications for preschool behavior

The Main–Cassidy (M–C) System for 6 Year Olds

Inter-coder reliability has ranged from 70% to 82% (references in Table 10.2; George & Solomon, 1999). Stability for the ABC classification was 84% over one month (Cassidy, 1990; Main & Cassidy, 1988). From infancy to 6 years stability was 82% with mothers in samples from two different countries (Main & Cassidy, 1988; Wartner, Grossmann, Fremmer-Bombik, & Suess, 1994), and 62% with fathers (Main & Cassidy, 1988).

Attachment-related indices

In a structured doll-play situation designed to arouse the attachment behavior system, agreement was 79% between resulting classifications and classifications based on the M–C system (Solomon, George, & DeJong, 1995). Although agreement between the systems was very high for the Secure, Ambivalent, and Controlling groups, it was lower for the Avoidant group. Indeed, it is worth noting that Avoidant children may be particularly difficult to distinguish from Secure children on tasks that rely solely on verbal behavior. With pictures of attachment-related events, a high level of agreement with the M–C system has also been found (Jacobsen, Edelstein, & Hofmann, 1994; Slough & Greenberg, 1990). And with measures of the self, Secure children on the M–C system were more open

about themselves and about their feelings of vulnerability than insecure children (Cassidy, 1988).

Aspects of caregiving

Children who had been classed as Disorganized on the M–C system tended to depict themselves as frightened and the caregiver as frightening (Solomon et al., 1995). As in infancy, controlling/disorganized behavior has been associated with unresolved loss or trauma in mothers. Such mothers adopt a helpless stance, failing to provide reassurance to the child, or fearful of the child or of her own loss of control (George & Solomon, 1996; Greenberg, Speltz, DeKlyen, & Endriga, 1991).

Interactions with others

Finally, links have been found between a Secure M–C classification and social competence and peer acceptance in school (Cohn, 1990; Wartner et al., 1994). Results for boys were compatible with those found in playgroup with the C–M system (Turner, 1991, 1993). That is, insecure boys (but not girls) were less well liked by peers and teachers, perceived as more aggressive by peers, and by teachers as having more behavior problems and being less competent (Cohn, 1990). Finally, Cassidy, Kirsh, Scolton, and Parke (1996) found that Secure children had more positive representations of peers' feelings than did insecure children.

Representational Procedures

As Mary Ainsworth asserted, "Attachment is organized within the individual, and we must infer its nature from whatever clues that are available to us, whether these be how the individual behaves or what he says about what he is thinking, feeling, or intending" (1990, p 469). In infancy, the clues to attachment quality are necessarily behavioral. However, from the early preschool years on, children are increasingly capable of using symbols in the form of actions, images, or words to reveal their internalized experiences with attachment figures and resulting expectations about these relationships. Thus not surprisingly, in attachment research beyond infancy, observational assessments of attachment were soon complemented by the so-called "representational" assessments.

Representational attachment measures involve procedures in which attachment security is assessed in the absence of the actual attachment figure, thereby making use of the child's representational or symbolic capacities. A variety of attachment-related tasks can be used – such as making a family drawing, responding to a photograph of the family, etc. However, the most widely used representational assessments rely on the child's verbal communication about attachment-related issues, commonly referred to as "attachment narratives." Two kinds of narrative assessments will be discussed below: attachment doll-play procedures and picture-response procedures. These cover the age range from 3 to about 8 years.

Narrative attachment measures for older children are also being developed (e.g., Wright, Binney, & Smith, 1995).

Attachment Doll-play procedures: Overview of Measures

In the doll-play procedures, children are asked to use a doll family and some props to complete a set of standardized attachment-related story beginnings. The children are requested to enact and verbalize what happens, and are systematically probed for further clarification if needed. On the basis of their enactment of each story and their verbal responses, both transcribed in detail, the quality of the children's representations of attachment relationships is inferred. The underlying assumption is that the quality of attachment is revealed in the pattern of communication about attachment-related issues, that is, in the content and structure, or the "what" and "how" of the narratives (Bretherton, 1990; Bretherton et al., 1990).

In the past decade, several doll-play methods have been developed. Table 10.3 gives a chronological overview of the different published assessments for preschoolers and young school-age children. As can be seen, the number of attachment-related stories varies from four to six across procedures. Moreover, the range of scenarios presented is variable. Stories about fear- or distress-provoking situations (e.g., child being afraid in bed at night) are presented in all procedures. In addition, most procedures include one or more separation and reunion situations, for example, the parents depart for a trip and then return (Bretherton et al., 1990; Oppenheim, 1997; Solomon et al., 1995), or the child is lost while shopping with the parent (Green, Stanley, Smith, & Goldwyn, 2000). Two assessments include potentially conflictual and other emotionally charged parent-child interactions, which may be relevant for children in the phase of the "goal-corrected partnership" (Cassidy, 1988; Verschueren, Marcoen, & Schoefs, 1996). Some procedures assess the overall representation of attachment to both parents (Bretherton et al., 1990; Solomon et al., 1995). Others focus on the representations of specific attachment relationships – mother and/or father (Cassidy, 1988; Green et al., 2000; Verschueren et al., 1996). Oppenheim's (1997) doll-play task includes stories dealing with mother alone, as well as stories dealing with both parents together.

In most coding systems (with two exceptions), two criteria for security are – more or less – explicitly used. The criteria are based on theoretical ideas about the content and structure of working models of attachment relationships (Bretherton, 1990), on research using picture-based procedures, and on the inspection of subsamples of transcripts. The two criteria can be labeled: (1) emotional openness in sharing one's narratives with others; and (2) emotional tone (positive or negative) of the interactions presented, including the constructiveness of the story resolution. In addition to a secure category with narratives characterized by emotional openness and positive tone, two different insecure categories arise: (1) stories characterized by avoidance or a lack of emotional openness; and (2) stories characterized by negative emotional tone, with hostile, violent, bizarre interactions, and a destructive ending or no resolution at all. This latter insecure category is labeled differently across systems, but the key characteristics are the same. Oppenheim (1997) uses similar criteria, but only uses scores and no classifications. Two other coding systems were devel-

Table 10.3 Chronological Overview of Attachment Doll-Play Procedures for 3 to 7 Year Olds

<i>Authors</i>	<i>Assessment</i>	<i>Age (years)</i>	<i>Stories</i>	<i>Coding system</i>
Cassidy (1986, 1988)	Incomplete stories with doll family	6	6 attachment stories (using only mother)	3 categories: secure, avoidant, & bizarre/negative (or hostile/negative)
Bretherton et al. (1990) (Page & Bretherton, 1994)	Attachment story completion task	3	5 attachment stories (using mother & father together)	3 categories: secure, avoidant, & disorganized (also labeled ambivalent)
Solomon et al. (1995)	Separation-reunion story completion task	6	4 attachment stories from Bretherton et al. (using mother & father together)	4 categories (based on 2 stories): confident, frightened, casual, & busy
Verschueren et al. (1996)	Attachment story completion task	4–6	5 attachment stories (adapted from Cassidy & Bretherton et al.)	3 categories: secure, avoidant, & bizarre/ambivalent
Oppenheim (1997)	Attachment doll-play interview	3–5	6 attachment stories (some using only mother; some using both parents)	No categories. Scores for: emotional openness, constructive solution, & positive emotional tone
Green et al. (2000)	Manchester child attachment story task	5–7	5 attachment stories (using 1 parent)	4 categories: secure, avoidant ambivalent, & cannot classify; and a superordinate category: disorganized

oped somewhat differently. Solomon et al.'s (1995) system is derived empirically, based on the inspection of protocols of 6 year olds who were known to be classified as A, B, C, or D in the M–C observation system. Thus, these authors made a distinction between four categories. Green et al.'s (2000) system draws on concepts and methods from attachment research in infancy and in adulthood. It includes four main categories (A, B, C, and Cannot Classify), a superordinate D category, as well as various ratings of narrative coherence similar to the ratings from the Adult Attachment Interview.

Attachment Doll-play Procedures: Overview of Empirical Results

Inter-coder reliability was not reported in the Bretherton et al. (1990) study, but was satisfying in all other studies. The percentage agreement ranged from 71 to 88%. Cassidy (1988) investigated the test–retest reliability for one story. Stability of classification was 73% over a 1-month period. Green et al. (2000) report a stability of 77% for the ABC classification over a 5- to 8-month period.

Theoretically predicted associations with attachment quality as concurrently assessed by observational assessments (C–M or M–C observation systems), were established in three studies (Bretherton et al., 1990; Cassidy, 1988; Solomon et al., 1995, see above). In addition, Bretherton and her colleagues (1990) found significant associations with attachment quality in infancy as measured in the Strange Situation. Oppenheim (1997) examined the connection between preschoolers' responses to his doll-play interview and their separation–reunion behavior toward their mother in a small, new classroom setting. He found that both positive emotional tone and more emotional openness in the stories were related to more classroom exploration in the preseparation period, and less contact maintenance with mother when she returned.

Evidence for a connection with parent–child interactions observed in the home or in theoretically relevant laboratory situations other than separation–reunion situations, is not available yet. Connections with self-reported family functioning are reported in two studies. Bretherton et al. (1990) found that mothers' self-reported marital satisfaction, family cohesion, and family adaptability were positively related to the children's attachment security as measured by the doll-play procedure one year later. Verschueren (1996) reported a positive connection between kindergartners' attachment security, measured via doll play, and parents' self-reported encouragement of the children's independence. Interestingly, the quality of the child–father attachment representation was only related to autonomy encouragement (reported) by the father, whereas the quality of the child–mother attachment representation was only related to autonomy encouragement (reported) by the mother. Connections with self-reported parental warmth were, however, not significant.

Associations with socioemotional functioning have been investigated in three studies. In a study with 6 year olds, Cassidy (1988) found a positive connection between the security of the child–mother attachment representation, assessed via doll play, and the quality of self as indexed by the Puppet Interview. Oppenheim (1997) found that preschoolers' emotional openness and positive emotional tone in the doll-play interview were related in the predicted way to teacher ratings of behavioral self-esteem and quality of attention seeking.

In a study with 5 year olds, Verschueren and Marcoen (1999) examined the associations between representations of attachment to mother and to father, representations of self, and several aspects of socioemotional functioning (teacher ratings of school adjustment, social competence with peers, anxious/withdrawn behavior, etc.). The predicted connections were largely found. Surprisingly however, differential effects of attachment to mother and to father were revealed. The children's positiveness of self, as measured by the Puppet Interview, was most strongly predicted by the quality of attachment to mother, whereas their degree of anxious/withdrawn behavioral problems were most strongly predicted by the quality of attachment to father. Moreover, the insecure children who told bizarre, hostile, disorganized stories showed most signs of maladaptation. In two studies, such insecure attachment stories were found to be related to the Controlling (D) observational pattern in the M-C system (Cassidy, 1988; Solomon et al., 1995).

Picture Response Procedures: Overview of Measures

Another type of representational assessment makes use of photographs depicting parent-child separations. Most of these picture-response procedures are based on Klagsbrun and Bowlby's modification of Hansburg's Separation Anxiety Test – the SAT (Bohlin, Hagekull, & Rydell, 2000; Fonagy, Redfern, & Charman, 1997; Kaplan, 1987, cited in Solomon & George, 1999; Main et al., 1985; Shouldice & Stevenson-Hinde, 1992; Slough & Greenberg, 1990; Verschueren & Marcoen, 2000). Some researchers constructed and validated their own separation pictures (Jacobsen, Edelstein, & Hofmann, 1994; Wright et al., 1995).

The Klagsbrun-Bowlby modification of the SAT is developed for 4- to 7-year-old children. It comprises pictures of three parent-child separations considered to be mild (e.g., mother putting child in bed), and three parent-child separations considered to be severe (e.g., parents departing for a 2-week vacation). Each picture is introduced in a standardized way. Next the children are asked how the child in the picture might feel, why he or she might feel that way, and what this hypothetical child might do. In Slough and Greenberg's (1990) Seattle version of the SAT, the children are also requested to describe their own feelings and coping behavior, if they were to be confronted with these separations.

To code the children's responses to the SAT, several schemes have been developed. In Kaplan and Main's system (Main et al., 1985), the emotional openness and the constructiveness of the coping responses are rated. Kaplan (1987, cited in Solomon & George, 1999) later constructed a four-category system based on the same two criteria. Jacobsen et al. (1994) successfully applied this classification system and labeled the four categories as: secure, avoidant, ambivalent, and disorganized. The most widely used system is the Seattle scoring scheme developed by Slough and Greenberg (1990). Based on a 21-category system, three summary scores are computed: (a) the ability to express vulnerability in the context of severe separations; (b) the ability to express self-confidence in the context of mild separations; and (c) the degree of avoidance in discussing separations. Secure children are assumed to score high on the first two measures, and low on the third. These scales and/or scales based on the Seattle category system are used in the studies of Bohlin et al. (2000), Fonagy et al. (1997), Verschueren and Marcoen (2000), and Wright et al. (1995).

Picture Response Procedures: Overview of Empirical Results

Inter-rater reliability of the SAT coding systems (if reported) was satisfactory. Test–retest reliability was examined in one study by Wright et al. (1995). In a small clinical sample of 15 children, they found positive but very low test–retest correlations (between .12 and .39). However, the respondents in this study were older (8–12 years), and a self-constructed set of pictures was administered.

In several studies theoretically predicted concurrent relations were found between responses to the SAT and attachment quality as assessed by an observational measure (C–M or M–C system: Main et al., 1985; Shouldice & Stevenson-Hinde, 1992; Slough & Greenberg, 1990). Moreover, concurrent connections with security scores based on an attachment story completion task were found, even when controlling for the children's verbal competence (Verschueren & Marcoen, 2000). Relations with the Strange Situation classification at age 1 were found in two studies using the Kaplan coding scheme (Jacobsen et al., 1994; Kaplan, 1987, in Solomon & George, 1999). No such association was found by Bohlin et al. (2000). Again however, the respondents in this study were older (8–9 years).

Very few studies investigated the associations with parent–child interactions in contexts other than separation–reunion situations. Slough and Greenberg (1990) reported a significant association with mother affect ratings (p. 82), but the way these ratings were gathered is not described. Verschueren (1996) found a connection between an overall security score based on the Seattle system, and the self-reported encouragement of independence by mother and by father. As for the story completions, connections with self-reported parental warmth were not significant.

Verschueren and Marcoen (2000) examined the connection between children's responses to the SAT and aspects of their socioemotional functioning. Results showed a positive association between children's overall security score on the SAT and their popularity, prosocial behavior, and global school adjustment as seen by the teacher. Moreover, higher overall security scores were related to a more positive representation of self as indexed by the Puppet Interview. In a study with 8 year olds, Bohlin et al. (2000) found significant concurrent associations between this SAT overall security score and popularity and social initiative-withdrawal as evaluated by parents, teachers, and observers. In a sample of 3 to 6 year olds, Fonagy and colleagues (1997) concluded that attachment security as assessed by the SAT significantly predicted children's social-cognitive capacities, specifically their belief-desire reasoning ability. In two longitudinal studies, significant connections were found between security of attachment representations at age 7 and later performance on reasoning tasks (Jacobsen et al., 1994), attention-participation and security about self according to the teacher, and grade point average in school (Jacobsen & Hofmann, 1997), even when controlling for differences in intelligence. Finally, as compared with a nonclinical control group, children in a clinical group had more difficulty in discussing feelings about separations openly and in expressing feelings of vulnerability in the context of severe separations (Wright et al., 1995).

Conclusion

Thus with strange situation classifications from infancy to about 7 years, a coherent picture is emerging. In addition to interobserver reliability and reasonable stability over time, classifications have been related in predictable ways to other indices of attachment, aspects of caregiving including maltreatment, interactions with peers, and behavior disorders.

The picture emerging with representational assessments is somewhat less coherent, partly due to the use of various procedures and coding schemes. Overall, however, results are very encouraging. Inter-rater reliability and test–retest reliability are generally adequate, and connections with concurrent and antecedent strange situation classifications were found in several studies from different research groups. Research on the connection with children's socioemotional functioning is growing and provides considerable evidence for the construct validity of the representational attachment measures. Up to now, research on the relation with caregiving or parent–child interactions assessed at home or in relevant laboratory situations (besides separation–reunion situations) is scarce. Examining how patterns of narratives are related to patterns of caregiving remains an important task for future studies.

Current Issues and Future Directions

Now that predictable differences have been found between Secure versus Insecure groups over this age range, the next challenge is to make further distinctions in antecedents and outcome among the Insecure categories (Avoidant, Ambivalent, Disorganized/Controlling, and Insecure-other). Unfortunately for research purposes (but not for child development), about two-thirds of a normative sample tend to be classed as Secure. Thus, sample selection for more Insecure children is needed within community samples, as well as further work with clinical samples. We should be open to the possibility of additional categories emerging as clinical samples are explored further.

We should caution that coding strange situation procedures requires extensive training. Furthermore with the C–M and M–C systems, training workshops are held only on an ad hoc basis rather than routinely as with the infancy system. Assessment would be greatly helped by organizing routine training sessions, encompassing the age range of both the C–M and M–C systems. This would require making an explicit link between the two systems, with a single coding manual for ages 2.5 to 7 years, perhaps with age-appropriate sections.

Regarding the representational attachment measures, several issues remain to be addressed. Firstly, more attention should be given to establishing connections with patterns of caregiving as observed in the home or the laboratory. However, the relations between parenting style and children's attachment representations need not be perfect. They are likely to be moderated by child characteristics (e.g. meta-cognitive or social-cognitive capacities) and/or correcting experiences within the larger network of attachment relationships (Verschueren & Marcoen, 1999). Examining such interactive effects of caregiving experiences and child characteristics on the quality of attachment representations as indexed by narrative measures is a prominent task for further research.

Secondly, research should focus more on relations with cognitive and social-cognitive development. To what degree are the patterns of verbal communication about attachment-related issues related to children's verbal and cognitive capacities in general? And to what degree are attachment representations related to other aspects of social cognition? Although significant connections are to be expected (e.g., Meins, 1997; van IJzendoorn, Dijkstra, & Bus, 1995), relations should not be too high in order to support the discriminant validity (Green et al., 2000; Verschueren & Marcoen, 1999).

Thirdly, the number of insecure response patterns that may be distinguished is still unclear. All classification systems comprise at least two insecure patterns. Some systems include an additional third insecure category (corresponding to the C-observational category). Whether such a further differentiation within insecure patterns is necessary or desirable, remains an open question (e.g., given the very small proportion of these "C-narratives" found by Green et al., 2000, and Jacobsen et al., 1994). In each case, the number of meaningfully distinguishable categories may vary across developmental periods and types of assessment, and need not be fixed *a priori* in order to match patterns in infancy.

This leads us to a final important challenge for the future. In contrast to the observational assessments, diversity among representational measures has been much larger. This is especially true for the doll-play assessments. This "intellectual freedom" certainly has advantages, especially in an early stage of instrument development. However, in order to make significant progress in the future, researchers with expertise in doll-play assessments may want to collaborate in developing a standardized doll-play assessment, clearly rooted in theory and research on the normative development of attachment in children, and combining the strong elements of existing measures. This kind of collaborative effort may provide the best guarantee for the systematic examination of remaining questions.

References

- Achermann, J., Dinneen, E., & Stevenson-Hinde, J. (1991). Clearing up at 2.5 years. *British Journal of Developmental Psychology*, *9*, 365–376.
- Ainsworth, M. D. S. (1990). Some considerations regarding theory and assessment relevant to attachments beyond infancy. In M. T. Greenberg, D. Cicchetti, & E. M. Cummings (Eds.), *Attachment in the preschool years: Theory, research and intervention* (pp. 463–488). Chicago: University of Chicago Press.
- Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. (1978). *Patterns of attachment*. Hillsdale, NJ: Erlbaum.
- Baerends, G. P. (1976). The functional organization of behaviour. *Animal Behaviour*, *24*, 726–738.
- Barnett, D., Kidwell, S. L., & Ho Leung, K. (1998). Parenting and preschooler attachment among low-income urban African American families. *Child Development*, *69*, 1657–1671.
- Bohlin, G., Hagekull, B., & Rydell, A.-M. (2000). Attachment and social functioning: A longitudinal study from infancy to middle childhood. *Social Development*, *9*, 24–39.
- Booth, C. L., Rose-Krasnor, L., McKinnon, J. A., & Rubin, K. H. (1994). Predicting social adjustment in middle childhood: The role of preschool attachment security and maternal style. *Social Development*, *3*, 189–204.
- Bowlby, J. (1973). *Attachment and loss, Vol 2: Separation, anxiety and anger*. London: Hogarth Press.
- Bowlby, J. (1982). *Attachment and loss, Vol 1: Attachment*, 2nd ed. London: Hogarth Press.

- Bowlby, J. (1991a). Ethological light on psychoanalytical problems. In P. Bateson (Ed.), *Development and integration of behaviour* (pp. 301–313). Cambridge, England: Cambridge University Press.
- Bowlby, J. (1991b). Postscript. In C. M. Parkes, J. Stevenson-Hinde, & P. Marris (Eds.), *Attachment across the life cycle* (pp. 293–297). London: Routledge.
- Bretherton, I. (1990). Open communication and internal working models: Their role in attachment relationships. In R. A. Thompson (Ed.), *Socioemotional development. Nebraska symposium on motivation, Vol. 36* (pp. 57–114). Lincoln, NE: University of Nebraska Press.
- Bretherton, I., & Munholland, K. A. (1999). Internal working models in attachment relationships: A construct revisited. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 89–111). New York: Guilford Press.
- Bretherton, I., Ridgeway, D., & Cassidy, J. (1990). Assessing internal working models of the attachment relationship: An attachment story completion task for 3-year-olds. In M. T. Greenberg, D. Cicchetti, & E. M. Cummings (Eds.), *Attachment in the preschool years: Theory, research and intervention* (pp. 273–308). Chicago: University of Chicago Press.
- Cassidy, J. (1986). Attachment and the self at age six. Unpublished doctoral dissertation, University of Virginia.
- Cassidy, J. (1988). The self as related to child–mother attachment at six. *Child Development, 59*, 121–134.
- Cassidy, J. (1990). Theoretical and methodological considerations in the study of attachment and the self in young children. In M. T. Greenberg, D. Cicchetti, & E. M. Cummings (Eds.), *Attachment in the preschool years: Theory, research and intervention* (pp. 87–119). Chicago: University of Chicago Press.
- Cassidy, J., Berlin, L., & Belsky, J. (1990, April). *Attachment organization at age 3: Antecedent and concurrent correlates*. Paper presented at the biennial meeting of the International Conference on Infant Studies, Montreal.
- Cassidy, J., Kirsh, S. J., Scolton, K. L., & Parke, R. D. (1996). Attachment and representations of peer relationships. *Developmental Psychology, 32*, 892–904.
- Cassidy, J., & Marvin, R. S. (1992). *Attachment organization in preschool children: Procedures and coding manual* (4th ed.). Unpublished manuscript, MacArthur Working Group on Attachment, Seattle, WA.
- Cicchetti, D., & Barnett, D. (1991). Attachment organization in maltreated preschoolers. *Development and Psychopathology, 3*, 397–411.
- Cohn, D. (1990). Child–mother attachment in six-year-olds and social competence in school. *Child Development, 61*, 152–162.
- Crittenden, P. (1994). *Preschool Assessment of Attachment* (2nd ed.). Unpublished manuscript, Family Relations Institute, Miami, FL.
- DeKlyen, M. (1996). Disruptive behavior disorders and intergenerational attachment patterns: A comparison of normal and clinic-referred preschoolers and their mothers. *Journal of Consulting and Clinical Psychology, 64*, 357–365.
- DeKlyen, M., Speltz, M. L., & Greenberg, M. T. (1998). Fathering and early onset conduct problems: Positive and negative parenting, father-son attachment, and the marital context. *Clinical Child and Family Psychology Review, 1*, 3–21.
- DeMulder, E. K., & Radke-Yarrow, M. (1991). Attachment with affectively ill and well mothers: Concurrent behavioral correlates. *Development and Psychopathology, 3*, 227–242.
- DeWolff, M. S., & van IJzendoorn, M. H. (1997). Sensitivity and attachment: A meta-analysis on parental antecedents of infant attachment. *Child Development, 68*, 571–591.
- Easterbrooks, M. A., Davidson, C. E., & Chazan, R. (1993). Psychosocial risk, attachment, and behavior problems among school-aged children. *Development and Psychopathology, 5*, 389–402.

- Fonagy, P., Redfern, S., & Charman, T. (1997). The relationship between belief-desire reasoning and a projective measure of attachment security (SAT). *British Journal of Developmental Psychology*, *15*, 51–61.
- George, C., & Solomon, J. (1996). Representational models of relationships: Links between caregiving and attachment. *Infant Mental Health Journal*, *17*, 198–216.
- Goldberg, S. (1991). Attachment and childhood behavior problems in normal, at-risk, and clinical samples. In L. Atkinson & K. J. Zucker (Eds.), *Attachment and psychopathology* (pp. 171–195). New York: Guilford Press.
- Green, J. M., Stanley, C., Smith, V., & Goldwyn, R. (2000). A new method of evaluating attachment representations in young school age children: The Manchester Child Attachment Story Task. *Attachment and Human Development*, *2*, 48–70.
- Greenberg, M. T. (1999). Attachment and psychopathology in childhood. In J. Cassidy & P. Shaver, (Eds.), *Handbook of attachment* (pp. 469–496). New York: Guilford Press.
- Greenberg, M. T., DeKlyen, M., Speltz M. A., & Endriga, M. C. (1997). The role of attachment processes in externalizing psychopathology in young children. In L. Atkinson & K. J. Zucker (Eds.), *Attachment and psychopathology* (pp. 196–222). New York: Guilford Press.
- Greenberg, M. T., & Marvin, R. S. (1982). Reactions of preschool children to an adult stranger: A behavioral systems approach. *Child Development*, *53*, 481–490.
- Greenberg, M. T., Speltz M. A., DeKlyen, M., & Endriga, M.C. (1991). Attachment security in preschoolers with and without externalizing behavior problems: A replication. *Development and Psychopathology*, *3*, 413–430.
- Hesse, E. (1999a). The Adult Attachment Interview. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 395–433). New York: Guilford Press.
- Hesse, E. (1999b). Unclassifiable and disorganized responses in the Adult Attachment Interview and in the Infant Strange Situation Procedure. Doctoral Dissertation, University of Leiden, The Netherlands.
- Hinde, R. A., & Stevenson-Hinde, J. (1991). Perspectives on attachment. In C. M. Parkes, J. Stevenson-Hinde, & P. Marris (Eds.), *Attachment across the life cycle* (pp. 52–65). London: Routledge.
- Jacobsen, T., Edelstein, W., & Hofmann, V. (1994). A longitudinal study of the relation between representations of attachment in childhood and cognitive functioning in childhood and adolescence. *Developmental Psychology*, *30*, 112–124.
- Jacobsen, T., & Hofmann, V. (1997). Children's attachment representations: Longitudinal relations to school behavior and academic competency in middle childhood and adolescence. *Developmental Psychology*, *33*, 703–710.
- Lyons-Ruth, K., & Jacobvitz, D. (1999). Attachment disorganization: Unresolved loss, relational violence, and lapses in behavioral and attentional strategies. In J. Cassidy & P. Shaver (Eds.), *Handbook of attachment* (pp. 520–554). New York: Guilford Press.
- Main, M. (1991). Metacognitive knowledge, metacognitive monitoring, and singular (coherent) versus multiple models of attachment. Findings and directions for future research. In C. M. Parkes, J. Stevenson-Hinde, & P. Marris (Eds.), *Attachment across the life cycle* (pp. 127–159). London: Routledge.
- Main, M., & Cassidy, J. (1988). Categories of response to reunion with the parent at age six: Predictable from infant attachment classifications and stable over a 1-month period. *Developmental Psychology*, *24*, 415–526.
- Main, M., Kaplan, N., & Cassidy, J. (1985). Security in infancy, childhood, and adulthood: a move to the level of representations. In I. Bretherton & E. Waters (Eds.), *Growing points in attachment theory and research. Monographs of the Society for Research in Child Development*, *50* (1-2, Serial No. 209), 66–104.

- Main, M., & Solomon, J. (1990). Procedures for identifying infants as disorganized/disoriented during the Ainsworth strange situation. In M. T. Greenberg, D. Cicchetti, & E. M. Cummings (Eds.), *Attachment in the preschool years* (pp. 121–160). Chicago: University of Chicago Press.
- Manassis, K., Bradley, S., Goldberg, S., Hood, J., & Swinson, R. P. (1994). Attachment in mothers with anxiety disorders and their children. *Journal of the American Academy of Child and Adolescent Psychiatry*, *33*, 1106–1113.
- Marcovitch, S., Goldberg, S., Gold, A., Washington, J., Wasson, C., Krekewich, K., & Handley-Derry, M. (1997). Determinants of behavioral problems in Romanian children adopted in Ontario. *International Journal of Behavioral Development*, *20*, 17–31.
- Marvin, R. S., & Brittner, P. A. (1995). Classification system for parental caregiving patterns in the preschool strange situation. Coding Manual, University of Virginia.
- Marvin, R. S., & Pianta, R. C. (1996). Mothers' reactions to their child's diagnosis: Relations with security of attachment. *Journal of Clinical Child Psychology*, *25*, 436–445.
- Meins, E. (1997). *Security of attachment and the social development of cognition*. Hove, England: Psychology Press.
- Moss, E., Rousseau, D. R., Parent, S., St-Laurent, D., & Saintonge, J. (1998). Correlates of attachment at school age: Maternal reported stress, mother-child interaction, and behavior problems. *Child Development*, *69*, 1390–1405.
- NICHD Early Child Care Research Network. (2001). Child-care and family predictors of preschool attachment and stability from infancy. *Developmental Psychology*, *37*, 847–862.
- Oppenheim, D. (1997). The Attachment Doll-play Interview for preschoolers. *International Journal of Behavioral Development*, *20*, 681–697.
- Page, T., & Bretherton, I. (1994). *Preschoolers' coping with parental divorce as reflected in their family narratives*. Poster presented at the Biennial Meetings of the International Society for the Study of Behavioral Development, Amsterdam.
- Pipp, S., Easterbrooks, M. A., & Harmon, R. J. (1992). The relation between attachment and knowledge of self and mother in one- to three-year-old infants. *Child Development*, *63*, 738–750.
- Shouldice, A., & Stevenson-Hinde, J. (1992). Coping with security distress: The Separation Anxiety Test and attachment classification at 4.5 years. *Journal of Child Psychology & Psychiatry*, *33*, 331–348.
- Slough, N., & Greenberg, M. (1990). Five-year olds' representations of separation from parents: Responses from the perspective of self and other. In I. Bretherton & M. W. Watson (Eds.), *New directions for child development: No. 48. Children's perspectives on the family* (pp. 67–84). San Francisco: Jossey-Bass.
- Solomon, J., & George, C. (1999). The measurement of attachment security in infancy and childhood. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 287–316). New York: Guilford Press.
- Solomon, J., George, C., & DeJong, A. (1995). Children classified as controlling at age six: Evidence of disorganized representational strategies and aggression at home and at school. *Development and Psychopathology*, *7*, 447–463.
- Speltz, M. L., DeKlyen, M., & Greenberg, M. T. (1999). Attachment in boys with early onset conduct problems. *Development and Psychopathology*, *11*, 269–285.
- Speltz, M. L., DeKlyen, M., Greenberg, M. T., & Dryden, M. (1995). Clinic referral for Oppositional Defiant Disorder: Relative significance of attachment and behavioral variables. *Journal of Abnormal Child Psychology*, *23*, 487–507.
- Stevenson-Hinde, J. (2000). Shyness in the context of close relationships. In W. R. Crozier (Ed.), *Shyness: Development, consolidation, and change* (pp. 88–102). London: Routledge.
- Stevenson-Hinde, J., & Marshall, P. J. (1999). Behavioral inhibition, heart period, and respiratory sinus arrhythmia: An attachment perspective. *Child Development*, *70*, 805–816.

- Stevenson-Hinde, J., & Shouldice, A. (1990). Fear and attachment in 2.5-year-olds. *British Journal of Developmental Psychology*, 8, 319–333.
- Stevenson-Hinde, J., & Shouldice, A. (1993). Wariness to strangers: A behavior systems perspective revisited. In K. H. Rubin & J. Asendorpf (Eds.), *Social withdrawal, inhibition, and shyness in childhood* (pp. 101–116). Hillsdale, NJ: Erlbaum.
- Stevenson-Hinde, J. & Shouldice, A. (1995). Maternal interactions and self-reports related to attachment classifications at 4.5 years. *Child Development*, 66, 583–596.
- Turner, P. J. (1991). Relations between attachment, gender, and behavior with peers in preschool. *Child Development*, 62, 1475–1488.
- Turner, P. J. (1993). Attachment to mother and behaviour with adults in preschool. *British Journal of Developmental Psychology*, 11, 75–89.
- van IJzendoorn, M. H., Goldberg, S., Kroonenberg, P. M., & Frenkel, O. J. (1992). The relative effects of maternal and child problems on the quality of attachment: A meta-analysis of attachment in clinical samples. *Child Development*, 63, 840–858.
- van IJzendoorn, M. H., Schuengel, C., & Bakermans-Kranenburg, M. J. (1999). Disorganized attachment in early childhood: Meta-analysis of precursors, concomitants, and sequelae. *Development and Psychopathology*, 11, 225–249.
- van IJzendoorn, M. H., Vereijken, C. M. J. L., & Riksen-Walraven, M. J. M. A. (in press). Is the Attachment Q-sort a valid measure of attachment security in young children? In B. E. Vaughn & E. Waters (Eds.), *Patterns of secure base behavior: Q-sort perspectives on attachment and caregiving*. Hillsdale, NJ: Erlbaum.
- Vaughn, B. E. & Bost, K. K. (1999). Attachment and temperament: Redundant, independent, or interacting influences on interpersonal adaptation and personality development? In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 198–225). New York: Guilford Press.
- Vaughn, B. E., Stevenson-Hinde, J., Waters, E., Kotsaftis, A., Lefever, G. B., Shouldice, A., Trudel, M., & Belsky, J. (1992). Attachment security and temperament in infancy and early childhood: Some conceptual clarifications. *Developmental Psychology*, 28, 463–473.
- Verschueren, K. (1996). Een veilige gehechtheid, een positief zelf? Representaties van gehechtheidsrelaties en van het zelf en sociaal-emotionele competentie bij kleuters [A secure attachment, a positive self? Representations of attachment relationships and of the self and socioemotional competence in kindergartners]. Unpublished doctoral dissertation, Center for Developmental Psychology, Catholic University Leuven.
- Verschueren, K. & Marcoen, A. (1999). Representations of self and socioemotional competence in kindergartners: Differential and combined effects of attachment to mother and to father. *Child Development*, 70, 183–201.
- Verschueren, K., & Marcoen, A. (2000). Correlates of the overall attachment representation in five-year-olds as assessed by the Separation Anxiety Test. Manuscript in preparation.
- Verschueren, K., Marcoen, A., & Schoefs, V. (1996). The internal working model of the self, attachment, and competence in five-year-olds. *Child Development*, 67, 2493–2511.
- Wartner, U. G., Grossmann, K., Fremmer-Bombik, E., & Suess, G. (1994). Attachment patterns at age six in south Germany: Predictability from infancy and implications for preschool behavior. *Child Development*, 65, 1014–1027.
- Waters, E. (1995). The Attachment Q-Set. In E. Waters, B. E. Vaughn, G. Posada, & K. Kondolke-mura (Eds.), *Caregiving, cultural, and cognitive perspectives on secure-base behavior and working models*. *Monographs of the Society for Research in Child Development*, 60 (2-3, Serial No. 244), 247–254.
- Waters, E., & Deane, K. (1985). Defining and assessing individual differences in attachment relationships: Q-methodology and the organization of behavior in infancy and early childhood. In

- I. Bretherton & E. Waters (Eds.), Growing points of attachment theory and research. *Monographs of the Society for Research in Child Development*, 50 (1-2, Serial No. 209), 41–65.
- Weinfield, N. S., Sroufe, L. A., Egeland, B., & Carlson, E.A. (1999). The nature of individual differences in infant–caregiver attachment. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 68–88). New York: Guilford Press.
- Wright, J. C., Binney, V., & Smith, P. K. (1995). Security of attachment in 8–12-year-olds: A revised version of the Separation Anxiety Test, its psychometric properties and clinical interpretation. *Journal of Child Psychology and Psychiatry*, 36, 757–774.