International Journal of Behavioral Development
2000, 24 (2), 241–255
http://www.tandf.co.uk/journals/pp/01650254.html

Attachment and play in child care centres: Reliability and validity of the attachment Q-sort for mothers and professional caregivers in Italy

Rosalinda Cassibba
University of Padova, Italy

Marinus H. Van IJzendoorn
Leiden University, The Netherlands

Laura D'Odorico
University of Padova, Italy

The purpose of this article was to adapt and validate the Attachment Q-Sort (AQS; Vaughn & Waters, 1990) in the Italian context of child rearing at home and in centre care, and to analyse the associations of attachment to the mother and to the professional caregiver with play behaviour of the child. The article reports on three studies. The first study describes the procedure used to create the Italian version of the Attachment Q-Sort. Fifteen Italian experts provided the AQS descriptions of the prototypical "most secure child"; moreover, 18 Italian caregivers used the AQS to describe the hypothetical "ideal child" in the context of the child care centre. The profiles of the Italian experts were very similar to those of American experts. Italian experts and Italian caregivers also strongly agreed in their descriptions, respectively, of the "most secure" and the "ideal" child. The second study reports on the reliability of the AQS data. Eighty-six children (43% male; 59% first-borns) and their mothers and caregivers participated in the research. Children's ages ranged from 14 to 36 months (M = 26.6; SD = 6.78). All children spent at least 30 hours per week in the child care centres. Test-retest reliability and inter-observer agreement appeared to be satisfactory. Agreement between mother/caregiver- and observer-reported security scores was less convincing. In the third study, the associations between the network of attachment and level of play were examined. Fifty children (58% male; 60% first-borns) participated. Children's ages ranged from 14 to 36 months (M = 25.8; SD = 6.56). Play behaviour was observed at the child care centre during free play sessions of 30 minutes and social and cognitive play categories were coded. Secure attachment led to higher cognitive levels of play. Attachment to the caregiver was generally more influential than attachment to the mother.

In modern societies most infants interact, during the day, with more than one caregiver. Not only mothers, but also fathers and professional caregivers may be salient figures in the life of a child. In many modern families, fathers play some of the roles (i.e. caregiver, playmate, manager) considered, in the past, to be specific for mothers (Lamb, 1976). Moreover, if both parents are employed outside of their homes, infants spend a large part of the day with at least one other caregiver: a grandparent, a babysitter, or a professional caregiver. In all these cases, the relationship with a nonparental caregiver is an important part of the child's experience. In several respects, the nonparental caregiver may function as a substitute parent: He or she plays with the child but is also responsible for keeping the child physically and emotionally safe in the absence of the parents (Howes & Hamilton, 1992b). In Italy, almost half of the women between 15 and 34 years old work outside their homes[1] (Istat, 1996). Therefore, many Italian children grow up in a network of relationships with parental and nonparental caregivers. These relationships may constitute attachment relationships.

Bowlby (1969) defined attachment as an enduring affective bond between a child and a specific adult caregiver who serves as a source of safety in times of stress. Children are supposed to be genetically biased to display attachment behaviour and to become attached to a protective adult, but the quality of their attachment relationships would be dependent on the interactions with their parents or other caregivers. The quality of attachment is often established in a standardised stressful situation—the Strange Situation procedure—in which the child is confronted with two brief separations from the attachment figure (Ainsworth, Blehar, Waters, & Wall, 1978). Sensitive adults who perceive their children's attachment signals adequately, and respond to these signals promptly, may develop a secure attachment relationship with their child. Adults who respond insensitively or inconsistently sensitively run the risk of stimulating the development of an insecure bond with their child (Ainsworth et al., 1978); on the contrary, interactional harmony appeared to positively predict attachment security (Scholmerich, Fracasso, Lamb, & Broberg, 1995). In several studies, sensitive parenting indeed has been shown to be an important antecedent of attachment (for a recent meta-analysis, see DeWolff & van IJzendoorn, 1997). The sequelae of secure and insecure infant-parent attachment relationships have also been investigated vigorously. Secure

[1] In the area in which the data of the present research were collected, this percentage increased to 69.3.

Correspondence should be addressed to Dr Rosalinda Cassibba, Department of Psychology, University of Bari, via Crisanzio n. 1, I-70122, Bari, Italy.

The work on this paper was supported by grant ex 40% 1995 from the Italian Committee CUN, no. 11 to Rosalinda Cassibba and Laura D'Odorico and by a Fellowship from the Netherlands Institute for Advanced Study in the Humanities and Social Sciences to Marinus van IJzendoorn. Rosalinda Cassibba is now at the University of Bari, Italy. We would like to thank Marida Leone and

attachments were found to stimulate more adaptive behaviour in preschool and nursery school, compared to insecure infant-parent attachments (Matas, Arend, & Sroufe, 1978; Pastor, 1981; Sagi, Lamb, & Gardner, 1986; Sroufe, 1988; Teti & Ablard, 1989; Thompson & Lamb, 1983; Waters, Wippman, & Sroufe, 1979), and secure attachments were also found to be associated with cognitive and language competences (Bus, 1993). However, it is still under debate what type of insecurity, including the disorganised attachment category, should be most predictive (Lyons-Ruth, 1996). Furthermore, most studies on the antecedents and consequences of attachment security focused on the infant-mother relationship. There are few studies on infants' attachments to nonparental caregivers (Goossens & van IJzendoorn, 1990; Howes, Phillips, & Whitebook, 1992; Howes, Hamilton, & Matheson, 1994a; Howes, Matheson, & Hamilton, 1994b; Oppenheim, Sagi, & Lamb, 1988; van IJzendoorn, Sagi, & Lambermoon, 1992) and it is, in fact, still under debate whether infant-caregiver relationships should be considered attachments with similar antecedents and sequelae as the infant-mother attachments.

Van IJzendoorn and colleagues (1992) provided some partial support for the hypothesis that infant-caregiver relationships may be genuine attachment relationships. Their analysis revealed that infants can establish attachment relationships with different caregivers who care for them on a regular basis for a long period of time. In fact, these relationships show several features of attachments. For example: (a) they are readily classifiable on the basis of the Strange Situation coding system. This means that the strategies for dealing with the stressful situation in presence of the professional caregiver are displayed in the usual sense. Moreover, (b) discordance between the quality of the attachment relationship to the parent and to the caregiver (Goossens & van IJzendoorn, 1990; Howes & Hamilton, 1992b; Sagi et al., 1995) may imply that the infant-caregiver attachment is a unique reflection of the dyad's history of interactions instead of an extension of the infant-parent attachment. As predicted by attachment theory (Bowlby, 1969), (c) children have been shown to develop preferences for caregivers over less familiar adults in the day care centre (Barnas & Cummings, 1994; Cummings, 1980). Barnas and Cummings (1994) demonstrated that children directed more initiatives towards stable than nonstable caregivers in nondistress and stressful contexts; furthermore, children were more likely to consider stable caregivers as a "secure base" in routine play. Moreover, Fox (1977) found that children left with an unfamiliar adult showed very similar reactions to the separation from their mother or their caregiver. The results obtained by Camras and Sachs (1991) give further evidence of the preference for caregivers over less familiar adults; the study shows that, when infants consider their caregivers reliable sources of information, social referencing occurs with them even when the mother is not present. In addition, (d) the sensitivity and the level of involvement of professional caregivers appeared to be related to the security of infant-caregiver attachment. Goossens and van IJzendoorn (1990) found caregivers of secure infants to be more sensitive to infants' signals during free play as compared to caregivers with whom infants had developed insecure attachment. Anderson, Nagle, Roberts, and Smith (1981) found that many behaviours relevant for attachment (i.e. contact seeking, distance interaction and exploratory behaviours) were mediated by caregiver involvement. Howes and her colleagues (Howes & Hamilton, 1992a; Howes et al., 1992; Howes & Smith, 1995) also showed that children who were securely attached to their caregiver were more likely than insecure children to have caregivers rated higher in responsiveness and adult involvement. Finally, (e) the quality of the attachment to the caregiver was associated with several aspects of children's socioemotional competence in preschool and nursery school (van IJzendoorn et al., 1992; Howes et al., 1992; Howes et al., 1994a, b; Oppenheim et al., 1988). Securely attached children were more competent with peers; they were more likely than insecure children to spend a larger proportion of their peer contacts in competent social play and in competent pretend play (Howes et al., 1992); their security with the caregiver was negatively associated with hostile aggression and positively with complex play with peers and gregarious behaviours (Howes et al., 1994a, b).

All these studies suggest that the quality of attachment to the professional caregiver plays an important role in the development of the child, especially within the context in which the relationship took shape (Mardell, 1992). Even more interestingly, some studies demonstrated that a secure attachment relationship as established in the context of child care centres was the most important determinant of prosocial behaviour in that context. Oppenheim and his colleagues (1988) found no association between the infant attachment relationships to either mothers or fathers, and their behaviour in nursery school; in contrast, children who were securely attached to the caregiver showed more empathy, independence, and achievement-orientation than their insecurely attached peers. Similar results were obtained by Howes, Rodning, Galluzzo, and Myers (1988) who found that, in day care centres, children who were securely attached to their caregiver but insecurely attached to their mother played more than children securely attached to the mother and insecurely attached to the caregiver.

The study of the relationship between the child and his/her professional caregiver implies at least two basic questions. The first one concerns the development of valid measures of child-caregiver attachment in the context of child care centres. In fact, few studies have been carried out to assess quality of attachment to professional caregivers. Moreover, in most cases, attachment to professional caregivers has been evaluated by using assessments of attachment quality validated only for infant-mother dyads (Sagi et al., 1995). In the current study, we adapted and validated the standard Attachment Q-Sort (AQS; Vaughn & Waters, 1990) to the specific child-rearing context of child care centres. This instrument consists of 90 items, printed individually on cards, each of them describing a specific behaviour of a child observed during the interaction with a caregiver. The items can be considered as a standard vocabulary used by the observer to describe the behaviour of a child in a natural home setting. The observer is asked to sort the 90 items (on cards) into nine piles according to similarity with the infant's behaviour (Vaughn & Waters, 1990; Waters, Vaughn, Posada, & Kondo-Ikemura, 1995). By comparing this sorting with the composite description of a "hypothetically most secure infant" provided by experts in the field of attachment theory, a score for attachment security can be obtained. Compared to the Strange Situation procedure, the AQS offers some advantages. Because it is based on observation of children in their natural contexts, the AQS provides a more ecologically valid assessment; it is not intrusive, and it may be used frequently with the same child. The AQS has been extensively validated with American and non-American

samples. It shows a reasonable correspondence with the Strange Situation classifications; moreover, the AQS scores provided by trained observers showed a strong association with parental sensitivity, as well as significant relations to several measures of peer competence (for a meta-analysis, see van IJzendoorn, Vereijken, Riksen-Walraven, in press).

The second question concerns the interrelations between multiple attachments. Van IJzendoorn and colleagues (1992) have proposed four models: The model of ''monotropy'' implies that the mother is the only important attachment figure who influences later socioemotional functioning of the child. The ''hierarchy'' model considers the mother to be the most important attachment figure but also recognises the influence of substitute attachment figures who may serve as a secure base in the absence of the mother. The independence model considers the different attachments of the child as equally important, but each relationship influences only the child's functioning in the domain in which the child and the specific caregiver have been interacting over a long period of time. In the ''integration'' model the network of attachment relationships influences the development of the child regardless of the specific domain. The data from van IJzendoorn and colleagues (1992) give some support for the integration model. Howes, Hamilton, and Philipsen (1998) tested the attachment network hypotheses in a longitudinal study, and found support for the ''independence'' model. Attachment to the professional caregiver in toddlerhood appeared to be predictive of the children's perception of their relationship with the teacher at age nine (Howes et al., 1998). In the current study we will provide another test with different assessments in a different child-rearing context. In particular, we will focus on the quality of play observed in the context of Italian child care centres.

Before addressing the two central issues, we need to take the specific cross-cultural context into account in which the current study is carried out. In Italy, only a few studies on infant-mother attachment have been reported, and they included the Strange Situation procedure to assess the quality of attachment (Ammaniti, Candelori, Pola, Speranza, & Tambelli, 1994; Fava Vizziello, Rebecca, Calvo, Giaccherini, & Nofri, 1995). The current study is the first on attachment to professional caregivers in Italy making use of the Attachment Q-Sort. Therefore, the cross-cultural validity of this approach should be established before we can test more substantive, theoretical issues. In an earlier pilot study the Attachment Q-Sort seemed to be a fruitful method of assessing attachment in the Italian context (Cassibba, 1994), and we decided to investigate the psychometric characteristics of the AQS more thoroughly in a larger sample.

The purpose of this article is: (a) to adapt and validate the Attachment Q-Sort in the Italian context of child rearing; (b) to adapt and validate the AQS as one of the most widely used assessments of infant-mother attachment to the evaluation of the infant's relationship with a professional caregiver; and (c) to contribute to the study of the network of attachment relationships by analysing the associations of attachment to the mother and to the professional caregiver with play behaviour of the child.

This report summarises three studies. The first study describes the procedure used to create the Italian version of the AQS (Vaughn & Waters, 1990; Waters & Deane, 1985) to assess the quality of attachment to the mother and to the professional caregiver. Moreover, two distinct comparisons between the prototypical descriptions of an optimally functioning child are reported. The first one is a comparison between American and Italian experts of attachment to determine whether the conceptualisation of the secure-base phenomenon is culturally biased. We expect a high similarity between American and Italian security descriptions, in line with the cross-cultural findings on the similarity of behavioural profiles of the securely attached child provided by experts from other countries (Posada et al., 1995; Scholmerich & van Aken, 1996; Vaughn, Strayer, Jacques, Trudel, & Seifer, 1991).

The second comparison is between the Italian experts' descriptions of a secure child and the caregivers' descriptions of an ''ideal child'' at day care centre, in order to verify whether some of the secure-base behaviours described by the AQS can assume a different meaning in the two contexts (home vs. day care centre). We expect only a moderate similarity between the Italian experts' descriptions of the securely attached child and the caregivers' descriptions of the ideal child, because child care centres appear to be a context of interaction rather different from home. For example, at child care centres the independence of the child may be appreciated more than at home.

The second study reports on the reliability of the AQS data. Three different tests of reliability will be carried out: (a) test-retest reliability, (b) inter-observer agreement, and (c) agreement between mother/caregiver- and observer-reported security scores. Reliabilities will be computed for both mother- and caregiver-infant security scores. In keeping with the existing literature we expect the observer-reported scores to be more reliable than self-reported scores for both mother and caregiver-infant attachment security (van IJzendoorn et al., in press).

In the third study, we will test which of the models proposed by van IJzendoorn and colleagues (1992) better predicts the child's play abilities assessed in the context of child care centres. We will examine the children's level of social and cognitive play. We hypothesise that the integration models allows a better prediction of cognitive play abilities because children who attend a child care centre develop their cognitive play abilities in the context of both relationships: With the professional caregiver (from the morning until about 4 pm) and with his or her mother or father (during the rest of the day and in the weekend). In contrast, we expect that social play will be predicted better on the basis of the independence model. In fact, children who attend a child care centre form relationships with peers in the context of their relationship to the professional caregiver; for this reason it is suggested that children's behaviour with peers in child care centres may be influenced more by the professional caregiver than by the mother.

Study 1

Method

Participants

A total of 15 experts provided the AQS descriptions of the prototypical ''most secure child'' and a total of 18 professional caregivers used the AQS to describe the hypothetical ''ideal child'' in the context of the child care centre.

Experts. All experts worked in the field of developmental and clinical psychology and they were all familiar with attachment

theory. We considered experts people who were involved in attachment theory and research during the last two years and who were familiar with the Strange Situation procedure. Of the 15 experts (male 53%) who provided descriptions of the "most securely attached" child (age: 18–20 months), 5 were professors of psychology, 3 were PhD students, and 8 were psychologists with experience in clinical or counselling work.

Caregivers. Of the 18 caregivers who provided the AQS descriptions of the "ideal child" (age: 18–20 months), 16 worked full-time and only two part-time; all caregivers worked in child care centres located in northern Italy. They were all females, aged from 28 to 40 years (M = 33.8), and with an average of 13.6 years of education (range = 9–18 years). All caregivers had at least two years of experience in a child care centre.

Instruments and procedures

Data were collected by means of the Attachment Q-Sort (Waters, 1987). In the present study, the two Italian authors translated the original English version and, following Brislin's (1980) guidelines, a professional native English translator back-translated the result into English. In order to obtain the final Italian version the three translators consensually modified items whose meaning had changed across translations.

We used two distinct Italian versions of AQS: The classic one to describe the mother-infant attachment relationship observed at home and a second modified version to describe the infant-caregiver attachment in the context of child care centres. This last version is very similar to the classic one and differs from the first only because, in all items, the term "mother (madre)" was replaced by "caregiver (educatrice)" and the word "home (casa)" by "child care centre (nido)".

Experts and caregivers sorted the AQS to describe, respectively, the hypothetical "most securely attached" child at home and the "ideal child" in the context of the child care centre. We asked professional caregivers to describe the "ideal child" rather than the "most securely attached" child, because the professional caregivers do not know the real meaning of the concept "securely attached child"; in fact, most of them are not familiar with "attachment theory". Nevertheless, we decided to ask caregivers rather than experts the description of a prototypical optimally functioning child in the context of child care centre because:

(a) we were interested to obtain profiles reflecting the beliefs and attitudes of caregivers about the specific behaviours described by the AQS; and
(b) it is likely at caregivers know better than some of the experts the peculiarities of the child care context. Whether the "ideal child" descriptions will be sufficiently equivalent to the "secure child" descriptions is an empirical matter that will be addressed later.

All participants were invited to read carefully the instructions before starting to sort the AQS.

Measures

The composite of experts' descriptions of the hypothetical "most secure child" was used to obtain the Italian criterion sort for security. The reliability of this composite was high (alpha = .94). A second criterion sort was obtained by the composite of the sorts provided by the professional caregivers to describe the "ideal child" at the child care centre. Again, the reliability of the composite was high (alpha = .93).

Results

Experts' Descriptions of the Hypothetical "Most Secure Child": USA vs. Italy

To investigate the possible differences between the American and Italian prototype of the securely attached child, experts' descriptions were compared. We first computed the Pearson correlation coefficient between the American (Waters, 1987) and the Italian criterion sorts for security; the Pearson r was .91, indicating a high degree of overall similarity between the two criterion sorts. These results are similar to those ones obtained by Posada and colleagues (1995) and by Scholmerich and van Aken (1996) in several other countries.

As this similarity still permitted the presence of cultural differences in the weight attached by experts to specific behavioural domains of secure-base behaviours, we searched for the items for which the scores in the American and Italian criterion sorts for security were discrepant. We considered discrepant all items for which the scores differed more than one standard deviation. For this comparison, the standard deviation of scores provided by Italian experts was used. Only 12 of the 90 items (items 15, 17, 18, 24, 35, 41, 43, 47, 63, 68, 75, 88) satisfied this condition; Italian secure children were described as less sociable with new people, as less compliant, as more dependent, and as less active than were American children.

Caregivers' descriptions of the "ideal child" at the Child Care Centre

As a preliminary step we examined the similarity between the criterion sorts provided by the caregivers and the one provided by the Italian experts. The Pearson correlation was .80, indicating that caregivers' descriptions of the "ideal child" in the context of child care centres were highly correlated with the definitions of the securely attached child provided by the experts.

Because we were interested in the presence of differences in what caregivers stress when they describe the "ideal child" in the specific context of day care centres, we examined the discrepant items on the full Q-set between the experts and the caregivers. We considered discrepant all items for which the scores differed more than one standard deviation. For this comparison the combined standard deviation (Cristante, Lis, & Sambin, 1982, p. 221) of scores provided by Italian experts and caregivers was used. Eighteen items satisfied this condition; Table 1 reports these findings. The caregivers emphasised independence of children somewhat more than the experts did; moreover, they stressed the importance of positive affect, and play with toys. Finally, caregivers considered children's differential responsiveness to the caregiver less important than the experts did. The emphasis on independence in caregivers' descriptions of the "ideal child" was not accompanied by a similar emphasis on avoidant attachment behaviour in their criterion sort. Using the Howes and Smith (1995) subscale for avoidance, we found no significant difference between the sort of the experts (M = 3.29; SD = 1.38) and the sort of the caregivers (M = 4.27, SD = 1.41), [$t(31) = -2.00$; n.s.].

Table 1
Discrepant items on the criterion sorts provided by Italian professional caregivers and experts

	Piles of Cards			
	Caregivers		Experts	
Items[a]	M	(SD)	M	(SD)
Positive affect				
Light-hearted and playful (9)	8.22	(1.11)	6.47	(1.19)
Enjoys dancing or singing with music (45)	8.00	(1.14)	5.40	(0.91)
Differential responsiveness to mother/caregiver				
*Accepts comfort other than m/c[b] (3)	6.67	(2.09)	4.07	(2.02)
Finds new toy—brings to m/c or shows (14)	4.61	(2.62)	7.93	(1.10)
Clearly uses m/c as base to explore (36)	7.44	(1.79)	8.87	(0.52)
Less afraid if m/c says ''It's OK'' (60)	7.50	(1.29)	8.53	(0.52)
Uses m/c face expression for information (80)	6.44	(1.85)	8.60	(0.83)
Independence				
*Cries when left with other caregivers (26)	1.83	(1.42)	3.87	(2.10)
Independent with m/c; leaves easily (35)	5.67	(2.74)	2.20	(1.47)
New activity without going to m/c first (59)	6.61	(2.40)	4.53	(1.55)
Rarely asks m/c for help (69)	4.56	(2.12)	1.80	(0.68)
*Bored—Goes to m/c for something to do (83)	4.78	(2.44)	6.93	(1.33)
*m/c moves off—child moves play along (90)	5.00	(2.43)	7.93	(0.96)
Play				
Trouble handling small objects (52)	2.56	(1.50)	4.00	(1.07)
Rather play with toys than with adults (76)	4.72	(1.53)	2.93	(1.49)
Level of activity				
Child more active than m/c (68)	5.61	(2.00)	3.73	(1.22)
Other				
Upset over m/c leaving—sits and cries (34)	4.56	(1.46)	1.67	(1.05)
Has a cuddly toy or security blanket (73)	3.44	(2.06)	5.93	(2.76)

[a] Items grouped according to the similarity of content; [b] m/c = mother/caregiver.
*The mean score of items marked with an asterisk should be considered reversed with respect to the construct (i.e. a high rate means a low similarity to the construct).

Discussion

One of the purposes of the first study was to adapt the AQS for the assessment of the child's attachment in the Italian context of child rearing at home and in centre care. By asking Italian experts of attachment to describe the prototypical ''secure child'' at home, we obtained the Italian criterion for ''security''. The criterion sort provided by the Italian experts also allowed us to deal with the topic of the cross-cultural validity of attachment construct. We were also interested in investigating the perspectives on secure-base behaviour across two different contexts: home and child care centres. For this reason we asked professional caregivers to describe the prototypical ''ideal child'' in the context of child care centres.

The strong correlation between the Italian and the American experts' criterion sorts confirms the similarity of the attachment construct across the two different cultural contexts. These results support the cross-cultural findings of Posada and his colleagues (1995) and of Scholmerich and van Aken (1996) in a number of other countries. The few differences on the level of Q-set items indicate that Italian secure children tend to be considered as less sociable with new people, as less compliant, as more dependent, and as less active than are American children. We have to take into account, however, that the Italian experts were involved in attachment research as defined by a concept of attachment that originated from an Anglo-Saxon theory of attachment. This may have led to more comparable interpretations of AQS security across cultures.

With regard to the criterion sort provided by the professional caregivers, we found their descriptions of ''ideal child'' to be very similar to the experts' descriptions of ''secure'' child. Caregivers, however, specifically emphasise independence of the child more than do experts; moreover, they stress the importance of positive affect, and of play with toys. Finally, caregivers consider differential responsiveness of the child to his/her own professional caregiver to be less important than experts. Such results can be ascribed to the differences between home and centre care contexts. In fact, children are encouraged to behave differently in the two environments. For instance, although mothers foster independence at home as well (Kindermann, 1993), in centre care independence is stimulated more intensively because the caregiver has to care for six to eight children at the same time. For the same reason, the ability to seek support from other available caregivers, when their own caregiver is busy, is recognised as adaptive. Finally, it has to be noted that child care centres have a specific educational goal; for this reason, in order to stimulate the development of cognitive and social skills, children are encouraged to play actively with toys and various available materials, and to share these experiences not only with the adults but also with peers. Nevertheless, stimulating independence more in the child care setting does not prevent professional caregivers from engaging in attachment relationships with their children. In fact, Howes et al. (1994a) found that independence and attachment security were orthogonal characteristics of the infant-caregiver relationship, and we

found that the emphasis on independence does not necessarily involve a preference for avoidant attachments.

Study 2

Method

Participants

Eighty-six children (43% male; 59% first-borns) and their mothers and caregivers participated in the research. Children's ages ranged from 14 to 36 months (M = 26.6; SD = 6.78). Of the 86 children, 49 were enrolled in the child care centres before their first birthday. All children spent at least 30 hours per week at the child care centres and attended those centres for five days per week. The children were all Italian and they all lived in two-parent families. Educational level of mothers was average (20% primary, 54% secondary, 26% academic degree).

All children were observed at home and in child care centres in order to assess, respectively, the attachment to mother and to caregiver. These data were used to compute the agreement between mother/caregiver-reported and observer-reported security scores. Moreover, to calculate test-retest reliability and inter-observer agreement, we extracted four subsamples from the overall sample:

Subsample A (n = 19; 11 female) was used to compute the inter-observer agreement for AQS data on infant-mother attachment.
Subsample B (n = 21, 10 female) was used to compute the inter-observer agreement for AQS scores on infant-caregiver attachment.
Subsample C (n = 26, 13 female) was used to compute the test-retest reliability for AQS data on attachment to mother.
Subsample D (n = 13, 7 female) was used to compute the test-retest reliability for AQS scores on attachment to caregiver.

With the exception of subsamples A and B, which shared 13 participants, between remaining subsamples only a small overlap was present (subsamples A and C shared four participants; A and D: five participants; B and C: six participants; B and D: four participants; C and D: four participants).

Procedures

Observer training. Before beginning the data collection, apprentice observers took part in a training session. Following the procedure suggested by Pederson and Moran (1995), they first became familiar with attachment behaviours and classifications by reading the books of Ainsworth and colleagues (1978) and Waters and Deane (1985); they also familiarised themselves with the items of the AQS and with the sorting procedure. Subsequently, observers were asked to sort the AQS to describe three different videotaped mother-infant interactions in the natural setting of the home; each sort provided by the observers was discussed together with the first and the third authors. Finally, observers visited some families together with the first authors and sorted the AQS independently. The training was considered completed when the disagreement between the Q-security scores provided by the apprentice observers and the ones provided by the first author appeared to be less than .2.

Mother-infant attachment. Each child participating in the study was observed at home by his/her mother and by an observer independently. Moreover, the children of subsample A were observed also by a second independent observer. Both mother and observer sorted the AQS during the same week.

The observer AQS. Families were visited by the observer twice; in few cases, families were visited three times when one of the previous visits lasted less than two hours (because the child was sleeping, or his/her mother was unexpectedly busy, etc.); the total hours of usable observation per infant was about four hours. At the first visit, the infants were observed for about two hours. Mothers were encouraged to devote themselves to routine activities while the observer was engaged with free observation. The observer did not initiate interactions with the infants but responded in a friendly manner to the infants' initiatives. At the end of the first visit, a second home observation was scheduled 3–4 days later. At the conclusion of this last observation, the observer sorted the AQS. For subsample A, the two observers visited the families together but sorted the AQS independently.

The mother AQS. At the end of the first visit, the observer introduced the AQS to the mothers. Mothers were asked to familiarise themselves with the items and use them to describe their own child's behaviour after carefully reading the instructions. In order to help the mothers, the observer explained the procedure and the meaning of items in response to questions from the mothers. Mothers were stimulated to base the sorting on actually observed behaviours of their child rather than on pre-existing knowledge of them.

Fifteen to 20 days after sorting the AQS, mothers received a questionnaire including the 90 items of the AQS. They were asked to rate each item on a 9-point scale (9 = very similar; 1 = very different) according to its similarity with the infant's behaviour, and to send back the questionnaire within a week. We decided to use the questionnaire format of AQS for the retest assessment because its administration is less demanding (mothers spent about 2.5 hours to sort the AQS but only 30 minutes to fill in the questionnaire). In some studies, Q-sort and questionnaire formats have been shown to be highly convergent (Liebrand, 1977; Rickel & Biasatti; 1982), but the questionnaire format should not be considered an efficient equivalent to the original AQS. It was used here because we were not able to ask mothers to complete the tedious task of sorting the AQS twice. Because this test-retest procedure was an additional task only 26 of the 86 mothers returned the questionnaire. In the present study, these mothers and their children constitute subsample C.

Infant-caregiver attachment. Each child was observed at the child care centre by his/her caregiver and by an observer independently. Moreover, the children of subsample B were also observed by a second independent observer. Both caregiver and observer sorted the AQS during the same week.

The observer AQS. All children and their caregivers were visited at the child care centre by the observer twice; in few cases they were visited three times when one of the previous visits lasted less than two hours (sometimes the child was

sleeping or his/her caregiver was unexpectedly not available because of temporary organisational needs of the day care centre); the total hours of usable observation per infant was about four hours.

All children were observed in the morning (9–11.00 am). At the first visit the infants were observed for about two hours. Caregivers were encouraged to devote themselves to routine activities while the observer was engaged with free observation. The observer did not initiate interactions with the toddlers but responded in a friendly manner to the toddlers' initiatives. At the end of the first visit, a second observation was scheduled 2–3 days later. At the conclusion of this observation, the observer sorted the AQS. For the children of subsample B, the two observers visited the child care centre at the same time but sorted the AQS independently. To evaluate the test-retest reliability of AQS scores of attachment to caregiver, 15–20 days after sorting the AQS, the observer again visited the child care centre twice to sort the AQS in order to describe the behaviour of children constituting the subsample D.

The caregiver AQS. Caregivers were asked to familiarise themselves with the items of the AQS and to use them to describe the child's behaviour after reading the instructions and carefully observing the behaviours of the child. In order to help the caregivers, the observer explained the procedure and the meaning of items in response to questions from the caregivers. They were asked to describe the behaviour they had actually observed.

Measures

Security of attachment was computed by comparing the AQS description of a child's behaviour (provided by mother or caregiver or observer) with the criterion sort for security (i.e. the AQS description of a securely attached child provided by the experts). The obtained correlation coefficients were then transformed with the Fisher's *r*-to-*z* procedure to enable their use in data analysis. The score derived in this way is referred to as ''Q-security''.

Results

Preliminary analyses

Infant-mother attachment. Security scores derived from mothers' sorts ranged from – 0.18 to 0.79 (M = 0.40, SD = 0.19) and security scores from observer sorts ranged from – 0.32 to 1.02 (M = 0.33, SD = 0.27). These scores were submitted to a repeated-measures (observer vs. mother AQS) ANOVA with two between-subjects factors (sex: male vs. female; age: 14–24 months vs. 25–36 months). Only the within-subjects factor appeared to be significant ($F(1,69)$ = 8.72, $P < .01$]. Mothers rated their children as more secure than the observers did.

Moreover, in order to compare security scores derived from Italian mothers' sorts with those derived from samples of six different cultures (data from Posada et al., 1995, p. 37), we performed a series of *t*-tests for independent samples. To protect against capitalising on chance, we used the Bonferroni corrected alpha level of .007. Results indicated that the mean security score derived from Italian mother's sorts was significantly different only from the means of the Colombian ($t(107)$ = 4.00; P = .00007], and the Norwegian [$t(96)$ = – 4.06; P = .00005) samples.

Infant-caregiver attachment. Security scores derived from caregivers' sorts ranged from – 0.23 to 0.81 (M = 0.33, SD = 0.22), and security scores derived from observer' sorts ranged from – 0.17 to 0.93 (M = 0.36, SD = 0.18). These scores were submitted to a repeated-measures (observer vs. caregiver AQS) ANOVA with two between-subjects factors (sex: male vs. female; age: 14–24 months vs. 25–36 months). No factor appeared to be significant.

Several caregivers took care of more than one child included in this study. In order to avoid dependence of observations, we used the observer Q-security scores in the final analyses. The AQS scores for the children sharing one caregiver were more similar compared to the scores for the children who did not share their caregiver with other children in this study (average difference for the ''only'' children was .25 (SD = .16); average difference for the children sharing a caregiver was .17 (SD = .17), [$t(162)$ = 3.49; $P < .001$].

Reliability of AQS

Test-retest reliability of attachment to mother. The stability of Q-security scores was tested in 26 mother-infant dyads (subsample C). We compared the Q-security derived from the AQS sorted by mothers (test) with the Q-security derived from the questionnaire (retest) completed by the mothers. The Pearson $r(26)$ was .82, indicating a high degree of stability between the two repeated measures. In order to verify whether nonresponse led to a biased sample, we compared the AQS security scores of this sample with the scores of those participants who refused to participate in this part of our study (N = 55). We did not find a significant difference [$t(79)$ = – .20; n.s.].

Test retest reliability of attachment to caregiver. The stability of Q-security scores was tested in 13 caregiver-infant dyads (subsample D). We compared the two repeated Q-security scores derived from the AQS sorted for the same child, by the same observer twice at an interval of 15–20 days. The Pearson $r(13)$ was .83, indicating a high degree of stability between the two assessments. Because the subsample is small, we computed the 95% confidence interval: $.55 < r < .94$

Inter-rater reliability of attachment to mother. Inter-rater reliability on AQS data between the two independent observers was computed in the 19 mother-child dyads constituting the subsample A. The dyads were observed by both observers at the same time. The inter-observer Pearson r was .88. This result can be considered a high level of inter-observer reliability, and is consistent with levels reported in earlier studies (Moran, Pederson, Pettit, & Krupka, 1992; Nakagawa, Teti, & Lamb, 1992; Pederson et al., 1990; Waters & Deane, 1985).

Inter-rater reliability of attachment to caregiver. Inter-rater reliability on the AQS for attachment to caregiver was computed on the 21 caregiver-infant dyads constituting subsample B. The dyads were observed by two independent observers at the same time. The inter-rater Pearson correlation was .70. This level of inter-rater reliability can be considered satisfactory, lower but not statistically different from the one obtained for attachment to the mother (z for the difference = 1.48; n.s).

Agreement between mother/caregiver-reported and observer-reported security scores

Mother-observer and caregiver-observer concordance for AQS security scores was calculated for the entire sample.

Attachment to mother. Pearson correlation between mother- and observer-derived security scores was calculated on 74 dyads (12 cases were missing). The correlation (r = .47; P< .01) indicated a level of mother-observer concordance that was statistically significant but moderate, in accordance with results reported in earlier studies (Pederson et al., 1990; Teti & McGourty, 1996; van IJzendoorn et al., in press; Vereijken & Kondo-Ikemura, 1994; White & Feldstein, 1994).

Attachment to caregiver. The Pearson correlation between caregiver- and observer-derived security scores was calculated on 85 dyads (one case was missing). The Pearson r was statistically significant but rather low (r = .31; P< .01).

Discussion

Concerning the reliability of security scores, we found that trained observers provide more reliable measures of attachment than both mothers and professional caregivers. The inter-coders agreement appears to be highest for the trained observers, whereas the stability of the AQS is similar. Although mothers and professional caregivers have greater access to their children's behaviour across a wider variety of contexts, at the same time their descriptions of the child could be influenced more easily by subjective impressions, by tendencies toward "socially desirable" responses, and by representations of one's role in the relationship with the child. In fact, observers were inclined to rate the children as less secure than their mothers, who might more easily overlook or under-report anxious attachment behaviours. Vereijken and Kondo-Ikemura (1994) demonstrated that the low similarity between mother and observer AQS should be ascribed to the different level of mothers' sensitivity. They claimed that for describing a child with the AQS, two important aspects of maternal sensitivity are required: (1) to perceive, and (2) to interpret adequately the children's signals. For this reason, Q-descriptions provided by insensitive mothers may not be valid assessments of their child's attachment. This hypothesis comes from van Dam and van IJzendoorn (1988) who found lack of convergence between the mother AQS security score and attachment security as assessed in the Strange Situation.

Study 3

Method

Participants

Fifty (58% male; 60% first-borns) of the 86 participants constituting the overall sample participated in this study. This subsample included all children who attended those child care centres that allowed us to visit them for a longer period, in order to collect data on play behaviour besides data on infant-caregiver attachment. Children's ages ranged from 14 to 36 months (M = 25.8; SD 6.56). Fifty-four per cent of the children were enrolled in the child care centres before their first birthday. Educational level of the mothers was average (28% primary, 57% secondary, 15% academic degree).

Procedures and measures

Child's play abilities. Each child was observed at the child care centre during free play sessions of 30 minutes in total (10 minutes on three different days). We chose to observe children on three different days to have a more representative sample of the child's play behaviours. All children were observed in the part of morning devoted exclusively to play activities (9.30–10.30 am). Definitions of play categories were taken from Rubin, Maioni, and Hornung (1976) whose coding scheme covered social (unoccupied, onlooker, solitary play, associative play, and cooperative play) and cognitive (functional play, constructive play, dramatic play, games with rules) play behaviour.

Before beginning scheduled observations, we adapted the original coding scheme to the use in our sample. We decided to create the category "inactivity" by combining the social categories "unoccupied" and "onlooker", and we considered this new category separately, included neither in the social nor in the cognitive play categories. Moreover, we did not consider the category "games with rules", which was only observed rarely in the children participating in this study. For each child, the proportion of observation time spent in each category was calculated.

To code the observed play behaviour, children's behaviours were classified by dividing the observation time into continuous intervals of 10 seconds. Each interval in which the child was unoccupied was classified "inactivity"; each interval in which the child was occupied in play activities was coded by means of two distinct codes: The first one referred to cognitive play abilities (functional play, constructive play, and dramatic play) and the second one referred to social play abilities (solitary play, associative play, and cooperative play). The cognitive play categories were exhaustive and mutually exclusive; the social play categories too.

To check the inter-rater reliability, 44% of the observations of the child's play were recorded simultaneously by two independent observers. Agreement between the two observers, computed by Cohen's kappa, was .72 for social play categories, .80 for cognitive play categories, and .77 for inactivity.

Mother- and caregiver- infant attachment. As a measure of attachment to mother and to caregiver we decided to use security scores derived from the observers' sorts because they appeared more reliable than those derived from Q-observations provided by mothers and caregivers (see Study 2).

Results

Preliminary analyses

Descriptive statistics for all play categories are presented in Table 2. The proportion of time spent in each category was submitted to a 2 (sex: male vs. female) × 2 (age: 14–24 months vs. 25–36 months) analysis of variance. Results revealed a main effect of age for the following categories: "inactivity" [F(1,49) = 6.28, P = < .05], "dramatic play" [F(1,49) = 17.15; P< .001], and "cooperative play" [F(1,49) = 8.79, P< .001]. More specifically, older children spent more time in "dramatic play" (M: age 14–24 = .05; age 25–36 = .13), and in "cooperative play" (M: age 14–24 = .05; age 25–

Table 2
Descriptive statistics for proportion of time spent by children on play activities

	M	*(SD)*	*Minimum*	*Maximum*
Inactivity	0.54	(0.15)	0.23	(0.88)
Social play abilities				
Solitary play	0.31	(0.13)	0.04	(0.58)
Associative play	0.09	(0.08)	0.00	(0.44)
Cooperative play	0.06	(0.07)	0.00	(0.30)
Cognitive play abilities				
Functional play	0.26	(0.12)	0.02	(0.49)
Constructive play	0.11	(0.13)	0.00	(0.54)
Dramatic play	0.09	(0.09)	0.00	(0.31)

36 = .12), but less time in ''inactivity'' (*M*: age 14–24 = .59; age 25–36 = .49). No main effects for sex emerged.

Relation between mother–infant attachment and children's play

To investigate the association between infant-mother attachment and children's play, partial correlations, controlling for age, were computed between Q-security scores and each play category. Results revealed a significant correlation between security of infant-mother attachment and dramatic play (r = .30; P< .05), the category indicating the highest cognitive level of play. Securely attached children spent more time in cognitively complex play irrespective of age. No significant association was found between attachment to mother and social play (Table 3).

Relation between infant-caregiver attachment and children's play

To analyse the association between infant-caregiver attachment and play, partial correlations, controlling for age, were computed between attachment and each play category. Results revealed a statistically significant correlation between attachment to caregiver and dramatic play (r = .30; P< .05).

In order to test the validity of the ''ideal child'' criterion sort, we also computed the partial correlations, controlling for age, between AQS scores based on the caregivers' criterion sort, and the play categories. Predictive validity tended to be higher for the caregivers' ideal child criterion sort, especially in the case of ''inactivity'' (r = –.47; P< .001 vs. r = –.27; n.s.), ''solitary play'' (r = .33; P< .05 vs. r = .16; n.s.), ''cooperative play'' (r = .31; P< .05 vs. r = .13; n.s.), and ''functional play'' (r = .20; n.s. vs. r = .06; n.s.) (Table 3). Using the ''ideal child'' criterion sort, the quality of the relationship with the caregiver was positively associated with the highest level of cognitive play and negatively associated with the lack of playing. Moreover, the quality of infant-caregiver relationship was positively associated with both cooperative play and solitary play.

Relation between the attachment network and play

To test the relation between the security of the attachment network and the children's play, we conducted a series of hierarchical multiple regression analyses on the proportion of time spent in the various play categories. Within the seven categories, we focused on ''dramatic play'' and ''inactivity'' which represent the highest and the lowest cognitive level of play, and ''cooperative play'' and ''solitary play'' which are supposed to represent the highest and the lowest level of social play. As some dimensions of play were related to children's age, we first computed the regression of children's age on the four play categories. The unstandardised residuals were used as dependent variables in subsequent regression analyses.

Four different regression analyses were conducted, one for each play category. Mother- and caregiver-infant attachments were the predictors. We entered infant-mother attachment in the first step of the regression equation and infant-caregiver attachment in the second step, reproducing the actual sequence of development of these relationships. The aim of this series of analyses was to evaluate the models proposed by van IJzendoorn et al. (1992).

As can be derived from Table 4, the network of attachment relationships appeared generally to be a more powerful predictor of play abilities, compared to the two relationships separately (mother- and caregiver-infant attachment). Together, the two attachment relationships account for a higher percentage of the variance of the selected play activity scores, with the exception of solitary play. More interestingly, compared with attachment to mother, attachment to caregiver seemed to be a more powerful predictor of the selected play activities (except solitary play): the beta weight of this variable was always higher across the analyses conducted.

With the exception of ''solitary'' play, none of the other regression analyses indicated that attachment to the mother was the only predictor or even the most powerful predictor of children's play. More precisely, dramatic play was predicted by

Table 3
Correlations between mother- and caregiver-infant attachment, and child's play abilities, controlling for child's age

	Mother-Infant Attachment	*Caregiver-Infant Attachment*	*Caregiver-Infant (Ideal) Relationship*
Inactivity	–.19	–.27	–.47**
Social play abilities			
Solitary play	.26	.16	.33*
Associative play	–.06	.11	.07
Cooperative play	–.05	.13	.31*
Cognitive play abilities			
Functional play	–.09	.06	.20
Constructive play	.11	.05	.14
Dramatic play	.30*	.30*	.29*

* $P \leq .05$; ** $P \leq .01$.

Table 4
Hierarchical regression analysis for mother- and caregiver-infant attachment

Independent Variables	*F change*	*Signif F change*	*F*	*Signif F*	*Beta*
Dependent Variable: Dramatic Play					
Step 1	3.91	.054	3.91	.054	
Mother-infant attachment					0.29
Step 2	3.82	.057	4.00	.026	
Mother-infant attachment					0.18
Caregiver-infant attachment					0.30
Dependent Variable: Inactivity					
Step 1	1.67	.203	1.67	.203	
Mother-infant attachment					– 0.19
Step 2	3.40	.072	2.58	.072	
Mother-infant attachment					– 0.09
Caregiver-infant attachment					– 0.29
Dependent Variable: Cooperative Play					
Step 1	0.10	.75	0.10	.75	
Mother-infant attachment					– 0.05
Step 2	1.16	.28	0.63	.53	
Mother-infant attachment					– 0.12
Caregiver-infant attachment					0.18
Dependent Variable: Solitary Play					
Step 1	3.15	.08	3.15	.08	
Mother-infant attachment					0.26
Step 2	0.44	.50	1.77	.18	
Mother-infant attachment					0.22
Caregiver-infant attachment					0.11

both mother- and caregiver-child attachment. When these two predictors were entered into the regression equation, a significant change in the percentage of explained variance was obtained (Table 4). These findings fitted the ''integration'' model, and they did not support the ''monotropy'', ''hierarchy'', or ''independence'' models. The dependent variables ''inactivity'' and ''cooperative play'' were better predicted by attachment to caregiver than to mother. In fact, attachment to caregiver account for a higher percentage of the variance of most of the selected play abilities scores. Especially in the case of ''inactivity'', the entry of attachment to caregiver into the regression equation produced a substantial change in explained variation, but it was only marginally significant. These findings fitted the ''independence'' model but they did not exclude the ''integration'' model.

Discussion

The results of the third study do not support the ''monotropy'' model because the professional caregiver appears to be an important attachment figure affecting several dimensions of the children's play. The ''hierarchy'' model is not supported by our data either because attachment to mother never appears to be the most powerful predictor of children's play, with the exception of solitary play. On the contrary, attachment to the caregiver is the best predictor. In accordance to our expectations, the ''independence'' and ''integration'' models are more compatible with the data of the present research. Because both attachments to the mother and to the caregiver contribute to its prediction, ''dramatic play'' can be interpreted more adequately on the basis of the ''integration'' model. Because attachment to the caregiver is the most powerful predictor of ''inactivity'', this aspect can be explained better on the basis of the ''independence model'', although attachment to the mother increased the power of the prediction.

On the basis of these findings we suggest that both mother and professional caregiver may be important attachment figures influencing the cognitive dimension of play, but the amount of inactive time is better predicted by the quality of attachment to professional caregiver. Children, who are securely attached to their caregiver in centre care, are inclined to be more involved in play activities. The caregiver, therefore, seems to function as a secure base from which the child is able to explore the environment. The quality of these play activities, however, seems to be influenced by the cognitive abilities that the child developed in the contexts of both home and child care centre.

Concerning social play, our data are less clear and powerful. ''Cooperative play'' is predicted better by attachment to the caregiver, and negatively predicted by mother-infant attachment, which confirms the independence model. However, ''solitary play'' is predicted better by mother-infant attachment.

Security of attachment to the caregiver and to the mother is positively associated with ''solitary play'' which is an unexpected outcome because ''solitary play'' usually is considered to be a low level of social play activity (Rubin et al., 1976). We suggest that in the context of child care centres ''solitary play'' does not necessarily imply a negative meaning. ''Solitary play'' should not be confused with ''inactivity'', which is preferred by insecure children more than by secure children. ''Solitary play'' can be chosen because the (insecure) child does not have the skills to play in cooperation with peers, but a (secure) child may also chose a solitary activity because he/she

is able to use constructively the possibility of being alone, even in a group setting (Berlin, 1995; Kobak & Sceery, 1988).

Concerning social play abilities, it is interesting to note that the scores based on the caregivers' criterion sort (ideal child) show a higher predictive power on child play behaviour. These findings suggest at least two different possibilities. It is likely that the criterion sort provided by caregivers includes ideas of appropriate play behaviour in the day care centre and, consequently, allows us to obtain a powerful prediction of child behaviours in that context. Nevertheless, it is also likely that the caregivers' criterion sort takes into account some relevant contextual differences between home and day care centres in describing the children's behaviours. Consequently, it allows us to obtain information on the validity of specific caregivers' and children's secure-base behaviours in the specific context of the day care centre.

General discussion

The current studies are the first to use the Attachment Q-Sort in Italian families and child care centres. A preliminary step was to test the cross-cultural equivalence of the concept of attachment, or more specifically, of secure-base behaviour. The AQS is an adequate means of assessing conceptually the cross-cultural equivalence of attachment because it facilitates a precise definition of a secure attachment relationship on the basis of concrete secure-base behaviours (Posada et al., 1995). Italian experts appear to define attachment security as being very similar to that of experts from the USA and other Western countries. In only a small number of items do the Italian experts disagree with their American colleagues. They describe Italian secure children as somewhat less sociable with new people, as less compliant, as more dependent, and as less active than American secure children. Overall, however, the cross-cultural similarities are more striking than the discrepancies.

Even more important, professional caregivers strongly agree with the experts in their description of the ideal child. Professional caregivers provided descriptions of an optimally functioning child in the context of group care. Contrary to our expectation, this "ideal child" appears to be very similar to the secure child of the attachment experts. Of course, we also found a few differences. Caregivers specifically emphasise independence, positive affect, and play with toys. They consider an exclusive orientation of the child to his/her own professional caregiver to be less important. The discrepancies mirror the differences between the home context in which often one parent cares for a few children at the same time, and centre care in which more caregivers are responsible for several children. In centre care, caregivers aim at stimulation of social and cognitive development, and they intend to facilitate the interaction with peers and play material. Although caregivers value infant-caregiver attachment, they try to prevent an exclusive dependence on one adult caregiver; it is valued when children are able to seek support from more caregivers.

Nevertheless, the "ideal child" description of the professional caregivers is surprisingly similar to the secure child of the attachment experts. The strong association between the "ideal" and the "secure" criterion sorts reveals a high similarity between the two constructs. Moreover, although the caregivers' criterion sort gives somewhat more weight to independence, caregivers do not assign a similar importance to avoidant behaviours. To value independence at the day care centre does not necessarily mean that caregivers would appreciate avoidant attachments. Finally, in the context of child care centres, the caregivers' criterion sort showed a higher predictive validity than that of the experts. The AQS scores based on the caregivers' criterion sort appeared to be more strongly associated to several dimensions of child play abilities than those based on experts' criterion sorts.

All these considerations lead us to consider that caregivers' criterion sort may take into account some relevant contextual differences between home and day care centres in describing the children's behaviours; at the same time, the "ideal" criterion sort is similar to the construct of security and, in addition, shows predictive validity in line with the predictions of attachment theory. From the caregivers' perspective, the most important behavioural dimension in child care centres is secure-base behaviour (Waters et al., 1995).

These findings suggest the opportunity to create a specific criterion sort for security at day care centre that takes into account the peculiarities of that child-rearing context. Our study does not allow us to consider the criterion sort provided by caregivers a specific assessment of the child's attachment to professional caregivers because caregivers did not know the concept of attachment as it is being used in the formal context of attachment theory. Nevertheless, the high similarity of caregivers' criterion sort to that of the experts and its higher predictive validity in line with the predictions of attachment theory gives support to our hypothesis concerning the equivalent meaning that various secure-base behaviours can assume in different interactional contexts.

Although most children develop within the context of a network of attachment relationships, only a few studies have addressed the crucial issue of how the children's attachments to several parental and nonparental caregivers affect their socioemotional and cognitive development (Bretherton, 1985). Various models have been proposed but empirical tests remain difficult to perform. From our study on two important (but by no means exhaustive) attachment relationships—to the mother and to the professional caregiver—we are not able to draw definite conclusions. First, only one dimension of children's development (i.e. their social and cognitive play level, was studied in the specific context of centre care). Second, important attachment relationships were left out of the equation, such as the attachments to the father or to the grandparents.

Nevertheless, we feel that there is little reason to believe in the "monotropy" model or in the "hierarchy" model in which the mother is supposed to be the only or at least by far the most important attachment figure in all domains of functioning. In our study on attachment and play, the professional caregiver appears to be an important attachment figure affecting all dimensions of the children's play, even being the more powerful predictor of play compared to the mother. In observing play behaviour at the child care centre, we favoured, of course, the caregiver but both the "monotropy" and "hierarchy" model would imply a strong impact of the mother even in out-of-home settings. The "independence" and "integration" models are more compatible with our findings, but it is impossible to conclude which model fits the data better. In fact, a crucial test to select the "independence" or the "integration" model as more adequately representing the child's experiential world is difficult to imagine. It would entail at least the evaluation of children's development in several areas in which different parental and nonparental caregivers

would be responsible. In our case, we were limited to the domain of play in centre care for which only the professional caregiver is responsible. In that specific domain, not only the children's attachment to the mother but also to the professional caregiver leaves their mark on their play behaviour, in accordance with the results reported by other studies (Howes et al., 1988; Mardell, 1992).

In sum, we started this series of studies with the goal of validating the Attachment Q-Sort in the Italian child-rearing contexts of home and centre care, and to throw some light on the complicated issue of attachment networks. The studies document the psychometric quality of the AQS in an Italian sample of mothers and professional caregivers. Although more research on the antecedents of AQS security is needed, the measure appears to be a flexible and valid measure of attachment security. In comparison to the well-known Strange Situation procedure, the AQS is more flexible in terms of a wider age range and a wider range of concepts to be assessed; furthermore, it is less intrusive because it is completed in the natural setting and it may be applied at regular intervals, for example, in the course of preventive or therapeutic interventions. Concerning attachment networks, our findings do not support the idea of ''monotropy'' or of a ''hierarchy'' of attachment relationships in which the attachment to the mother is the most important one. But we are not able to chose among the ''independence'' and the ''integration'' models. For play in centre care, both attachments to the mother and to the professional caregiver are important, with a somewhat greater impact of the latter.

Manuscript received July 1997
Revised manuscript received June 1998

References

Ainsworth, M.D.S., Blehar, M.C., Waters, E., Wall, S. (1978). *Patterns of attachment: A psychological study of the Strange Situation*. Hillsdale. NJ: Erlbaum.

Ammaniti, M., Candelori, C., Pola, M., Speranza A.M., Tambelli, R. (1994). Influenze culturali e dinamiche relazionali nell'attaccamento infantile. Indagine su un campione italiano [Cultural influences and relational dynamics in infantile attachment: Study of an Italian sample]. *Età Evolutiva*, *47*, 99–109.

Anderson, C.W., Nagle, R.J., Roberts, W.A., & Smith, J.W. (1981). Attachment to substitute caregivers as a function of centre quality and caregiver involvement. *Child Development*, *52*, 53–61.

Barnas, M.V., & Cummings, E.M. (1994). Caregiver stability and toddlers' attachment-related behavior towards caregivers in day care. *Infant Behavior and Development*, *17*, 141–147.

Berlin, L.J. (1995). Loneliness in young children and infant-mother attachment: A Longitudinal Study. *Merrill-Palmer Quarterly*, *41*, 91–103.

Bowlby, J. (1969). *Attachment and loss: Vol. 1. Attachment*. New York: Basic Books.

Bretherton, I. (1985). Attachment theory: Retrospect and prospect. In I. Bretherton & E. Waters (Eds.), Growing points in attachment theory and research (pp. 3–35). *Monographs of the Society for Research in Child Development*, *50* (1, Serial No. 209).

Brislin, R.W. (1980). Translation and content analysis of oral and written material. In H.C. Triandis & R.W. Brislin (Eds.), *Handbook of cross-cultural psychology/social psychology*. Boston, MA: Allyn & Bacon.

Bus, A.G. (1993). Attachment and emergent literacy. *International Journal of Educational Research*, *19*, 573–582.

Camras, L.A., & Sachs, V.B. (1991). Social referencing and caretaker expressive behavior in a day care setting. *Infant Behavior and Development*, *14*, 27–36.

Cassibba, R. (1994). L'uso dell'Attachment Q-set nella valutazione dell'attaccamento alla madre e all'educatrice di asilo nido [The use of attachment Q-sort in the evaluation of infant-mother and infant-caregiver attachment]. *Età Evolutiva*, *48*, 42–50.

Cristante, F., Lis, A., & Sambin, M. (1982). *Strumenti per la psicologia* (Statistical methods for psychology). Florence, Italy: Giunti Barbera.

Cummings, E.M. (1980). Caregiver stability and day care. *Developmental Psychology*, *16*, 31–37.

De Wolff, M.S., & van IJzendoorn, M.H. (1997). Sensitivity and attachment: A meta-analysis on parental antecedents of infant attachment. *Child Development*, *68*, 571–591.

Fava Vizziello, G.M., Rebecca, L., Calvo, V., Giaccherini, S., & Nofri, F. (1995). Nascita pretermine: Rappresentazioni materne, attaccamento e sviluppo del bambino [Preterm birth: Maternal representations, attachment and infant development]. In A. Pazzagli, P. Benvenuti, & B. Guerrini Degl'Innocenti (Eds.), *Bambini e genitori: Attaccamento e psicopatologia* [Children and parents: Attachment and psychopathology] (pp. 171–200). Florence, Italy: Loggia de' Lauri.

Fox, N. (1977). Attachment of kibbutz infants to mother and metapelet. *Child Development*, *48*, 1228–1239.

Goossens, F.A., & van IJzendoorn, M.H. (1990). Quality of attachment to professional caregivers: Relation to infant-parent attachment and day-care characteristics. *Child Development*, *61*, 832–837.

Howes, C., & Hamilton, C.E. (1992a). Children's relationships with caregivers: Mothers and child care teachers. *Child Development*, *63*, 859–866.

Howes, C., & Hamilton, C.E. (1992b). Children's relationships with child care teachers: Stability and concordance with parental attachment. *Child Development*, *63*, 867–878.

Howes, C., Hamilton, C.E., & Matheson, C.C. (1994a). Children's relationships with peers: Differential associations with aspects of the teacher-child relationship. *Child Development*, *65*, 253–263.

Howes, C., Hamilton, C.E., & Philipsen, L.C. (1998). Stability and continuity of child-caregiver and child-peer relationships. *Child Development*, *69*, 418–426.

Howes, C., Matheson, C.C., & Hamilton, C.E. (1994b). Maternal, teacher and child care history correlates of children's relationships with peers. *Child Development*, *65*, 264–273.

Howes, C., Phillips, D.A., & Whitebook, M. (1992). Thresholds of quality: Implications for the social development of children in center-based child care, *Child Development*, *63*, 449–460.

Howes, C., Rodning, C., Galluzzo, D., & Myers, L. (1988). Attachment and child care: Relationship with mother and caregiver. *Early Childhood Research Quarterly*, *3*, 403–416.

Howes, C., & Smith, E.W. (1995). Children and their child care caregivers: Profiles of relationships. *Social Development*, *4*, 44–61.

Istat (1996). Rapporto occupazione/popolazione per sesso, classe di età e ripartizione geografica (dati percentuali) [Population/employment ratio by sex, age group, and geographical distribution (in percentages)]. *Annuario Statistico Italiano* [Italian Statistical Yearbook]. Rome: Istat.

Kindermann, T.A. (1993). Fostering independence in mother-child interactions: Longitudinal changes in contingency patterns as children grow competent in developmental tasks. *International Journal of Behavioral Development*, *16*, 513–535.

Kobak, R.R., & Sceery, A. (1988). Attachment in late adolescence: Working models, affect regulation, and representations of self and others. *Child Development*, *59*, 135–146.

Lamb, M.E. (1976). Interaction between eight-month-old children and their fathers and mothers. In M.E. Lamb (Ed.), *The role of the father in child development*. New York: Wiley.

Liebrand, W. (1977). Maslows's hierarchische rangschikking van fundamentele behoeften [Maslow's hierarchical arrangement of fundamental needs]. *Nederlands Tijdschrift voor de Psychologie*, *32*, 67–80.

Lyons-Ruth, K. (1996). Attachment relationships among children with aggressive behavior problems: The role of disorganized early attachment patterns. *Journal of Consulting and Clinical Psychology*, *64*, 64–73.

Mardell, B. (1992). A practioner's perspective on the implications of attachment theory for daycare professionals. *Child Study Journal*, *22*, 201–231.

Matas, L., Arend, R.A., Sroufe, L.A. (1978). Continuity of adaptation in the second year: The relationship between quality of attachment and later competence. *Child Development*, *49*, 547–556.

Moran, G., Pederson, D., Pettit, P., & Krupka, A. (1992). Maternal sensitivity and infant-mother attachment in a developmentally delayed sample. *Infant Behavior and Development*, *15*, 427–442.

Nakagawa, M., Teti, D.M., & Lamb, M.E. (1992). An ecological study of child attachments among Japanese sojourners in the United States. *Developmental Psychology*, *28*, 584–592.

Oppenheim, D., Sagi, A., & Lamb, M.E. (1988). Infant-adult attachments on the kibbutz and their relation to socioemotional development 4 years later. *Developmental Psychology*, *24*, 427–433.

Pastor, D.L. (1981). The quality of mother-infant attachment and its relationships to toddlers initial sociability with peers. *Developmental Psychology*, *17*, 326–335.

Pederson, D.R., & Moran G. (1995). A categorial description of infant-mother relationships in the home and its relation to Q-sort measures of infant-mother interaction. In E. Waters, B.E. Vaughn, G. Posda, K. Kondo-Ikemura (Eds.), Caregiving, cultural, and cognitive perspectives on secure-base behavior and working models. New growing points of attachment theory and research

(pp. 111–132). *Monographs of the Society for Research in Child Development*, *60* (Serial No. 244).

Pederson, D.R., Moran, G., Sitko, C., Campbell, K., Gesquire, K., & Acton, K. (1990). Maternal sensitivity and the security of infant-mother attachment: A Q-sort study. *Child Development*, *61*, 1974–1983.

Posada, G., Gao, Y., Wu, F., Posada, R., Tascon, M., Schoelmerich, A., Sagi, A., Kondo-Ikemura, K., Haalamd, W., Synnevaag, B. (1995). The secure-base phenomenon across cultures: Children's behavior, mothers' preferences, and experts' concepts. In E. Waters, B.E. Vaughn, G. Posada, & K. Kondo-Ikemura (Eds.), Caregiving, cultural, and cognitive perspectives on secure-base behavior and working models. New growing points of attachment theory and research (pp. 27–48). *Monographs of the Society for Research in Child Development*, *60*, (Serial No. 244).

Rickel, A.U.S., & Biasatti, L.L. (1982). Modification of the Block Child Rearing Practices Report. *Journal of Clinical Psychology*, *38*, 129–134.

Rubin, K.H., Maioni, T.L., & Hornung, M. (1976). Free play behaviors in middle- and lower-class preschoolers: Parten and Piaget revisited. *Child Development*, *47*, 414–419.

Sagi, A., Lamb, M.E., & Gardner, W. (1986). Relations between Strange Situation behavior and stranger sociability among infants on Israeli kibutzim. *Infant Behavior and Development*, *9*, 271–282.

Sagi, A., van IJzendoorn, M.H., Aviezer, O., Donnell, F., Koren-Karie, N., Joels, T., & Harel, Y. (1995). Attachments in a multiple-caregiver and multiple-infant environment: The case of the Israeli kibbutzim. In E. Waters, B.E. Vaughn, G. Posada, & K. Kondo-Ikemura (Eds.), Caregiving, cultural, and cognitive perspectives on secure-base behavior and working models. New growing points of attachment theory and research (pp. 71–91). *Monographs of the Society for Research in Child Development*, *60* (Serial No. 244).

Scholmerich, A., Fracasso, M.P., Lamb, M.E., & Broberg, A.G. (1995). Interactional harmony at 7 and 10 months of age predicts security of attachment as measured by Q-sort ratings. *Social Development*, *4*, 62–74.

Scholmerich, A., & van Aken, M. (1996). Attachment security and maternal concepts of ideal children in Northern and Southern Germany. *International Journal of Behavioral Development*, *19*, 725–738.

Sroufe, L.A. (1988). The role of infant-caregiver attachment in development. In J. Belsky & T. Nezworsky (Eds.), *Clinical implications of attachment* (pp. 18–38). Hillsdale, NJ: Erlbaum.

Teti, D.M., & Ablard, K.E. (1989). Security of attachment and infant-sibling relationships: A laboratory study. *Child Development*, *60*, 1519–1528.

Teti, D.M., & McGourty, S. (1996). Using mothers versus trained observers in assessing children's secure base behavior: Theoretical and methodological considerations. *Child Development*, *67*, 597–605.

Thompson, R.A., & Lamb, M.E. (1983). Security of attachment and stranger sociability in infancy. *Developmental Psychology*, *19*, 184–191.

Van Dam, M., & van IJzendoorn, M. (1988). Measuring attachment security: Concurrent and predictive validity of the parental Attachment Q-set. *Journal of Genetic Psychology*, *149*, 447–457.

Van IJzendoorn, M.H., Sagi, A., & Lambermoon, M.W.E. (1992). The multiple caretaker paradox: Some data from Holland and Israel. In R.C. Pianta (Ed.), Beyond the parent: The role of other adults in children's lives (pp. 5–24). *New Directions for Child Development*, *57*.

Van IJzendoorn, M.H., Vereijken, C.M, & Riksen-Walraven, M.J.M.A. (in press). Is the Attachment Q-sort a valid measure of attachment security in young children? In B.E. Vaughn & E. Waters (Eds.), *Patterns of secure base behavior: Q-sort perspective on attachment and caregiving*. Hillsdale, NJ: Erlbaum.

Vaughn, B.E., Strayer, F.F., Jacques, M., Trudel, M., & Seifer, R. (1991). Maternal descriptions of 2- and 3-year-old children: a comparison of attachment Q-sorts in two sociocultural communities. *International Journal of Behavioral Development*, *14*, 249–271.

Vaughn, B.E., & Waters, E. (1990). Attachment behavior at home and in laboratory: Q-sort observations and Strange Situation classification of one-year-olds. *Child Development*, *61*, 1965–1973.

Vereijken, C.M., & Kondo-Ikemura, K. (1994). *Mother-child attachment in Japan: Assessment of attachment security with maternal and observer Q-sort and its relation to maternal sensitivity*. Poster presented at the XIIIth Biennial Meeting of ISSBD, Amsterdam, The Netherlands.

Waters, E. (1987). *Attachment Behavior Q-set (Revision 3.0)*. Unpublished instrument, State University of New York at Stony Brook, Department of Psychology.

Waters E., & Deane, K.E. (1985). Defining and assessing individual differences in attachment relationships: Q-methodology and the organization of behavior in infancy and early childhood. In I. Bretherton & E. Waters (Eds.), Growing points in attachment theory and research (pp. 41–65). *Monographs of the Society for Research in Child Development*, *50*, (1, Serial No. 209).

Waters, E., Vaughn, B.E., Posada, G., & Kondo-Ikemura, K. (Eds.) (1995). Caregiving, cultural, and cognitive perspectives on secure-base behavior and working models. New growing points of attachment theory and research. *Monographs of the Society for Research in Child Development*, *60*, (Serial No 244).

Waters, E., Wippman, J., & Sroufe, L.A. (1979). Attachment, positive affect, and competence in the peer group: Two studies in construct validation. *Child Development*, *50*, 821–829.

White, K., & Feldstein, S. (1994). *Infant secure base as assessed by the Strange Situation and the Q-sorts of mothers and observers: Comparisons within and across methods*. Paper presented at the IXth International Conference of Infant Studies, Paris, France.

Appendix

The Italian Attachment Q-Sort

	Experts (Secure Child)		*Caregivers (Ideal Child)*	
Items	*M*	(SD)	*M*	*(SD)*
1. Readily shares or shares if m/c[a] asks	7.87	(0.92)	7.78	(0.88)
2. Fussy when returns from play—no reason	2.87	(1.64)	2.06	(1.39)
3. Accepts comfort other than m/c if hurt	4.07	(2.02)	6.67	(2.09)
4. Careful and gentle with toys	5.80	(1.08)	6.56	(1.62)
5. More interested in people than things	6.20	(1.42)	4.83	(0.92)
6. Fusses or drags m/c to things he wants	2.47	(0.74)	1.89	(1.49)
7. Laughs/smiles easily with many people	4.80	(2.81)	5.72	(2.11)
8. When child cries—cries hard	3.60	(2.10)	4.17	(2.07)
9. Light-hearted and playful	6.47	(1.19)	8.22	(1.11)
10. Often cries/resists going to bed or nap	3.60	(2.10)	2.11	(1.32)
11. Hugs or cuddles m/c spontaneously	7.20	(2.40)	6.94	(1.92)
12. Gets over initial fear of people/things	6.80	(1.82)	6.39	(1.54)
13. Upset by m/c leaving—continues to cry	3.60	(2.97)	3.89	(1.88)
14. Finds new toy—brings to m/c or shows	7.93	(1.10)	4.61	(2.62)
15. Will talk to new person if m/c asks	4.60	(2.20)	4.17	(1.69)
16. Prefers toys modelled after live things	5.60	(1.64)	4.94	(1.51)
17. Loses interest in new adults who annoy	5.27	(1.39)	4.83	(1.65)

	Experts (Secure Child)		*Caregivers (Ideal Child)*	
Items	*M*	(SD)	*M*	*(SD)*
18. Follows m/c suggestions readily	6.53	(1.25)	6.39	(1.54)
19. If m/c says bring or give—child does	7.33	(1.29)	7.28	(1.23)
20. Ignores most bumps falls or startles	4.27	(1.91)	5.11	(1.75)
21. Keeps track of m/c location when playing	6.67	(2.53)	4.33	(2.57)
22. Acts like affectionate parent with toys	6.20	(2.14)	6.28	(1.87)
23. Wants m/c attention for self	3.73	(1.28)	2.50	(1.50)
24. Sorry or ashamed if m/c speaks firmly	6.87	(1.73)	6.00	(2.22)
25. Easy for m/c to lose track of	2.40	(1.99)	3.39	(2.40)
26. Cries when left with sitter etc	3.87	(2.10)	1.83	(1.42)
27. Laughs when m/c teases	5.80	(2.04)	6.22	(1.99)
28. Enjoys relaxing in m/c lap	7.00	(2.59)	7.89	(1.68)
29. Attends deeply to play—doesn't hear . . .	3.00	(1.41)	3.33	(1.97)
30. Easily becomes angry with toys	2.27	(0.80)	2.61	(1.50)
31. Wants to be center m/c attention	3.73	(1.79)	3.00	(1.97)
32. Stops misbehavior when told "No"	7.27	(1.22)	6.67	(1.57)
33. Wants put down—fusses; wants back up	1.67	(0.98)	2.61	(2.00)
34. Upset over m/c leaving—sits and cries	1.67	(1.05)	4.56	(1.46)
35. Independent with m/c; leaves easily	2.20	(1.47)	5.67	(2.74)
36. Clearly uses m/c as base to explore	8.87	(0.52)	7.44	(1.79)
37. Child is very active	4.27	(1.39)	5.39	(1.09)
38. Demanding/impatient; fusses; persists	2.87	(2.59)	2.44	(1.58)
39. Serious and businesslike playing alone	5.33	(1.40)	5.89	(2.42)
40. Examines new objects or toys in detail	5.93	(2.02)	6.83	(2.01)
41. Follows when m/c says to do so	7.33	(1.05)	7.78	(0.88)
42. Recognizes when m/c is upset	6.27	(2.31)	4.83	(1.92)
43. Stays closer than keeping track requires	2.53	(1.85)	3.06	(1.55)
44. Asks for/enjoys m/c to hug cuddle hold	8.07	(0.96)	7.28	(1.45)
45. Enjoys dancing or singing with music	5.40	(0.91)	8.00	(1.14)
46. Gets around without drop bump stumble	5.00	(1.41)	5.78	(3.02)
47. Accepts sounds/bouncing if m/c smiles . . .	4.80	(1.47)	5.39	(1.72)
48. Shares with new adults if they ask	5.07	(2.19)	5.78	(2.02)
49. Runs m/c with shy smile when visitors . . .	5.73	(2.37)	5.28	(1.49)
50. Ignore or avoid visitors at first	4.20	(2.24)	5.22	(1.83)
51. Enjoys climbing all over visitors	3.67	(2.19)	4.00	(2.09)
52. Trouble handling small objects	4.00	(1.07)	2.56	(1.50)
53. Arms around m/c; holds on when held	8.53	(0.92)	8.06	(2.04)
54. Expects m/c to be interfering	1.60	(0.74)	2.33	(1.03)
55. Copies behaviours from watching m/c	5.93	(1.83)	4.11	(2.08)
56. Loses interest in difficult activities	4.00	(1.36)	4.28	(1.99)
57. Child is fearless	4.13	(2.07)	4.22	(2.16)
58. Ignores adults who visit home	2.93	(1.10)	3.17	(1.65)
59. New activity without going to m/c first	4.53	(1.55)	6.61	(2.40)
60. Less afraid if m/c says "It's OK" . . .	8.53	(0.52)	7.50	(1.29)
61. Plays roughly with m/c; bumps scratches	1.80	(0.86)	2.72	(1.67)
62. When happy—stays that way all day	6.87	(1.30)	7.50	(1.65)
63. Goes for help before trying on his own	3.33	(1.18)	2.72	(1.56)
64. Enjoys climbing all over m/c in play	5.80	(2.04)	7.17	(2.15)
65. Upset if m/c makes child change activity	2.73	(1.44)	3.00	(1.57)
66. Easily fond of friendly adults who visit	6.33	(1.35)	6.50	(1.72)
67. Wants visitors to pay a lot of attention	3.87	(1.19)	3.28	(1.27)
68. Child more active than m/c	3.73	(1.22)	5.61	(2.00)
69. Rarely asks m/c for help	1.80	(0.68)	4.56	(2.12)
70. Greets m/c spontaneously	8.60	(1.06)	8.67	(0.59)
71. Afraid/upset—Stops cry if held by m/c	8.87	(0.35)	7.94	(1.00)
72. Repeats activity if visitors laugh	5.60	(1.35)	4.50	(2.20)
73. Has a cuddly toy or security blanket	5.93	(2.76)	3.44	(2.06)
74. Acts like m/c won't comply if m/c delay	2.00	(1.00)	2.28	(1.32)
75. Upset if m/c leaves room at home	2.27	(1.03)	2.28	(1.13)
76. Rather play with toys than with adults	2.93	(1.49)	4.72	(1.53)
77. Understands what m/c want child to do	7.67	(1.54)	7.50	(1.82)
78. Enjoys hugs from adults other than m/c	3.40	(2.20)	3.44	(1.76)
79. Easily becomes angry with m/c	1.40	(0.63)	1.83	(0.86)
80. Uses m/c face expression for information	8.60	(0.83)	6.44	(1.85)
81. Cries to get m/c to do what is wanted	1.93	(0.88)	1.39	(0.85)

	Experts (Secure Child)		*Caregivers (Ideal Child)*	
Items	*M*	(SD)	*M*	*(SD)*
82. Most playtime with a few favourite toys	4.00	(1.00)	4.50	(1.79)
83. Bored—Goes to m/c for something to do	6.93	(1.33)	4.78	(2.44)
84. Makes effort to be tidy around house	5.60	(1.06)	6.28	(2.65)
85. Attracted to new activities/toys	7.00	(1.56)	6.61	(1.91)
86. Tries to get m/c to imitate; enjoys . . .	6.27	(1.10)	4.94	(2.31)
87. If m/c laugh/approve—child repeats	6.67	(1.59)	5.50	(2.41)
88. When upset—sits and cries; not go m/c	2.53	(1.13)	2.56	(1.25)
89. Facial expressions are strong and clear	7.60	(1.18)	7.67	(1.19)
90. m/c moves off—child moves play along	7.93	(0.96)	5.00	(2.43)

[a] m/c = mother/caregiver.