Society for Research in Child Development

WILEY

Security in Infancy, Childhood, and Adulthood: A Move to the Level of Representation

Author(s): Mary Main, Nancy Kaplan and Jude Cassidy

Source: *Monographs of the Society for Research in Child Development*, 1985, Vol. 50, No. 1/2, Growing Points of Attachment Theory and Research (1985), pp. 66-104

Published by: Wiley on behalf of the Society for Research in Child Development

Stable URL: https://www.jstor.org/stable/3333827

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at https://about.jstor.org/terms

Society for Research in Child Development and *Wiley* are collaborating with JSTOR to digitize, preserve and extend access to *Monographs of the Society for Research in Child Development*

JSTOR

This content downloaded from 129.2.89.130 on Mon, 24 Nov 2025 17:46:07 UTC
All use subject to https://about.jstor.org/terms

III. SECURITY IN INFANCY, CHILDHOOD, AND ADULTHOOD: A MOVE TO THE LEVEL OF REPRESENTATION

MARY MAIN AND NANCY KAPLAN

University of California, Berkeley

JUDE CASSIDY

University of Virginia

The aim of this chapter is to discuss individual differences in attachment relationships as they relate to individual differences in mental representation, that is, in the individual's "internal working models" of attachment (Bowlby, 1969/1982b, 1973, 1980; Bretherton, in this vol.). We define the internal working model of attachment as a set of conscious and/or un-

We are grateful to the Institute of Human Development, Berkeley, and to the Society for Research in Child Development for funding that made the study of our sample at 6 years possible. In its earlier phases, the Social Development Project was supported by the William T. Grant Foundation, by the Alvin Nye Main Foundation, and by Bio-Medical Support Grants 1-444036-32024 and 1-444036-32025 for studies in the behavioral sciences. The Child Study Center at the University of California was invaluable in its provision of subjects and in the training provided for our observers and examiners. The National Center for Clinical Infancy Programs provided support and assistance to Nancy Kaplan. This project would not have been possible without the direction and assistance provided by Donna Weston and by Bonnie Powers, Jackie Stadtman, and Stewart Wakeling in its first phases. For the initial identification of infants who should be left unclassified—an identification critical to the present study—we gratefully acknowledge both Judith Solomon and Donna Weston. Carol George participated in the designing of the sixth-year project; Ruth Goldwyn served as adult interviewer; and Ellen Richardson served as the child's examiner. The videotapes and transcripts of the sixth-year study were analyzed by Jude Cassidy, Anitra DeMoss, Ruth Goldwyn, Nancy Kaplan, Todd Hirsch, Lorraine Littlejohn, Amy Strage, and Reggie Tiedemann. Mary Ainsworth, John Bowlby, Harriet Oster, and Amy Strage provided useful criticism of earlier versions of this chapter. The overall conceptualization was substantially enriched by suggestions made by Erik Hesse.

This content downloaded from
129.2.89.130 on Mon, 24 Nov 2025 17:46:07 UTC
All use subject to https://about.jstor.org/terms

conscious rules for the organization of information relevant to attachment and for obtaining or limiting access to that information, that is, to information regarding attachment-related experiences, feelings, and ideations. Previous definitions of individual differences in attachment organization, for example, secure, insecure-avoidant, and insecure-ambivalent, have relied on descriptions of the organization of the infant's nonverbal behavior toward a particular parent in a structured separation-and-reunion observation, the Ainsworth Strange Situation (Ainsworth et al., 1978; Sroufe & Waters, 1977).

Our reconceptualization of individual differences in attachment organization as individual differences in the mental representation of the self in relation to attachment permits the investigation of attachment not only in infants but also in older children and adults and leads to a new focus on representation and language. This conceptualization leads further, to the proposal that the secure versus the various types of insecure attachment organizations can best be understood as terms referring to particular types of internal working models of relationships, models that direct not only feelings and behavior but also attention, memory, and cognition, insofar as these relate directly or indirectly to attachment. Individual differences in these internal working models will therefore be related not only to individual differences in patterns of nonverbal behavior but also to patterns of language and structures of mind.

In that our work connects attachment to representation, it is in keeping with much theoretical work in attachment (Ainsworth, 1967; Bowlby, 1969/1982b; Bretherton, 1980, in this vol.). It poses a departure, however, from the current empirical approach to the study of infant-parent attachment. At the present time, most investigators in our field seek to connect individual differences in security of attachment at 1 year either to differences in infant-parent interaction patterns during the preceding year or to later differences in general functioning and behavior. In contrast to the representational approach presented here, the current approach has remained consistently at the behavioral level.

This chapter constitutes a first report from an ongoing, longitudinal project. In the first phase of the project, infants 12–18 months old were seen independently with each parent in the Ainsworth Strange Situation (Ainsworth et al., 1978). On the basis of the infant's behavioral response to a particular parent in this brief separation-and-reunion situation, each infant was identified as very secure, secure, or insecure in relation to that parent (Ainsworth et al., 1978; Main & Weston, 1981). When the children had reached 6 years of age, we compared early security of attachment to each parent to overall functioning, to reunion behavior, and to aspects of both the parents' and the child's internal working models of attachment. The primary question addressed was, How does early security of infant-parent

This content downloaded from
129.2.89.130 on Mon, 24 Nov 2025 17:46:07 UTC
All use subject to https://about.jstor.org/terms

attachment, as estimated from patterns of infant nonverbal behavior, relate to both the child's and the adult's mental representations of attachment 5 years later?

Our introduction begins with the argument that reunion responses to parents, whether following very brief or major separations, can be seen as indicative of the infant's "view" (Hinde, 1982b) or internal working model of the relationship. Following a review of the Ainsworth Strange Situation procedure and classifications, we consider the apparent meaning of individual differences in reunion response to the parent in this situation. We then draw parallels to reunion responses to parents following major separations. Here we show that, whether a previously secure child avoids the parent following a major separation in a residential nursery or whether a relatively rejected child avoids the parent following a brief laboratory separation, similar detached and hostile responses are likely to be shown by the child in other settings. These observations in themselves suggest that particular types of reunion response indicate particular infant "views," "internal working models," or "states of mind" regarding the relationship with the caregiver and that the internal working model of the relationship with the caregiver should not be conceived as a "sample" of interaction patterns with that caregiver since it can change in the absence of interaction. A particularly striking example of such change is given in the account of a 2-year-old who first welcomed, then avoided a photograph of his mother over the course of a 2-week separation.

Following presentation of our argument for reconceptualizing individual differences in attachment classifications as individual differences in the representation of the self in relation to attachment, we consider what we have learned to date regarding the meaning of (infant-parent) security of attachment in infancy. Here we show that three security classification systems constructed to date are in agreement regarding the identification of security with a single parent-infant interaction pattern indicative of ready emotional access between the infant and the attachment figure, the contrastingly diverse nature of the major patterns of insecurity, and the identification of these diverse but specifiable "insecure" organizations with particular, specifiable forms of the restriction of attention, affect, and behavior. Our working hypothesis is that these restrictions, while generally self-preserving, can be lifted, yielding a secure internal organization.

In Chapter I of this *Monograph,* Inge Bretherton has reviewed the concept of the "internal working model" as developed by John Bowlby. The "internal working model" is a mental representation of an aspect of the world, others, self, or relationships to others that is of special relevance to the individual. This model is an integral component of the attachment behavioral system; it guides appraisals of experience and guides behavior (Bowlby, 1969/1982b, 1973). Like Piaget's object concept, "internal working

This content downloaded from
129.2.89.130 on Mon, 24 Nov 2025 17:46:07 UTC
All use subject to https://about.jstor.org/terms

models" are not merely "pictures" or passive introjections of the objects of past experience. They are active constructions and can be restructured. Reconstruction of early internal working models is difficult, however, since internal working models, once organized, tend to operate outside conscious awareness and resist dramatic change (Bowlby, 1980).

We conclude with a review of previous conceptualizations of the internal working model, adding our own speculations regarding the ways in which stable individual differences in internal working models develop, the ways they may be expected to affect language and thought as well as nonverbal behavior, and circumstances under which change may be expected. In a series of succeeding papers, we will compare and contrast representational aspects of secure, insecure-avoidant, insecure-ambivalent, and insecure-disorganized/disoriented relationships (Main & Solomon, in press). In this chapter, we focus our attention on structural aspects of the apparent internal working model of relationships seen in children and adults who are secure.

Reunion Responses to Parents as Indicative of Internal Working Models of Relationships

Like the acquisition of the concept of object permanence, the acquisition and structure of an individual's model of a relationship must be inferred from observations. The state of infant knowledge reflected in any particular observation may be difficult to clarify, however, so long as that observation is made with the infant in the "object's"/partner's presence. So long as the infant and partner are interacting, the observer may infer that immediate stimulus-response reactions rather than internalized concepts are guiding the infant's behavior.

In Piagetian testing for the concept of object permanence, infants demonstrate their increasing knowledge of the object by changes in their behavior during its absence. Similarly, the acquisition and form of the internal working model of the partner will also be most easily demonstrated to observers by the infant's behavior in the partner's absence. Behavior during separation and at the moment of reunion first following a separation will, therefore, be particularly informative regarding the internal working model of the self and partner.

The Ainsworth Strange Situation: Procedures and classifications based on response to reunion.—The Ainsworth Strange Situation is a brief, structured laboratory observation for parents and infants. Following introductory periods in which the infant is introduced to the room, the toys, and a stranger, the parent twice leaves the room and twice returns to it. There are marked individual differences in infant response to reunion. When the parent returns, some infants seek comfort, proximity, and contact and then gradually

This content downloaded from
129.2.89.130 on Mon, 24 Nov 2025 17:46:07 UTC
All use subject to https://about.jstor.org/terms

and comfortably return to play. Some actively avoid and ignore the parent, turning or moving away. Some show anger and resistance to the parent, a desire for proximity or contact, and an inability to be comforted. These individual differences provide the basis for the classification of infants in terms of Strange Situation behavior. In general, only those in whom the first pattern predominates are called securely attached to the parent (group B in the Ainsworth classification system). Others are called insecure-avoidant (group A) or insecure-ambivalent (group C). There are also subclassifications among infants considered securely attached to the parent. Infants who show some concern during separation, go at once to the parent on reunion, then show some readiness for a return to play are considered very secure (B_3) infants. Those who simultaneously show some aspects of the behavior of insecure infants are termed simply secure with the parent (B_1, B_2, and B_4 infants).

In three white middle-class samples studied to date, security of attachment to mother has been found stable from 12 to 18 or 12 to 20 months of age so long as there are no major changes in life circumstances (see Bretherton, in this vol., for a review of these studies). Main and Weston (1981) found 13 out of 15 infants stable in attachment classification to the father over an 8-month period. At the same time, classifications with the two parents are consistently found independent. An infant who is secure with mother is almost equally likely to be secure or insecure with the father. This finding has been reported now for two American and one North German sample (Grossmann, Grossmann, Huber, & Wartner, 1981; Lamb, 1978; Main & Weston, 1981).

The meaning of reunion responses in children who have experienced major separation from the parent.—The interpretation of infant reunion responses seen in the Ainsworth classification system depended on the interpretation of a previous set of behavior observations that had been seminal to the theory of attachment as developed by John Bowlby (Bowlby, 1973). These were observations of the responses of children in their second and third years responding to placement in institutional settings for "major" time periods, that is, for periods of 2 weeks or more without the support of special caregivers (Robertson, 1953; Robertson & Bowlby, 1952; see also Heinecke & Westheimer, 1966; Robertson & Robertson, 1971).

These investigators showed that major separation from parents at this age alters a child's behavior toward the parent once reunited. Children who had been secure and enjoyed harmonious interaction with the parent before major separation often seemed to be insecure with the parent following the return home. Children who had been left a relatively short time seemed anxious, "clingy," and easily angered. Left for a longer time, children might at first treat the parent as a stranger or at best with an indifference mixed with unpredictable bouts of hostility.

This content downloaded from
129.2.89.130 on Mon, 24 Nov 2025 17:46:07 UTC
All use subject to https://about.jstor.org/terms

The sign that a malignant reorganization of feelings toward the parent had taken place over the separation was a change in the child's reunion response to the parent. Visited late during separation or brought home following a longer separation, children sometimes responded to reunion with an angry resistance to the parent mixed with proximity seeking. Finally, if the separation lasted long enough, the child actively avoided the parent on reunion, moving away, backing away, or turning away altogether. Thus the earlier proximity-seeking response to reunion had become replaced by avoidance or indifference (Heinecke & Westheimer, 1966). When children had reached the stage of consolidating this avoidant response to reunion, they were observed to be detached and hostile on return to the home environment.

To summarize, major separations seemed responsible for a change in the organization of behavior toward the parent; the sign that these changes had occurred was a change in response to reunion with the parent, that is, from proximity seeking to anger or avoidance; and the angry-ambivalent and the avoidant responses indicating progressive malignant reorganization of relationships in separated children strongly resemble the two major insecure categories identified by Ainsworth in the Strange Situation. We interpret the above as indicative of changes in the child's internal working model in the absence of changes in interaction.

Observations still more relevant to this issue were made by James Robertson and Joyce Robertson, who took "Thomas," 27 months, into their home during a 10-day separation from mother (Robertson & Robertson, 1971). By the Robertsons' report, Thomas was a child who had enjoyed an open and affectionate relationship with both parents. Throughout the separation, Mrs. Robertson repeatedly presented Thomas with a photograph of himself and his mother. At the beginning of the separation, he kissed the photograph and held it tenderly, saying that he liked it. A few days later, he stood back when the photograph was presented, attentively fiddling with an object in his hand and keeping his eyes downcast. Toward the end of the separation period Thomas actively avoided the presented photograph, moving away and turning his back with an anxious expression. He insisted on putting it away from him. Thus the child's response to a pictorially represented "reunion" with the mother changed from proximity seeking to avoidance over a 10-day separation. Since the "behavior" of the photograph did not change over the 10-day period, we are led to presume that what changed was solely the child's internal representation of the relationship. This observation seems to us to be strongly suggestive of the restructuring of an internal working model in the absence of interaction with the caregiver. Specifically, access to a visual reminder of the mother became gradually and actively restricted.

A reconsideration of the Ainsworth Strange Situation: Correlates of the Strange

This content downloaded from
129.2.89.130 on Mon, 24 Nov 2025 17:46:07 UTC
All use subject to https://about.jstor.org/terms

Situation security classification.—We are now in a position to understand the theoretical and empirical basis for the emphasis on infant reunion behavior in Ainsworth's attachment classification system. Ainsworth's initial observations of infant response to this structured miniature separation situation involved a sample of infants and mothers whose interaction had been observed for a full year in the home environment. Since none of the sample infants had undergone a major separation from the parent, Ainsworth reasoned that differing organizations of relationship had developed on the basis of differing interactive events rather than as a function of major separations.

Ainsworth's examination of infant-mother interaction in the home showed far greater "sensitivity to the signals and communications of the infant" in the mothers of secure infants than in the mothers of insecure infants between 9 and 12 months of age (Ainsworth, Bell, & Stayton, 1971). Mean scores for mothers of "very secure" infants indicated definite sensitivity to infant signals, while scores for mothers of "insecure" infants indicated definite insensitivity. Scores for mothers of "secure" infants fell at scale midpoint.

When the infant cried or approached the mother in the home situation as observed by Ainsworth, mothers of securely attached infants were found responsive and permitting of access. Mothers of insecure-ambivalent infants were found insensitive to signals (e.g., crying) but not notably rejecting (Ainsworth, Bell, & Stayton, 1971). In the Ainsworth study as well as in succeeding studies, mothers of insecure-avoidant infants have been found rejecting of infant attachment behavior as well as insensitive to signals; that is, these mothers often block or reject the infant's attempts toward access (Main, 1981; Main & Stadtman, 1981).

As expected, then, differing responses to reunion with the parent are related to differing events experienced in interaction with the parent. But if different reunion responses indicate different internal working models of relationship, then they should have identifiably differing correlates in behavior observed in other contexts. This should be the case whether the model (reunion response or "view"; see Hinde, 1982b) has originated from major separations or from events experienced in interaction.

Data collected to date are affirming. In general, children who greet the mother actively and positively on reunion in the Ainsworth Strange Situation are found more socially competent, more empathic, and happier than insecure-avoidant and insecure-ambivalent children when observed several years later (see Bretherton, in this vol., for a review). Recently, Sroufe (1983) has reported differences in behavior between nursery school children who had been identified as ambivalent and children identified as avoidant of mother in infancy. In contrast to children who were ambivalent as infants,

This content downloaded from
129.2.89.130 on Mon, 24 Nov 2025 17:46:07 UTC
All use subject to https://about.jstor.org/terms

children avoidant as infants are described as relatively detached, isolated, and hostile in the nursery school setting.

As expected, then, whether the child avoids the parent following a major separation in a residential nursery or following an extremely brief separation in the laboratory, similar detached and hostile responses are seen in other settings. The secure, insecure-avoidant and insecure-ambivalent responses to reunion with attachment figures may be signs of particular working models of relationships, and these particular models may guide behavior in other settings.

The interactions of very secure dyads: Classification in terms of the attachment-exploration balance and in terms of the emotional availability of the parent.—At present there are at least three systems available for the classification of infant-parent attachment. The first, the Ainsworth Strange Situation classification system, has been described above. A second system was devised by Ainsworth and her colleagues for natural or "uncontrolled" home observations of mother and infant in relatively stress-free conditions: this system relies on observation of the infant's ability to use the mother as a "secure base" for exploration of the home environment (Ainsworth, Bell, & Stayton, 1971; see also Waters & Deane, in this vol.). At present, we are developing a third system of classification of dyads in terms of security of relationship, using a structured "Clown Session" involving an unfamiliar adult in a situation initially arousing some apprehension (Main & Weston, 1981). The parent remains with the infant throughout the observation, and the emphasis in this system is on the response of the parent. The system being developed classifies parents in terms of their "emotional availability" (Emde, 1980; Sorce & Emde, 1981) to the infant during this structured and mildly stressful situation.

Classifications of dyads made in terms of the attachment-exploration balance and classifications made in terms of the parent's "emotional availability" show high correspondence to the Ainsworth Strange Situation attachment classifications (e.g., infants with highly "emotionally available" mothers tend to be classified as very secure in the Strange Situation 1 week later, while infants with "emotionally detached" mothers tend to be classified as insecure-avoidant). Security classification systems developed for observation of dyads in differing situations, then, repeatedly place the same dyads within the same categories.

Three main points can be made regarding these three alternative systems for infant security classifications. (1) In each system, there is only one type of interaction pattern or behavior pattern that is readily identified as very secure, while, in contrast, there are several patterns identified as reflective of insecurity. (2) The most striking characteristic of very secure dyads as identified within each system is ease of physical and emotional access be-

This content downloaded from
129.2.89.130 on Mon, 24 Nov 2025 17:46:07 UTC
All use subject to https://about.jstor.org/terms

tween the partners and corresponding ease of movement among the salient features of the environment (cf. Emde, 1980; Waters & Deane, in this vol.). (3) In each of the insecure patterns of attachment, behavior and attention seem constricted in readily identifiable ways. Throughout the Strange Situation, for example, the insecure-avoidant infant attends to the environment and its features while actively directing attention away from the parent. The insecure-ambivalent infant, in contrast, seems unable to direct attention to the environment, expresses strong and sometimes continual fear and distress, and seems constantly directed toward the parent and away from all other environmental features. Similar strong contrasts suggestive of the restriction and direction of attention to particular aspects of the environment are seen as occurring in the home (Ainsworth et al., 1978) and as actively encouraged by the parent in the Clown Session.

Internal Working Models

Early mental representation has always been a central aspect of psychoanalytic theorizing (Fraiberg, 1969). According to A. Freud (1952) and Spitz (1966), an infant's first schemata evolve out of experiences of need fulfillment. Attachment figures are perceived as alternately good or bad, depending on whether they gratify or frustrate infant desires. Only when the infant develops the capacity to maintain an internal schema that is independent of experiences of need fulfillment can he combine the frustrating with the gratifying image and perceive the mother figure as one person.

Object-relations theorists such as Fairbairn (1946) also describe the infants' internal world as peopled by good and bad objects but suggest that the infant possesses a schema of persons as whole or part objects independent of need fulfillment from the beginning. Fairbairn places particular emphasis on the influences that real events experienced with people have on the internal world an infant develops and hypothesizes that an infant's feeling of security depends on the way in which he affectively deals with these internal good and bad objects.

Here, we share the notion that internal models of persons evolve out of events experienced. However, we are interested in exploring the complexities of how different kinds of events lead to different internal representations and how the child actively and continuously constructs his working models of relationships. In this way, we hope to go beyond the notion that events experienced with persons are internalized as simply good and bad objects and to formulate more detailed descriptions of the various models of self-other relationships.

How do internal working models develop? Like memories, they could theoretically be organized out of stimulus-response chains, by association, or by similarity. Bretherton has, however, drawn our attention to recent work

This content downloaded from
129.2.89.130 on Mon, 24 Nov 2025 17:46:07 UTC
All use subject to https://about.jstor.org/terms

suggesting that event schemata (Mandler, 1979), scripts (Schank & Abelson, 1977), or generalized event representations (Nelson & Gruendel, 1981) act as the basic modules of mental representation. This means that what is encoded by and guides the individual is not a concept abstracted out of static environmental features but a generalized representation of the events experienced. In this view, the child's memory is seen as being guided by general event schemata that organize experience in terms of reactions, goal paths, attempts, and outcomes (Mandler, 1983). A young child's knowledge of relationships will then be organized schematically rather than categorically, that is, by actions and action outcomes rather than by the abstraction from the environment of similarities and differences (cf. Werner, 1957). If the child's knowledge of relationships is organized by actions and action outcomes, then the internal working model of the infant-parent relationship will be formed out of a history of the infants' actions, infant-parent interactions, and the fate of the infant's "attempts and outcomes," that is, the fate or outcome of the infant's efforts and intentions to regain the parent even in the parent's absence. The working model of the relationship to the attachment figure will reflect not an objective picture of "the parent" but rather the history of the caregiver's responses to the infant's actions or intended actions with/toward the attachment figure. If this is true, then from the moment at which an animate or inanimate object can be represented there will be individual differences among infants in their internal working models of relationship to the attachment figure.

At what age do infants develop internal working models of attachment relations? Most previous investigators in attachment have presumed that the young infant has generalized and separable internal working models of self and of other and that infants of differing experience put self and other into differing types of relationship only gradually. Only as cognition reaches relatively advanced stages, it is presumed, will children of differing experience develop differing models. In this case, the construction of a primitive working model of a particular relationship as, for example, insecure-avoidant must await a stage of relative intellectual advancement.

Together with Sroufe and Fleeson (in press) we presume instead that even a young infant will have a working model of relationships. Knowledge of self and of other will then be embedded in event-based relationships from the outset (cf. Piaget, 1954). In sum, because a concept of "the attachment figure" apart from the event-relevant relationship between the attachment figure and the young infant does not exist, different relationships will be represented differently from the beginnings of representation.

How do individual differences in internal working models of relationships develop? Given the material reviewed, it seems logical to suppose that the internal working model of the attachment relationship will be organized out of the inner representation of the experienced outcome of actions or

This content downloaded from
129.2.89.130 on Mon, 24 Nov 2025 17:46:07 UTC
All use subject to https://about.jstor.org/terms

plans ("intentions") of particular relevance to attachment. This could lead logically, in terms of conventional cognitive psychology, to an infinite variation in mental representations. We propose instead that, while aspects of each individual's representations of attachment are unique, the essential differences between individuals in representations of particular attachment relationships are finite and can be specified in terms of several central organizations.

This is because we are dealing with a biologically based, that is, largely environmentally stable tendency/"intention" to seek to maintain proximity to a central figure (Bowlby, 1969/1982b). The possible caregiver responses to this infant proximity-seeking intention are finite. To simplify, a caregiver may permit access to the infant who seeks proximity (yielding the secure organization); a caregiver may block access (yielding the insecure-avoidant organization); or a caregiver may permit access only unpredictably (yielding the insecure-ambivalent organization). Finally, because the attachment behavioral system is integrated and balanced in diverse ways with other, for example, exploratory and fear wariness, systems (Bretherton & Ainsworth, 1974; Waters & Deane, in this vol.), these caregiver responses will result in fairly complex and far-reaching systems of attentional and behavioral organization.

There are three presently recognized major organizations of attachment (secure, insecure-avoidant, and insecure-ambivalent), each corresponding to the organizations of caregiver responsiveness identified above. Other patterns of response may yield other major organizations, as yet undiscovered; these too should yield particular, specifiable infant attachment organizations with respect to the caregiver in question. It seems unlikely, however, that there are infinitely many possible caregiver responses to the infant's attempts toward access, and for this reason there may not be infinitely many central organizations, or working models, of attachment.

We are now in a position to provide some definitions of internal working models:

1. Internal working models are mental representations that include affective as well as cognitive components (Bretherton, in this vol.). They are integral components of behavioral systems and play an active role in guidance of behavior (Bowlby, 1980).
2. Internal working models are most likely formed out of generalized event representations (Bretherton, in this vol.).
3. Once formed, internal working models have an existence outside of consciousness as well as a propensity for stability (Bowlby, 1980).
4. The events out of which internal working models of the self in attachment relationships are formed are attachment-relevant events. These models are formed out of the "outcomes" of a rela-

This content downloaded from
129.2.89.130 on Mon, 24 Nov 2025 17:46:07 UTC
All use subject to https://about.jstor.org/terms

tively environmentally stable (formerly, "instinctive") intention to seek proximity to caregivers (Bowlby, 1969/1982b).

5. Infants whose attempts to gain proximity to the caregiver are consistently accepted will develop different internal working models of relationships than do infants whose attempts to gain proximity are consistently blocked or are accepted only unpredictably. Where access is consistently restricted or admitted only unpredictably, we may expect active reorganization, restriction, and redirection in attention, behavior, and emotional expression.
6. Some type of internal working model of specific relationships may be formed in the first months of life. By the time the infant is 1 year of age, individual differences in Strange Situation behavior with a particular parent may be conceived as reflecting individual differences in the infant's internal working model of a particular infant-parent relationship.
7. Models of relationships do not depend solely on events experienced in the partner's presence. Because event representations are defined to include "attempts and outcomes," they will necessarily include the outcome of, for example, the infant's efforts to gain the caregiver in the caregiver's absence. Thus the internal working model of a relationship may change over the course of the partner's absence.
8. Internal working models of relationships provide rules and rule systems for the direction of behavior and the felt appraisal of experience.
9. Internal working models of relationships also will provide rules for the direction and organization of attention and memory, rules that permit or limit the individual's access to certain forms of knowledge regarding the self, the attachment figure, and the relationship between the self and the attachment figure. These rules will be reflected in the organization of thought and language as it relates directly and indirectly to attachment. Many will be unconscious.
10. In childhood, it is possible that internal working models of relationships can be altered only in response to changes in concrete experience.
11. Following the onset of the stage of formal operations, it is possible that the internal working models of particular relationships established earlier can be altered. This is because these operations may permit the individual to think about thought itself, that is, to step outside a given relationship system and to see it operating (Piaget, 1967).
12. While internal working models show a strong propensity for stability, they are not conceived as templates. They are best conceived as structured processes serving to obtain or to limit access to information.

This content downloaded from
129.2.89.130 on Mon, 24 Nov 2025 17:46:07 UTC
All use subject to https://about.jstor.org/terms

RATIONALE FOR THE PRESENT STUDY

The project to be described was undertaken in response to our reconceptualization of attachment as representation. The first aim of the project was to test for stability in reunion behavior over a 5-year period. The second aim was to examine individual differences in overall functioning as a function of early security. The major aim was to compare early differences in security of infant-parent attachment to the representational level of speech and behavior in childhood and adulthood. What we hoped to show was that mental processes vary as distinctively as do behavioral processes as a function of differing internal working models of relationships.

Representational processes cannot be witnessed directly. But some efforts toward approximation seem destined to greater accuracy than others. In general, a move to the level of language seems likely to be productive, and one assessment was based on transcripts of child-parent speech during a reunion episode. Here we could ask whether an assessment of discourse alone would show the dyads to be maintaining the same relationships with one another as they did on the nonverbal level 5 years earlier.

We have argued that the representation of a relationship can best be estimated in the absence of the partner. In keeping with this theme, we observed each child responding to presentation of a photograph of the parents (during the parents' absence). Since the photograph could not respond to or control the child's response, the child's response to the photograph could not be simply an example of an interaction pattern being maintained over several years between child and parent.

If children's representations of attachment relationships are constructed out of critical events, then seeking verbal representations of "children's responses" to such events is of interest. Child-parent separation is of critical interest to attachment: we therefore conducted interviews with 6-year-olds, asking both what a pictured child would feel and what a pictured child could do about a separation (Kaplan, 1984).

Finally, we attempted to assess the security of the adult's overall working model of attachment, that is, the security of the self in relation to attachment in its generality rather than in relation to any particular present or past relationship. Here, we could not simply ask adults to verbalize their concepts of relationships since the expressed concept could be affected by its stereotype and could be far from the internal working model actually operating. Therefore, we constructed an adult attachment interview that asked for descriptions of early relationships and attachment-related events and for the adult's sense of the way these relationships and events had affected adult personality (George, Kaplan, & Main, 1984). The interview was transcribed verbatim. Ruth Goldwyn devised a scoring system that permitted use of the full transcript as the basis for inferring the security of the adult's model of

This content downloaded from
129.2.89.130 on Mon, 24 Nov 2025 17:46:07 UTC
All use subject to https://about.jstor.org/terms

the self in relation to attachment. Contradictions and incoherencies of which the speaker seemed unaware were considered as important as views deliberately presented.

METHODS AND RESULTS

Sample.—Forty mothers, fathers, and their 6-year-old children (24 male, 19 firstborn) formed the sample of participants in this 1982 study. The families were drawn from the first wave of subjects studied in the Berkeley Social Development Project (BSDP) sample, a sample of Bay Area families collected over the period 1977–1979 by Mary Main and Donna Weston. Sample mothers were white or Asian; families were college educated and predominantly upper middle class (for more complete sample description, see Main & Weston, 1981). The children's average age at the time of this follow-up study was 69.5 months or just under 6 years of age (SD = 4.34 months).

Each family had been seen in the Ainsworth Strange Situation at 12 months (mother) or 18 months (father) of age. Attachment classifications to both parents had proven stable within this sample; hence differences in infant age at time of observation with mother and father were considered unimportant.

The selection of insecure-disorganized/disoriented infants.—Earlier, we reported that a number of infants in the BSDP sample could not be classified within the Ainsworth system (Main & Weston, 1981). Some seemed insecure but could not be classified in any major category. For others, the "forced" (imposed) classification would have been secure or even very secure. Independent assessments in infancy had suggested, however, that these infants were also insecure with the parent.

Recently, we completed a review of reports of classification difficulties from other studies as well as a review of 36 Strange Situation videotapes that had been left unclassified within our larger (189-family) sample (Main & Solomon, in press). In two cases it was not clear that the child was attached to the parent (the father). The remaining 34 infants could, however, be described by the term "insecure-disorganized/disoriented." "Dazed" behavior on reunion with the parent, stoppage of movement in postures suggestive of depression, confusion, or apprehension, disordering of expected temporal sequences (e.g., strong avoidance following strong proximity seeking), simultaneous display of contradictory behavior patterns (approaching with head averted, gazing strongly away while in contact), incompleted movements, and undirected expressions of affect appeared in these infants.

The majority of these children in our sample had parents who had suffered unusual trauma within their own attachment histories. Because of

This content downloaded from
129.2.89.130 on Mon, 24 Nov 2025 17:46:07 UTC
All use subject to https://about.jstor.org/terms

the similarities in Strange Situation behavior among these children and the similarity between their behavior and that of initially "unclassifiable" infants described in other (particularly, maltreatment) samples, we have proposed that these infants represent a third type of insecurity of attachment to the parent (Main & Solomon, in press). One of the major purposes of the present study was the further examination of children and parents identified as insecure-disorganized/disoriented.

Criteria for sample selection.—The present sample is drawn from project families first seen with infants in 1977. The principal criterion for selection was infant attachment classification with mother at 12 months of age. While a majority of children in the BSDP sample had been judged secure with mother in infancy, we intended this time to invite equal numbers of children who had been judged insecure-avoidant, insecure-disorganized/disoriented, and secure with mother in infancy. Some selection was also made for birth order and sex.

Sixty-nine families qualified for our selection criteria; 11 of these had moved from the Bay Area or left no forwarding address. Fifty-eight families were contacted, and 84.4% agreed to participate. Five of the remaining 49 families were separated or divorced and hence were excluded from the study. The remaining 44 families participated in both the home and the laboratory visits. Some families and individual episodes were lost through equipment malfunction, and reunions and responses to the photograph were not videotaped for the first families who visited the laboratory. Three children were excluded because of illness or recent major separation.

Of the 40 children seen with their parents in the laboratory at 6 years of age, 14 had been classified as secure with mother in infancy, 11 as insecure-avoidant, and 12 as insecure-disorganized/disoriented. For one child the infancy security assessment was available only for father. There were relatively few children classified as insecure-ambivalent in the BSDP sample, perhaps in consequence of stringent infant selection procedures (see Main & Weston, 1981). Two children who were insecure-ambivalent with mother were available and are included out of interest.

Outline of procedures.—Each family was visited in the home, where we obtained information on family changes and child-rearing practices (see Kaplan, 1984). About 1 week after the home visit, the family came to the laboratory for a 2-hour session. Child and parent behavior was videotaped in a playroom. The parents left the playroom for about 1 hour for individual interviews, while the child remained in the playroom with the female examiner (male in two cases).

On arrival at the laboratory, the family was asked to pose quickly for a polaroid photograph. The entire family watched a film of a 2-year-old undergoing a 10-day separation from parents, "Thomas: Ten Days in Fos-

This content downloaded from
129.2.89.130 on Mon, 24 Nov 2025 17:46:07 UTC
All use subject to https://about.jstor.org/terms

tercare" (Robertson & Robertson, 1967–1972). Parents then left for separate offices for the Adult Attachment Interview.

For the first 15–20 minutes following the parents' absence, the child interacted with the female examiner in a "warm-up" session. Following the warm-up session, the examiner administered the Klagsbrun-Bowlby version (Klagsbrun & Bowlby, 1976) of a separation anxiety interview initially devised for adolescents by H. G. Hansburg (Hansburg, 1972). The family photograph was presented to the child following the separation interview. The child then engaged in free play (sandbox play) until the parent's return. Each reunion lasted 3 minutes; mother-child and father-child reunions were balanced across dyads.

Further details regarding procedures are given together with measures. Specific procedures were closely tied to our measures: both measures and procedures will be most easily understood when presented in conjunction.

Measures.—This study presents seven analyses of attachment-related behavior in 6-year-old children and adults. Each analysis is correlated with the child's Strange Situation classification with mother and with father at 12 and 18 months of age. All measures of child and adult security undertaken are presented; none were dropped from the study.

1. The child's current security of attachment to each parent was estimated from videotapes of the parent-child reunion.
2. Fluency of discourse in each of the parent-child dyads was assessed. This assessment was based on speech transcripts devoid of information about prosody or concomitant nonverbal behavior.
3. The child's overall functioning was assessed from the videotapes of the warm-up sessions.
4. The child's overall emotional openness in discussions of parent-child separations was assessed, using the entire transcript of the separation anxiety interview.
5. The child's ability to deal constructively with parent-child separation was coded from transcribed answers to the question, "What would a child do?" in response to a 2-week separation.
6. The child's videotaped response to presentation of the family photograph was used to estimate the security of the child's relationship to the parents.
7. Each parent was assigned a score for the security implicit in his or her conceptualization of the self in relation to attachment, that is, for the security implicit in the overall working model of attachment. This score was based on study of the entire transcript of an adult attachment interview.

The number of observations, means, and standard deviations for these measures are given in Table 1. There are no significant differences between

This content downloaded from
129.2.89.130 on Mon, 24 Nov 2025 17:46:07 UTC
All use subject to https://about.jstor.org/terms

TABLE 1

NUMBER OF OBSERVATIONS, MEANS, AND STANDARD DEVIATIONS FOR STUDY MEASURES

MEASURE	MOTHERS			FATHERS		
	N	*M*	SD	*N*	*M*	SD
Child:						
Security on reunion	33	4.51	2.08	34	4.13	2.25
Overall functioning	38	4.90	2.35	38	4.90	2.35
Emotional openness	39	4.25	2.29	40	4.30	2.29
Constructiveness of response to separation ...	35	4.57	3.46	37	5.14	3.46
Response to family photo ..	31	4.52	1.96	32	4.62	2.02
Dyad:						
Fluency of discourse	31	4.48	2.57	32	5.53	2.54
Parent:						
Secure attachment	32	5.09	2.11	29	5.12	1.77

mother-child and father-child measures. Intercorrelations among sixth-year study measures were computed separately for mothers and for fathers. The strongest correlation was between the child's security as assessed from videotaped reunion with the mother at 6 and the child's emotional openness as assessed from the verbal transcripts of the Klagsbrun-Bowlby interview ($r = .68$, $p < .001$).

Reliability.—Eight research assistants blind to early attachment classifications conducted the seven analyses involved in the study. Each worked exclusively from videotapes or transcripts appropriate to her or his phase of the study. None had any knowledge of Strange Situation behavior, and six of the eight assistants had never seen the child in any other segment of the laboratory study. One of the two raters for the child's response to the family photograph had seen other portions of the videotape, but none including the parents. The eighth had seen three of the 40 families while substituting as an examiner. Two assistants who had assessed videotaped behavior also worked on recoded (i.e., unidentifiable) transcripted responses to separation interviews. Interrater reliabilities ranged from .63 (response to the family photograph) to .85 (emotional openness during the separation interview).

Methods of analysis.—In the Results section we present our assessments in terms of nine-point scales. The child or parent receiving a 9 is doing very well on the dimension under consideration (e.g., seems to be extremely secure), while the child or parent receiving a 1 is doing poorly.

For the purposes of the present study, children who were classified as B_3 with the parent are assigned a value of 3, children who were classified B_1 or B_2 a value of 2, and children classified A, C, or D in the infant Strange Situation a value of 1 in terms of security. Because B_4 infants seem to fall

This content downloaded from
129.2.89.130 on Mon, 24 Nov 2025 17:46:07 UTC
All use subject to https://about.jstor.org/terms

between B_3 and C infants in terms of distress and difficulties with exploration and separation, they are also assigned a value of 2 for this study. Each measure of child or adult behavior from the follow-up study is then correlated directly with the presumed degree of early security of attachment. Using the three-point scale described above, we found no relationship between degree of security of attachment to mother and father in infancy ($r = .00$, p = N.S.).

Security of attachment estimated from reunion behavior at 6 years compared with security of attachment to the same parent in infancy.—At the end of the hour-long Adult Attachment Interview, parents were told that we were essentially finished with the study and that the (first) parent could return to the playroom but might have to wait for the other parent. No instructions were given to parents for the reunion "episode," 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 minutes.

Children were rated at the very secure end of the nine-point scale if they affectionately and confidently initiated conversation, interaction, or contact with the parent during the 3-minute episode and/or showed eager responsiveness to the parent's remarks (e.g., breaking in to add own observations or comments).

Most children rated at the insecure end of the nine-point scale showed one of two identifiable response patterns (Cassidy & Main, 1984). In one, the child ignored the parent, responding only minimally when addressed and perhaps moving to a distance from the parent. These were most often children who had been judged insecure-avoidant with the same parent in infancy. Other children seemed to attempt to control the parent, either through directly punitive behavior or through anxious, overly bright "caregiving" behavior (inappropriate role reversal). These were most often children who had been judged insecure-disorganized/disoriented with the same parent in infancy.

Figures 1 and 2 present the overall relationships between reunion behavior at 6 years and early security of attachment. The correlation between security of attachment to mother at 1 year and security of attachment to mother at 6 years of age is $r = .76$, $p < .001$. The correlation between security of attachment to the father at 18 months and at 6 years is $r = .30$, $p < .05$.

The sixth-year rating for security with the mother was highly related to other concurrent but entirely independent study measures. The relation to emotional openness in interview was strong ($r = .68$), as was the relation to current overall functioning ($r = .56$), the child's response to the photograph ($r = .50$), and the security of the mother's working model of attachment ($r = .45$). Sixth-year security of attachment to father was substantially

This content downloaded from
129.2.89.130 on Mon, 24 Nov 2025 17:46:07 UTC
All use subject to https://about.jstor.org/terms

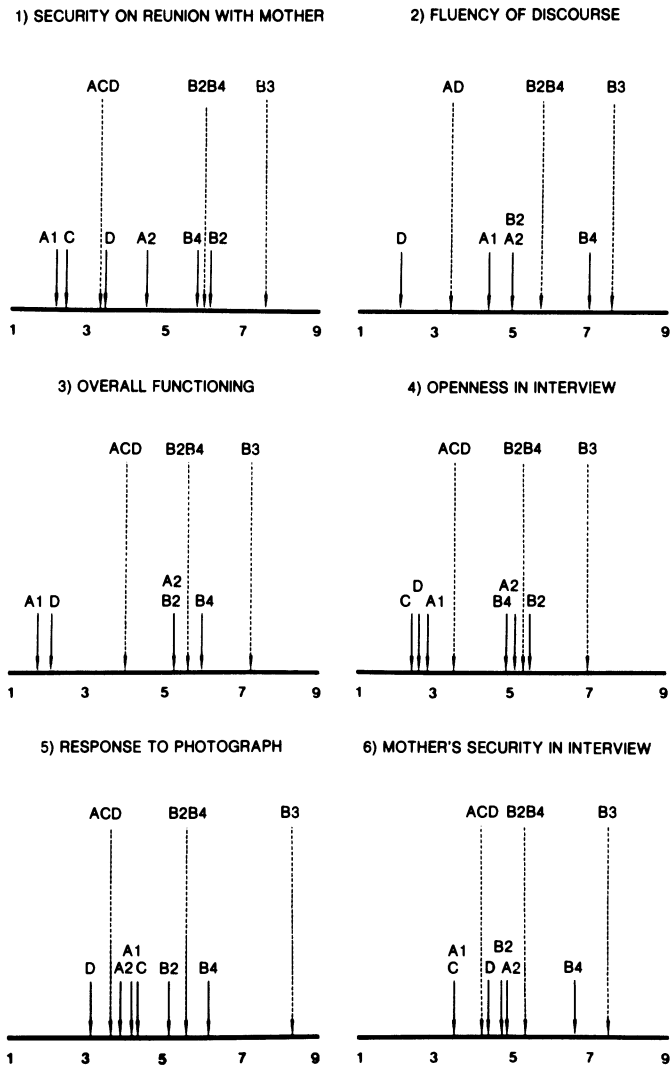

FIG. 1.—Strange Situation attachment classifications with mother at 12 months compared to five child and one adult assessment at 6 years of age. Mean ratings of groups and subgroups on nine-point scales (9 is high).

related to the child's overall functioning (r = .47) but bore little or no relationship to the child's representation of attachment (the family photograph or the separation interview). Figure 2 presents the overall relationship between the 18-month and the sixth-year assessments.

Balance, fluidity, and focus in speech between parent and child at 6 years: Discourse fluency compared with security of attachment to the same parent in in-

This content downloaded from
129.2.89.130 on Mon, 24 Nov 2025 17:46:07 UTC
All use subject to https://about.jstor.org/terms

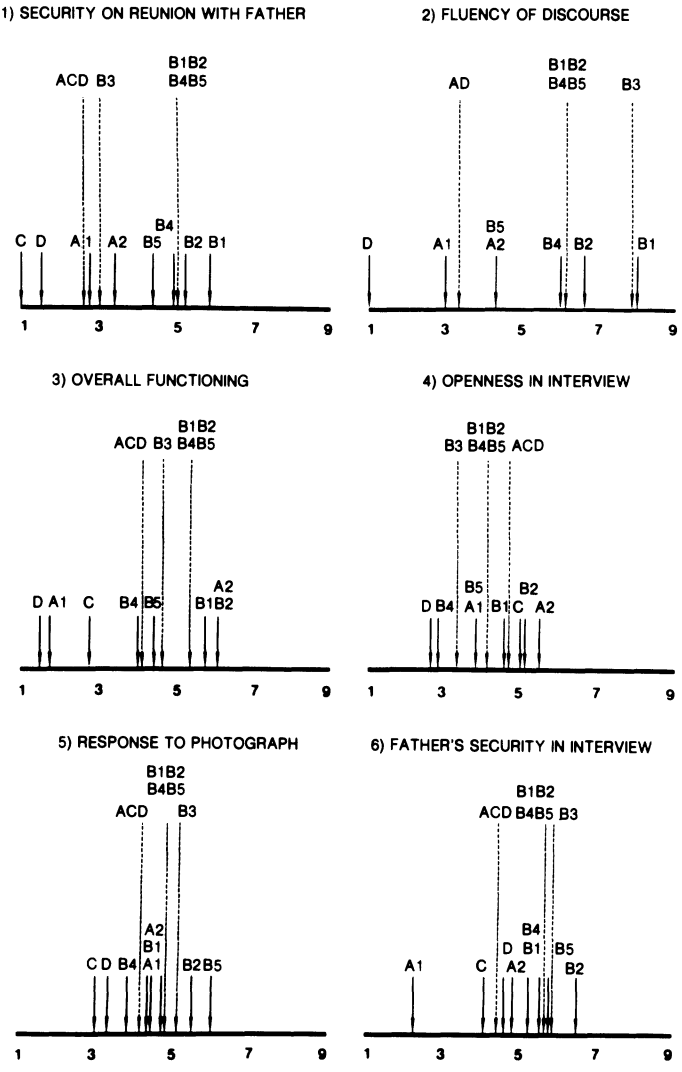

FIG. 2.—Strange Situation attachment classifications with father at 18 months compared to five child and one adult assessment at 6 years of age. Mean ratings of groups and subgroups on nine-point scales (9 is high). (Three infants gave the impression of being secure with father, except for an extreme fear of separation. These infants were given a new subclassification [B_5] within the secure group.)

This content downloaded from
129.2.89.130 on Mon, 24 Nov 2025 17:46:07 UTC
All use subject to https://about.jstor.org/terms

fancy.—We made transcripts of the speech of child, parents, and examiner during each 3-minute reunion. The transcripts were devoid of information about prosody or concomitant nonverbal behavior but contained information about pauses or speaker overlap. Our intention was to remove all cues to emotional tone or status.

The psycholinguistics student who worked with the reunion transcripts (Amy Strage) had no further information of any kind regarding the sample. Working with a general knowledge of categories of infant Strange Situation behavior and the interaction rules developed for the Clown Session, Strage categorized dyads as falling into one of nine discourse categories. Categorization was based on several dimensions of the discourse. A major dimension was fluidity. The discourse was regarded as fluid if the partners answered one another directly and with little pause, while individual speech was regarded as fluid if the person spoke directly, with little evident difficulty in accessing or expressing information. A second dimension was dyadic balance. The discourse was regarded as balanced if neither partner exclusively led or followed the other and if both addressed the partner in a manner that invited further conversation. Three types of focus were distinguished: focus on objects, focus on activities with objects, and focus on relationships. Conversations with the widest range of foci were considered the most desirable.

The nine categories were given a single ordering for fluency of discourse. Dyads placed in the highest category were fluid and balanced in discourse and seemed to range easily in focus. Their conversations had the characteristics of good dialogue. Dyads placed in the lower categories were either restricted or dysfluent in discourse. Dyads who were restricted in discourse had frequent pauses between adult and child conversational turns; topics restricted to impersonal perspective and/or inanimate objects, with limited topic elaboration; and frequent rhetorical questions or empty conversational turns by the parent. These were most often dyads identified as insecure-avoidant in infancy (Strage & Main, 1985). Dyads who were dysfluent in discourse featured disorganization of conversation marked by stumbling and false starts by parent, false starts by child, dyadic focus on relationship-related topics, and parent often passively responding to the child's steering of the conversation. These were dyads identified as insecure-disorganized/disoriented in infancy.

Figures 1 and 2 show the relation between early security of attachment and later fluency of discourse on reunion. The correlation between early security of attachment and later fluency of discourse for mother-child dyads is $r = .63$, $p < .001$. The correlation for father-child dyads is $r = .64$, $p < .001$. The figures show that the discourse fluency of Group B_3 and/or Group B_1 dyads is very high. (Strage was not given Group C dyads; audio malfunctioning had made only one record available.)

Overall functioning related to early security of attachment.—The assessment

This content downloaded from
129.2.89.130 on Mon, 24 Nov 2025 17:46:07 UTC
All use subject to https://about.jstor.org/terms

of overall functioning at 6 years of age was based on 20 minutes of "warm-up" time intended to set the child at ease with the examiner. During this period, the child was asked to make a drawing of her family.

No scale was given to the two raters who worked with this portion of the laboratory session. Each rater was given instructions to rate the child for overall functioning, with some emphasis on the social and emotional aspects of behavior as well as on task orientation. Raters were left to their own interpretations of relatively good versus relatively poor functioning. Each rater viewed each tape several times, then reviewed the entire sample before assigning a final rating. One rater was trained in infant attachment observations, while one was entirely unfamiliar with concepts and measures. Each child was assigned the mean of the two scores given by the two raters. Disagreements were not conferenced.

Figures 1 and 2 present the relationship between overall functioning at 6 years and early security. The correlation with early security of attachment to father is $r = .18$, $p =$ N.S., while the correlation with early security with mother is $r = .46$, $p = .002$.

The 6-year-old's emotional openness in response to pictured separations compared to early security of attachment to each parent.—Following the 20-minute warm-up session, each child was administered the Klagsbrun-Bowlby adaptation of Hansburg's Separation Anxiety Test (Klagsbrun & Bowlby, 1976). This adaptation, made especially for children between 4 and 7 years of age and older, features a series of six photographs of children undergoing separations from the parents. In the mildest of the pictured separations, a parent is saying goodnight to the child. In others, parents are leaving for the weekend, asking the child to play while they talk, or bringing the child to a first day at school. In the most severe, the parents are leaving for 2 weeks. The photographs are stills taken from films and are different for male and female subjects. The children pictured are approximately 4–7 years of age.

The test was introduced approximately as follows: "Parents worry sometimes about what children think when they have to go away for a little while. So we thought we would ask you to tell us what you think a child your age would feel and what a child your age would do when parents go away for a little while." Each picture was then presented with explanation.

Following each of the six pictures, children were asked first what the child in the picture would feel and then what the child in the picture would do on separation. If a child said, "I don't know," or seemed to resist answering, the examiner probed gently until it seemed clear that the child was finished answering or simply did not want to answer. The test was curtailed if the child seemed disturbed by the questions.

The scale for emotional openness drew deliberate parallels between the secure base phenomenon in infancy and the security implicit in emotional openness in 5-year-olds (Kaplan, 1984). Children given high scores for emo-

This content downloaded from
129.2.89.130 on Mon, 24 Nov 2025 17:46:07 UTC
All use subject to https://about.jstor.org/terms

tional openness seemed to maintain an easy balance between self-exposure and self-containment. They imagined the pictured child as lonely, sad, fearful, or angry during many of the separations and offered reasons for these emotions. These children completed the task with minimal resistance, withdrawal, or stress.

Children given the lowest ratings manifested extremes of several types of insecurity. Some children could not spontaneously express any open-ended feelings and responded to the examiner in a passive way. Some children were silent and overtly depressed; some made irrational responses; and some became disorganized. One child insisted that the pictured child would "feel good" or "feel *nothing*." Simultaneously, she became increasingly hysterical and began hitting a stuffed animal ("Bad lion! Bad lion!"). This child had been classified as insecure-disorganized/disoriented in infancy.

Figures 1 and 2 present emotional openness at 6 years against early security of attachment. Two persons rated all transcripts. The mean of their ratings was used as a final rating; disagreements were not conferenced. The child's emotional openness at 6 was not related to security of attachment to the father ($r = -.15$, p = N.S.). It was strongly related to security of attachment to the mother ($r = .59$, $p < .001$).

The 6-year-old's responses to "What would the child do?" during a 2-week separation from parents compared to early security of attachment to each parent.—According to Bowlby (1969/1982b, 1973), children over time develop "working models" of their attachment figures and the accessibility or inaccessibility of those figures. If the attachment figure has been accessible to the child in real-life situations, the child carries an internal sense of the accessibility of that figure whether or not the figure is actually present at any given moment. An internal model of the attachment figure as accessible is presumed to help the child deal with real-life separations.

Children who were secure as infants might be expected to have internal images of the attachment figure as accessible, while children who were insecure in infancy might lack this image. Children who were secure as infants would then be able to imagine more active ways of dealing with child-parent separations than would children who were insecure as infants (Kaplan, 1984). Following this line of reasoning, a simple scoring system was developed and applied to the child's answers to the strongest of the separation situations, in which parents were portrayed as leaving for a 2-week period: "This little girl's/boy's parents are going away on vacation for 2 weeks; what's this little girl/boy gonna do?" The highest score was given if the child would actively persuade the parents not to leave for their vacation or accomplish the same end through other means. (One secure child suggested just hiding in the back of the car until the parents were launched on the trip.) A high score was also given if the child would express disappointment, anger, or distress directly, with the implication that this might lead to termination of

This content downloaded from
129.2.89.130 on Mon, 24 Nov 2025 17:46:07 UTC
All use subject to https://about.jstor.org/terms

the separation or be communicated to the parent. (Another secure child suggested the pictured child should "cry and stamp her feet.") A slightly lower score was given to the child who would find an apparent alternative attachment figure to stay with, so long as this seemed satisfactory to the child. A middle score was given to the child who would play with objects, but in an imaginative and constructive way that could make herself feel good, and somewhat lower scores were given to unelaborated play. Low scores were given to "I don't know" and to complete silence. The lowest score was given to any response that would result in decreasing the accessibility of the attachment figure. This included killing the self or the parents and locking oneself away. Only one code (the highest or "best" for which the response qualified) was assigned per child.

There was no relation between the level of answer given to this question and security of attachment to the father in infancy ($r = .14$, p = N.S.). There was a strong relation between the level of answer given to this single question and security of attachment to the mother in infancy ($r = .59$, $p = .001$).

The average response for the children who had been B_3 with the mother was close to a constructive response that calls on people. Children who were A_1, C_1, or D with mother in infancy tended on the average to answer that they did not know what the child would do during the 2-week separation, while some gave responses indicating potential or definite harm to self or parents. The Appendix presents the complete answers to the first five examiner queries for children who had been classified as B_3, A_1, C_1, or D with the mother in infancy.

Secure versus insecure responses to presentation of a family photograph compared to early security of attachment to mother and to father.—Following the presentation of the pictures of child-parent separations, each child was shown the photograph of herself with the parents taken earlier. The examiner held the photograph out to the child, saying, "But here is a photograph of yourself and your family, and you see, you are all together." If the child did not take the photograph, the examiner laid it near the child and waited for the child's response. The child was not pressed further.

Two judges who had no familiarity with infant Strange Situation behavior made independent ratings of the child's videotaped response to this situation. The judges were asked to estimate the security of the child's feelings about his or her family, solely from the response to this family picture. Ratings were based chiefly on repeated slow-motion examination of nonverbal behavior. No rating scale was given prior to assessments, but raters were asked to describe the behavior that had led to the assignment of ratings. The ratings presented are averages of the two ratings given. Disagreements were not conferenced.

Children were judged secure in response to the photograph if they

This content downloaded from
129.2.89.130 on Mon, 24 Nov 2025 17:46:07 UTC
All use subject to https://about.jstor.org/terms

readily accepted the photograph, smiled and showed some interest, and let go of the photograph casually following an inspection of a few seconds and/or a few positive comments. Children were considered insecure with respect to the family if they avoided the photograph, refusing to accept it, actively turning from it, or turning it away from them when it was placed near them. These were most often children who had been judged insecure-avoidant with the mother during infancy. Children were also considered insecure in response to the family photograph if they became depressed or disorganized while viewing it; one child, who had been playing cheerfully with the examiner, took on an immediate depressed aspect and bent silently over the photograph for 12 seconds. Children who became depressed or disorganized in response to the photograph were most often children who had been judged insecure-disorganized/disoriented with mother during infancy.

Figures 1 and 2 present the results for the child's response to the family photograph as compared to early security of attachment. Even though father as well as mother is photographed and represented, there is no significant relationship between security of attachment to father and response to the family photograph ($r = .15$, p = N.S.). There is a strong relationship between response to the family photograph at 6 years and early security of attachment to the mother ($r = .74$, $p < .001$).

From this portion of the study we see that it is not necessary to observe "real" interaction between the child and the mother in order to begin to build an understanding of the way in which the child's mind is organized with respect to the relationship. The child's response to an active reminder of the relationship is itself informative.

Security in the adult's discussion of attachment experiences and their influence compared with security of attachment to the same parent in infancy.—The Adult Attachment Interview was designed by Carol George, Nancy Kaplan, and Mary Main to probe alternately for descriptions of relationships, specific supportive memories, contradictory memories, assessments of relationships in childhood, and current assessments of the same experiences and relationships. Parents were asked first to choose five adjectives to describe their relationship to both parents and then to explain what made them choose those adjectives. Later they were asked what they did when they were upset in childhood, whether they had ever felt rejected by parents in childhood, and, if yes, why they now thought their parents behaved as they did. They were asked whether their parents had ever threatened separation, whether there had been any major changes in relationships with parents since childhood, and how they felt about their parents currently. Finally, they were asked how they felt these experiences had influenced their adult personalities. In the analysis of the interview, the judge worked with the interview in its entirety. Any existing contradictions and inconsistencies were carefully examined (Main & Goldwyn, in press).

This content downloaded from
129.2.89.130 on Mon, 24 Nov 2025 17:46:07 UTC
All use subject to https://about.jstor.org/terms

The Adult Attachment Interviews were rated for security with respect to experiences, ideas, and feelings surrounding attachment. Parents who were rated as secure tended to value attachment relationships, whether with their own parents, with others, or in an abstract sense; to regard attachments and experiences related to attachment as influential on personality; and yet to be objective in describing any particular relationship. Many of these parents recalled favorable early experiences (Main & Goldwyn, in press). Many, however, had had unfavorable attachment-related experiences in childhood, particularly in the form of loss or rejection.

Two other salient characteristics of secure parents were a readiness of recall and an ease in discussing attachment that suggested much reflection prior to the interview and a lack of idealization of parents or of past experiences. When asked about early relationships, one man rated as secure began with, "You've struck a gold mine, actually . . . ," and launched on a history of rejection, loss, abuse, and major separations. His interview responses indicated much prior reflection. When asked the question, "Was there ever a time in childhood when you felt rejected?" this father of a secure son laughed heartily: "If *that* ain't rejection, I don't know what the hell is!"

Parents rated as insecure with respect to attachment lacked the three qualities of adult security listed earlier. At the time of the interview, most fell into one of three major patterns (Main, 1985). In one pattern, the parent dismissed attachment relationships as being of little concern, value, or influence. These were most frequently the parents of insecure-avoidant infants. In a second pattern, the parents seemed preoccupied with dependency on their own parents and still actively struggled to please them. These were most frequently the parents of insecure-ambivalent infants. A third insecure group had experienced the death of an attachment figure before maturity and seemed not yet to have completed the mourning process. These were most frequently the parents of the insecure-disorganized/disoriented infants.

Figures 1 and 2 present the relationship between the security of the adult's apparent internal working model of attachment, as assessed solely from the transcript of the Adult Attachment Interview, and early infant security of attachment. For the mother the relationship to her infant's security of attachment is strong ($r = .62, p < .001$). For father, the relationship is $r = .37, p < .05$.

DISCUSSION

Summary of Results

This chapter is based on a reconceptualization of individual differences in attachment organization as individual differences in the internal working

This content downloaded from
129.2.89.130 on Mon, 24 Nov 2025 17:46:07 UTC
All use subject to https://about.jstor.org/terms

model (mental representation) of the self in relation to attachment. We defined the internal working model of attachment as a set of conscious and/or unconscious rules for the organization of information relevant to attachment and for obtaining or limiting access to that information, that is, to information regarding attachment-related experiences, feelings, and ideations. This reconceptualization led us to a new focus on investigation of attachment through language and other representational processes.

We first compared individual differences in security of attachment to each parent as assessed in the Ainsworth Strange Situation in infancy (very secure, secure, and insecure) to diverse measures of security, functioning, and representation at 6 years of age. Early security of attachment to mother, but not to father, predicted the child's overall functioning in interactions with a female examiner. We next compared early assessments of security to a given parent to assessments of security to the parent made several years later. We found very strong stability in the child's apparent security on reunion with mother over the 5-year period ($r = .76$) and a weaker but significant stability in apparent security on reunion with the father.

Major findings regarding representation and language were as follows. First, early security of attachment to each parent was highly related to fluency of parent-child discourse as evidenced in transcripts of a reunion dialogue. Early security of attachment to mother, but not to father, predicted the child's emotional openness during discussions of "children's responses" to parent-child separations and also predicted whether the child seemed to think a child could take constructive action with regard to a prospective 2-week separation from parents. Early security of attachment to mother, but not to father, also predicted the child's response to presentation of a family photograph. Finally, we used an Adult Attachment Interview to assess the security implicit in the parent's mental representation of the self in relation to attachment. For both mothers and fathers, this security was significantly related to the security of the infant's attachment to the parent 5 years earlier.

Are these results attributable to a single dimension of language competency?—So much of our sixth-year assessment rested on language that it seems possible to question whether individual differences in security of attachment might instead reflect individual differences in some underlying verbal competence. However, several efforts to connect security of attachment to language acquisition and performance have been undertaken with null results (see Bretherton et al., 1979, for review). Moreover, largely nonverbal responses to a family photograph were as strongly related to early security of attachment as were each of the language measures; in addition, responses to this photograph were significantly related to each of the remaining sixth-year measures. Finally, children and adults with different early attachment organizations had predictably differing language organization. The differ-

This content downloaded from
129.2.89.130 on Mon, 24 Nov 2025 17:46:07 UTC
All use subject to https://about.jstor.org/terms

ences were expressed as differing discourse structures (Strage & Main, 1985), not as a shared verbal incompetency. (Similar arguments can be raised regarding an interpretation of these results in terms of a simple underlying dimension of social competence.)

Interpretation of the apparent overriding influence of the mother.—At the outset of this project we expected that the security of the infant's attachment to the father as well as to the mother would be influential in the development of representations of relationships. The unexpected result was that individual differences in early relationships to mother, but not to father, significantly predicted the 6-year-old's responses to the separation interview and responses to the family photograph.

The most likely explanation (although others are possible) lies in the way the children interpreted the task. Our study was deliberately designed to give the child the choice of responding to mother or to father in terms of representation. The child was queried regarding (pictured) responses to the leave-taking of both parents and shown a photograph of the whole family. Given this choice, the child responded as though to the mother. This suggests a hierarchy of internal working models in which the mother often stands foremost, a result that seems in keeping with Bowlby's (1969/1982b) suggestion of hierarchies in the organization of internal working models of attachment figures. We cannot presume on the basis of this study that the relationship with father lacks its own internal model or has disappeared from mental processes. The model may simply have been lower in the hierarchy for the majority of children in our sample.

The Strong Predictability of Behavior Reported in This Study: "Passive" versus "Active" Accounts of the Predictability of Behavior and Representation

The magnitude of relationships between early security of attachment and later observations of behavior reported in this study are high for the behavioral sciences. Indeed, they are uniquely high for observations of human behavior made under differing circumstances and across a 5-year period. Our first assessment was based on the organization of the physical movements of an infant's body with respect to that of the parent at 12 months of age. Four of our seven later assessments rested on study of language transcripts bereft of reference to physical movements. What was initially expressed dyadically through the organization of movement was later predictably expressed both dyadically and individually through the organization of language. Maintenance of the security implicit in early relationship structures transcended their modality of expression.

One interpretation of this report would be that the internal working model of the relationship established by the end of the first year of life

This content downloaded from
129.2.89.130 on Mon, 24 Nov 2025 17:46:07 UTC
All use subject to https://about.jstor.org/terms

functions as a "template" of previously unrecognized strength. From this point of view, the template would act as filter for the perception of all succeeding experience and direct all succeeding behavior. An alternative interpretation (espoused by Brim & Kagan, 1980; Brim & Ryff, 1980) would be that no template had been formed but rather that secure versus insecure patterns of interaction had continued over the 5-year period. Child behavior in the laboratory would then be attributable to the child's most recent experience of parent-child interaction.

Note, however, that both theories that would attribute predictability of representation to the early completion of a "template" and theories that would attribute predictability to the child's most recent experiences in interaction with the parent implicitly conceive of the child as a passive participant in the construction and preservation of the internal working model. We propose in contrast that patterns once established are actively self-perpetuating. This proposal is in keeping with the most basic tenets of psychoanalysis (Freud, 1940; Greenberg & Mitchell, 1983; see esp. Sullivan's descriptions of "security operations," Sullivan, 1953) and certainly with Bowlby's proposal that internal working models, once established, have a propensity towards stability (Bowlby, 1980). Sroufe and Fleeson (in press) have recently summarized and reviewed arguments for the self-preserving nature of early relationships, adding as well recent supportive evidence stemming from their own studies.

Our work has led us to the specific hypothesis that rules for the direction of attention and behavior serve actively and repeatedly to restrict and perhaps in some cases to distort the types of information that may be made available, either through memory or through attention to the immediate environment. Each internally or externally originating signal that is potentially disruptive to the system is not merely blocked from perception (as in the template theory) but must be actively countered by perceptual and behavioral control mechanisms. Supporting evidence will be offered within the succeeding sections.

Security and Representation: Security in Infancy, Childhood, and Adulthood

Security in infancy.—Earlier, we reviewed the characteristics of very secure dyads as observed in infancy. First, very secure dyads were characterized not by static features but rather by ease of movement within the physical environment and ease of access between the partners (cf. Emde, 1980; Waters & Deane, in this vol.). The parents of very secure infants made no effort to focus the infant's attention either on themselves and away from the environment or vice versa. In consequence, the attention of secure infants

This content downloaded from
129.2.89.130 on Mon, 24 Nov 2025 17:46:07 UTC
All use subject to https://about.jstor.org/terms

and their parents seemed to flow freely, permitting shifts in attention and emotional expression across a range of situations. In contrast, we noted that, in the case of insecure attachment, attention, emotional expression, and behavior seemed restricted or rule bound in predictable and specifiable ways. Here we look for parallel characteristics in the later mental representations of secure infants and their parents.

Evidence for active dyadic cooperation in the maintenance of secure versus insecure relationship structures.—As opposed to the reunion episodes of the Ainsworth Strange Situation, in which the behavior of the parent is controlled, our own reunion situation was left unstructured. In this unstructured reunion situation, dyadic cooperation in the maintenance of particular relationship structures was notable and unrestrained. The parents of the secure, "initiating" children entered the room with confidence, easily overriding any signals of reserve, while the parents of the "controlling/caregiving" (disorganized) children often appeared embarrassed or flustered immediately on entrance. In two cases parents of avoidant children failed to address the child throughout the 3-minute period.

The active efforts of the dyad to construct and to preserve a particular relationship structure could also be seen in speech transcripts taken from the reunion episodes, transcripts that provided us with information regarding sheerly mental aspects of the preservation of particular forms of relationship. In secure dyads, topics of conversation were free ranging and balanced and discourse showed ease of access between members of the dyad. Insecure dyads, in contrast, were restricted in the topic of their speech—the parents of avoidant infants concentrating on objects and activities, the parents of disorganized/disoriented infants focusing on relationships and feelings. Parents as well as children, in short, invited the continuation of the major structure of the relationship. Through discourse as well as through nonverbal behavior, dyads maintained their organization.

Mental aspects of security in 6-year-olds.—The secure 6-year-olds seemed to have free ranging access to affect, memory, and plans, whether in forming speech in conversation with the parent or in discussing imagined situations relevant to attachment. Early in the reunion, they confidently initiated proximity or interaction. Speech flowed readily without false starts or pauses.

These children seemed at ease in exploring feelings during the separation interview and had ideas (interestingly unique to each child) regarding constructive interactions that a child might take in response to a projected 2-week separation from the parents. In response to presentation of a family picture, these children seemed pleased but casual.

For children who had been insecure with mother in infancy, in contrast, varying types of restriction seemed to preserve differing organizations of information and attention. Restrictions differed according to whether

This content downloaded from
129.2.89.130 on Mon, 24 Nov 2025 17:46:07 UTC
All use subject to https://about.jstor.org/terms

the child had been judged insecure-avoidant or insecure-disorganized/disoriented with mother in infancy. In almost every assessment presented, children who had initially been judged insecure-avoidant showed an avoidant response pattern at 6 years of age. They directed attention away from the parent on reunion, attending to toys or to activities; responded minimally (although politely) when addressed; and sometimes subtly moved away from the parent. They seemed ill at ease in discussing feelings regarding separation and typically "did not know" what a child might do in response to an expected 2-week separation from the parents. They actively avoided, refused, or turned around and away from the presented photograph of the family.

Children who had been judged disorganized-disoriented in infancy showed a distinctly differing response pattern. Behavior on reunion with the parent was controlling, being either directly punitive or inappropriately role reversing (caregiving). Discourse was dysfluent. Questioned regarding children's responses to child-parent separations, many of these children became distressed, silent, irrational, or occasionally self-destructive. Presented with the family picture, they became depressed or disorganized.

Mental properties of security in adulthood.—We have already discussed the readiness of recall and apparent ease in discussing attachment experiences that characterized the parents of the secure infants. The most striking mental property of very secure parents was, however, their coherency in discussing their attachment history and its influence. These parents seemed particularly at ease in the integration of positive with negative aspects of expression and feeling.

In the parents of secure babies, unfavorable attachment experiences seemed to have been considered and integrated into mental process long before the interview took place. If unfavorable aspects of early relationships to parents were to emerge, they often emerged in the first description of early relationships and then were subject to a coherent discussion. At the same time, negative events were typically placed in context. One B_3 mother who had been strongly rejected by her family laughed at our initial query regarding the nature of her early relationships and asked, "How many hours do you have? Okay, well, to start with, my mother was not cheerful, and I can tell you right now, the reason was that she was over-worked" (Main & Goldwyn, in press).

Although as speakers the parents of insecure infants gave us information regarding negative experiences and processes, from the viewpoint of the adults themselves the information seemed to us unintegrated and perhaps not fully recognized as part of a coherent whole. Contradictions and inconsistencies in the organization of information appeared in their records.

Particular forms of incoherency seemed to characterize parents of infants in the differing insecure groups. Some parents of insecure-avoidant

This content downloaded from
129.2.89.130 on Mon, 24 Nov 2025 17:46:07 UTC
All use subject to https://about.jstor.org/terms

infants were striking for an incoherency that took the form of a contradiction between the semantic (general) and episodic (specific) descriptions of the parents, as the father who described his mother as "excellent," "a fine relationship," but remembered in response to specific probes being afraid and unable to tell her when he had broken his hand. This contradiction between the picture of the parent as almost ideal and specific memories denoting strong loneliness or rejection characterized a number of the parents of the insecure-avoidant infants (Ainsworth, personal communication, 1982; Main & Goldwyn, in press). Another characteristic was the frequency and strength of their insistence on an inability to recall the period of childhood.

For parents of the insecure-disorganized/disoriented infants, incoherency sometimes took the form of persistent, repeated positive-negative oscillations in viewpoint; apparent irrationality; and refusal or inability to remain with the topic of the interview, sometimes losing track of the topic or question.

All parents in our sample were questioned regarding their early attachment history and its influence. Because parents of secure as well as insecure infants sometimes reported histories of rejection or traumatic experiences, including early loss of attachment figures, we are led once more to the hypothesis that access to information and the coherent organization of information relevant to attachment may play a determining role in the creation of security in adulthood.

SIGNIFICANCE

We discuss the significance of the present chapter in terms of the potentials for linkage between attachment and other fields contingent on the development of these new methods; the practical and theoretical significance of the development of the new, insecure-disorganized/disoriented attachment category; and the potential for understanding parents previously termed "insensitive" (e.g., inaccessible or rejecting) in terms of their own histories and present representations.

1. *The import of methods of assessment of attachment at older ages.*—Perhaps the most obvious application of the development of methods of assessment for attachment at older ages is to clinical work in child and adult psychology and psychiatry. It has long been presumed that the parent's representation of his or her own life history shapes the way in which the infant is conceptualized and, concomitantly, the way in which the infant is treated (Freud, 1940; Fraiberg, Adelson, & Shapiro, 1975; Miller, 1981), but to date only anecdotal reports have been available. Ours are the first systematic studies affirming this presumption (see Main, in press; Main & Goldwyn, in press).

This content downloaded from
129.2.89.130 on Mon, 24 Nov 2025 17:46:07 UTC
All use subject to https://about.jstor.org/terms

The newly available assessment of adult attachment status should permit others to follow. A particularly intriguing use of these new methods would be in tracing changes in the representation of life history over the course of (child or adult) clinical treatment.

The development of methods of assessment of attachment for children and adults may also yield fruitful results for students investigating the concept of the self and for investigators working within personality. Recently, Cassidy has reported strong relationships between sixth-year attachment status and individual differences in self-concept in a Charlottesville sample (Cassidy, 1985). In a doctoral dissertation involving University of Virginia freshmen, Roger Kobak (1985) reports very strong relationships between adult attachment status and "mental health" status as described independently by peers using the California Q-sort for adult personality.

Other uses of the new methods may be less obvious. First, as most psychologists and psychiatrists are aware, connections between the psychological and physiological aspects of disease and disease process are increasingly being discovered. Connections between attachment processes and psychoimmunology have now been reported in several studies by Reite and his colleagues (e.g., Laudenslager, Reite, & Harbeck, 1982). Our knowledge of the psychological contribution to disease process may be considerably increased by the new potential for classification of adult attachment status.

Second, the new methods of assessment should be of interest to workers in psycholinguistics and to students of social aspects of discourse. The strong overlap between attachment classifications as assessed by nonverbal methods in infancy and discourse classifications discovered 5 years later suggests new anchors for the study of individual and dyadic differences in speech patterns (Strage & Main, 1985). Knowledge of the attachment status of adult speakers may provide psycholinguists with new bases for systematic studies of the ways language is used to communicate and/or to censor information regarding feelings and relationships (to and from the self as well as the attachment partner).

Finally, the Adult Attachment Interview, as well as the child separation interview, can be put to use in other cultures. Thus, the methods presented may be used in anthropological research studies where the Strange Situation may be either difficult to conduct or difficult to interpret. These methods may also be of assistance in determining whether differences in distribution from the U.S. norms for infant Strange Situation attachment classifications (recently reported in North German, Japanese, and Israeli samples) have similar or diverse meanings from that established in our own culture (Grossmann et al., in this vol.; Miyake et al., in this vol.; Sagi et al., in this vol.).

2. *The insecure-disorganized/disoriented classification.*—Study of the development of infants judged insecure-disorganized/disoriented in infancy was one of the primary aims of the present study. At 6 years of age, these

This content downloaded from
129.2.89.130 on Mon, 24 Nov 2025 17:46:07 UTC
All use subject to https://about.jstor.org/terms

children seem to form a single, coherent group—controlling or subtly caregiving toward the parent on reunion but depressed, disorganized, and intermittently irrational in thought processes in other situations. The existence and identification of this group of infants is of practical as well as humane import. To begin with, the "forced" or "imposed" classification for half the disorganized/disoriented infants in our sample was secure. Had we failed to identify these infants as insecure in infancy, our power to predict future functioning on the basis of early attachment status would have been much reduced. In addition, some of the maltreated infants previously puzzlingly classified as "secure" in the Ainsworth Strange Situation (see Main & Solomon, in press, for a review) may in fact have been disorganized/disoriented.

Our discovery of the D category of infant Strange Situation behavior rested on an unwillingness to adopt the "essentialist" or "realist" position regarding the classification of human relationships. It was based on the presumption that both individuals and relationships are unique and that they have a higher "reality" than any classification system can fully encompass. We suggest that the understanding of behavior at the representational level as well as at other levels will best be served by leaving the study of behavior classification open to a continuing dialectic between our knowledge of an individual's history and careful descriptions of behavior in particular, structured situations (Main & Solomon, in press). This process may lead to the discovery of new classifications at the representational as well as the behavioral level.

3. *The parents of insecurely attached infants: "Insensitive to infant signals" or incoherent in the representation of attachment?*—Observations of the parents of insecurely attached infants as compared to the parents of securely attached infants have repeatedly shown relative insensitivity or unresponsiveness to infant signals and communications (Bretherton, in this vol.). In the present study, conducted 5 years after the Strange Situation, we report a powerful ($r = .62$) link between infant security of attachment and the security implicit in the mother's internal working model of herself in overall relation to "attachment experiences, feelings, and ideations" as determined in the Adult Attachment Interview.

Security in adulthood can now be provisionally identified as the ability to integrate existing information relevant to attachment; where this integration is possible, the parent is likely to exhibit "sensitivity to infant signals." This ability need not be stable for any given individual; indeed, this definition allows for shifts in both the parent's and the infant's attachment status. Malignant changes in life circumstances relevant to attachment may be at least temporarily difficult to integrate with other attachment-relevant information, yielding the implied downward shifts in maternal sensitivity and distinct shifts in infant attachment status reported in some high-risk

This content downloaded from
129.2.89.130 on Mon, 24 Nov 2025 17:46:07 UTC
All use subject to https://about.jstor.org/terms

poverty samples (Vaughn et al., 1979). Positive changes in life circumstances should correspondingly increase the "ability to integrate existing information relevant to attachment," leading to increased sensitivity to infant signals and positive shifts in infant attachment status.

Parental "insensitivity" to infant signals, then, may originate in the parent's need to preserve a particular organization of information or state of mind. Attachment-relevant signals originating externally from the infant and internally from memory may be similar in the "rules" they evoke for parents who are insecure in terms of their own internal working models of attachment. The need to restrict or reorganize attachment-relevant information, whether it originates internally or externally, may result in an inability to perceive and interpret the attachment signals of the infant accurately and, in some cases, in an active need either to alter infant signals or to inhibit them. To summarize, where the parent's own experiences and feelings are not integrated, restrictions of varying types are placed on attention and the flow of information with respect to attachment. These restrictions appear in speech in the form of incoherencies and in behavior as insensitivities.

Directions for Future Studies

"Rules" preserving particular internal working models of attachment: Descriptive or prescriptive?—We have claimed that what accounts for the stability and predictability of attachment representation is the self-preserving nature of the internal working model (particularly, internal working models that are restrictive or incoherent and insecure in type). To date, this claim rests merely on the predictability of "representational" behavior patterns from the early organization of nonverbal behavior toward the attachment figure. Thus the insecure-avoidant infant turns away from, moves away from, and ignores the parent within the Strange Situation and 5 years later turns away from representational reminders of the parent. In discourse with the child, the parent focuses on objects and activities, asks rhetorical questions, and offers (as does the child) little opportunity for turn taking or topic elaboration. Finally, during the Adult Attachment Interview, the parent of the avoidant infant tends to state that she is unable to recall the events of childhood and/or dismisses or devalues those events as likely influences. Selective inattention to potential cues eliciting attachment or reminding of relationship seems to be a rule preserved by both partners over the 5-year period (see Bowlby, 1980; Main & Weston, 1981, for discussions of selective inattention in avoidance). This is rule-bound behavior in terms of predictability and regularity. But are these merely predictable regularities, or are they internally directed "rules," rules that are prescriptive for the individual who attempts to preserve a particular organization of information?

This content downloaded from
129.2.89.130 on Mon, 24 Nov 2025 17:46:07 UTC
All use subject to https://about.jstor.org/terms

One way to test for the possible prescriptive nature of these "rules" is to attempt to violate them. In the case of studies employing the photograph, we might observe children of differing attachment organization as we instruct them to violate their "rules" for dealing with these representations. Thus, insecure-avoidant children might be instructed to gaze directly at the photograph for a long period of time (as insecure-disorganized/disoriented children do typically). Insecure-disorganized/disoriented children might, in contrast, be instructed to glance at the photograph only briefly, then drop it on the floor (as insecure-avoidant children have been observed to do). If such treatment of the photograph produces the troubled responses we expect in children in these insecure groups, we would have some evidence for the prescriptive, self-preserving nature of these "rules." If, on the other hand, these instructions are carried out without difficulty, the "rules" would appear to be mere regularities.

An interesting theme that runs throughout our study is that of differences in the presence of "rules" appearing to guide behavior in secure versus insecure dyads and individuals. In studies of the speech transcripts made during reunion episodes, we noted strikingly stylized turns of speech within the insecure dyads and even within each subclass among the moderately secure dyads (i.e., B_1, B_2, and B_4 dyads). Of all dyads studied in speech transcripts, the very secure dyads were the most difficult to identify through particular "rules" or stylistic turns of speech (Strage & Main, 1985). Indeed, the rule used for identifying the B_3 dyad was to identify the dyad as belonging to the secure group overall and then to identify the dyad as B_3 because of the lack of stylistic features or rules identifying it with any other secure subgroup organization. In sum, the very secure dyads were the dyads most free of predictable, "rule-like" regularities and patternings in discourse.

Some further support for this intriguing possibility is found in the positive but "casual" treatment of the photograph by 6-year-olds who had been secure with mother as infants. We would predict that "very secure" children could without difficulty either turn away and drop the family photograph or continue to gaze at it for long periods.

The question of sensitive periods in the formation of internal working models of attachment.—As noted earlier, our presumption (with Bowlby, 1973) is that, at any point in time, relationship-related forms of behavior are guided simultaneously by internal working models and by ongoing interaction patterns preserving of those models of attachment. Our data are insufficient to determine whether models acquired as a function of early attachment-related events are particularly resistant to change. The mother-child interaction pattern changed for so few children in our sample over the 5-year period that our data cannot provide an answer.

This content downloaded from
129.2.89.130 on Mon, 24 Nov 2025 17:46:07 UTC
All use subject to https://about.jstor.org/terms

The new measures we have developed for assessing child-parent attachment patterns at older ages will, however, make the critical tests possible. Researchers wishing to address this issue can now examine behavior at older ages as a function of security of mother-child attachment assessed at several time periods. By repeatedly observing the same dyads with respect to security of attachment, researchers can, for example, compare the mental representations and school behavior of children who were insecure with mother in infancy but are secure at 6 with children who were secure with mother at both time periods.

The need for studies investigating sources of change.—The present study would be both destructive and unethical in its implications and/or its implementation if it led to the labeling or identification of any individual in terms of his or her presumably unalterable early and "primary" internal working models of attachment. First, in disseminating the results of this study, it is important to note that very strong predictability was achieved only when we compared early security of attachment to attachment-related behavior and representation 5 years later. Early security of attachment to the mother had only a moderate relationship to the child's overall functioning in a nonstress situation.

Furthermore, in this first study of early attachment in relation to representation we deliberately worked with a stable, upper-middle-class sample and deliberately included in our follow-up study only those families who had not suffered events known to have major malignant impact on attachment organization. This was a necessary first step in delineating the way in which patterns of attachment and representation develop in undisturbed circumstances. While replications of this study with similar samples in other locations are clearly in order, there is both an ethical and a scientific necessity to begin simultaneously on studies that trace and investigate sources of change, for example, in samples undergoing major shifts in life circumstances.

Although we have reported strong relationships between our infancy and our sixth-year assessments, the retrospective reports available from the Adult Attachment Interview suggest possibilities for change once the child has reached the stage of formal operations. This stage permits the child to see the operations of whole systems, to place herself within those systems, and to imagine possibilities that have not yet been experienced (Piaget, 1967). As noted previously, a number of adults were considered to be secure in their internal working models of relationships despite unfavorable early experiences. Interestingly, many of these recalled a period of rebellion during adolescence. For those concerned with change as well as stability in representation, adolescence may provide a particularly fruitful area for further study.

This content downloaded from
129.2.89.130 on Mon, 24 Nov 2025 17:46:07 UTC
All use subject to https://about.jstor.org/terms

APPENDIX

CHILDREN'S RESPONSES TO "WHAT WOULD A CHILD DO?" DURING A 2-WEEK SEPARATION FROM PARENTS: RESPONSES TO FIRST FIVE QUERIES[1]

Responses of All 6-Year-Old Children Classified B_3 with Mother in Infancy

Child 1.—Cry. [Giggles.] *Cry?* [Nods yes.] *Why's she gonna cry?* Cause she really loves her mom and dad. *Cause she really loves her mom and dad?* Mm. *What else is she gonna do?* Play a little bit.

Child 2.—She's gonna, um, stay up until she gets tired. *Mm.* And she's gonna cry. *Mmm.* And she's gonna get a flu. *The flu!* Yeah. *Uh-oh.* And she's gonna get dressed in the morning with that dress on all the time.[2]

Child 3.—She's gonna be happy. *She is?* Mmm. *For the whole 2 weeks?* Yes.

Child 4.—Go outside. *Go outside? And do what?* . . . Play soccer. *Play soccer? What's he gonna do for 2 weeks while his mom and dad are gone?* Do everything. *Do everything that he normally does?* Yeah.

Child 5.—Runaway. *Gonna runaway?* And leave the car there. *Leave the car there?* And leave a sign on it saying, "I'm running away." *Mm. Tell em. Where's he gonna go?* I don't know. *He's gonna go away?* Probably gonna catch a bus . . . and tell him to take him to San Francisco . . . and he can get to the cable cars and ride to the wharfs . . . he has money.

Child 6 (B_2).—He might . . . Well, he might need someone to stay with him. Like if the car, like if the car has some batteries . . . he might not know the store to get them. He might not know how much they cost. *Mm. So what's he gonna do?* Don't know. *Hm?* I don't know. *Any ideas what he could do?* Don't think, I don't, well . . . he could go to his friend's house, and their mom—if their mom and dad are going out, he might, he might just like ask them to see if they would come with him . . . *I see. Get some other grown-ups to help him?* [Nods yes.]

Responses of All 6-Year-Old Children Classified A_1 with Mother in Infancy

Child 1.—He's gonna go with his mom and dad. *Gonna go with his mom and dad maybe?* Yeah, and shitbag.

Child 2.—I don't know. *What could he do?* I don't know! *Any ideas?* Ow. Ow. [High voice through toy horse.] No, I don't. *No?* Wheww. Sit up lion.

Child 3.—[Shrugs shoulders.] *Hm? Why don't you take a guess. Her mom and dad are going away for 2 weeks.* [Silence.] *What do you think she might do when they leave?* [Silence.] *Know what she feels like doing?* [Shakes head no.]

Child 4.—Runaway. *Runaway? Where's she gonna run to?* I don't know. *You don't know. What else do you think she might do?* I don't know. *Don't know? You have any ideas?* No.

[1] The children's responses are printed in roman type, the experimenter's in italic.

[2] The "dress" is a pictured going-away present from the parents.

This content downloaded from
129.2.89.130 on Mon, 24 Nov 2025 17:46:07 UTC
All use subject to https://about.jstor.org/terms

Child 5.—Nothing! *Nothing?* I don't know. *What will she do for 2 weeks while her mom and dad are gone?* I don't know. *No guesses?* Nnn.

Responses of All 6-Year-Old Children Classified C with Mother in Infancy

Child 1 (C_1).—Chase them. *Chase who?* Their dad and mom in his new toy car—he's pssshh—run right off. *Then what's gonna happen?* And then he's gonna, then he is gonna . . . toss a bow and arrow and shoot them. *Shoot his mom and dad?* Yeah. If he wants to, maybe.

Child 2 (C_2).—I don't know. *Well, that's a long time. I mean a lot, you can do a lot in 2 weeks. What is this little girl gonna do?* I don't . . . *Two weeks—that's a long time.* [Silence.]

Responses of All 6-Year-Old Children Disorganized with Mother in Infancy

Child 1.—I don't know.

Child 2.—Run away. *She's gonna run away?* Yeah. Now could we play?

Child 3.—Probably gonna hide away. *Gonna hide away?* Yeah. *Then what's gonna happen?* He'll probably get locked up in his closet. [Forced giggle.] *Locked up in his closet?* Yeah, I was locked up in a closet.

Child 4.—I don't know. *Have any ideas about what he might do?* Shakes head no. *Or what he feels like doing?* He might feel like kicking the car. *Mm.* Got mad at em. *Feeling mad?* That all I can think of.

Child 5.—Mmmm, I don't know. *Any guesses?* Mm . . . *Ideas for what he could do?* Nope.

Child 6.—Gonna go somewhere. *Gonna go somewhere? Is she gonna go by herself?* [Shrugs shoulders.] *Hm? Can you tell me more about that?* [Shakes head no.] *No? Where do you think she'll go?* [Shrugs shoulders.] *She just feels like going somewhere?* [Nods yes.]

Child 7.—Nothing. *Nothing?* Yeah. *What's that like?* Just do nothing. Not playing. *Not playing?* Yeah. *For 2 whole weeks?* Yeah.

Child 8.—Nothing. *Just do nothing?* Yeah. *For 2 whole weeks?* Yeah, it doesn't matter! *Doesn't matter—2 weeks do nothing.* Yeah, cuz it's just a picture. *Mm. Just a picture.* And it's not real.

Child 9.—[Interview curtailed, child seemed distressed.]

Child 10.—[Interview curtailed, child seemed distressed.]

Child 11.—Um . . . do you think. *What do you think she might do while her mom and dad are gone?* [Silence.] *What do you think?* I don't know. *Don't know? Take a guess, huh?* [Sighs.] *What do you think she'll do while her mom and dad are gone?* [Shakes head no.]

Child 12.—Play all day. *All day. What's he gonna do for 2 weeks while they are gone?* Play, probably. *Hm?* Play. *Probably with the car?* Wonder if they got the house . . . wonder if he has the house keys. *Hm.* Can't get in.

This content downloaded from
129.2.89.130 on Mon, 24 Nov 2025 17:46:07 UTC
All use subject to https://about.jstor.org/terms