



## Is early attachment security carried forward into relationships with preschool peers?

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The association between early parent–child attachment security and peer rejection among preschool children was examined. Children in three preschool classrooms ( $N = 37$ ) participated. Mothers rated their children's attachment security at age 3 years on the Attachment Q-Set (Waters, 1987). Sociometric ratings were collected from classmates at age 4 years through individual picture interviews. Teachers rated externalizing and internalizing behaviour exhibited at preschool. Lower attachment security was associated with greater subsequent peer rejection and higher externalizing and internalizing behaviour scores. An exploratory path model suggested that the linkage between early insecure attachment and later peer rejection may be mediated by externalizing behaviour.

According to attachment theory, internal working models of relationships are developed during early parent–child interactions and subsequently 'carried forward' into future relationships (Sroufe & Fleeson, 1986). Because many children have their first experiences with a cohesive peer group when they enter preschool, internal working models developed in early parent–child relations could have a substantial influence on patterns of peer relationships that emerge among preschoolers. Children who expect to have their needs met in close relationships, and who view themselves as worthy of love and support, may engage in social behaviours in preschool that tend to elicit positive responses and friendship from their peers. The quality of early peer relationships may have important implications for children's psychosocial adjustment later in life (Cowan & Cowan, *in press*). However, there is little research on the extent to which children's attachment security is carried forward into preschool friendships. The primary goal of this study was to examine the association between early

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attachment security and the quality of children's subsequent peer relationships in preschool.

Internal working models of attachment relationships may influence children's perceptions, beliefs, behaviour, and interpretations of social interactions, thereby shaping expectations about, and reactions to, the social world (Bowlby, 1980; Cassidy, Kirsh, Scolton, & Parke, 1996). The filtering of social interactions through the lens of the internal working model is posited to re-establish familiar patterns of relationships that recapitulate interactions with primary caregivers, contributing to a sense of coherence within the self (Sroufe, 1992). For instance, a child with a history of secure attachment to parents, reflecting a perception of relationships as mutual and supportive, may be empathic, responsive, and invested in their peers and caregivers (e.g. Sroufe & Fleeson, 1986). Early parent-child relationships marked by unmet needs and hostility (i.e. traits of an insecure attachment) may foster the expectation that other relationships will have these characteristics as well (Cassidy *et al.*, 1996; McFadyen-Ketchum, Bates, Dodge, & Pettit, 1996). The insecurely attached child may become highly attuned to behaviours on the part of their peers that seem to demonstrate rejection and hostility. The perception that one is rejected by peers can lead to behaviours typical of rejected children (i.e. avoidance or acting out), possibly serving to initiate actual peer neglect or rejection (Dodge, Coie, & Brakke, 1982; Dodge, Coie, Pettit, & Price, 1990). For children with a history of insecure attachment, hostile interactions or socially avoidant behaviour may also feel familiar and comfortable. However, these interaction styles can interfere with the development of friendships with preschool peers and may result in peer rejection (Sroufe & Fleeson, 1986).

Although attachment theory predicts that early insecure parent-child attachment will result in poor peer relations and peer rejection, few studies have actually examined the linkage between attachment and patterns of peer acceptance or rejection among preschoolers. In one study of 40 preschoolers, LaFreniere and Sroufe (1985) found a marginally significant trend suggesting that preschool children with a history of insecure attachment received fewer positive sociometric nominations from their preschool peers than did children with a history of secure attachment. In a cross-sectional study of 86 primarily Caucasian preschoolers, boys with higher observer ratings of mother-child attachment on the Attachment Q-Set (Waters, 1987) scored higher on sociometric ratings of peer popularity than did boys with lower attachment scores (DeMulder, Denham, Schmidt, & Mitchell, 2000). However, this correlation was not significant for girls. The findings from these two studies are inconclusive, and only one of the studies was based on prospective data (LaFreniere & Sroufe, 1985). Further research is needed to clarify the relationship between early childhood attachment and subsequent patterns of peer relations in preschool.

Studies of older children suggest that attachment security predicts peer acceptance and rejection in the elementary school years (e.g. Cassidy *et al.*, 1996; Cohn, 1990; Elicker, Englund, & Sroufe, 1992; Shulman, Elicker, & Sroufe, 1994) and adolescence (e.g. Weinfield, Ogawa, & Sroufe, 1997). Thus, there is evidence that early childhood attachment affects friendship patterns at distal time points in later childhood and adolescence. However, the more proximal relation between children's attachment security and preschool peer relations has not been clearly established.

Several studies have identified a linkage between early insecure attachment and poor social skills, as well as externalizing behaviour, in early childhood (e.g. Lyons-Ruth, Easterbrooks, & Cibelli, 1997; Suess, Grossman, & Sroufe, 1992). Warren, Huston, Egeland, and Sroufe (1997) also found that children who had an anxious/resistant

attachment classification in infancy were twice as likely as other children to develop an anxiety disorder in adolescence. This suggests that anxiety or negative affect may be outcomes of insecure attachments, as has been posited in theoretical writings (e.g. Sroufe, Carlson, Levy, & Egeland, 1999; Sroufe & Fleeson, 1986). Behaviour problems such as aggression and social avoidance or withdrawal are linked with peer rejection among preschoolers (e.g. Wood, Cowan, & Baker, 2002), and some investigators have speculated that one mechanism that could account for the link between early attachment security and subsequent peer relationships is child behavioural adjustment (e.g. Rubin, LeMare, & Lollis, 1990). The present study was designed to test the linkage between early attachment and preschool peer acceptance and rejection, as well as to explore the possible role of psychosocial adjustment as a mediator between insecure attachment and later peer rejection.

## Method

### Participants

Participants were 37 primarily Caucasian children attending three preschool classrooms in a major metropolitan area in the western United States. Based on a review of school records, families ranged widely in socioeconomic backgrounds, with parental occupations ranging from unskilled labour to professional. Participating children ranged in age from 3;0 to 3;11 years at Time 1, and from 4;0 to 5;5 years at Time 2. This group of children was drawn from a larger sample of preschoolers who participated in a study of psychosocial adjustment problems and peer rejection (Wood *et al.*, 2002).

### Measures

#### Attachment security

Attachment security was rated by mothers at Time 1 (when the children were 3 years old), using Waters' (1987) Attachment Q-Set (AQS), which consists of 90 descriptive items of a child's behaviour during interactions with a caregiver. These items are intended to comprehensively describe a child's 'secure base' behaviour with their caregiver. Sample items include 'actively solicits comforting from adult when distressed' and 'cries to prevent separation'. The AQS has proven to be a psychometrically sound procedure to measure attachment behaviour in children beyond infancy (Teti & McGourty, 1996; Vaughn & Waters, 1990; however, also see Stevenson-Hinde & Shouldice, 1990; van Dam & van IJzendoorn, 1988).

Mothers in the present study were instructed to carefully examine each of the 90 Q-Set cards in relation to their child's behaviour, then to sort the cards into nine piles: Items most characteristic of the child were placed at one end of the distribution (piles 9, 8, and 7) and items least characteristic were sorted at the opposite end (piles 3, 2, and 1). Following Waters and Deane (1985), security scores were computed by correlating the individual item ratings for each child to the ratings for a hypothetically 'most secure child'. The mean AQS security score in this sample was .35, with a range of -.22 to .72 (see Table 1). Thirty-five per cent of the sample had scores below .30, suggesting that at least a third of the children in this study did not exhibit many attachment behaviours consistent with the hypothetical 'secure child'.

**Table 1.** Descriptive statistics for attachment, sociometric, and teacher-report measures

Measure	M	SD	Range	Correlation with attachment security	Correlation with peer rejection
Attachment security	.35	.23	-.22 to .72	—	-.38*
Sociometric peer rejection <sup>a</sup>	.04	.98	-1.18 to 2.62	-.38*	—
Sociometric peer acceptance <sup>a</sup>	-.02	1.02	-1.53 to 1.79	.37*	-.68*
CABI externalizing <sup>b</sup>	.20	.86	-1.72 to 2.20	-.53*	.47*
CABI internalizing <sup>b</sup>	.00	1.03	-1.83 to 1.86	-.46*	.34

Note. Correlations in columns five and six are Pearson *r*s.

<sup>a</sup>Mean sociometric rating score from classmates, standardized within class and sex.

<sup>b</sup>CABI = Child Adaptive Behavior Inventory, completed by teachers. Values are standardized factor scores.

\**p* < .05, two-tailed.

### Peer rejection and acceptance

Sociometric ratings were collected at Time 2 (when the children were aged 4–5 years) through individual child interviews. Individual interviews were conducted using Ramsey's (1995) ratings procedure, which is a modified version of the ratings method described by Asher, Singleton, Tinsley, and Hymel (1979). Each child observed pictures of other children in their class. The procedure yields a 4-point scale (*never play with*, *play with a little*, *friend*, or *best friend*) after three binary groupings are completed. Following Hymel, Rubin, Rowden, and LeMare (1990) and others, sociometric ratings were standardized within each sex and classroom to permit comparability across classrooms with different sizes and gender compositions. Standardized total 'never play with' ratings that each child received were used as the measure of peer rejection, and standardized total 'best friend' ratings were used as the measure of peer acceptance (cf. Rubin & Clark, 1983; Travillion & Snyder, 1993).

### Psychosocial adjustment

Teachers completed a revised version of the Child Adaptive Behavior Inventory (CABI) for each participating child at Time 2 (Cowan, Cowan, Heming, & Miller, 1991). The CABI, originally created by Schaefer and Hunter (1983), contained 60 items. To this scale, 46 items were added: 16 to assess social adjustment (social isolation, peer rejection, social skills) and 30 to measure problem behaviours, selected from the downward extension of the Quay–Peterson Behavior Problem Checklist (O'Donnel & Van Tuinen, 1979) and from Achenbach and Edelbrock's (1981) Child Behavior Checklist. This version of the CABI has been used in research on young children's social behaviour and has been shown to have a good internal reliability and construct validity (e.g. Cowan, Cohn, Cowan, & Pearson, 1996; Katz & Gottman, 1996; Wood *et al.*, 2002). The scale comprises 106 items rated on a 4-point Likert-type response scale ranging from 1 (*not at all like*) to 4 (*very much like*). Two factor scores were used in the present study: Externalizing Behaviour (sample item: 'tends to disobey or break rules') and Internalizing Behaviour (sample item: 'This child usually plays or works alone'). It should be noted that neither of these factor scales includes items related to peer acceptance or rejection. Cronbach's alphas for the individual subscales ranged from .80 to .88.

## Results and discussion

Early attachment security was significantly related to rejection and acceptance by preschool peers. Lower attachment security scores at Time 1 were predictive of higher peer rejection scores ( $\beta = -.38, p < .05$ ) and lower peer acceptance scores ( $\beta = .37, p < .05$ ) at Time 2. Lower attachment security was associated with higher teacher ratings of both externalizing behaviour ( $\beta = -.53, p < .05$ ) and internalizing behaviour ( $\beta = -.46, p < .05$ ) at Time 2. All significance tests were two-tailed.

Exploratory path models were estimated to test the hypothesis that the linkage between Time 1 attachment security and Time 2 peer rejection was mediated by psychosocial adjustment problems exhibited at preschool. First, simultaneous regression was employed to test a path model in which attachment security led to externalizing behaviour, which, in turn, led to peer rejection. Traditional path analysis formulae were employed to compute the indirect effect of attachment security on peer rejection via externalizing behaviour (i.e. through the computation of path cross-products; Land, 1969; Wright, 1960), and the standard error of the indirect effect was computed using formulae provided by Baron and Kenny (1986). A significant indirect effect was obtained for the externalizing behaviour model ( $t = -2.20, p < .05$ ), suggesting that attachment security may affect externalizing behaviour, which, in turn, is directly linked with peer social status (model  $R^2 = .30$ ). Second, the same order of variables was tested for internalizing behaviour (i.e. attachment security leading to internalizing, leading, in turn, to peer rejection). However, the indirect effect was not statistically significant ( $t = -1.78, ns$ ; model  $R^2 = .24$ ). Because these path models were exploratory, the 'exogenous' and 'endogenous' variables in these two models were switched so that attachment security led to peer rejection, which led to externalizing or internalizing behaviour. Significance tests of the indirect effects for these two additional models revealed a non-significant effect for both externalizing behaviour ( $t = -1.95$ ) and internalizing behaviour ( $t = -1.63, ns$ ).

These results suggest that securely attached children may 'carry forward' their relational expectations and styles into new relationships when they enter preschool, subsequently developing more friendships and experiencing less peer rejection than insecurely attached children. This longitudinal association between attachment security and preschool peer relationships helps to clarify the inconsistent and primarily cross-sectional findings previously reported (e.g. DeMulder *et al.*, 2000).

Furthermore, children with a history of insecure attachment exhibited more externalizing and internalizing behaviour than did more securely attached children, perhaps reflecting the social interaction styles that they had developed in their early attachment relationships (Sroufe & Fleeson, 1986). Children with models of relationships that involve ambivalent feelings towards the 'other' and expectations of relational conflict may re-establish this mode of interaction with peers and caregivers through non-compliant, annoying, and aggressive behaviour. Children who lack the sense of a secure base from which to explore the environment may exhibit avoidance of novel stimuli and social situations, clinginess to adults, and other manifestations of fear and anxiety.

The path models suggest that the linkage between early insecure attachment and later peer rejection could be mediated by externalizing behaviour. Rubin and colleagues (1990) note that frustration stemming from the inability to have one's needs met within a primary attachment relationship might account for the increased adjustment problems, such as aggression or social withdrawal, observed in insecurely attached

children. These behaviours, in turn, may have a direct impact on the status of newly developing peer relationships. For instance, preschool children are less likely to be accepted by peers if they frequently become aggressive or isolate themselves (Wood *et al.*, 2002). Thus, children who had a poor attachment relationship with their mothers in early childhood were more likely to have psychosocial adjustment difficulties in preschool, possibly accounting for the problematic relationships that they developed with their peers.

However, the direction of causality remains uncertain, and it is possible that peer rejection itself may lead to increased aggression and other externalizing behaviour, rather than the reverse (see Cowan & Cowan, *in press*). Nonetheless, the alternative path models described above in which this reversed direction of causality was tested yielded non-significant indirect effects. Additionally, other mediating variables such as prosocial approach behaviour and social perspective taking may also play a role in the linkage between attachment security and peer acceptance (and rejection). Appropriate social skills and the ability to trust others may be learned in a secure relationship with a primary caregiver; these skills might well foster the ability to make and keep friends in early childhood. Finally, from a biopsychosocial perspective, emotional and behavioural problems experienced by *mothers* might lead to both disturbed parent-child relations (e.g. Hammen, 1997), as manifested in children's insecure attachment, and a genetic predisposition on the part of children towards behavioural dysregulation (e.g. Eley, 2001).

Strengths of the present study include the use of a preschool sample, the use of multiple informants, the test of a mediating model, and the longitudinal design. While a longitudinal design cannot establish causality and does not rule out the possibility that there was a different direction of effects (e.g. peer rejection experiences preceding mother's ratings of children as insecurely attached), it can reduce artefacts of concurrent ratings inflating the association between measures. The relatively small sample size posed a limitation, precluding, for instance, meaningful comparisons of trends for boys versus girls. The results—and particularly the path models—will require replication in larger and more representative samples. Furthermore, confirmation of these results with other forms of attachment security ratings would be useful; although there is evidence of concurrent validity for mother-rated AQS Q-sorts in this age group (i.e. Vaughn & Waters, 1990), one study found little evidence of agreement between the mother's AQS ratings (on a modified, 75-item version of the AQS) and independent observations of attachment security in a laboratory-based Strange Situation task with 2½-year-olds (Stevenson-Hinde & Shouldice, 1990). In addition, the nature of the sample itself poses a limitation. Three normal preschool classrooms participated, and as a result, very few of the children likely exhibited clinically significant adjustment problems. This sample characteristic may preclude inferences that can be made about the relation between insecure attachment and clinically significant behavioural and social-adjustment problems in children. However, the sample permits an examination of developmental processes that could have clinical implications over the course of time.

The study of peer relations in preschoolers is of particular interest from the perspective of attachment theory. It is during preschool that the carry-over effects of early attachment relations with primary caregivers may be most evident, since young children often have not been involved in many other close relationships. The present results suggest that parent-child attachment patterns may indeed be carried forward

into early peer relationships, and that externalizing behaviour exhibited by insecurely attached children could account for their subsequent rejection by preschool peers.

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