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Maternal, Teacher, and Child Care History Correlates of Children's Relationships with Peers

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HOWES, CAROLLEE; MATHESON, CATHERINE C., and HAMILTON, CLAIRE E. *Maternal, Teacher, and Child Care History Correlates of Children's Relationships with Peers*. *CHILD DEVELOPMENT*, 1994, 65, 264–273. Mother and teacher correlates of social competence with familiar and unfamiliar peers in 84 children who entered child care at three different times are examined. Social competence at age 4 was assessed with both familiar and unfamiliar peers. Relationships with both initial and 4-year-old teachers were related to social competence with peers. Maternal attachment relationships at 12 months and at 4 years did not predict social competence with peers.

Children who attend child care are particularly interesting for the study of correlates of peer relationships. While it is fairly well established that child-adult caregiver relationships are related to peer relationships (Lamb & Nash, 1989), the majority of the research in this area has examined parent-child correlates of peer relationships. Child-care children have two sets of adult-child relationships—parent-child relationships and teacher-child relationships. In this study we explore relations between peer outcomes in two settings for both of these adult-child relationships.

Within attachment theory (Bowlby, 1969) adult-child relationships, particularly parent-child relationships, theoretically should be associated with children's peer relationships. Expectations, competencies, and attitudes developed within an adult-child attachment relationship are expected to influence the child's orientation to peers. Therefore, a child who has a history of secure attachment relationships is more likely to see him- or herself as worthy of love and to approach others, including peers, with positive expectations. In contrast, a child with a history of attachment relationships in which her or his needs for security were not met or met insensitively or incon-

sistently may act toward peers as if they will be insensitive and rejecting.

There is considerable empirical support for these predicted associations between the nature of parent-child attachment relationship and children's behaviors with peers. For example, when children are paired with same-sex, unfamiliar, securely attached playmates, children classified as secure with their mothers are more sociable and positively oriented (Pastor, 1981) and receive more positive responses (Jacobson & Wille, 1986). When children with known maternal attachment classifications are observed in preschool or kindergarten, secure children are rated by teachers as higher in peer competence (LaFreniere & Sroufe, 1985; Sroufe, 1983; Waters, Wippman, & Sroufe, 1979), are ranked higher in sociometric status, and are higher in observed social participation (LaFreniere & Sroufe, 1985). Friendship dyads in which both children were classified as secure with their mothers were more harmonious, less controlling, and more responsive than secure-insecure pairs (Park & Waters, 1989). Recent work that used contemporary maternal attachment classifications rather than infant classifications suggests that relations between maternal attachment classification and children's peer

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interactions may be stronger for boys than for girls (Cohn, 1990; Turner, 1991).

In this study we will also examine the possible contribution of the quality of children's relationships with their teachers in the development of peer relationships. Several recent theoretical and empirical works have attempted to describe teacher-child relationships within attachment theory constructs (see Pianta, 1993). Goossens and van IJzendoorn (1990) classified teacher-child relationships using a classic Strange Situation paradigm. Children's proximity-maintaining behaviors and teacher sensitivity ratings provided construct validity for the classifications. Pianta and Nimetz (1991) used a teacher questionnaire designed to reflect the teacher's internal working model of the relationship they share with the child. Children's competence in the classroom was associated with teacher relationship ratings. Howes and Hamilton (1992a) used the Waters and Deane (1985) Attachment Q-Set to derive security and item-based categories of relationship categories. These relationship categories are stable over time (Howes & Hamilton, 1992b) and differentiate between more and less responsive and involved teachers (Howes & Hamilton, 1992a; Howes, Phillips, & Whitebook, 1992; Howes, Phillipsen, & Galinsky, in press).

In the current analysis we assume that children's social competence with peers is associated with their maternal attachment security. Therefore, we will examine relations between maternal attachment security and social competence with peers. We will also examine relations between children's security with their child care teachers¹ and their social competence with peers.

We observed children's interactions with both familiar and unfamiliar peers. This use of two settings, the child's own child care peer group and an unfamiliar play group, allows us to examine social competence both in ongoing relationships and in the establishment of new relationships. Further, we were able to observe children in the presence and absence of their teacher. An activity setting perspective (Weisner, 1984) suggests that because activity settings provide a context for social interaction, the behaviors of the participants within an activity setting may be more closely related than

the behaviors of participants across activity settings. Activity settings within child care are significantly different in personnel, beliefs, and goals from activity settings in the home (Howes & Matheson, 1993). Thus, if children form relationships with peers in child care in the context of teacher relationships, then children's behavior with peers in child care may be more influenced by the teacher than by the mother simply because of the similarity in activity setting context. Therefore, in order to fully explore the social competence with peers of the children in this study, we observed children in both child care and in an unfamiliar setting.

We used a multidimensional definition of social competence and multiple measures to assess children. A socially competent child is expected to be sensitive and empathetic to peers, and to engage in complex play, form friendships with peers, and be able to solve social problems. We selected two potential maladaptive responses to peers—withdrawal and aggression. This definition of competence and of maladaptation is consistent with previous work on preschool peer relations (see Howes, 1988; LaFreniere & Sroufe, 1985; Sroufe, 1983; Turner, 1991).

We also examined two measures of overall competency, ego-control, and ego-resiliency (Block & Block, 1980b). Ego-control refers to the threshold of expression or containment of impulses, feelings, or desires. Ego-under-controlled children are impulsive and unable to delay gratification. Ego-over-controlled children are constrained. Ego-resiliency refers to the ability of a person to modify his or her modal level of ego-control. Children who are high in ego-resiliency have a flexible and adaptive personality style. Ego-control and ego-resiliency are associated with both general adaptation in the preschool period (Arend, Gove, & Sroufe, 1979) and social competence with peers (Vaughn & Martino, 1988; Vaughn & Waters, 1981).

Method

Sample

Ninety-four children (47 girls) and their mothers and teachers participated in the research. The children were primarily European-American and middle class. All of the

¹ There is no universal nomenclature to describe the adult who cares for children in child care. She may be a family day-care mother or provider, a caregiver, or a teacher. In this article we will use the term "teacher" to mean any alternative to the parental caregiver.

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children lived in two-parent families. All of the children were recruited into the study as infants. Eighty-four children (41 girls) were seen as 4-year-olds. Nine of the 10 children who were not seen as 4-year-olds had moved out of the area. The tenth refused to participate. There were no differences between the children who left or remained in the study in terms of initial maternal attachments and demographic characteristics.

Child care entry.—The children entered child care in four waves. Thirty-one children entered child care as infants. Thirty (14 girls) of these children were observed as 4-year-olds (M age = 50.3 months). The average age of child care entry for this group was 5.4 months (SD = 3.0, range = 2–12 months). These children were first observed in child care at an average age of 20.8 months (SD = 1.9).

The second wave of children (n = 11) entered child care as young toddlers. Seven of these children (three girls) were observed as 4-year-olds (M age = 50.4 months). The average age of entry for this group was 18.7 months (SD = 5.4, range = 13–24 months). These children were first observed in child care at an average age of 23.3 months (SD = 2.9).

The third wave of children (n = 42) entered child care as older toddlers. Thirty-seven (19 girls) were observed as 4-year-olds (M age = 50.3 months). The average age of entry for this group was 32.7 months (SD = 6.8, range = 28–39 months). These children were first observed in child care at an average age of 38.9 months (SD = 3.7).

The final wave of children (n = 10, 5 girls) entered child care as preschoolers (M age = 40.5, SD = 6.3, range = 40–48 months) and were only observed once (M age = 52.5 months, SD = 2.1). Children who entered child care as older children tended to attend child care for fewer hours per week than children who entered child care as younger children.

Child care arrangements.—In order to describe children's child care arrangements, the observers recorded the number of children and adults present and, for center care only, completed the Early Childhood Environmental Rating Scale (ECERS) (Harms & Clifford, 1980) on each child care visit. The ECERS provides a comprehensive assessment of the day-to-day quality of care provided to children. Individual items can range from a low of 1 to a high of 7. A rating

of 3 on these scales indicates minimally acceptable quality, while a 5 indicates very good quality.

Seventy-six percent of the children observed in child care as toddlers were placed in family day-care homes, and the remainder in child care centers. Many of the family day-care homes were unlicensed. The average number of children cared for by each adult was 4.2. Ninety-one percent of the children observed as 3-year-olds were in child care centers. The average number of children cared for by each adult was 5.5, and the average ECERS score was 3.9. As 4-year-olds, 84% of the children were in center care. The average number of children cared for by each adult was 6.2, and the average ECERS score was 4.2. Adult-to-child child ratios were within the range recommended by American child care experts (Hayes, Palmer, & Zaslow, 1990).

Procedures, Measures, and Data Reduction

Overview

Maternal attachments were assessed at 12 and 48 months. Teacher-child relationships were assessed once upon entering child care and again for all children at age 4. Social competence with peers at age 4 was assessed in two settings—the child's child care center and in a 2-hour-long play group. Play groups were composed of four unfamiliar children all within 1 month of their fourth birthday.

All observers were blind to the hypotheses of the study. Different observers collected the toddler, 3-year-old, 4-year-old, and play group data. Interobserver reliability was established to an 85% exact agreement criterion prior to data collection. Interobserver reliability was reestablished at the midpoint of each data collection period. Kappa coefficients for these reliability checks are discussed with each measure.

Adult Relationships

Maternal.—All children were seen in a standard Strange Situation procedure at 12 months. Sixty-two percent of the original sample were categorized by trained coders as secure, 22% as avoidant, 13% as ambivalent, and 6% as disorganized.

At 48 months the children were asked to leave their mothers and play for 2 hours with unfamiliar peers in an unfamiliar setting. Mother-child reunions following this procedure were videotaped. Carol Rodning,

who has demonstrated reliability with the Cassidy and Marvin (1988) coding scheme for 4-year-old attachment, assessed the mother-child attachment of each child from the videotapes of each reunion. This attachment measure has been validated by observations of mother-child interaction (Greenberg, Deklyen, & Endriza, 1991), of peer interaction (Turner, 1991), and by its ability to discriminate between clinic and comparison children (Speltz, Deklyen, & Endriza, 1991).

Teacher.—We used the Waters and Deane (1985) Attachment Q-Set to assess teacher-child relationship quality.² Maternal attachment quality is assessed similarly with the Strange Situation and the Q-Set (Vaughn & Waters, 1990). Teacher-child emotional security as assessed with the Q-Set is related to the amount of teacher involvement experienced by the child, and to ratings of teacher sensitivity (Howes et al., 1992; Howes & Hamilton, 1992a). Security scores are independent of sociability scores (Waters & Deane, 1985).

Teachers and children were observed by two observers for a total of 8 hours. Interobserver reliability was $\kappa = .93$. The two observer sorts were averaged for each child.

Using Q-Set items, we classified children into three relationship categories. The classification system was derived from a cluster analysis of observer-collected attachment Q-Sets of mothers and child care teachers (Howes & Hamilton, 1992a). The cluster analysis resulted in item profiles for three types of maternal-child and teacher-child relationships: secure, avoidant, and ambivalent. Children with these relationship types differ in security scores, Strange-Situation classifications, and teacher sensitivity and involvement (Howes & Hamilton, 1992a).

Items differentiating secure relationships (scored as very characteristic) were: predominant mood is happy, easily comforted, solicits comfort, greets adult spontaneously, flexible in communication, obedient, aware of adult changes in location, physical contact with adult, expects the adult to be responsive, and compliant. Items differentiating avoidant relationships were: unaware of adult changes, no physical con-

tact, expects adult to be unresponsive, demanding initiation, and does not cry. Items differentiating ambivalent relationships were: demanding and impatient, distressed social interaction, demanding initiation, cries often, and low on physical contact. Each child fit into only one relationship type.

Behavior Samples

During each child care and play group observation the observer coded three 5-min behavior samples of the social behaviors of the child with peers. The time samples were spaced evenly throughout the observation period, that is, the child's behavior was coded approximately every 20 min. Each 5-min time sample was broken into 15 20-sec intervals. Behaviors were coded as present or absent within each interval. From the behavioral observations we derived four composite variables: observed gregarious, complex play, hostile aggression, and instrumental aggression. The individual behaviors for each composite variable were converted to z-scores and then summed to yield one variable for each construct.

The observed gregarious composite included the total number of initiations to peers (verbal and nonverbal), the total number of initiations made to the target child by peers, the percent of initiations that were reciprocated, and the percent of peer initiations to which the target child positively responded. Interobserver reliability on the individual behaviors ranged from $\kappa = .91$ to $.97$ in the child care center and $\kappa = .90$ to $.92$ in the play group. The overall composite reliability as assessed by Cronbach's alpha was $.62$ in child care and $.64$ in the play group.

Complex play ($\alpha = .92$ in the center and $.91$ in the play group) was derived from the frequency of complementary and reciprocal, cooperative social pretend and complex social play. Interobserver reliability in the center ranged from $\kappa = .92$ to $.96$ and in the play group from $\kappa = .89$ to $.92$.

Hostile aggression ($\alpha = .64$ and $.61$ in center and play group) was composited from the frequencies of physical and verbal aggression and aggressive responses to peer overtures. The interobserver reliabilities were $\kappa = .93$ to $.96$ in the centers and

² Subsequent to our data collection, the Attachment Q-Set has been revised and is now a 90-item sort available from Everett Waters, Psychology Department, State University of New York at Stony Brook.

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kappa = .91 to .93 in the play group. The final composite, instrumental aggression (alpha = .93 in child care and .96 in play group), included toy takes, object struggles, and play fights or rough-and-tumble play. Interobserver reliabilities on these behaviors were kappa = .93 in child care and kappa = .96 in play group.

California Child Q-Set.—The child's four-year-old teacher completed the California Child Q-Set (Block & Block, 1980a). Scores on this Q-Set are associated with receiving peer visual attention and sociometric status (Vaughn & Martino, 1988; Vaughn & Waters, 1981). In our analysis we used both individual item scores and scores for ego-resiliency and ego-control. Individual items included in the analyses were positive ("considerate of peers"), rated gregarious ("gets along with peers"), rated withdrawn ("withdraws"), and friendship quality ("develops close relationships with peers").

Ego-resiliency and ego-control scores were derived by correlating raw item scores with criterion sorts provided by Block and Block (1980a) for each construct. Items with high ranks on the ego-control criteria include "has high standards of performance for self" and "is able to delay gratification." Items with high ranks on the ego-resiliency criteria include "does not revert to immature behavior under stress" and "is competent, skillful." This procedure yields correlation coefficients that are used as the children's ego-resiliency and ego-control scores. Higher scores indicate greater ego-resiliency or ego-control.

Optimal ego-control is represented by scores in the middle of the continuum, neither over- nor undercontrolled. Ego-control classifications were derived by inspecting the distribution of ego-control scores. Children with scores more than .5 SD above the mean were classified as overcontrolled, those with scores .5 SD below the mean as undercontrolled, and those with means greater than .5 SD below the mean and less than .5 SD above the mean as adaptive.

Sociometric interview.—At the conclusion of the play group, picture sociometric interviews were collected. Children were shown pictures of all children in the group and asked how much they might like to have each child as a friend. The children then sorted the pictures into three bowls representing "a lot," "some," and "not at all." A child was given 3 points for every time his or her picture was placed in the big bowl by

a play companion, 2 points for placement in the medium bowl, and 1 point for placement in the small bowl. The child's overall score was divided by the number of child raters. Children's sociometric scores were positively related to play group gregarious ($r = .22$) and complex play ($r = .24$) and negatively related to hostile aggression ($r = -.28$).

Results

Child Care History

We compared peer outcomes in both child care and in the play group for children who entered child care full or part time as infants, young toddlers, older toddlers, and preschoolers using a 4 (time entered) \times 2 (full or part time) MANOVA. There were no significant main effects or interactions. We then compared peer outcomes of children initially enrolled in center-based versus family day care using a one-way (family day care vs. center) MANOVA and found no significant differences.

First Teacher-Child and 12-Month Mother-Child Relationships and Social Competence with Peers

Sex, first teacher-child relationship quality, and 12-month maternal attachment quality were independent variables and all continuous peer outcomes were dependent variables in a 2 (girl, boy) \times 3 (secure, avoidant, ambivalent) \times 3 (secure, avoidant, ambivalent) MANOVA. There was a significant multivariate main effect for first teacher relationship, $F(4, 83) = 3.49, p < .05$, but no significant multivariate main effect for 12-month maternal attachment or sex and no significant multivariate interaction effects.

Descriptive statistics for all dependent variables included in the MANOVA are presented in Table 1. Univariate F tests and Scheffé tests for the significant multivariate main effect for teacher also are included. Children classified as secure with their first teacher were rated as more positive, engaged in more complex play in child care, and had higher sociometric ratings in the play group than children classified as insecure. Children classified as secure with their first teacher were rated as more gregarious than children classified as ambivalent. Children classified as avoidant with their first teacher were rated as more positive and more gregarious and received higher sociometric ratings than children rated as ambivalent.

We used chi-square analyses to examine

TABLE 1
 PEER SOCIAL COMPETENCE OF CHILDREN WITH DIFFERENT RELATIONSHIPS WITH THEIR FIRST CHILD CARE TEACHER

SOCIAL COMPETENCE AGE 4	RELATIONSHIP WITH TEACHER						F VALUE df = (2, 89)	SCHEFFÉ
	Secure (B) (n = 42)		Avoidant (A) (n = 17)		Ambivalent (C) (n = 25)			
	M	SD	M	SD	M	SD		
Positive (CA child Q-Set)	7.32	1.7	6.60	3.3	5.40	2.5	5.38**	B > A > C
Gregarious:								
Observed:								
Child care .....	.46	.5	-.09	.2	-.15	.4	.28	
Play group .....	.20	.5	.76	.5	-.52	.5	1.52	
Rated (CA child Q-Set)	7.34	1.8	7.61	2.4	6.04	2.9	3.16*	B = A > C
Complex play (observed):								
Child care .....	.69	.4	-.47	.7	-.65	.5	3.45*	B > A = C
Play group .....	.62	.3	.10	.2	-.44	.4	3.74*	B > A > C
Aggression:								
Hostile:								
Observed:								
Child care	-.28	.8	-.26	1.0	.45	.2	1.75	
Play group	-.20	.6	.08	.3	.30	.5	.57	
Rated (CA child Q-Set)	2.94	2.7	4.00	1.9	4.36	3.1	1.03	
Instrumental (observed):								
Child care .....	.47	.4	.34	.4	.38	.7	.07	
Play group	-.15	.0	-.15	.0	.40	.9	2.43	
Withdrawn:								
Observed:								
Child care .....	.08	.2	-.27	.6	.08	.8	.42	
Play group	-.07	.7	.16	.8	.07	.3	.39	
Withdrawn:								
Rated (CA child Q-Set)	3.96	2.6	5.50	3.3	4.66	3.2	2.48	
Ego-resiliency (CA child Q-Set) .....	.54	.3	.43	.3	.38	.3	2.25	
Friendship quality (CA child Q-Set)	5.97	2.2	5.39	2.4	5.24	2.8	.68	
Sociometric rating	2.37	5.2	2.11	5.0	1.97	5.2	4.74**	B > A > C

* $p < .05$.
 ** $p < .01$.

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differences in ego-control classifications associated with sex, maternal, or teacher relationship classifications. Only the association with first teacher relationship was significant $\chi^2(4) = 11.12, p < .05$. Children classified as ambivalent with their first teacher were most likely to be classified as low in ego-control, children classified as avoidant with their first teacher were most likely to be classified as high in ego-control, and children classified as secure with their first teacher were most likely to be classified as more adaptive in ego-control.

Four-Year-Old Teacher-Child and 48-Month Mother-Child Relationships and Social Competence with Peers

Sex, 4-year-old teacher-child relationship quality, and 48-month maternal attachment quality were independent variables and all continuous peer outcomes were dependent variables in a 2 (girl, boy) \times 3 (secure, avoidant, ambivalent) \times 3 (secure, avoidant, ambivalent) MANOVA. There was a significant multivariate main effect for 4-year-old teacher relationship, $F(4, 83) = 3.06, p < .05$, but no significant multivariate main effect for 48-month maternal attachment or sex and no significant multivariate interaction effects.

Descriptive statistics for all dependent variables included in the MANOVA are presented in Table 2. Univariate F values and Scheffé tests for the significant multivariate main effect for teacher also are included.

Children classified as secure with their 4-year-old teacher were rated as more gregarious and as higher in ego-resiliency, engaged in more complex play in child care, and had higher sociometric ratings than children classified as insecure with their 4-year-old teacher. Children classified as secure with their 4-year-old teacher were rated as more positive than children classified as ambivalent. Children classified as avoidant with their 4-year-old teacher were rated as more positive and as higher in ego-resiliency than children rated as ambivalent. Children rated as ambivalent with their 4-year-old teacher were observed to engage in more instrumental aggression than children rated as secure or avoidant.

We used a chi-square analysis to examine associations with ego-control classifications. There were no significant associations between ego-control classifications and sex or maternal or teacher 4-year-old classifications.

Discussion

Contrary to our expectations, in this study children's social competence with peers was unrelated to their maternal attachment security classifications. In our study, 12-month maternal attachment classifications did not differentiate between 4-year-old behaviors with either familiar or unfamiliar peers. Therefore, this study failed to replicate the results from two previous studies in which 12-month maternal attachment predicted preschool behaviors with familiar peers (LaFreniere & Sroufe, 1985; Sroufe, 1983; Waters, Wippman, & Sroufe, 1979). Sample differences among these studies may help explain the discrepancies between results. The LaFreniere and Sroufe sample was a sample of children living in poverty, while ours was composed of relatively advantaged families.

While the SES of our sample is similar to that of the Waters et al. (1979) sample, most of the children in our sample entered peer groups at earlier ages than did the children in the other sample. Therefore, they had more intensive peer experience at younger ages. Peer experience is linked to social competence with peers (Howes, 1988). Early maternal attachment quality may best predict orientation to peers (e.g., Pastor, 1981) when children are constructing peer relationships rather than competence with peers once children have had extensive experiences with peers. However, in this context it is important to note that those few children in our sample who were new to child care as 4-year-olds did not appear different in peer behaviors or in relations between peer behaviors and maternal attachment quality than the children in the sample with more child care experience.

Our results are more compatible with those of Jacobson and Wille (1986). They found that early maternal attachment quality was not linked to the child's behaviors, but to the peer's behavioral response to the target child. We found no differences in target child behavior, but did not examine behavioral responses from peers. Our study differed from the Jacobson and Wille study in that they used only unfamiliar securely attached peers as unfamiliar playmates while we used unfamiliar peers of varying attachment classifications. A limitation of our study is that peer behaviors could have varied by the attachment classification composition of the unfamiliar peer play groups.

TABLE 2
PEER SOCIAL COMPETENCE OF CHILDREN WITH DIFFERENT RELATIONSHIPS WITH THEIR FOUR-YEAR-OLD CHILD CARE TEACHER^a

	RELATIONSHIP WITH TEACHER						F VALUE df = (2, 79)	SCHEFFÉ
	Secure (B) (n = 43)		Avoidant (A) (n = 19)		Ambivalent (C) (n = 22)			
	M	SD	M	SD	M	SD		
SOCIAL COMPETENCE AGE 4	7.14	1.7	6.56	1.8	5.22	2.6	4.23*	B = A > C
Positive (CA child Q-Set)								
Gregarious:								
Observed:								
Child care	.05	.5	.15	.2	-.33	.3	.19	
Play group	.17	.7	-1.01	.4	.00	.7	.99	
Rated (CA child Q-Set)	.65	2.9	-.50	1.2	-.65	.7	3.57*	B > A, C
Complex play (CA child Q-Set):								
Child care	.37	.7	-.76	.8	-.85	.3	3.33*	B > A, C
Play group	.37	.6	.10	.8	-.40	.4	1.10	
Aggression:								
Hostile:								
Observed:								
Child care	-.15	.5	.14	.4	.37	.2	.56	
Play group	-.06	.7	-.07	.9	.34	.2	.36	
Rated (CA child Q-Set)	3.36	2.6	4.00	2.6	4.28	3.2	.37	
Instrumental (observed):								
Child care	.55	.6	.45	.2	.18	.2	.29	
Play group	-.15	.0	-.15	.0	.62	2.2	3.46*	C < B, A
Withdrawn:								
Observed:								
Child care	-.03	.2	-.10	.6	.30	.8	.62	
Play group	-.01	.5	-.16	.8	.05	.4	.18	
Rated (CA child Q-Set)	4.56	2.6	5.71	3.7	4.67	3.3	1.18	
Ego resiliency (CA child Q-Set)	.53	.3	.44	.2	.29	.4	4.75**	B > A > C
Friendship quality (CA child Q-Set)	6.10	2.0	4.55	2.2	5.12	3.1	2.94	
Sociometric rating	2.29	5.3	2.08	4.2	1.98	4.4	3.30*	B > A = C

^a Analysis of variance.

* $p < .05$.

** $p < .01$.

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In our study, unlike those recently published by Cohn (1990), Park and Waters (1989), and Turner (1991), contemporary maternal attachment quality was not associated with social competence with peers. Maternal attachment quality was measured differently in our study than in two of these studies (Cohn, 1990; Park & Waters, 1989). Thus it is possible that our 4-year-old measure of maternal attachment was less sensitive than theirs and thus less able to discriminate between children. However, the Turner study and our study used identical maternal attachment quality assessments and found links between attachment security and peer competence for boys but not girls. Clearly more research is needed to resolve these discrepancies.

If, for children with extensive peer group experience, maternal attachment quality does not directly predict social competence with peers, we suspect that the pathway between maternal attachment and peer outcomes for these children is an indirect one. In a preliminary analysis of our sample, children with secure 12-month maternal attachments were more likely to be enrolled in higher-quality first child care arrangements than children with insecure 12-month maternal attachments (Howes, Rodning, Galluzzo, & Meyers, 1988). Presumably mothers who were more sensitive to their children were also better able to select more appropriate child care settings. Therefore, by selecting and monitoring child care arrangements, parents may indirectly influence their children's social development with peers.

In our study, children's relationships with their first and 4-year-old child care teachers better differentiated 4-year-old peer outcomes than did maternal attachment relationships or child care history. Children classified as secure with their first child care teachers were more rated as more sensitive and empathetic with familiar peers, engaged in more complex play with familiar and unfamiliar peers, were given higher sociometric ratings by unfamiliar peers, and were more adaptive in ego-control than children classified as avoidant or ambivalent with their first child care teachers. Children classified as secure with their contemporary child care teacher were rated as more sensitive, empathetic, and gregarious with familiar peers, engaged in more complex play with familiar peers, were rated as more ego-resilient, and received higher sociometric ratings by unfa-

miliar peers than children classified as insecure with contemporary teachers.

Child care teacher relationships may be linked with peer outcomes because, unlike mothers, they are part of the activity setting where peer interactions are developed. Children who form peer relationships in a child care activity setting have more recurrent interactions with teachers as they form relationships with peers than they do with their mothers during the construction of peer interactions and relationships. Child care teachers appear to shape the context of peer contacts through the nature of the relationships they form with the children in their care. Children appear to use their relationship with their teacher as a base for orienting to and exploring peer interactions. Further observational studies are needed to examine the processes within teacher-child relationships and child care activity settings that enhance secure base behaviors and positive expectations of peers.

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