

Categories of Response to Reunion With the Parent at Age 6: Predictable From Infant Attachment Classifications and Stable Over a 1-Month Period

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We describe the development of a system for classifying attachment organization at age 6 on the basis of study of children's responses to unstructured reunions with parents in a laboratory setting. In a study of 33 families in Berkeley, California, sixth-year attachment classifications to mother were found to be highly predictable from infancy attachment classifications to mother (84%), with children secure in infancy identified as secure on reunion at age 6 (Group B); children insecure-avoidant in infancy identified as insecure-avoidant (Group A); and children who were insecure-disorganized/disoriented identified as controlling of the parent (Group D). Lower predictability (61%) was found for attachment to father. An insecure-ambivalent (Group C) sixth-year classification was developed following the Berkeley study. In a second study of child-mother dyads conducted in Charlottesville, Virginia ($N = 50$), 62% of children were stable in (A, B, C, and D) classification across a 1-month interval. When D children were reassigned to their best-fitting alternative A, B, or C categories, stability was high both for major classifications ($A+B+C = 86\%$) and for seven subclassifications ($A1, A2, B1/B2, B3, B4, C1, C2 = 76\%$). Avoidance of the mother was stable across both the 5-year and the 1-month periods.

The description of individual differences in attachment organization has traditionally focused on infancy and, specifically, on the infant's response to the Ainsworth Strange Situation (Ainsworth, Blehar, Waters, & Wall, 1978), a laboratory observation that involves the infant in two brief separations from and reunions with the parent. The principal assessment of attachment in infancy is the *attachment classification*, which is based chiefly on the infant's response to the two 3-min reunions with the parent (Ainsworth, Bell, & Stayton, 1971; Ainsworth et al., 1978). Infants who actively attempt to regain proximity, contact, or interaction with the parent are classified as *secure* in their attachment to that parent (Group B); infants who actively avoid and ignore the parent on reunion are termed *insecure-avoidant* (Group A); and infants who show anger or an inability to be settled by the parent (or both) on reunion are termed *insecure-ambivalent* (Group C). Insecure infants who could not be classified within this system were originally termed *unclassifiable* (Main & Weston, 1981). A recent review of the Strange

Situation responses of unclassifiable infants showed that almost all exhibited one or several of a diverse array of *disorganized* or *disoriented* behaviors (or both) during the Strange Situation (Group D; see Main & Solomon, 1986, in press).

Infant responses to reunion with the parent in the Strange Situation are generally viewed as reflecting the history of infant-parent interaction in the home (Bretherton, 1985). For practical reasons, mother-infant dyads have been studied more frequently than father-infant dyads, and infants judged secure (B) with mother in the Strange Situation have repeatedly been found to have mothers who are more sensitive and responsive to their signals and communications in the home situation than infants judged insecure (A or C) in the Strange Situation (Ainsworth et al., 1971; Belsky, Rovine, & Taylor, 1984; Grossmann, Grossmann, Spangler, Suess, & Unzner, 1985). In most unstressed middle-class samples, attachment classifications to a given parent have been found stable from 12 to 18 or 20 months of age (Connell, 1976; Main & Weston, 1981; Owen, Easterbrooks, Chase-Lansdale, & Goldberg, 1984; Waters, 1978), whereas major classifications are independent across parents (see Bretherton, 1985, for a summary of these and other studies). Less (but still significant) stability has been found in samples in which mother was experiencing major changes in life circumstances, an expectable finding given the likelihood that such changes would affect maternal responsiveness to the infant (Egeland & Farber, 1984; Thompson, Lamb, & Estes, 1982; Vaughn, Egeland, Sroufe, & Waters, 1979).

Several studies have suggested that infant Strange Situation classifications predict the quality of the child's later relationships with others (Arend, Gove, & Sroufe, 1979; Pastor, 1981; Sroufe, 1983; Waters, Wippman, & Sroufe, 1979). Similarly, infant Strange Situation classifications have predicted the quality

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of the mother's later behavior toward the child, so that mothers of children judged secure with them in infancy have been found to be more sensitive or more supportive again at later ages (Main, Tomasini, & Tolan, 1979; Matas, Arend, & Sroufe, 1978). Thus, one might reasonably hypothesize that infant Strange Situation classifications would predict the quality of the child's later relationship specifically with the mother. However, until now, no behaviorally based method of classifying attachment to the parent has been developed for the school-age child (but see Kaplan, 1987; Kaplan & Main, 1987; and Main, Kaplan, & Cassidy, 1985, for classifications of child attachment organization on the basis of the child's representations of relationships in the parent's absence).

In this article, we describe the development of a method for identifying and classifying differing (A, B, C, and D) attachment organizations at 6 years of age. The system is based on a close analysis of the child's response to reunion with the parent during the first 3 to 5 min of reunion following a 1-hr laboratory separation.

Reunion responses have long been understood to index the current state of an attachment relationship, whether in infancy (Ainsworth et al., 1978), following major separations during early childhood (Heinicke & Westheimer, 1966; Robertson & Bowlby, 1952; Robertson & Robertson, 1971), or in marital partners reunited at the end of a working day (Gottman, 1979). Whereas observations of on-going interactions are also useful and could well be used to develop a system of classifications, the nature of such interactions is somewhat more likely to be influenced by immediately preceding responses, so that longer periods of observations may be necessary to the recognition of an underlying pattern by observers.

In the Methods section below, we describe the samples and procedures for data collection used in the following two studies: a study of predictability of sixth-year from first-year attachment classifications conducted in Berkeley, California, and a study of the stability of sixth-year attachment classifications across a 1-month period conducted in Charlottesville, Virginia. We then describe the inductive method used to develop the sixth-year attachment classification system (Main, in press). The Results section is divided into the following two parts: (a) a description of the full system of (A, B, C, and D) sixth-year classifications and subclassifications (e.g., A1, A2, etc.) that we used in the Charlottesville study (at the time of the Berkeley study we had developed only the major, A, B, and D classifications) and (b) an account of the predictability/stability of sixth-year classifications and subclassifications.

Method

Study 1: Berkeley

Sample

The parents and children participating in this study were part of a group of 40 families involved in a sixth-year follow-up study of representational aspects of attachment (Main et al., 1985). Mean age of child at the time of the follow-up study was 69.5 months, or just under 6 years of age ($SD = 4.34$ months). All but two (Asian) mothers were White, families were college educated and middle to upper-middle class. Children with low birth-weights or low APGAR scores were excluded from

the study as were children with major birth complications. In addition, children with major separations from the parent within 2 months of the Strange Situation were excluded, as were children who during their first year had out-of-home care more than 25 hr per week.

In part, because the sixth-year procedures in which the child would participate were strongly focused on themes of separation, available families in which there had been recent separation or divorce as well as families experiencing recent life-threatening illness, were excluded. (See Main et al., 1985, for a more complete description of selection procedures for the follow-up study.)

Each infant had been seen in the Strange Situation at 12 months with mother and at 18 months with father. The infancy classifications included the new D category (disorganized/disoriented; see Main & Solomon, 1986, in press). Infants identified as being in Category D had appeared disorganized or disoriented (or both) on reunion in the Strange Situation in any of several ways, for example, showing "dazed" behavior, freezing or stilling of movements, disordering of expected temporal sequences, incompleting movements or stereotypies, or any combination thereof. All of these infants had been previously termed *unclassifiable* (Main & Weston, 1981).

Infant attachment classification with mother at 12 months was the principal criterion for selection for the follow-up study. Because one focus of the study was children who had been disorganized/disoriented with mother as infants, approximately equal numbers of children who had been judged insecure-disorganized/disoriented, insecure-avoidant, and secure with mother in infancy were selected for participation (Main et al., 1985). Children who had been insecure-ambivalent in infancy were included in the larger follow-up study but were excluded from the present study because there were too few ($n = 3$) to permit development of a sixth-year pattern.

Several videotapes from our laboratory at Berkeley were stolen in a University-wide theft; together with technical difficulties, this left 13 female and 21 male children who were available as subjects for this study. Thirty-two mother-child and 33 father-child dyads were included (31 children were seen with both parents). Eight children had been classified as insecure-avoidant with mother in infancy, 12 as secure, and 12 as disorganized/disoriented. Nine children had been classified as avoidant with father in infancy, 22 as secure, and 2 as disorganized/disoriented.

Procedure

Families visited the University laboratory for a 2-hr session and were videotaped in a playroom. The playroom was comfortably furnished and included a large number of age-appropriate toys. The child remained in the room throughout the session and was in the company of the examiner or the parents (or both) throughout, with the exception of a 1-min "child-alone" episode (described in Cassidy & Main, 1985). At the beginning of the session, parents and children watched a film of a 2-year-old child undergoing a major separation from parents (Robertson & Robertson, 1967-1972). Parents then left the room for approximately 1 hr for individually conducted Adult Attachment Interviews that stressed themes of parent-child relationships, separation, and loss (George, Kaplan, & Main, 1985). During the hour of separation, the child responded to Kaplan's revised version of the Klagsbrun-Bowlby Separation Anxiety Test (Kaplan, 1987; Klagsbrun & Bowlby, 1976; see also Hansburg, 1972), in which photographs of mild to semistressful (2-week) parent-child separations are presented. In this interview, the child is repeatedly asked what a child would feel about and what a child could do about such separations. The child then engaged in 15-20 min of sandbox free-play with a large assortment of toys.

At the end of his or her individual interview, each parent was asked to return to the playroom and informed that it might be necessary to wait for the return of the second parent. No instructions were given to the parent for the reunion, and no emphasis was placed on it. When the

second parent entered the room, the examiner, the child, and the other parent had already been playing, waiting, or conversing for approximately 3 min. The examiner acted pleasantly occupied but unavailable during the reunion unless the child or parent directly requested her social participation. Entrances were balanced so that, for half of the sample, mother was the first parent to enter.

Study 2: Charlottesville

Sample

Subjects were fifty 6-year-olds (25 boys and 25 girls) and their mothers, all from White, middle-class families. All but two were from two-parent families. Children had just finished kindergarten, and their mean age was 6.2 years (the range was 5.7 to 6.8 years). Children came from families with relatively comfortable incomes, and over 80% had college-educated parents (Cassidy, in press).

Procedure

Mothers and children visited a laboratory playroom for a 1 1/2-hr session designed to parallel the Berkeley session closely. Following a 15-min warm-up period, the mother left the room, and the child remained with the female examiner for the 1-hr separation. During the separation, the child completed a series of game-like assessments related to the self (Cassidy, in press). The child engaged in nonstressful free-play for approximately 10 min immediately preceding the mother's return. Session 2 was conducted in a different playroom of the same building with a different female examiner. As was the case in the Berkeley study, reunions were designed to be as natural as possible. The mother was told that the child and examiner were finished with their tasks and that she could return to the room. Reunion was not emphasized. The examiner remained in the room and was responsive but did not initiate conversation. Whereas the Berkeley reunions lasted 3 min, the Charlottesville reunions lasted 5 min.

Development of the Sixth-Year Classification System

A judge who was well-informed with respect to infant attachment classification in general, but who was blind to the infant attachment classifications for this sample, studied reunion responses across the sample as a whole and then (one by one) studied each child's reunion responses in an attempt to guess the probable infant attachment classification with a given parent. The sixth-year system was gradually developed from this case-by-case study. We used both rationales regarding a correct guess (*match*) and information regarding the actual infancy categories of sixth-year misses (*mismatches*) in developing the sixth-year system.

This inductive, "guess-and-uncover" method of development of new classification systems has been discussed in detail elsewhere (Main, in press). The method relies conceptually on the presumption that there will be some attachment-related predictability to behavior in samples (such as the Berkeley sample) in which major life-changes and stresses have not interfered with ongoing interaction patterns. However, the method *cannot* lead empirically to the inflation of actual levels of predictability. An observer who attempts to identify the early attachment organization of a new individual on the basis of provisional rules being constructed to describe commonalities that have been observed in the behavior of several previously observed individuals will misidentify that individual if

- there is, in fact, no order, lawfulness, or connection between response to reunion at 1 and at 6 years;
- there is lawful connectedness but accurate rules have not been developed; or
- accurate rules have been developed for the sixth-to-first-year equiv-

alencies across the sample of 6-year-olds as a whole, but this particular individual has changed in attachment organization over the 5-year period.

In other words, a match will not be made if, in fact, the relation between first-year and sixth-year behavior is chaotic or incorrectly identified, nor will it be made if the new individual belongs to the minority of children in the sample who have *changed* in attachment organization. The true first-to-sixth-year changes of attachment organization that occur in the minority of cases in such a sample will be accurately represented in the judge's failure to correctly identify the 6-year-old's infancy pattern. Matches (first-to-sixth-year associations) will occur beyond the chance level only if *most* Category A, B, C, and D infants do show the behavioral transformations expressed in the developing rule system.

As the system was first being developed, a number of correct guesses (matches) were readily made. For example, a child who craned her head around to smile at the mother, talked to mother about her experiences of the last hour, and invited the mother to play was correctly identified as having been secure with mother in infancy, and succeeding children who responded similarly to reunion with the parent were then correctly identified as having been secure with that parent in infancy. We also used misses (mismatches) in system development. For example, the first child seen to fail to speak in response to the parent's increasingly frantic conversational overtures was identified as a child who had been avoidant of the parent as an infant. When this guess proved incorrect (the child had been disorganized/disoriented), we reviewed the reunion behavior of children who had correctly been identified as insecure-avoidant in infancy and discovered that avoidant children were at least minimally responsive to the parent when pressed, giving brief answers (e.g., "What's that nice-looking set of toys you've been playing with?" "Sand-box."). Succeeding 6-year-olds who confrontationally refused response to a particular parent (e.g., "Let me ask you again. What's that nice-looking set of toys you've been playing with?" ". . .") were considered more likely to have been disorganized/disoriented with that parent in infancy. A new, *controlling-punitive* response category was gradually developed and separated from the *insecure-avoidant* and *secure* response categories.

In conjunction with system development, we computed the sixth-year-to-infancy matches that the first judge obtained with the Berkeley sample while still blind to infancy classifications. Using the A, B, and D sixth-year categories described below, her match to infancy categories was 69% for infant-mother dyads (34% expected by chance; $\kappa = .53$, $z = 4.28$, $p < .001$). The match was 67% for fathers, (44% expected by chance; $\kappa = .41$, $z = 3.18$, $p < .005$).

Once the basic A, B, and D patterns had been identified, however, rules for identification were given to a judge who was naive to attachment theory. A naive judge (i.e., a judge who has no prior expertise regarding the material to be assessed) is necessary in order to test the adequacy of the completed system by judging all cases solely from written criteria (see Results section).

Refinements and Additions to Measures

The major A, B, and D classifications and the avoidance and security scoring systems were developed in conjunction with the Berkeley study. We added the following three refinements to the classification system prior to the Charlottesville study.

1. First, as noted earlier, very few 6-year-olds who had been insecure-ambivalent (Group C) in infancy were available at the time of the Berkeley follow-up study (Main et al., 1985). After the completion of the follow-up study, however, we were able to observe several insecure-ambivalent 6-year-olds in Berkeley and, hence, to develop descriptors for Classification C.
2. The Ainsworth (1971, 1978) attachment classification system for infants includes not only directions for identifying the three major A,

B, and C attachment groups, but also directions for subgroups, for example, B₁, B₂, and B₃. Following the conclusion of the Berkeley study, we reviewed the entire Berkeley sample in a search for subgroup descriptors. Commonalities observed in the behavior of Berkeley 6-year-olds who shared subcategory placements in infancy were then used to develop sixth-year subcategories. Thus, for example, commonalities in the sixth-year reunion behavior of all children who had been classified as B₃ with mother in infancy were described and distinguished from the sixth-year reunion responses of children within the remaining Group B subcategories (B₁, B₂, B₄).

3. From the beginning, attachment researchers have attempted to identify each infant seen in the Ainsworth Strange Situation in terms of a best-fitting A, B, or C category description, whether or not each infant fit acceptably to the classification criteria described by Ainsworth (Main & Solomon, in press). Although disorganized/disoriented infants very seldom meet the criteria for placement in any single A, B, or C attachment category, a best-fitting alternative A, B, or C category can usually be assigned and has been considered meaningful in terms of external correlates (see Main & Hesse, in press). Main and Solomon have proposed, therefore, that infancy researchers continue to use the full information available to them in the infant's Strange Situation behavior, retaining the infant's alternative classification for analysis. Following this procedure established for Classification-D infants by Main and Solomon, we decided to retain a best-fitting alternative A, B, or C classification for each 6-year-old who was determined to be insecure-controlling or insecure-unclassified (see Discussion). Thus, we attempted to determine whether other aspects of their behavior fit best to the avoidant, secure, or insecure-ambivalent attachment patterns, and children were now coded not simply as Category D, but, rather, as D/A₁, D/B₄, D/C₂, and so forth.

Results

Sixth-Year Attachment Classifications

Reunions were scored or classified only following repeated review of the videotape. For heuristic purposes, we refer to the sixth-year classification as A⁶ (insecure-avoidant), B⁶ (secure-confident), C⁶ (insecure-ambivalent), D⁶ (insecure-controlling), and U⁶ (insecure-unclassified). General reference to the categories will take the forms A, B, C, and D (there is no general insecure-unclassified category). Reference to infancy categories are made using the superscript 1.

We present a greatly abbreviated version of the full sixth-year classification and scoring system used in the Charlottesville study. The complete system is available elsewhere (Main & Cassidy, 1987).

Secure (B⁶)

The child seems relaxed throughout the reunion with the parent and shows some pleasure being with the parent. The child initiates positive interaction, proximity, or contact with the parent, is positively responsive to the parent's initiations, or both. Often, the child tells the parent what he or she did during separation.

Secure-reserved (B₁ and B₂⁶). Reserve is shown initially at the parent's entrance. The child may attend to toys for a moment or be slow to reply. The child then clearly warms in her or his behavior toward the parent. (Please note that we are unable to date to distinguish B₁ and B₂ sixth-year categories.)

Very secure (B₃⁶). The child initiates proximity and contact

of an unambivalent and affectionate nature during the episode or initiates warm and personal conversation. The child seems neither dependent nor avoidant and is strikingly relaxed throughout the episode.

Secure-dependent: Immature or slightly disorganized (B₄⁶). The child may act young for age but, in contrast to the insecure-ambivalent children, there is no accompanying fear and little or no hostility. Alternatively, the child may show slight disorganization immediately on reunion, then recover and show a secure response pattern.

Insecure-Avoidant (A⁶)

The child maintains or increases her or his physical or communicative (social-emotional) distance from the parent on reunion. She or he may move away from the parent, simply remain oriented away from the parent, nonconfrontationally ignore the parent's presence and utterances, or any combination thereof. Thus, when the child ignores or moves away from the parent, it is with the excuse or rationale of being otherwise engaged (e.g., occupied with the toys, looking for a toy, responding to the examiner). A continuing engagement with toys or other objects and activities is shown throughout the episode.

Highly avoidant (A₁⁶). The child either moves away from the parent (in apparent pursuit of a toy or other activity) or stays physically oriented away from and ignores the parent.

Avoidant through neutral ignoring (A₂⁶). The child may orient to the parent and at times reply to the parent, but busy activities remain foremost and the child seems neutral. Child may very slightly warm to the parent by the end of the episode.

Insecure-Ambivalent (C⁶)

Overall, in movements, posture, and tones of voice, the child appears to attempt to exaggerate intimacy with the parent, dependency on the parent, and his or her relatively immature status. However, the child also shows moderate avoidance (e.g., talking to the parent with the back turned) as well as subtle to open hostility and occasionally fear or sadness.

If and when the child seeks proximity or contact with the parent, there is evidence of ambivalence. For example, the child may lean affectionately against the parent then jerk away or the child may lie on the parent's lap, wriggling as though uncomfortable.

Ambivalent-hostile (C₁⁶). The child shows open hostility toward the parent. The hostility does not seem part of a larger effort to control the parent or the situation; rather, the child may simply jab at the parent with a toy or make a hurtful remark. There may also be moments of mutual smiling and warmth between the child and parent.

Ambivalent-passive (C₂⁶). The child acts immaturely, as seen in wriggling approaches to the parent, lying across the parent's lap, or in using a breathy, subtly fussy, baby-like voice. The child gives the impression of attempting to "act" as though he or she were at ease, but either subtle hostility or physical ambivalence are evident.

Insecure-Controlling (D⁶)

The child seems to attempt actively to control or direct the parent's attention and behavior and assumes a role that is usu-

ally considered more appropriate for a parent with reference to a child. There are two subgroups:

Controlling-punitive (D_1^6). The child acts to humiliate, embarrass, or reject the parent. At the moment of the parent's entrance, the child may indicate a wish for the parent not to return to the room (e.g., "Don't bother me!") or may order the parent to leave. The child may make humiliating or embarrassing remarks to the parent (e.g., "You're really clumsy" "I said, keep your eyes closed!" "I told you, keep quiet!"). This pattern appears similar to one found by Marvin (1977; Marvin & Greenberg, 1982) in some 4-year-olds.

Controlling-overbright/caregiving (D_2^6). The child may be solicitous and protective toward the parent, demonstrating concern or care in a manner suggesting that the parent is dependent on the child for guidance. For example, the child may solicit play in a parental manner: "Want to play with me, mommy, in the sandbox? . . . It's fun, isn't it, mommy?". The child may also show an extreme, nervous cheerfulness on reunion, for example, by jumping, skipping and clapping hands at the parent's return or by "clowning" as though to cheer the parent.

Insecure-Unclassified (U^6)

The sixth-year classification system is left open to include and eventually describe the behavior of insecure children whose reunion behavior did not fit the avoidant, ambivalent, or controlling descriptions. For example, the child may (a) respond to the parent in a manner somewhat resembling that of a spouse or a prospective sexual partner, (b) seem extremely depressed, or (c) seem fearful of the parent. In the White, middle-class samples described here, these responses were rare ($n = 2$). D^6 and U^6 categories were therefore combined for analysis.

The four major forms of attachment organization seen at 6 years of age are summarized in Table 1 and compare with the corresponding attachment organizations seen in infancy.

Avoidance Scoring System

An extensive 7-point scoring system was constructed to parallel Ainsworth's 7-point interactive scoring system for avoidance (Ainsworth et al., 1978). As in the Ainsworth system, anchors were identified by behavioral examples at points 1, 3, 5, and 7 (7 is high). Examples of behavior considered avoidant include: moving away from the parent on reunion; keeping the back turned or actively turning the back to the parent on reunion; attempting to distract the parent's attention to things other than the child himself or herself; verbal responses that seemed designed to minimize the likelihood of further interactions; and generally preserving attention to other occupations, conversations, or objects.

Sixth-Year Security Scoring System

The security versus insecurity of attachment reflected in reunion behavior was rated on a 9-point scale (9 is high). Ratings at the secure end of the scale are given to the child who shows pleasure on reunion with the parent and who initiates warm, familiar conversation or is highly responsive to the parent's initiations or moves affectionately into proximity or contact with

the parent. Ratings at the insecure end of the scale are given for a variety of patterns of behavior including: strong avoidance of the parent; rejection or punitive treatment of the parent; excessively bright, subtly disorganized responses to reunion; caregiving and subtly parental responses to reunion; and subtle hostility combined with seeming attempts to feign intimacy, dependence, or both. Use of this scale permits a judge to distinguish differences in apparent overall security among children who fall within a given sixth-year classification (e.g., a child judged to fall into classification B_3^6 , that is, *very secure*, may receive scores anywhere between 7 and 9 on the scale).

Reliability and Stability in Berkeley and Charlottesville

The Berkeley Study

Intercoder agreement. Final classifications for the Berkeley sample were made by a new coder who met the following qualifications: no previous acquaintance with the study, no observation of the subjects outside of the edited videotapes of sixth-year reunions, and no previous work with the Ainsworth Strange Situation. Intercoder agreement was 83% across all mother-child dyads ($\kappa = .74$), and 77% across father-child dyads ($\kappa = .62$). Acceptable intercoder correlations were obtained for both avoidance (.76) and security (.72).

Predictability of sixth-year reunion responses to mother from infant Strange Situation assessments. Sixth-year classifications to mother were highly predictable from infant classifications to mother. As shown in Table 2, all 12 children (100%) who had been judged secure with mother in infancy were secure with mother 5 years later. Six out of 8 children (75%) who had been judged to be avoidant of mother in infancy were judged avoidant 5 years later. Of 12 children who had been insecure-disorganized/disoriented with mother in infancy, 8 were judged to be controlling at 6 years of age, and 1 was judged to be insecure-unclassified.

In sum, we found the A, B, and D attachment categories of 84% of the sample children to be predictive of sixth-year attachments. Predictability of 35% of the sample would be expected by chance ($\kappa = .76$, $z = 6.07$, $p < .001$). Asymmetric lambda shows a .71 increase in predictability of sixth-year categories to mother, using knowledge of first-year attachment classifications.

Avoidance of the mother was stable over the 5-year period ($r = .50$, $p = .004$). Stability of security of attachment was calculated by comparing ratings on the 9-point scale for overall security at 6 years with ratings that were based on the child's attachment classification to the same parent in infancy. Ratings of 3 were assigned to children judged very secure (B_3) with a given parent in infancy, ratings of 1, to children judged insecure (A or D); and ratings of 2, to children judged moderately secure with this parent (B_1 , B_2 , or B_4). As reported earlier (Main et al., 1985), we found a strong relation between early security of attachment and security as manifest on reunion at age 6 for mother-child dyads ($r = .76$, $p < .001$).

Predictability of sixth-year reunion responses to father from infancy Strange Situation assessments. As shown in Table 3, 61% of sixth-year reunion categories with father were predicted from infancy Strange Situation attachment classifications (46%

Table 1
Four Forms of Attachment Organization Observed at 12 Months and at 6 Years of Age

Attachment organization/age	Description
Insecure-avoidant	
12 months ^a	Actively avoids and ignores parent on reunion, looking away, and remaining occupied with toys. At extremes, moves away from parent and ignores parent's efforts to communicate.
6 years	Minimizes and restricts opportunities for interaction with parent on reunion, looking and speaking only briefly and minimally as required and remaining occupied with toys or activities. At extremes, moves away but subtly, with rationale such as retrieving a toy.
Secure	
12 months	Seeks interaction, proximity, physical contact or any combination therefore, with the parent on reunion, often actively attempts to maintain physical contact. Readily soothed after distress by parent and returns to exploration and play.
6 years	Initiates conversation and pleasant interaction with the parent on reunion or is highly responsive to parent's own initiations. May subtly move into proximity or physical contact with parent, usually with rationale such as seeking a toy. Remains calm throughout episode.
Insecure-ambivalent	
12 months	Distress because of separation is not effectively soothed by parent, although infant seems to want proximity and contact. Overt to subtle signs of anger toward the parent are often present (e.g., child may seek proximity and contact, then resist it).
6 years	In movements, posture, and tones of voice child appears to attempt to exaggerate intimacy with the parent as well as dependency on the parent. May seek proximity or contact, but shows some resistance or ambivalence (e.g., lying on parent's lap while wriggling uncomfortably). Moderately avoidant, often subtle signs of hostility are sometimes present.
Insecure-controlling^b	
12 months	Child shows one or several signs of disorganization (e.g., crying for parent at door, then moving sharply away when door opens; approaching parent with head averted) or disorientation (e.g., stilling or freezing movement for a few seconds) during the Strange Situation.
6 years	Seems partially to assume a parental role toward parent. Attempts to control and direct the parent's behavior, either through punitive behavior (directing, embarrassing, or humiliating the parent) or through overbright/caregiving behavior (exhibiting extreme enthusiasm for reunion, solicitous behavior to parent, or careful attempts to guide and direct parent).

^a Descriptions of reunion behavior used to classify infant attachment organization at 12 months are taken from Ainsworth, Blehar, Waters, and Wall, 1978.

^b Sixth-year classification title is used for general title. There is no controlling category for infancy; in infancy, these children were identified as disorganized/disoriented.

expected by chance), and these results were shown to be significant ($\kappa = .28$, $z = 2.08$, $p < .05$; and asymmetric lambda was .13). The relative weakness of predictability for the father-child sample may be attributable, in part, to the relatively restricted range of classifications (22 out of 33 dyads were rated secure in infancy for the father-child sample compared with 12 out of 33 dyads for the mother-child sample). Avoidance of the father was not significantly stable over the 5-year period ($r = .14$, ns).

As indicated earlier (Main et al., 1985), security of attachment was somewhat more stable over the 5-year period ($r = .30$, $p < .05$).

Effects of order of entrance to the playroom. Reunions were counterbalanced so that half of the time the mothers were the first parent to enter the playroom. The presence of the second parent in the room did not appear to negatively effect the ability of the system to identify attachment organization. A total of 47

Table 2
Attachment Classification (n) to Mother In Infancy and Relationship Organization With Mother Observed on Reunion at 6 Years

6 years	1 year		
	Avoidant	Secure	Disorganized
Avoidant	6	—	1
Secure	1	12	2
Controlling	1	—	9

Table 3
Attachment Classification (n) to Father In Infancy and Relationship Organization With Father Observed on Reunion at 6 Years

6 years	1 year		
	Avoidant	Secure	Disorganized
Avoidant	4	5	1
Secure	3	15	—
Controlling	2	2	1

Table 4
Short-term Stability of Attachment Classification (n) With Mother at 6 Years in Terms of A, B, C, and D Groups: Observations 1 Month Apart

Session 1	Session 2			
	Avoidant	Secure	Ambivalent	Controlling
Avoidant	5	4	1	2
Secure	2	13	—	3
Ambivalent	—	—	6	—
Controlling	3	4	—	7

sixth-year reunions (mother-child and father-child) were accurately predicted from the infancy Strange Situation classifications. Almost half of these (47%) involved the second parent to enter.

The Charlottesville Study

Intercooder agreement. Coder A, blind to additional information about the child, coded all Session-1 reunions. Coder B, also blind to additional information, coded all Session-2 reunions. In order to establish the level of intercooder agreement, Coder A coded all Session-2 reunions after coding all Session-1 reunions (while blind to Coder B's judgments). The ratings and classifications of Coder A were used for data for Session 1, and those of Coder B were used as data for Session 2.

Intercooder reliability across the 50 cases was high for both the security ($r = .80$) and the avoidance scales ($r = .92$). Coders agreed on category placement for 38 of 50 (76%) cases ($\kappa = .66$). Eight of the 12 category disagreements involved the D category, with one judge assigning, for example, B and the other D, *alternate B* to a given reunion. There was disagreement on the underlying A, B, C category in only 1 of these 8 cases.

Consequently, when the controlling and insecure-unclassified categories were collapsed to the underlying A, B, C categories assigned by the judges, intercooder agreement was 90% ($\kappa = .84$). Agreement between the two coders for the seven A, B, C subgroups was 44 out of 50, or 88% ($\kappa = .85$). As in infancy (Ainsworth et al., 1978), the most difficult discrimination to make was between subgroup A₂ and subgroups B₁ and B₂ (accounting for five out of the six disagreements).

Stability of behavior to mother over a 1-month period. Table 4 shows 62% overall (A, B, C, D) stability for reunion classifications with mother across the 1-month period. Thirteen of 18 children (72%) who were judged to be secure with mother in Session 1 were secure in Session 2, and all 6 children (100%) judged to be ambivalent in Session 1 were ambivalent in Session 2. There was substantially less stability for children classified as avoidant or controlling in Session 1. Only 5 of 12 children (42%) classified as avoidant in Session 1 were avoidant in Session 2 (2.4 expected by chance), and only 7 of 14 (50%) children classified as controlling in Session 1 were controlling in Session 2 (3.36 expected by chance). The overall stability for this matrix expected by chance was 28% ($\kappa = .47$, $z = 5.54$, $p < .001$; symmetric lambda was .38).

Table 4 shows that, of the 19 cases that were unstable across

Table 5
Short-Term Stability of Attachment Classification (n) With Mother at 6 Years in Terms of A, B, and C Groups: Observations 1 Month Apart

Session 1	Session 2		
	Avoidant	Secure	Ambivalent
Avoidant	13	5	1
Secure	2	20	0
Ambivalent	0	0	9

sessions, 12 had been coded D at one session. In 11 out of 12 cases, the child was assigned to the best-fitting alternative A, B, or C category in both sessions (e.g., the child was judged to fall in Category A in one session and in Category D/A in the other session).

Table 5 shows stability of A, B, C classifications over the 1-month period when all Category D or unclassified reunions were reassigned to their best-fitting alternative attachment categories (A⁶, B⁶, C⁶). Thirteen of 19 children (68%) judged as avoidant in Session 1 were avoidant in Session 2; 20 of 22 children (91%) judged secure in Session 1 were secure in Session 2; and all 9 children (100%) judged ambivalent in Session 1 were ambivalent in Session 2. Across the three groups, stability was 84% (37% expected; $\kappa = .75$; $z = 7.27$, $p < .001$; symmetric lambda for this matrix was .70).

The stability of the subgroup categories constructed on the basis of the Berkeley sample was particularly striking. Table 6 shows that, across the seven subgroups, stability was 76% (18% expected by chance; $\kappa = .71$; $z = 11.26$, $p < .001$; symmetric lambda for this matrix was .70). Both security ratings ($r = .62$,

Table 6
Short-term Stability of Attachment Classification (n) With Mother at 6 Years in Terms of A, B, and C Subgroups: Observations 1 Month Apart

Session 1	Session 2						
	A ₁ ⁶	A ₂ ⁶	B ₁ B ₂ ⁶	B ₃ ⁶	B ₄ ⁶	C ₁ ⁶	C ₂ ⁶
A							
A ₁ ⁶	3	1	1	—	—	—	—
A ₂ ⁶	1	8	4	—	—	—	1
B ₁ B ₂ ⁶	—	1	3	—	—	—	—
B							
B ₃ ⁶	—	1	—	4	1	—	—
B ₄ ⁶	—	—	—	1	11	—	—
C							
C ₁ ⁶	—	—	—	—	—	2	—
C ₂ ⁶	—	—	—	—	—	—	7

Note. The letters and superscripts represent sixth-year categories analogous to the infancy attachment subcategories identified by Ainsworth (Ainsworth et al., 1971). A₁⁶ = highly avoidant; A₂⁶ = avoidant through neutral ignoring; B₁B₂⁶ = secure reserved; B₃⁶ = very secure; B₄⁶ = secure-dependent; C₁⁶ = ambivalent-hostile; and C₂⁶ = ambivalent-passive. Insecure-controlling and insecure-unclassified relationships are assigned to their alternative (A⁶, B⁶, C⁶) categories.

$p = .001$) and avoidance ratings ($r = .66$, $p = .001$) were stable over the 1-month period.

Discussion

This section is organized as follows: First, we provide a summary of the results of the Berkeley and Charlottesville studies and discuss some of the factors that we believe to be responsible for the strong predictability of attachment organization in the Berkeley study. Second, we summarize the findings of two recent studies: (a) a replication study focusing on the predictability of sixth-year from first-year attachment classifications to mother (Wartner, 1987) and (b) a validation study connecting the sixth-year classification system to mother-child interaction observed in the home situation (Solomon, George, & Ivins, 1987). Third, we review our speculations regarding the mechanisms that may account for the most notable transformation in reunion response over the 5-year period: the shift from disorganized/disoriented reunion behavior in infancy to controlling reunion behavior by age 6 (Main & Hesse, in press). Fourth, we turn to a consideration of the limitations of the sixth-year system as it currently stands, focusing (a) on the relative unreliability of Category D and (b) on the need for multiple rather than single assessments of the 6-year-old's attachment. Finally, we discuss predictability and change in relationship organization in the light of our findings.

Summary of the Two Studies

We have developed a system for classifying the 6-year-old's responses to parents during videotaped 3- to 5-min reunion observations in the laboratory setting. The system was developed with deliberate reference to the A, B, C system devised by Ainsworth and includes an analogous set of A, B, C subcategories (Ainsworth et al., 1978). In addition, the system was designed to describe more specifically the sixth-year reunion behavior of children who had formerly been judged simply as *disorganized/disoriented* (Main & Solomon, 1986, in press) during the Ainsworth Strange Situation.

In Berkeley, California, sixth-year reunion responses to mother could be reliably predicted from three major (A, B, D) first-year classifications to mother (behavior to father was less predictable), with children who had been disorganized/disoriented with mother during infancy showing controlling behavior toward the parent at age 6. The system was then expanded to include descriptors of sixth-year reunion responses of Category-C children, and the Strange Situation infancy subcategories of the Berkeley children were used to develop sixth-year subcategories.

A short-term stability study tested the reliability of the completed sixth-year system, with 50 Charlottesville, Virginia, 6-year-olds and their mothers observed in two reunion procedures held 1-month apart. Sixty-two percent of children were stable in reunion behavior (Categories A, B, C, D) with the Category-D children being found the least stable. Following a procedure suggested for Category-D infants (Main & Solomon, in press), each 6-year-old assigned to Category D was also assigned to the best-fitting alternative A, B, or C category and subcategory. With each child in the study so assigned, the session-to-session

match for the three major A, B, C classifications was 84%. The stability for the seven subclassifications (A_1^6 , A_2^6 , B_1/B_2^6 , B_3^6 , B_4^6 , C_1^6 , C_2^6) was 76% over the 1-month period.

Factors Leading to the Discovery of Sixth-Year Equivalencies

It seemed unlikely at the outset of the Berkeley study that individual differences in response to the parent exhibited in 20-min sessions at 1 year of age would be reflected in 3 min of unstructured observation 5 years later. We believe that the isolation and description of the major classifications at 6 years of age—and, particularly, a classification as unforeseeable in its transformation as Category D—were dependent on the following factors:

1. The original exclusion from our sample of infants whose Strange Situation response might be influenced by factors other than parent-infant interaction (i.e., by congenital factors such as birth complications or by recent separations from the parent).
2. The exclusion from the sixth-year follow-up study of separated and divorced families as well as of families experiencing recent life-threatening illness.
3. The stress on separation themes in interviews conducted with both the child and parent in the hour prior to reunion.
4. The use of an inductive method to discover the sixth-year equivalents of the infancy patterns. (Without inflating the true predictability of the behaviors described—see Methods—this method maximized the opportunity for finding those reunion behaviors most strongly correlated with the infancy attachment patterns.)

Where selection procedures are not as severe as ours, where major changes are taking place in life circumstances, or where themes of separation are not heightened prior to reunion for one or both members of the dyad, we cannot be certain of obtaining predictability of the same magnitude. We understand the results of the Berkeley and Charlottesville studies not as being normative for all middle-class samples, but rather as providing a description of expected transformations in reunion behavior for dyads living in relatively undisturbed circumstances.

Replication and Validation

A replication of the Berkeley study has been completed in Regensburg, West Germany, using a sample of 6-year-olds and their mothers first studied in the Strange Situation at 1 year of age (Wartner, 1987; Wartner & Grossmann, 1987). The Regensburg sample is a White, middle-class sample highly comparable with the Berkeley sample in distribution of A, B, C, and D attachment classifications at 1 year and in stability of life circumstances. Reunions took place directly following an Adult Attachment Interview conducted with the mother. First-year A, B, C, and D classifications predicted 78% of sixth-year attachment classifications in the Regensburg sample (Wartner & Grossmann, 1987). As expected, German children judged to be in Category D (controlling) or as unclassified at 6 years had shown far more disorganized/disoriented behaviors in a mildly stressful parent-infant-stranger observation conducted during the infancy period (the "Clown Session"; Main & Weston, 1981).

Sixth-year attachment classifications were also found to be related to the child's behavior in kindergarten with children judged secure in their sixth-year reunion response having a better play quality, being more resourceful in conflict management, having fewer behavior problems and being rated by teachers as more ego-resilient (Suess, 1987; Suess & Grossmann, in preparation).

A validation study examining the connections between sixth-year attachment classifications and concurrent mother-child interactions (6 hr of home observation per dyad) has recently been conducted (Solomon et al., 1987). The aim was to predict mother's behavior in the home setting, using expectations derived from previous investigations of differences between A, B, and C mother-infant interactions. Because no observations of interaction between mothers and Category-D infants had yet been made, no behavior predictions for mothers of Category-D 6-year-olds (or children showing traces of D-like behaviors) could be constructed. With D children eliminated from consideration, 6-year-old security was found to be associated with mother's supportive acceptance and her active encouragement of learning and competence in the home; ambivalence was found to be associated with over-involvement, indulgence, and discouragement of independence; and avoidance was found to be associated with maternal rejection, hostility, and discouragement of dependence. Child controlling behavior was not associated with any of the above patterns, but rather with mother's role-inappropriate behavior. Mothers of controlling children were described as treating the child like a playmate or companion, behaviors clearly complementary to the child's parental behavior toward the parent as observed on reunion in the Berkeley and Charlottesville studies.

Transformation from Disorganization to the Controlling Response Pattern

One of the chief aims of the Berkeley study was to investigate reunion responses of children who had been judged disorganized/disoriented with the parent during infancy. As noted previously, these children had become relatively well-organized with respect to the parent by age 6. At 6 years, most were punitive or caregiving, controlling the behavior of the parent in a manner that could be described as a partial reversal of roles. One previously disorganized/disoriented child had become somewhat sexualized in relation to the mother and was termed insecure-unclassified.

These developmental changes are particularly interesting in the light of an association discovered between infant D attachment status and the parent's lack of resolution with respect to attachment-related traumas—specifically, with respect to loss (Main & Hesse, in press) and perhaps also with respect to the parent's own early physical or sexual abuse. To explain the association with disorganized behavior in infancy, Main and Hesse have proposed that parents traumatized by loss or sexual abuse in childhood may be inadvertently somewhat frightening or frightened in their behavior with the infant at times, a hypothesis to date supported only by informal, nonblind observations of the behavior of the parents of Category-D infants in high-risk samples. If the attachment figure is the source of the infant's fear, it is understandable that the infant might respond

with conflict behaviors (disorganized/disoriented behaviors), because approach to the parent (the usual response to fright experiences) is then not possible. However, as the child matures, a capacity to control and "organize" the parent's behavior may develop, either through direct attempts to lift and guide the parent's mood or through simple directiveness.

In addition, given the unresolved loss or sexual abuse often present in their parents' own histories, Category-D children may be responding more directly to implicit requests from parents to serve as either a partially caregiving or a partially spousal figure (see Sroufe & Ward, 1980). Neither caregiving responses nor sexually toned responses are, of course, available to the very young infant, but responses of this type do develop by early childhood. Thus, as the child who is disorganized in relation to a particular parent moves beyond infancy, a partially parental or spousal relationship to the parent may develop in addition to the attachment relationship and become embedded within it in complex ways.

Limitations of the Sixth-Year System

Difficulties with the Controlling (D) Sixth-Year Category

A central difficulty with our system as it exists at present is the relative unreliability of Category-D placement. In the Berkeley study, interjudge agreement for sixth-year Category D was acceptably high, and D behavior toward mother was strongly predictable from D placement in infancy.

However, among the children participating in the follow-up study, the infants classified A or B had shown only very minimal signs of disorganization in the Strange Situation. This circumstance was the result of chance factors. In the remainder of our Social Development Project sample there were, as expected, a large proportion of A, B, and C children who showed enough disorganization to cause some difficulty in classification. Were more of these latter children included in the follow-up sample, we would have expected more disagreements related to D classifications.

In the Charlottesville study, several children who were ultimately assigned A, B, or C classifications showed substantial degrees of controlling behavior. Given this, it is not surprising that, in contrast to the Berkeley study, interjudge agreement on Category-D placement was relatively low, and only 50% of children judged as D in the first session were judged as D again 1 month later (24% expected by chance). Analysis of mismatching cases showed that D-like behavior had almost always been noted by both observers (either in relation to a particular child for the second session or in relation to the same child observed in two separate sessions), but only one observer had actually made a Category-D placement. Similarly, in both the Charlottesville study and the recent home validation study (Solomon et al., 1987), 75% of interjudge disagreements involved Category D.

By definition, disorganized/disoriented behavior reflects less readily recognizable patterning than the A, B and C attachment classifications first identified by Ainsworth. Main and Solomon (in press) have suggested that it may be that disorganization operates as a category only in extreme cases, being otherwise a response to stressful conditions that may disappear under less

stressful situations, that is, in other cases operating as a dimension. This makes sense given the association discovered between infant disorganization and attachment-related traumas experienced by the parent (Main & Hesse, in press). In cases where these traumas have been severe enough they will tend to dominate the parent's behavior and hence the attachment organization of the child. Under other circumstances (a) such traumas may have occurred at milder levels or may be relatively resolved and therefore only sporadically effect the parent's interaction with their children or (b) parents and children may be responding to only temporary stress situations.

The solution that Main and Solomon (in press) have adopted to this difficulty is the use of a scale for disorganized/disoriented infant behavior, with Category-D placement being assigned only in conjunction with the more extreme scores. We are now attempting to develop a comparable scale for child controlling behavior.

Need for Multiple Assessments of Sixth-Year Attachment

It has been our experience that the sixth-year system is much more difficult and time-consuming to learn than Ainsworth's infancy system. This is no doubt partly because the repertoire of the 6-year-old is broader than that of the infant and includes language. In addition, a special difficulty for coders attempting to work with the sixth-year procedure is the lack of a sequence of critical moments comparable with those provided in the Strange Situation, that is, a sequence of several separate, mildly stressful events (including both separations and reunions) that permit observers to ascertain the child's response to heightening activation of the attachment behavioral system. The only comparably critical moments in the sixth-year procedure are when the child becomes aware of the parent's impending entrance and the first seconds of the reunion itself. After this, analysis of the reunion is based on the relatively limitless repertoire of behaviors normally observable in unstructured and unstressful settings.

For these reasons, the process of coding sixth-year reunion behavior is time-intensive, requiring extensive training and repeated, careful viewing of videotapes. It should also be noted that the Charlottesville study as well as the Wartner and Grossmann (1987) and Solomon et al. studies (1987) used "expert" coders, that is, coders with extensive observational experience in a wide range of settings, particularly in the Strange Situation. In addition, all coders had an in-depth familiarity with attachment theory and research as well as extensive familiarity with the sixth-year system.

Both because of the difficulties of coding and because of the difficulty involved in demarcating the D-category boundary, we suggest that assessment of a child's attachment to a particular parent should not rely on a single, sixth-year reunion observation. Researchers wishing to use this system should preferably conduct two sessions, perhaps amalgamating results into a single classification (see Cassidy, in press, for a study in which classifications obtained over two separate sessions were amalgamated). Ideally, our behaviorally based reunion procedure would be combined with assessments made on the basis of the child's representations of the relationship with the parent. Both family drawings (Kaplan & Main, 1985) and the child's re-

sponse to presentation of a family photograph (Main et al., 1985) could conceivably serve this purpose.

Predictability and Change in Relationship Organization

The results reported for our Berkeley sample depend on the predictability of parent-child interaction patterns over a 5-year period. We emphasize predictability as opposed to stability because, as we have shown in the case of the Category-D dyad, the exact nature of the behaviors exhibited by one or both of the partners may well change in lawful ways over time. In addition, we see the long-term predictability encountered in both the Berkeley and the Regensburg samples (Wartner & Grossmann, 1987) as dependent on the absence of major changes in life circumstances and as having its locus in the relationship itself rather than in either the parent or the child.

Among relationships within our sample with marked change between 1 and 6 years, we note that several seem especially illustrative. We were surprised by changes in our father-child relationship from very secure (B_3) to avoidant, but learned that the father had recently lost his means of employment and was markedly depressed. One child, avoidant of mother at 1 year, was punitive and controlling with mother at age 6, a change that seemed conceivably attributable to a death in mother's family in which she saw herself as causal (i.e., lack of resolution of mourning was scored as extremely high, see Main & Hesse, in press). Two positive changes in child-parent relationship organization also seemed instructive. In one case, the father had been in therapy, an experience that the mother noted had changed the emotional tone of the family as a whole. Finally, one child had almost died in an accident, and the father was very grateful for the child's recent recovery. The child had been avoidant of father in infancy, but was securely attached to him at age 6.

From the first, researchers discovering stability of attachment organization in unstressed, middle-class samples have emphasized the need for investigating change and sources of change as well (Waters, 1978). With the completion of the Berkeley and the Regensburg studies, it may be time to attempt to trace sources of change from infancy to childhood within samples in which major life-stresses and alterations interfere with the stable development of attachment processes.¹ Our sixth-year classification system (Main & Cassidy, 1987) and the recent development of a similar system for classifying attachment in 3-year-olds (Cassidy, Marvin, & the Attachment Working Group of the MacArthur Network, 1987) open new possibilities for studies of this kind. Because we are now able to assess attachment organization at later ages, it will be possible to investigate some of the most central issues in the field. Through carefully planned studies we may, for example, begin to determine the importance for future functioning of secure versus insecure child-parent

¹ Tests for stability within a given age period (e.g., 12 and 15 months) are advisable to assure that a particular relationship organization has been sustained throughout the period, that is, that the relationship being assessed is stable from the onset. If this is not the case, first to sixth year "instability" will represent chaotic and unpredictable day-to-day shifts in behavior rather than slow-moving changes in relationship organization over time.

attachment organizations in the first as compared with the later years of life.

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