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Child-Mother Attachment and the Self in Six-Year-Olds

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CASSIDY, JUDE. *Child-Mother Attachment and the Self in Six-Year-Olds*. CHILD DEVELOPMENT, 1988, 59, 121–134. Bowlby has proposed that child-parent attachment is important in the child's representation of self. In this study, the child's representation of self was examined in connection with child-mother attachment in a sample of 52 white, middle-class 6-year-olds. Children were seen in 2 play sessions, 1 month apart. Quality of attachment was assessed in each session based on the child's behavior on reunion following a laboratory separation of approximately 1 hour, using a system devised by Main and Cassidy. Aggregated attachment ratings and classifications were assigned based on the child's behavior in both reunions. Assessments of the self consisted of (a) assessment of the self within the relationship with the attachment figure (an incomplete doll stories procedure), (b) assessment of the child's perceptions of how an unspecified "other" views him or her (a puppet interview), (c) direct assessment of global self-esteem independent of the attachment relationship (the subscale of global self-esteem from Harter's Perceived Competence Scale for Children), (d) a second direct assessment of global self-esteem (an interview with the child), and (e) assessment of feelings of competence and acceptance in specific domains that may be precursors of self-esteem (Harter's Scale of Perceived Competence and Social Acceptance for Young Children). Significant, albeit modest, connections between attachment and the self were established; furthermore, specific patterns of self-perceptions were related to particular patterns of attachment.

An increasing and convergent body of literature suggests that there is a connection between infant-parent attachment and the child's concurrent as well as later functioning in a variety of areas (see Bretherton, 1985, for a comprehensive review). Because until recently study of attachment has focused on the infancy period, attachment researchers have of necessity concentrated on indices at the behavioral level. As this research begins to extend beyond infancy, investigations of attachment beyond the behavioral level—at the level of representation—become possible.

According to Bowlby (1969, 1973, 1980), representations of attachment figures are formed early in childhood. Bowlby termed these representations "representational models" or "working models" and described them as conceptions that the child constructs of the nature, characteristics, and expected behavior of the world and those in it, including the child's own self. These models, which are flexible and adaptable, derive from the child's

repeated daily experiences with attachment figures (typically the parents); in concept, they are similar to Piaget's (1955) object concept in that both are active constructions rather than static representations. According to Bowlby, both substance and quality of the representational models are related to the extent to which the parent is sensitively perceptive of the child's signals and contingently responsive to them, readily available and freely giving of comfort when requested, affectively accepting of the child, and appreciative and facilitating of the child's active exploration of the environment.

Recent research with young children, adolescents, and adults has supported the notion that individuals form representations of their attachment figures and that such internal representations are connected in meaningful ways with their behavior. For instance, Main, Kaplan, and Cassidy (1985) reported that the responses of 6-year-olds to a series of photographs depicting increasingly stressful hy-

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pothetical separations from attachment figures were related to attachment behavior both in infancy and at age 6. Children who had been securely attached in infancy were rated higher on a scale of emotional openness and reported more constructive ideas about what a child might do in these situations. Using the same sample, Kaplan and Main (1985) also found a significant connection between the children's representations of their families in drawings at age 6 years and their security of attachment in infancy. The representations that adults hold of their childhood attachment figures have been examined in two studies using the Adult Attachment Interview (which was developed by George, Kaplan, & Main, 1984). Main and Goldwyn (1984) found a significant association between representations held by the parents and the quality of their own infant's attachment to them. In another study, representations of experiences with attachment figures reported by first-year college students were found to relate to their college adjustment (Kobak & Sceery, in press).

Bowlby (1973, 1980) has proposed that the representational model of the attachment figure is closely intertwined with the representational model of the self. Given that children have few means of learning about themselves, experience with attachment figures weighs heavily as a source of potential information. Thus, if valued and given comfort when requested, the child comes to feel valuable and special; conversely, if neglected or rejected, the child comes to feel worthless and of little value. Bowlby's clinical experience led him to state that this intertwining, although logically indefensible, is quite common among children. Elaborating Bowlby's ideas, Sroufe and Fleeson (1986) have similarly proposed that the child's early learning about the self occurs principally within the context of relationships. These authors have suggested that components of the attachment figure become incorporated into the self through the process of the child's learning *both* roles within the relationship.

The present study was designed to explore the notion that there are connections between the working model of the attachment figure and the working model of the self. It can be viewed as a complement to a study that was part of Sroufe and Egeland's longitudinal project (Sroufe, 1983) in which teachers rated the self-esteem of preschoolers using three measures. They found that children securely attached in infancy had higher self-esteem than those who had been insecurely

attached. The present study was an attempt to begin to investigate the connection between attachment and self-esteem when self-esteem is reported directly by the young child. Certainly the considerable problems related to most self-report measures are magnified when the subjects are young children and when the focus is self-esteem, because of the potential for a strong link with defensiveness (Cassidy & Kobak, in press). Nonetheless, it is important to begin to explore children's mental representations of themselves and of their worth. Older children and adults surely have such mental representations, and it is important to explore directly whether this is the case with younger children.

Following Bowlby's notion, I propose that experiencing the parent as available, sensitively responsive, and affectively accepting leads the child to develop simultaneously both a secure attachment and the sense that, as one who merits such treatment, he or she must be inherently worthy. Examination of this hypothesis requires accurate operationalization of the working model of the attachment figure as well as of the working model of the self. Operationalization of infants' working models of attachment figures has typically rested on Ainsworth's Strange Situation (Ainsworth, Blehar, Waters, & Wall, 1978). Ainsworth (1983) has proposed that the infant's behavior in this situation, particularly on reunion with the parent, reflects the infant's working model of the parent; support for this notion (at least in relation to mothers) has been found in a number of studies linking Strange Situation classifications to observations of the quality of the mother-child relationship during the infant's first year of life (Ainsworth et al., 1978; Belsky, Rovine, & Taylor, 1984; Grossmann, Grossmann, Spangler, Suess, & Unzer, 1985; Maslin & Bates, 1983). Both the generally positive experiences observed to occur in the home over the first year of life and the infant's unambivalent interest in proximity or interaction on reunion in the Strange Situation are congruent with the notion that the secure infant has a working model of the mother as sensitively responsive and readily available. Similarly, both the qualities of maternal behavior seen in the home over the first year and the avoidance or resistant ambivalence on reunion in the Strange Situation are congruent with the notion that the insecure infant has a working model of the mother as rejecting, interfering, or inconsistently available.

Because Ainsworth's Strange Situation assessment is only applicable to infants, until

recently connections between attachment and the self could only be examined through longitudinal study. Consequently, such connections could be established only (a) if attachment quality were characterized by long-term stability or (b) if infancy were characterized by a "sensitive period" such that early quality of attachment affected later functioning, irrespective of possible subsequent changes in attachment. Resolution of the validity of these assumptions is a separate matter that acts to confound the issue of connections between attachment and the self. In order to examine such connections in a concurrent rather than predictive fashion, appropriate measures of attachment at later ages are needed.

A recently developed observation-based assessment of the quality of child-parent attachment at later ages (Main & Cassidy, 1985, 1986) made possible the study of concurrent connections between attachment and the self. Support for the validity of this assessment comes from a sample of Berkeley 6-year-olds who had been seen in infancy in Ainsworth's Strange Situation with mother and with father. Quality of attachment as assessed at 6 years in this procedure (which centers on reunion behavior) was significantly related both to quality of attachment observed in infancy and to several measures of concurrent social-emotional functioning (Cassidy & Main, 1984, 1985; Kaplan & Main, 1985; Main & Cassidy, 1986; Main et al., 1985). As expected, children classified as insecurely attached on the basis of this new assessment procedure functioned at a substantially lower level than children classified as securely attached.

Attempts to operationalize the working model of the self face a series of complex issues. For Bowlby, "the concept of a working model of the self comprehends data at present conceived in terms of self-image, self-esteem, etc." (1979, p. 117). The variety of existing self-esteem measures that were examined in undertaking the present study proved to be characterized by numerous problems, particularly in relation to children less than 8 years old (Harter, 1983; Wylie, 1974, 1979). Many of these problems are common to all research dealing with internal cognitive and affective structures—for instance, problems associated with the attempt to make observable that which is internal and unseen, and problems associated with the validity of self-reports. The list of problems specific to self-esteem measurement additionally include the following facts: (a) various domains of functioning are often lumped to yield summary scores; (b)

the relative importance the child places on a particular domain is often overlooked; (c) issues related to the social desirability of items are often not addressed, and interpretation of very high scores is difficult; (d) it is not clear whether younger children have a global sense of self-esteem (defined as a general appraisal of worthiness, and tapping such constructs as the extent to which a child likes herself and feels she is a good person), and questions about global self-esteem are often combined with questions about other domains; and (e) the child's developmental level is not always sufficiently considered. Two of the most commonly used measures, Coopersmith's Self-Esteem Inventory (1967) and the Piers-Harris Children's Self-Concept Scale (1976), each contain several such shortcomings (Harter, 1983; Wylie, 1974, 1979). More recently, Harter has devised a series of scales that address many of these problems. Her scale for children age 8 years and older (the Perceived Competence Scale for Children; Harter, 1982) contains a separate subscale of global self-esteem, but the scale for younger children (the Pictorial Scale of Perceived Competence and Social Acceptance for Young Children; Harter & Pike, 1984) does not. Although this latter scale can be used reliably to examine a variety of research questions related to self-esteem it is not a self-esteem measure in itself, and Harter makes it clear that unlike the version for older children, it was not so intended (Harter, 1986; Harter & Pike, 1984).

Given the lack of problem-free existing measures of self-esteem in young children, a set of five different assessment methods was used in the present study: (1) the child's view of the self *within the relationship* with the attachment figure was assessed through an incomplete doll stories procedure; (2) assessment of the child's perceptions of how an unspecified "other" views him was obtained via a puppet interview; (3) direct assessment of global self-esteem, independent of the attachment relationship, was provided by using the subscale of global self-esteem from Harter's Perceived Competence Scale for Children; (4) a second direct assessment of global self-esteem was derived from interviewing children about themselves; and (5) assessment of feelings of competence and acceptance in specific domains—feelings that may be precursors of self-esteem—was obtained by using Harter's Scale of Perceived Competence and Social Acceptance for Young Children.

Quality of attachment and self-assessments derived from procedures designed for

this study (the doll stories, the puppet interview, and the self interview with the child) were quantified through both global ratings and classifications. The rationale for using the latter derives from the position taken by many attachment theorists (e.g., Ainsworth, 1983; Sroufe & Waters, 1977) that the construct of attachment is organizational in nature; that is, the quality of the attachment bond (or of its internal representation) is viewed as reflected in a lawful patterning of a variety of different behaviors (or beliefs). Whereas overall distinctions (e.g., security vs. insecurity, or generally positive vs. negative self-esteem) can be properly reflected in global ratings, such patternings can only be captured by some discrete classificatory system. Each of the classificatory systems developed for this study was based on current theorizing (applied mainly to work in infancy) about the types of patterns likely to reflect secure attachment and positive self-esteem versus those likely to index different kinds of insecure/defensive attachments and self-perceptions.

Methods

Subjects

Fifty-two children (26 girls, 26 boys) ranging from 5.7 to 6.8 years in age ($M = 6.2$ years) served as subjects; all had just completed kindergarten. The children came from white, middle-class families, and all but two lived with both parents. Their mothers' ages ranged between 28 and 44 years ($M = 35.2$); over 80% of both mothers and fathers were college graduates, and total family income exceeded \$20,000 in 80% of the families.

Procedure

The data were collected in two sessions, spread approximately 1 month apart. Session I began with a juice-and-cookie warm-up period for mother, child, and experimenter. The experimenter left the room after about 5 min, and the mother and child remained to draw a picture together for 10 min. The mother then left the room and the experimenter returned to administer the self measures, which were followed by free play. The mother returned in approximately 1 hour; the experimenter remained in the room and was responsive but did not initiate conversation. Assessment of quality of attachment was derived from the child's behavior during the 5-min reunion with mother, who had been given no special instructions for how she should behave.

Session II was similar to Session I, except that it was run by a different experimenter in a different room to make the experience somewhat less familiar. In addition, the number and order of self measures were different; in Session II the principal self assessment (the puppet interview) was administered *following* reunion to ensure that discussion of self-related issues would not influence the pattern of reunion behavior. Reunions proceeded in the same manner as in Session I. The Woodcock-Johnson Psycho-Educational Battery was administered at the end of Session II; its purpose was to provide an index of the child's developmental status and permit subsequent evaluation of possible effects that differences in this regard might have on other assessments.

Measures

Assessments derived from reunion behavior (Sessions I and II).—Two forms of assessment—ratings and classification—were used in quantifying the child's behavior during reunion with mother. The security versus insecurity of attachment was rated on a nine-point scale devised by Main and Cassidy (1985, 1986). Ratings at the secure end of the scale are given to the child who upon reunion initiates (or at least participates in) warm, intimate interaction with the parent as manifested either by physical proximity and/or contact of an affectionate nature, or through eager, responsive, continuing conversation. Ratings at the insecure end of the scale are given for a variety of behavioral patterns, including avoidance of the parent, rejecting or punitive treatment of the parent, nervousness and expressed feelings of inadequacy, subtly disorganized behavior, or directing and "caregiving" responses to the parent.¹

Reunion behavior is also classified into one of four patterns of child-parent attachment: secure, insecure/avoidant, insecure/ambivalent, and insecure/controlling (Main & Cassidy, 1985, 1986). Children classified as secure show some genuine pleasure in the mother and either initiate interaction or are readily responsive to her in a relaxed manner; the quality of interaction is personal, warm, and intimate. Children classified as insecure/avoidant avoid the parent in a neutral and nonconfrontational manner; they limit interaction with the parent, but not to the extent of appearing hostile. Children classified as insecure/ambivalent show elements of avoid-

¹ The criteria for identifying the behavioral cues used in assigning these ratings as well as the classifications are too extensive to be provided here; however, additional details concerning this as well as all other procedures are available from the author on request.

ance, sadness, fear, and hostility and are clearly ambivalent about seeking proximity to the parent. Insecure-controlling 6-year-olds appear to have taken control of the child-mother interaction by either (a) taking confrontational control of the mother and overtly rejecting her in a punitive fashion or (b) attempting to care for or comfort the mother through provision of helpful directions. The first three of these patterns correspond to the basic classifications derived from the Strange Situation; in Main's Berkeley sample, the majority of 6-year-olds assigned to the fourth pattern had been classified as "insecure/disorganized" in infancy (Main & Cassidy, 1986). Applying the thinking outlined by Main and Solomon (1986) in dealing with this fourth type of infant group, children who were classified in this study as insecure-controlling were additionally assigned a classification in one of the three major attachment patterns.

Each child's attachment ratings and classifications were aggregated across the two sessions (in two cases where Session II data were unavailable, only Session I scores were used).² Coder A, who was blind to any other information about the child, coded first all Session I and then all Session II reunions; coder B (equally blind) coded only Session II reunions. Interrater agreement (assessed on Session II data) was $r = .80$ for the security scale and 76% ($\kappa = .59$) for placement into one of the four classification groups. The child's average rating across both sessions was used as the aggregate security score. In instances where the classifications assigned to a child for Sessions I and II differed (36% of subjects), each rater considered both reunions independently and decided on a single aggregate classification; agreement on these aggregates was 84% ($\kappa = .75$), and the three disagreements were resolved through conference prior to analyses.

The puppet interview (Sessions I and II).—This procedure consisted of an interview with a large hand puppet (a frog named Bix in Session I and a duck named Quax in Session II) to which the experimenter directed questions about the child and through

which the child provided answers. The experimenter looked only at the puppet throughout the interview. It was assumed that this method would elicit the kinds of answers that the child imagined an "unspecified other" (represented by the puppet) would be likely to provide and hence reveal the esteem in which the child believes himself to be held by others; this, in turn, was assumed to reflect the child's own level of self-esteem. The following are some examples of the 20 questions asked in the interview: (1) Bix, do you like (child's name)? (3) Do you like (child) the way he is, or do you want to make him better? How? (9) Tell me Bix, do you want (child) to be your friend? (16) Do you think (child) is important or not important? and (17) Do you care what happens to (child)? The full set of interview answers were classified into one of three groups: (a) perfect—even when repeatedly pressed, the child insisted that he or she was perfect in every way; (b) negative—the child made global negative comments about the self; and (c) open/flexible—the child revealed an overall positive acceptance of the self but, when pressed, realistically admitted expected minor flaws. The overall quality of the answers (i.e., the ease, freedom, and generally positive/negative tone of the response) was additionally rated on a five-point scale. Interviews falling in both the perfect and the negative classifications were assigned low ratings (1–3); open/flexible classifications fell in the 4–5 range.

Both sets of interviews were coded from verbatim transcripts by a coder blind to any other information about the child; different transcript identifications were assigned for each session so the coder could not know which two transcripts belonged to the same child. A second coder (equally blind) coded half of each set of interviews ($N = 26$ in each set). Agreement on the five-point scale was within 1 point in 98% of the cases and within .5 point in 81%; agreement on classificatory group placement was 90% ($\kappa = .85$).³

Ratings and classifications were aggregated across the two sessions following the same procedure as outlined earlier (for one child, only the Session I interview was avail-

² Indicating why the 6-year reunion procedure is more difficult to code than the Strange Situation, Main and Cassidy (1986) explicitly recommend either using such aggregation or including some additional index of the child's representation of attachment (e.g., assessment of the child's "family drawings"; see Kaplan & Main, 1985). In the two sessions of the current study, the group means on the security scale (4.09 and 4.14; SDs = 2.1 and 2.1) were nearly identical; the cross-session correlation for these ratings was $r = .62$ ($p < .001$). Stability of classifications was 64% using the four classificatory groups and 84% when the three-category system was used.

³ Mean scale scores in each session were 2.38 (SD = 1.1) and 2.56 (SD = 1.2); between sessions $r = .68$ ($p = .001$). Identical classification was assigned in 71% of the cases, $\lambda = .41$.

able). Coders' agreement on the aggregate classifications in instances of decisions made for children whose classifications differed over the two sessions was 80% ($\kappa = .70$; including children whose classifications remained stable, agreement was 94%, $\kappa = .91$).

Incomplete stories with doll family (Session I).—The child was asked to use a doll family to complete six stories, each designed to last approximately 3 min. These stories, which were intended to reflect "the mental representation of the self in relation to attachment" (Main et al., 1985, p. 67), explored the extent to which the child views him- or herself as participating in a secure relationship with mother—that is, one in which the child is accepted and valued, the relationship is acknowledged as relevant and important, the child feels safe and protected, and conflict or stressful situations are both acknowledged and successfully resolved through the relationship.

Two stories dealt with potentially emotionally charged and relationship-acknowledging interactions between child and mother. In one, the child gives the mother a present made by the child, and in the other, the child approaches the mother and says, "I'm sorry, mom." Two (taken from Walsh, 1956) dealt with conflict within the family, principally with the mother. In one, the child does not like what is served for dinner, and in the other, the child has to do the one thing he or she most hates doing. The final two stories dealt with conflict or a threat from outside the family. In one, the child discovers her bicycle has been stolen and sees an unfamiliar child riding it off down the street, and in the other, the child is awakened by a loud noise in the middle of the night. Each story was accompanied by a series of probes.

Each of the six stories was rated on a five-point scale designed to fit the particulars of the story. Scores at the high end of the scale were assigned to stories reflecting a secure relationship with the attachment figure. In addition, each story was placed into one of three classificatory groups. Stories were classified secure/confident when the doll protagonist was described as someone valuable and worthy and the relationship with the mother was important, special, and warm. There was open negotiation and a sense of fair play in stressful situations related to the mother, and there was an ability to turn to the mother for safety and protection in stressful situations related to an external source. In general there

was a positive outcome. Stories were classified avoidant if the doll protagonist was isolated and/or rejected and the importance of relationships was denied; the existence of a conflict was denied in stressful situations stemming from both within and without the family, as was the need for help; and when there was a successful resolution, it was brought about entirely by the child. Stories were classified hostile/negative if the doll protagonist was involved in violent, hostile, negative, or bizarre behavior and the relationship with the mother was disorganized.

Codings were made from verbatim transcripts by a coder blind to all other information about the child. Each story was coded separately, with the coder having no information about the child's responses to stories other than the one being coded at the time. This independent coding of each story was helpful in preventing a "halo effect" from interfering with accurate scoring of each of the child's six stories. To assess reliability, 17 instances (33%) of each story were coded by one of two additional (blind) coders. Agreement within 1 point on the five-point scale averaged 92% (the range of agreement across stories and raters was 76%–100%). Mean agreement of classificatory group placement was 86% (range 76%–94%); disagreements were resolved through conference prior to analysis. (To assess test-retest stability, one of the stories—involving the child's gift to mother—was readministered during the second session. Ratings given on the two occasions correlated .63, $p < .001$; identical classification was assigned in 73% of instances, $\lambda = .28$.)

Mean ratings for the individual stories ranged from 2.7 to 2.9 (SDs 1.1–1.3). Ratings for the six stories were summed into a summary score for each child (possible range = 6–30); Cronbach's alpha for this summed score was .78. The modal classification assigned to the child's stories was used as a single summary index on the classificatory measure. (No modal pattern emerged for three children; the six stories of each were subsequently examined as a set by two independent coders who determined the summary classification with 100% agreement.)

Self interview (Session I).—A set of 20 questions was asked directly of the child (i.e., without using the puppet as an intermediary); examples include: (1) Can you tell me something you like about yourself? (3) What do you think is not so good about you? (5) Do you think you're special? (7) Is there any

way you could be a better kid? (15) Is there any way you would change yourself so you'd be happier? (19) Can you tell me five words about you? And (20) If I was going to tell somebody just one thing about you, what would it be?

The sets of responses were classified into one of four types: (a) open/flexible—the child described the self in a positive way yet was able to recognize and admit less than perfect aspects of the self; (b) avoidant/perfect—the child described the self as perfect, and relationships were neither acknowledged nor used as relevant descriptors of the self; (c) negative—the child made many negative and few positive statements about the self; and (d) body-preoccupied—the child made pervasive references to his or her body to the point of excluding references to other components of the self; this fourth category had not been anticipated before review of the transcripts.

Interviews were coded from verbal transcripts by a coder blind to other information about the child. A second coder, equally blind, coded 20 randomly selected interviews. Agreement on classification was obtained in 90% of these cases.

Pictorial Scale of Perceived Competence and Social Acceptance for Young Children (Harter & Pike, 1984; Session I).—Although not a self-esteem measure in itself, this scale assesses areas of competence and social acceptance that are theoretically considered integral to self-esteem in that, in 6-year-olds, feelings about the self in these areas may be precursors of self-esteem. The version of the scale for 6- to 7-year-olds was administered according to directions given by Harter and Pike (1984); it consists of seven items (rated by the child from 1 [low competence/acceptance] to 4 [high competence/acceptance]) in each of four domains: cognitive, physical, peer acceptance, and maternal acceptance. Thus, scores on each of the four subscales ranged from 7 to 28. The important strengths of this measure include a pictorial format that minimizes the influence of the child's verbal skills, and a newly devised question format that reduces problems with social desirability. Additionally, acceptable levels of stability have been documented for this measure (Harter, 1982; Harter & Pike, 1984). Sample items include: "This boy/girl knows lots of things in school . . . but . . . this boy/girl doesn't know very many things"; and "This boy/girl has lots of friends to play games with . . . but . . . this boy/girl doesn't have very many friends to play games with."

Subscale of global self-esteem from Harter's Perceived Competence Scale for Children (1982; Session I).—The seven items of this subscale (from a scale intended for children aged 8 and older) were designed to tap global feelings of self-esteem, that is, a generalized sense of worth without reference to functioning in specific areas. No pictures were used here; the response format was the same as above, and the items' sentence structure was modified slightly so as to parallel the structure of sentences used in the scale for younger children. These items were interspersed among items of the scale described above; examples included: "One boy/girl thinks that maybe he/she is not a good person . . . but . . . another boy/girl is pretty sure that he/she is a good person"; and "One boy/girl is very happy being the way he/she is . . . but . . . another boy/girl wishes he/she was different." Scores on each item ranged from 1 (low global self-esteem) to 4 (high global self-esteem), and scores on this subscale ranged from 7 to 28. Given that Harter has found children younger than age 8 to be inconsistent in their responses to this subscale, Cronbach's alpha for this scale was determined. Alpha was .74, suggesting that the 6-year-olds in this particular sample were consistent in their responses.

Woodcock-Johnson Psycho-Educational Battery (short form) (Session II).—There are two sections to this cognitive assessment: verbal (consisting of synonyms and antonyms) and quantitative (consisting of simple counting and adding). Extensive information about development and standardization of the battery is given in Woodcock (1978).

Results

Preliminary Analyses

There were no significant sex differences in mean levels on any variable, and the data were collapsed over sex in subsequent analyses. Mean performance on the Woodcock-Johnson was at the seventy-fourth percentile ($SD = 23.4$; range = tenth–ninety-ninth percentiles); over 85% of the children were above the fiftieth percentile. The Woodcock-Johnson scores, as well as five demographic variables—maternal education, paternal education, family income, maternal age, and birth order—were correlated with each of the remaining continuous variables. Only 10 of the 55 correlations were significant at $p < .05$; six of these involved negative associations between paternal education and the Harter scale variables. These findings suggest that although the range of Woodcock-Johnson scores was substantial, variation in verbal and

TABLE 1
THE RELATION BETWEEN ATTACHMENT AND PUPPET INTERVIEW CLASSIFICATIONS

ATTACHMENT CLASSIFICATION	PUPPET INTERVIEW CLASSIFICATION			TOTAL
	Open	Perfect	Negative	
Secure	14	7	1	22
Insecure/avoidant	1	7	0	8
Insecure/controlling	2	5	9	16
Insecure/ambivalent	1	2	3	6
Total	18	21	13	52

NOTE.—Del PRE = .49, $z = 5.02$, $p < .001$, $\lambda = .33$.

quantitative abilities bore no systematic relation to the measures of self or of attachment.

Mean aggregate rating on the nine-point security scale was 4.12 (SD = 1.87). Forty-two percent ($N = 22$) of the children were classified as securely attached, 15% ($N = 8$) as insecure/avoidant, 12% ($N = 6$) as insecure/ambivalent, and 31% ($N = 16$) as insecure/controlling.

Attachment and the Self

Puppet interviews.—Mean rating on the aggregated five-point scale derived from this interview was 2.47 (SD = 1.05). The correlation between this scale and the security of attachment scale was .33 ($p < .01$); children with more secure attachments obtained the more optimal puppet interview scale scores. The relation between classifications of reunion attachment patterns and of patterns of responses in the puppet interview, examined via the Del PRE statistics, also proved significant (Del PRE = .49, $z = 5.02$, $p < .001$, $\lambda = .33$).⁴ As shown in Table 1, puppet interview responses of children classified as secure were split between the open and perfect categories; those of children classified as insecure/avoidant were likely to be placed in the perfect category; those of children classified insecure/ambivalent were

placed principally in either the perfect or negative categories; and those of children classified insecure/controlling tended to be placed in the negative category.

Incomplete doll stories.—The mean summed story score was 17.00 (SD = 4.79). The correlation between these scores and scores on the security of attachment scale was $r = .46$ ($p < .001$). The relation between attachment and doll stories classifications also proved significant (Del PRE = .44, $z = 4.5$, $p < .001$, $\lambda = .23$). As shown in Table 2, stories of children classified secure tended to be placed in the open category; stories of children classified insecure/avoidant tended to be placed in the avoidant category; stories of children classified insecure/ambivalent were distributed evenly across categories; and stories of children classified insecure/controlling were divided between the open and hostile/negative categories.

Self interview.—Classifications of interview responses proved significantly related to the attachment classifications, $\chi^2(9) = 34.53$, $p < .001$, $\lambda = .21$ (see Table 3). There was a tendency for interview responses of children classified secure to fall in the open category, and for responses of children classified insecure/avoidant to fall in the

⁴ The statistic used to examine the significance of cross-classifications is Del PRE (Hildebrand, Laing, & Rosenthal, 1977). This statistic permits measurement of the prediction success of a proposition in ways not possible with tests of association (or of “not relatedness”) such as the chi-square. The Del PRE measures proportionate reduction in error obtained given knowledge of each subject’s classification on the independent variable over that which would be expected by chance based on the marginal distribution of the independent variable. The null hypothesis that prediction yields no error reduction (the coefficient equals zero) is tested against the alternative hypothesis that there is error reduction (the coefficient is greater than zero). The authors recommend a one-tailed test of significance. Lambda, a measure of predictive association, is also used here. Although lambda does not yield a significance level and cannot be considered a statistical test, it is nonetheless informative in that it yields the percentage of improvement in the ability to predict one categorical variable given knowledge about another categorical variable. A lambda value of 1 means that prediction can be made perfectly, and a value of zero means that no improvement of prediction can be made. Symmetric lambda is used.

TABLE 2
THE RELATION BETWEEN ATTACHMENT AND DOLL STORIES CLASSIFICATIONS

ATTACHMENT CLASSIFICATION	DOLL STORIES CLASSIFICATION			TOTAL
	Open	Perfect	Hostile/Negative	
Secure	18	3	1	22
Insecure/avoidant	2	6	0	8
Insecure/controlling	7	3	6	16
Insecure/ambivalent	2	2	2	6
Total	29	14	9	52

NOTE.—Del PRE = .44, $z = 4.5$, $p < .001$, $\lambda = .23$.

avoidant/perfect category. Responses of children classified insecure/controlling and of children classified insecure/ambivalent fell evenly across categories. The interviews in which responses focused on the child’s body were obtained from children classified insecure/ambivalent.

Harter’s Scale of Perceived Competence and Social Acceptance for Young Children.—The means and standard deviations for each of the four subscales were quite similar to the norms given by Harter and Pike (cognitive: $M = 3.2$, $SD = .54$; physical: $M = 3.3$, $SD = .49$; peers: $M = 3.1$, $SD = .52$; maternal acceptance: $M = 2.7$, $SD = .53$). Perceived cognitive competence and perceived peer acceptance correlated significantly with reunion security ratings ($r = .25$ and $.31$, respectively; $p < .05$ in both instances); the correlations with physical competence and maternal acceptance were nonsignificant ($r = .19$ and $.22$, respectively). Three additional summed scores were computed: one derived by summing across all four subscales (“overall” score), one derived by combining the cognitive and physical subscales to form a “competence” score, and one derived by combining

the peer and maternal acceptance subscales to form a “social acceptance” score. All three summed scores were significantly correlated with security scores: for the social acceptance score, $r = .30$, $p < .05$; for the competence score, $r = .24$, $p < .05$; and for the “overall” score, $r = .29$, $p < .05$.

Subscale of global self-esteem from Harter’s Perceived Competence Scale for Children.—The mean of this subscale ($M = 3.3$; $SD = .47$) was similar to the norms given by Harter (1982) for older children. The correlation between this subscale and the reunion attachment security ratings was $r = .40$, $p = .002$, indicating a significant tendency for securely attached children to have more positive global self-esteem than insecurely attached children.

Associations among Self Measures

As shown in Table 4, the only significant interrelations among the different types of self indices were established between the puppet interview and the doll story measures. Puppet interview ratings correlated significantly with doll story ratings, and the classifications of puppet interviews were

TABLE 3
THE RELATION BETWEEN ATTACHMENT AND SELF INTERVIEW CLASSIFICATIONS

ATTACHMENT CLASSIFICATION	SELF INTERVIEW CLASSIFICATION				TOTAL
	Open	Perfect	Negative	Body-Preoccupied	
Secure	14	5	3	0	22
Insecure/avoidant	1	5	2	0	8
Insecure/controlling	5	5	6	0	16
Insecure/ambivalent	1	1	1	3	6
Total	21	16	12	3	52

NOTE.— $\chi^2(9) = 34.53$, $p < .001$.

TABLE 4

ASSOCIATIONS AMONG MEASURES OF SELF DERIVED FROM DIFFERENT PROCEDURES AND THEIR ASSOCIATION WITH INDICES OF ATTACHMENT AS ASSESSED IN REUNION

	SELF MEASURES		ATTACHMENT (Reunion Behavior)
	Puppet Interview	Doll Stories	
Scales:			
Puppet interview	...	.39**	.33**
Doll stories	.39**	...	.46***
Harter subscales:			
Cognitive competence	.00	.18†	.25*
Physical competence	.00	.15	.19†
Peer acceptance	-.06	.18†	.31*
Maternal acceptance	-.04	.22†	.22 ⁺
Summed "competence"	-.03	.19†	.24*
Summed "acceptance"	-.02	.21†	.30*
Summed "overall"	-.03	.22†	.29*
Harter's global self-esteem	.05	.15	.40**

NOTE.—Associations between scales are indexed by Pearson *r*. Associations between classifications are as follows: between self interview and reunion behavior, $p < .001$, indexed by χ^2 ; between puppet interview and doll stories, $p < .01$, indexed by Del PRE; and between reunion behavior and both puppet interview and doll stories, $p < .001$, indexed by Del PRE.

- * $p < .05$.
- ** $p < .01$.
- *** $p < .001$.
- ⁺ $p < .10$.

significantly related to classifications of doll stories. The Harter subscales were marginally correlated with the doll stories scale. None of the other associations approached significance. Within the Scale of Perceived Competence and Social Acceptance, all correlations among the four subscales were significant (range $r = .47$ to $r = .68$) and were quite similar to those of the first graders reported by Harter and Pike (1984). All four subscales were also significantly correlated with the subscale of global self-esteem (range $r = .47$ to $r = .66$).

Discussion

The results of this study support the hypothesized presence of connections between quality of attachment to mother and the child's representation of self. Furthermore, the fact that particular patterns of child-mother attachment were found to be related to particular patterns of self-views supports Ainsworth's notion (1972, 1983) that an infant's pattern of attachment reflects a coherent inner organization as well as Main's reconceptualization of individual differences in attachment organization as "individual differences in the mental representation of the self in relation to attachment" (Main et al., 1985, p. 67).

Children classified as securely attached showed a warm and intimate relationship to the mother in the reunion situation. In both the puppet and self interviews, these children described themselves in a positive light yet possessed a capacity to admit normal imperfections, a combination that reflects the confidence to explore and reveal both strong and weak points of the self. The importance of the relationship with the mother tended to be acknowledged in their doll stories, and interaction with her tended to be described as clear, direct, positive, and supportive; more often than in the stories of the other children, the child protagonist was accepted and valued, and affection was expressed. Just as these children could tolerate imperfections in themselves, so the relationships described in the stories could tolerate stress. The working models of these children and of their attachment figures appear to lead to a sense that they will be accepted despite flaws. Theoretically, such capacity for confident exploration of both the self and the relationship follows from the "secure base" of an accepting and accessible attachment figure and is in keeping with a large body of attachment research (e.g., Arend, Gove, & Sroufe, 1979; Cassidy, 1986; Main et al., 1985; Main & Weston, 1981; Pastor, 1981; Sroufe, 1983; Waters, Wippman, & Sroufe, 1979). The major exception in this

overall pattern was the claim to perfection (in the puppet interview) expressed by about a third of the securely attached children (note, however, that compared to avoidant children, secure children were much more likely to fall into the open category, i.e., 67% vs. 13%). The dilemma common to many self-related measures—the interpretation of very high scores—applies to the puppet interview assessment as well: Should high scores be viewed as reflecting a truly high self-esteem or one so low and fragile that the individual cannot tolerate discovery of the slightest imperfection? In any event, it is revealing that “perfect” responses on this measure tended to be more characteristic of insecure/avoidant children than of those who were either securely attached or attached insecurely but not avoidant.

The organization of children classified as insecure/avoidant hinges on avoidance of the relationship. The findings of the current study concur with a growing body of work (from a variety of samples using a variety of assessments) connecting avoidance to a dismissal of the importance of attachment relationships (Kaplan & Main, 1985; Main, 1985; Main & Goldwyn, 1984) and to a defensive idealization of the self or the attachment figure (Cassidy & Kobak, in press; Main & Goldwyn, 1984; Kaplan & Main, 1985; Kobak & Sceery, in press; Ricks, 1985). Both Bowlby (1973, 1980) and Ainsworth (Ainsworth et al., 1978) have theorized that avoidance serves the function of preventing the processing of information that would trigger attachment behavior and that it can thus be viewed as a defensive mechanism. Dismissal of the importance of the relationship with mother in the doll stories can be viewed as an instance of the child's excluding from conscious processing input that tends to activate attachment behavior: Admitting that nurturing and responsive relationships are important when faced with the lack of such a relationship might arouse extremely painful emotions or prompt either anger or clinginess, which might increase the risk of alienating the attachment figure (see also Main, 1981). The inability of these children to imagine what the mother or the child might do in the doll stories may result from their not processing all relevant information and particularly from the exclusion of information that would activate attachment needs. Insistence on perfection in the interviews can also be viewed as defensive avoidance: if the assumption that avoidant children have experienced a good deal of rejection by the attachment figure is valid, then their reluctance to

recognize or admit any imperfections that might lead to further rejection seems fully reasonable. The one discrepant finding—avoidant children claimed perfection in the interviews but not on Harter's subscale of global self-esteem—may be due to differences between the measures. Harter's scale is specifically designed to reduce defensive tendencies, and it may be that, while avoidant children need to claim perfection when asked questions of the type included in the interviews, they feel freer to admit flaws when the question format implies the acceptability of such flaws.

Children who are classified at age 6 years as insecurely attached in a nonavoidant (ambivalent or controlling) way are least well understood. In Main's sample (Cassidy & Main, 1984; Main & Cassidy, 1986; Main et al., 1985), the majority of children classified as controlling at this age had been classified as “disorganized/disoriented” in infancy. It is possible that such need to control at the later ages develops “out of a need to care for or control a parent whose own caregiving strategy had been disorganized by loss or by other traumatic events” (Main & Hesse, in press). In the doll stories of these children, there were instances of hostile or violent behavior; and, as in the reunions, the normal relationship hierarchy tended to be disorganized. In their interviews, there were overt negative statements about the child's own lack of worth. It seems reasonable that if the mother is disorganized and thus unable to help the child in organizing the world, the latter may come to view the world as a bizarre place and have little confidence that his or her violent impulses, or those of others, can be controlled. It also seems reasonable that a child who has to take care of the parent might feel burdened and resentful, as well as lack confidence that, when distressed or alarmed, someone to depend on and trust can always be found. Such resentments lead in these children to overt expression of anger and hostility that, when contrasted with the defensiveness of avoidant children, suggests that insecure/controlling children may be less concerned about being rejected than insecure/avoidant children and that the defensive process of ignoring whatever might activate attachment behavior is not available to them.

Both in infancy and at age 6 years, classification as insecure/ambivalent is least frequent. Ainsworth noted that “there is no reason to expect Group-C [ambivalent] babies to have the kind of approach-avoidance conflict that we believe to be characteristic of

Group A [avoidant] babies" (Ainsworth et al., 1978, p. 314), and this might translate into expectations that a nonavoidant, nondefensive, but nonetheless negative sense of self (similar to that of insecure/controlling children) might emerge at 6 years of age. With only four children so classified in Main's Berkeley sample to use as a source, there was no basis for predicting patterns of organization or for expecting anything more specific than impaired functioning. Although no clear pattern of responses related to the self emerged for this group, it is clear that their responses tend to be in categories more characteristic of other insecurely attached children than in those more characteristic of securely attached children. The fact that the only three self interviews characterized by emphasis on the child's body originated from this group can only be noted as a phenomenon deserving further investigation.

As regards the self measures, the only significant connection to emerge was between the puppet interview and the doll story measures. These two assessments are conceptually similar in that both deal with the self in relation to others: The puppet interview was designed to tap children's perceptions of the way others view them, and the doll stories to tap views of the self within the relationship with the attachment figure. It was expected that both would reflect underlying global self-esteem and would therefore be related to Harter's global self-esteem subscale and to the self interview assessment. Absence of these expected associations suggests that these measures may not, in fact, tap global self-esteem but, rather, may reflect the more domain-specific self-perceptions each was designed to assess. As noted by Harter (1983), the extent to which views of one's acceptability to others are included in one's assessment of global worthiness is an empirical question. Although no connection emerged in this study, based on his clinical work with adults Bowlby (1973) has suggested that such a connection does exist, raising the possibility that it can be found in older children and adults but not in young children (note, however, that there are no empirical data to determine whether the self-assessments used in this study may be interconnected at older ages). The present findings indicate that the ways children respond when asked about themselves are related to the quality of their attachment—but it is not clear whether feelings about the self are organized in the same way as they might become later.

A number of additional issues should be considered in interpreting this study's

findings. One of these concerns the direction of effects. Although historically many theoreticians have believed that the quality of the child-parent relationship determines the quality of self-esteem (Bowlby prominently among them), it is possible that the reverse is the case. Thus, a child with low self-esteem may make it difficult for the parent to maintain a good relationship, in which case the poor self-esteem would be the cause, rather than effect, of the relationship. Alternately, both the child-parent relationship and the child's self-esteem may be caused by extraneous variables. For instance, poor performance in sports or school may lead to both poor self-esteem on the part of the child and a poor child-parent relationship. No simple formula is likely to be entirely valid, and, if the child-parent relationship should be the primary influence on self-esteem, characteristics of both the child and the parent are likely to play a role in the quality of that relationship. Findings of this study support the notion that a connection exists between self-esteem and child-mother attachment, but the mechanisms that underlie it remain to be specified in future research.

Another important issue concerns the unexplained variance in self-esteem. In addition to the methodological difficulties inherent in attempts to investigate internal processes, the complex connection between social interaction and self-esteem may be relevant to consider. According to Bowlby (1973), some children (particularly insecurely attached ones) may have two models both of the self and of the attachment figure, one being global and based on what the child has been told (semantic memory) and the other being concrete and based on specific instances of behavior (episodic memory). Existence of multiple conflicting models of the attachment figure would inevitably complicate study of their connections with the child's working model of the self. The role of secondary attachment figures must also be considered: Are these influential? What happens when one attachment figure indicates that the child is lovable and valuable, and the other indicates the contrary—do such conflicting views become integrated into the formation of one representational model of the self? If so, through what process and when does this occur? The impact of external events impinging on the family and the role of such factors as race, socioeconomic status, social support networks, and family composition will also need to be considered in developing a full account of factors and processes that influence self-esteem (see Bretherton, 1985, for fuller discussion of these points).

The data of this study support the notion that a connection exists between the self and child-mother attachment in young children. Its findings may be most useful in that they provide support for Bowlby's conception (1973, 1980) of the *process* through which continuity in development occurs (see also Sroufe & Fleeson, 1986). Bowlby has suggested that the self provides a mechanism through which the relationship with the attachment figure can continue its influence across many years and in situations where the attachment figure is not present. (Indeed, there is much support for a connection between the attachment relationship and the child's functioning when the mother is not present; e.g., Sroufe, 1983; Waters et al., 1979.) Bowlby's notion is that the child incorporates experiences of the relationship with the attachment figure into working models of the self and of the attachment figure and then carries those working models into new situations and relationships where they play a role in determining new experiences. Although some of the pressure for continuity comes from the environment, the working models organize and help mold that environment; by seeking particular kinds of people and by eliciting particular behavior from them, the individual participates in the creation of his or her own environment. Additionally, Bowlby suggests that working models also trigger defensive processes that act to selectively exclude certain information from being processed and hence also contribute to continuity. These notions, similar to those suggested by Piaget (1955), may prove relevant in the investigation of the process through which both continuities and discontinuities in development occur.

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