

ATTACHMENT SECURITY AND INDISCRIMINATELY FRIENDLY  
BEHAVIOR IN CHILDREN ADOPTED FROM ROMANIAN ORPHANAGES

by

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Attachment Security and Indiscriminately Friendly

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Behavior in Children Adopted From Romanian Orphanages

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## Abstract

Attachment and indiscriminately friendly behavior were assessed in children who had spent at least 8 months in a Romanian orphanage (RO) and two comparison groups of children: a Canadian-born, non-adopted, never institutionalized comparison group (CB) and an Early adopted comparison group adopted from Romania before the age of 4 months (EA). Attachment was assessed using 2 measures: an attachment security questionnaire based on parent report and a Separation Reunion procedure that was coded using the Preschool Assessment of Attachment (Crittenden, 1992). Indiscriminately friendly behavior was examined using parents' responses to 5 questions about their children's behavior with new adults. Although RO children did not score differently from either CB or EA children on the attachment security measure based on parent report, they did display significantly more insecure attachment patterns than children in the other two groups. In addition, RO children displayed significantly more indiscriminately friendly behavior than both CB and EA children, who did not differ in terms of indiscriminate friendliness. RO children's insecure attachment patterns were not associated with any aspect of their institutional environment, but were related to particular child and family characteristics. Specifically, insecure RO children had more behavior problems, scored lower on the Stanford-Binet intelligence scale, and had parents who reported significantly more parenting stress than RO children classified as secure.

## DEDICATION

To Derf, Ryanne, and Colin for all their love and support through this and all our adventures; and for my mother who has lived this one as much as I have.

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## Introduction

The importance of attachment relationships for children's development has long been recognized in the developmental literature (Bowlby, 1969/1982; Bretherton, 1985). The purpose of the present study was to assess possible differences in the quality of the attachment between children adopted to Canada after at least 8 months in Romanian orphanages (RO group) and two comparison groups of children: a Canadian-born, non-adopted, never institutionalized group (CB group) and a comparison group of early-adopted Romanian-born children (EA group) adopted to Canada before the age of 4 months, with minimal or no orphanage experience. Children adopted from Romanian orphanages are an important group to study with respect to attachment because prior to their adoption they have had no primary caregivers with whom to form attachment relationships. Child-to-caregiver ratios in Romanian institutions ranged from 10:1 for infants to as high as 20:1 for children over three years of age (Chisholm, Carter, Ames, & Morison, 1995) and children were exposed to a series of inattentive caregivers, preventing them from establishing attachment relationships. Therefore, this population provided a unique opportunity to study the development of a first attachment beyond infancy.

The impact of forming a first attachment beyond infancy has not been clearly assessed because this situation is extremely rare. Early research on institutionalized children suggested that such children were incapable of forming an attachment with substitute parents (Goldfarb, 1945a; 1945b). This conclusion, however, was based on descriptive data from very small numbers of children, many of whom lived in a series of foster homes. In contrast, although Bowlby (1988) suggested a sensitive period for the development of attachment, he viewed this period as broad, extending from

infancy through adolescence. Developing a first attachment beyond infancy, however, necessarily implies that a child has experienced some form of extreme interpersonal deprivation in the first year or two of life. The factor of time is confounded with deprivation.

There are reasons to suppose that developing an attachment later than is typical may present more difficulties. Attachment behaviors that are organized towards a particular caregiver are evident typically between 6 and 12 months of age (Bowlby, 1969/1982). Given the complete dependency of young infants, an adequate caregiver would be one who readily responds to an infant's needs for close contact and understands an infant's distress if separated from the caregiver. When a child is beyond two years of age caregivers may expect him or her to display more autonomy, and as a result, may be less responsive to a child's overtures. A caregiver may not be as willing to respond to a two-year-old's need for close contact. For example, the need for contact may be viewed as "clingy" rather than as "cuddly" behavior. As well, caregivers may not be as patient with a two-year-old's distress at separation as they were with a one-year-old's distress. If a child is only beginning to develop an attachment at the same time that a parent is expecting a child to display more autonomy, this could create problems in the parent-child relationship. Given the importance of parental responsiveness to the development of attachment (Ainsworth, Blehar, Waters, & Wall, 1978) it may be more difficult for an older child to develop a secure attachment with a less than responsive caregiver. This suggests that there may be an optimal age during which a child's attachment behaviors are considered "normal" by parents, whereas at later ages the same behavior may be considered overly demanding.

Another factor that may affect the development of attachment in orphanage children is the extreme neglect they experienced during their early lives. Ames and Carter (1992) have reported that children in most Romanian orphanages spent as many as 20 hours a day in their cribs and, as a result of inadequate staffing, any human interaction they experienced was limited to the provision of minimal physical care. None of the orphanages was equipped with adequate funding, food, or medical supplies. As a result of their experience with extreme neglect in infancy, a majority of orphanage children lacked many typical pre-attachment behaviors (e.g., smiling, making eye contact, crying). In the present orphanage sample, at the time their parents first met them (median age = 18 months) fewer than half of the children would smile back at someone who smiled at them (McMullan & Fisher, 1992), and several parents reported behavior in their children that seemed to indicate an inability to let their needs be known. For example, based on their parents' reports, 14% of children did not appear to experience pain, and 31% of children would lie quietly and not signal when they were awake (Chisholm & Savoie, 1992). Such uncommunicative behavior may place these children at risk for the development of attachment, given that these are the behaviors that children use to promote and maintain proximity with an attachment figure.

Several studies have demonstrated that most abused and neglected children are insecurely attached to caregivers (Crittenden, 1985, 1991; Egeland & Sroufe, 1981; Schneider-Rosen, Braunwald, Carlson, & Cicchetti, 1985). Bretherton (1985) suggested that such children have developed internal working models of others as unloving and of self as unlovable. In addition, abused and/or neglected children often display either a difficult or passive style in interactions with parents (Crittenden, 1988). In these instances, however, children have typically been abused and/or

neglected by their parents, which is clearly not the case with children adopted from Romanian orphanages. However, orphanage children's experience with early neglect may result in their developing internal working models of distrust and difficult or passive interaction styles, each of which may affect, but also be attenuated by, adoptive parents' own working models and interaction styles.

In summary, three factors contribute to the prediction that children adopted from Romanian orphanages may be at risk for problems in the development of attachment: 1) parents may not be as responsive to an older child's need for proximity or close contact; 2) many orphanage children did not display pre-attachment behaviors at the time of their adoption; and 3) it is likely that orphanage children have developed working models of distrust as a result of their experience of extreme neglect; this may promote difficult or passive interaction styles which may have a negative impact on their parents' responsiveness toward them. Our preliminary work assessing differences in attachment security between the present groups of children provided support for this contention.

In our preliminary work (Chisholm, Carter, Ames, & Morison, 1995) we assessed attachment security using parents' responses to the 23 items with the highest and lowest loadings on the security scale of the Waters & Deane Attachment Q-sort (1985). These items are presented in Appendix A. We compared 43 children (RO) who had spent at least 8 months in a Romanian orphanage to 43 Canadian-born children (CB) matched in sex and age at interview to children in the Orphanage group, and to 28 Early adopted Romanian children (EA) who would have grown up in an orphanage if they had not been adopted to Canada before they were four months of age. We found that Romanian orphanage children scored significantly lower on security of attachment than did their matches in the Canadian-born group and the Early

adopted group. The Canadian-born and Early adopted groups did not differ from each other on security of attachment scores.

There were, however, several limitations to this preliminary study. First, the attachment measure was based on parental report. The need for a more direct behavioral measure of attachment was obvious. Second, the items that constituted the attachment questionnaire were not developed for use in a questionnaire format and the questionnaire itself had no established reliability or validity as a measure of attachment. Third, at the time of our preliminary interviews, adoptees had been with their families for a median of 11 months. It was possible that this may have been too early to expect children to have formed a secure attachment with their caregivers. Nonetheless, these initial findings resulted in the generation of many of the questions that are addressed in the present research.

In the present study, I re-administered the 23 attachment security items from the attachment questionnaire for Time 1 to Time 2 comparisons. If it was simply too early for children to display signs of security at the time of our first interview, there should now be changes in children's attachment scores. I hypothesized that Orphanage children would have higher security of attachment scores at Time 2 than at Time 1. Changes in attachment security scores for children in the Early adopted and Canadian-born groups were also assessed, although no specific hypotheses were made.

In addition, children's attachment was assessed behaviorally using a separation-reunion procedure. This procedure was similar to the Strange Situation episode that is used for assessing the quality of attachment in infancy. Our separation-reunion procedure differed from previous procedures, however, given that it took place in children's homes as opposed to a research laboratory. The present procedure may



extend previous work, given Ainsworth's (1990) suggestion of the importance of attempting such procedures in the home environment.

### Measuring Attachment in the Preschool Years

The widespread acceptance of the Strange Situation paradigm as a procedure for assessing the quality of attachment has, in some respects, limited research on attachment beyond infancy (Crittenden, 1992). Despite the amount of research generated on attachment in infancy, until recently very little was known about this relationship beyond infancy (Emde, 1990), and most work had focussed on predicting later behaviors from attachment classifications in infancy (Ainsworth, 1990).

According to Bowlby (1969/1982), the new developmental task with respect to attachment in the preschool years is the goal-corrected partnership. Bowlby felt that by the time children reach the preschool years they have a clear idea regarding the availability of an attachment figure because they have had considerable experience in knowing how their caregivers typically respond to their needs. Therefore, children's expectations regarding the availability of their attachment figure are largely formed by this time and, given their advanced cognitive and linguistic skills, children are now able to communicate with their attachment figure regarding their shared plans (Crittenden, 1992; Marvin, 1977). Through communication concerning their own and the attachment figure's plans, preschoolers are able to tolerate separations of longer duration than they were able to tolerate as infants (Crittenden, 1992). In this way children can maintain their feelings of security even if a caregiver is absent.

What impact might these developmental changes in cognition and language have on the attachment relationship? If preschoolers are better able to tolerate the absence of their attachment figures, can the Strange Situation procedure assess quality of attachment in the preschool years? Although most researchers have used the

Strange Situation or a modified separation-reunion episode with preschoolers (Cassidy, 1988; Crittenden, 1985, 1988; Main, Kaplan, & Cassidy, 1985), there may be problems with this strategy. First, the Strange Situation was not developed or validated as a procedure to assess attachment beyond infancy (Waters & Deane, 1985). Second, there is a question whether the behaviors assessed in the Strange Situation mean the same thing psychologically in the preschool years (Crittenden, 1988). That is, the same behavior that may be indicative of a secure attachment during infancy may actually be indicative of insecure attachment during the preschool years. For example, if an *infant* is distressed during a separation from his/her caregiver this may be considered secure behavior. If a *preschooler* is distressed, however, and unable to use any self-comforting strategy during a separation this may be considered insecure behavior.

In spite of this, researchers claim that the Strange Situation or other separation-reunion procedures are appropriate for assessing attachment in the preschool years, if such procedures are used in conjunction with developmentally appropriate coding schemes (Cicchetti, Cummings, Greenberg, & Marvin, 1990; Crittenden, 1992). Two such coding schemes have been developed for assessing attachment in the preschool years (Cassidy & Marvin, 1991, as cited in Greenberg, Speltz, DeKleyen, & Endriga, 1992; Crittenden, 1992). In the present study, I used the Preschool Assessment of Attachment (PAA) developed by Crittenden (1992). The attachment patterns delineated from this system are presented in Appendix B. Given that a substantial portion of Crittenden's work on attachment has focussed on the attachment relationships of maltreated and neglected children (Crittenden, 1985, 1988, 1992), I felt that her system would be the most appropriate one for assessing attachment in the Orphanage sample.

### Validation of the PAA

Studies that contribute to the validation of the PAA are accumulating. Crittenden and her colleagues (Crittenden & Claussen, 1993; Crittenden, Partridge, & Claussen, 1991), comparing adequate and maltreating families, have found significant relations between children's maltreatment status and their attachment patterns as assessed by the PAA. More maltreated than adequately reared children displayed insecure attachment patterns. Children's secure attachment patterns as assessed by the PAA in the laboratory were associated with maternal sensitivity during a play interaction in the home. Specifically, mothers of secure children were the most sensitive and the least controlling during play with their children. Crittenden et al. (1991) also found relations between children's attachment patterns on the PAA and their caregivers' attachment histories as assessed by the Adult Attachment Interview (AAI) developed by Main and her colleagues (George, Kaplan, & Main, 1985, as cited in van IJzendoorn & Bakermans-Kranenburg, 1996).

Recent findings from a longitudinal study of depressed and non-depressed women and their children (Teti, Gelfand, Messinger, & Isabella, 1995) provide additional validation for the PAA. Teti et al. (1995) used the traditional Ainsworth system for assessing attachment in 50 infants who were under 21 months of age and the PAA for 54 participants over 21 months of age. They found that both infants of depressed mothers and preschoolers of depressed mothers were significantly more likely to be insecurely attached than were infants and preschoolers of non-depressed mothers.

Fagot and Pears (1996) used the PAA to assess attachment in a sample of 30-month-olds. Changes from a secure attachment pattern in infancy to a coercive pattern at 30 months of age were associated with parental divorce or re-marriage during the

same time period. As well, attachment as assessed by the PAA at 30 months of age predicted children's Child Behavior Checklist (CBCL) scores as rated by teachers when children were seven years of age. Specifically, at seven years of age, children classified as coercive (C) at 30 months of age scored higher on the Externalizing and Internalizing scales of the CBCL than children classified as secure (B) and children classified as defended (A). Coercive children were rated by teachers as less well liked than secure children.

#### Assessing Attachment in the Present Study

When the present study was conducted, all children had been with their adoptive families for at least 26 months, so I expected that Orphanage children would have had an opportunity to form an attachment with their primary caregivers. By using a separation-reunion procedure, rather than relying exclusively on parental report, the quality of children's attachment could be assessed more directly. I hypothesized that children adopted from Romanian orphanages would be more likely to demonstrate insecure patterns of attachment than children in the other two groups. Recent work with another sample of Romanian adoptees contributed to this hypothesis. Handley-Derry et al. (1995) found that their sample of Romanian adoptees displayed significantly more insecure attachment patterns than a normative Canadian-born, non-adopted group of children.

No differences in the number of insecure attachment patterns were expected between the Early adopted Romanian group and the Canadian-born group given that children in the Early adopted group would have developed an attachment at the usual time, between 6 - 12 months of age. As well, the limited research on attachment in adopted children suggests that differences in attachment quality between adoptees and their nonadopted peers are found only when children were either adopted beyond 6-10

months of age (Yarrow & Goodwin, 1973) or had experienced an interracial adoption (Singer, Brodzinsky, Ramsey, Steir, & Waters, 1985).

#### Indiscriminately Friendly Behavior

Indiscriminately friendly behavior is particularly relevant to the study of attachment because some researchers have suggested that indiscriminately friendly behavior may be indicative of "indiscriminate attachment" (Provence & Lipton, 1962), "nonattachment" (Lieberman & Pawl, 1988), or a reactive attachment disorder (Rapoport & Ismond, 1990; Zeanah, 1996). Lieberman and Pawl (1988) have used the term "nonattachment" to describe an attachment disorder that results from an infant not having had the opportunity to form an attachment relationship. This is precisely the situation of children reared in Romanian orphanages. One of the impairments of "nonattachment" that these authors describe sounds very much like indiscriminately friendly behavior: "There is no apparent emotional claim for one partner over another, and no signs of longing or distress when one caregiver leaves and another arrives. Thus, one person can easily replace another provided the child finds her/his needs and wishes satisfied" (Lieberman & Pawl, 1988, p. 331). This kind of behavior is in direct contrast to the behavior observed in a child who has formed a discriminating attachment relationship with caregivers, in which the child shows a clear hierarchy of preference in attachment figures (Ainsworth, 1982; Bowlby, 1988; Bretherton, 1985).

References to indiscriminately friendly behavior are also evident in the early literature on the social development of institutionalized children who were later fostered or adopted. Tizard (1977) characterized indiscriminately friendly behavior as behavior that was affectionate and friendly toward all adults (including strangers) without the fear or caution characteristic of normal children. In these cases a child's behavior toward other adults could not be discriminated from his or her behavior

toward caregivers. Provence and Lipton (1962) suggested that any adult was sufficient for the child as long as the child's needs were met. Provence & Lipton (1962) followed 14 children who spent their infancy in institutions and were placed in foster care between 18 and 24 months of age. After a period of a few months in foster care, in which children displayed fear at separation from the foster parent, children began to display indiscriminate friendliness. No further follow-ups were done on this population, however, so it is unclear for how long this behavior continued. Tizard (1977) followed 24 children who had spent their first two years in institutions (Tizard & Hodges, 1978; Tizard & Rees, 1974). According to reports from their adoptive parents, these children displayed indiscriminately friendly behavior at 2, 4.5, and 8 years of age, although in most children this behavior had disappeared by the time the children were 8 years old (Tizard & Hodges, 1978). Goldfarb (1955) noted the presence of indiscriminately friendly behavior in adolescents who had been institutionalized as children and had subsequent unstable foster home placements. More recently, research that examined Romanian adoptees' friendly overtures to a stranger in a separation-reunion procedure found that Romanian adoptees initiated more overtures to a stranger than did a group of healthy Canadian controls matched in terms of attachment category (Sabbagh, 1995). Specifically, Romanian adoptees who had been classified as secure displayed more indiscriminate friendliness than secure controls. In contrast, however, insecure Romanian adoptees did not score differently on indiscriminate friendliness from insecure controls.

Given the importance of indiscriminately friendly behavior in the study of attachment in institutionalized children, one focus of our initial research was to establish the presence of indiscriminately friendly behavior in Romanian orphanage children. Additionally, we evaluated whether this behavior was present to a greater

extent in Orphanage children than in Early adopted Romanian children who had not experienced the same extent of institutionalization. Parents of Orphanage and Early adopted children were asked to respond to 5 questions indicative of indiscriminately friendly behavior. These questions are presented in Appendix C. An indiscriminately friendly response on each item was given a score of 1, for a possible total indiscriminately friendly score of 5. Orphanage children obtained significantly higher scores on indiscriminate friendliness than did Early adopted children (Chisholm, Carter, Ames, & Morison, 1995). At Time 1, parents of Canadian-born children were not asked the questions on indiscriminate friendliness and, as a result, we had no normative data on how typical indiscriminately friendly behavior was in the non-adopted population. This was remedied in the present study. Questions about indiscriminate friendliness were asked of parents in all three groups as part of an extensive interview. Three additional measures of indiscriminate friendliness were also obtained for each child.

Another purpose of this study was to assess whether displays of indiscriminately friendly behavior had decreased among Orphanage children. It was expected that children in the Orphanage group would display significantly less indiscriminately friendly behavior at Time 2 (the present study) than they had displayed at Time 1 (Chisholm et al., 1995). Given that Tizard (1977) still found instances of indiscriminate friendliness in children as late as 8 years of age, however, it was hypothesized that Orphanage children would continue to display more indiscriminate friendliness at Time 2 than children in the Canadian-born and Early adopted groups. No differences in instances of indiscriminately friendly behavior were expected between the two comparison groups of children.

To summarize, the hypotheses of the present study were that:

- 1) Orphanage children would be more likely to display insecure patterns of attachment than children in the other two groups.
- 2) Orphanage children would have higher security of attachment scores (as assessed by the Waters & Deane items) at Time 2 than at Time 1.
- 3) Orphanage children would display more indiscriminately friendly behavior than children in either the Canadian-born or Early adopted groups.
- 4) Orphanage children would display significantly less indiscriminately friendly behavior at Time 2 than they had displayed at Time 1.

#### Correlates of Orphanage Children's Attachment Patterns

An exploratory aspect of the present work involved examining correlates of Orphanage children's attachment patterns. If my hypothesis regarding a larger number of instances of insecure attachment patterns in Orphanage children was supported, I wanted to examine whether there were particular aspects of children's institutional experience that were related to their developing insecure attachment patterns. In addition, I wanted to examine whether particular child and family characteristics differentiated Orphanage children who developed secure attachments with their adoptive parent from those who developed insecure attachments. For example, several researchers have reported links between insecure attachment patterns and behavior problems, specifically externalizing problems (Lyons-Ruth, 1996; Lyons-Ruth, Alpern, & Repacholi, 1993; Greenberg et al., 1992; Speltz, Greenberg, & DeKlyen, 1990). Insecure attachment in infancy has quite consistently predicted behavior problems in preschool (Speltz et al., 1990) and school-aged children (Lewis, Feiring, McGuffog, & Jaskir, 1984).

More specific to the present study, Handley-Derry et al. (1995) examined attachment and behavior problems in two groups of Romanian adoptees: a Home



group who had been adopted prior to six months of age, and an Institution group who had spent at least six months in an institution. Their Institution Group scored significantly higher on the CBCL than the Home group, although children's behavior problems were not significantly associated with children's secure and insecure attachment patterns. With respect to the present sample, at Time 1 parents of Orphanage children reported more behavior problems in their children than parents of both Canadian-born and Early adopted children (Fisher, Ames, Chisholm, & Savoie, in press). It was important to examine whether at Time 2 there was a significant association between children's behavior problems and their attachment security.

A second child variable that might be associated with children's attachment patterns is intelligence. Although some researchers have found associations between children's attachment patterns in infancy and later assessments of intelligence (Main, 1983; van IJzendoorn & van Vliet-Visser, 1986), in a recent meta-analysis van IJzendoorn, Dijkstra, & Bus (1995) reported little association between attachment and intelligence. Because there was wide variation in the IQ scores of Orphanage children and because many Orphanage children were delayed in their development (Morison, Ames, & Chisholm, 1995), as part of my exploratory analyses I examined whether children with secure attachment patterns differed from those with insecure patterns with respect to their scores on the Stanford-Binet.

I also examined family characteristics that have been associated in the literature with children's insecure attachment patterns. For example, family demographic characteristics such as low SES (Lyons-Ruth, Alpern, & Repacholi, 1993) and high levels of parenting stress (Teti, Nakagawa, Das, & Wirth, 1991) have been consistently associated with children's insecure attachment patterns. I examined

whether these variables were associated with the quality of Orphanage children's attachment patterns.

### Method

#### Participants

Romanian Orphanage (RO) group. The Romanian orphanage group comprised 46 children, 21 males and 25 females, who had spent at least 8 months (range 8 to 53 months) in a Romanian orphanage prior to their adoption to Canada. Their median age at adoption was 18.5 months (range 8 to 68 months) and the median length of time children had spent in institution was 17.5 months (range 8 to 53 months). It is clear from this and from the high correlation between orphanage children's age at adoption and their total time in an institution ( $r(46) = .97, p < .01$ ) that these children had spent most of their lives in institution prior to their adoption. All 33 of the orphanage group parents who were asked the reason for their children's institutionalization stated that the reason was abandonment. At Time 1 the median age of the children was 30 months (range 17 to 76 months) and the children had been in their adoptive homes for a median of 11 months (range 4 to 25 months).

Three Orphanage families who had participated at Time 1 could not be located at Time 2. Three new Orphanage families, for whom we did not have Time 1 data, participated at Time 2 but could not be used in any Time 1-Time 2 comparisons. At Time 2, 30 of the Orphanage children were seen when they were between 53 and 55 months of age. One child was seen at 50 months of age because her family was moving to Europe prior to her turning 54 months of age. Two other children were 57 months old and 58 months old, respectively, at the time of interview because we could not locate one family until then and had just learned of the other family at that time. The remaining 13 older Orphanage children ranged from 65 to 110 months of age at

the Time 2 interview. Therefore, at Time 2 the median age of the entire Orphanage group was 54.5 months (range 50 to 110 months) and children had been in their adoptive homes for a median of 39 months (range 26 to 57 months).

Two families did not agree to participate in the home interview, citing their busy schedules as the reason for nonparticipation. I was unable to visit a third family because they had moved outside of the British Columbia and northern Washington state area. In these cases telephone interviews were conducted and questionnaires were mailed to the families. Therefore, 46 parents completed all of the interview measures, but only 43 children and their parents participated in the separation-reunion procedure conducted in families' homes. This sample of 43 families did not differ demographically from the total sample of 46 families.

Canadian-born (CB) group. The Canadian-born group comprised 46 non-adopted, never institutionalized children (21 males, 25 females), all of whom were individually matched in sex and 42 of whom were matched in age at interview ( $\pm 1$  month) to a child in the Orphanage group. As a result of scheduling difficulties, one Canadian-born child was 4 months older than her Orphanage match, one child was 3 months older, and 2 children were 2 months older than their Orphanage matches. Telephone interviews were conducted with Canadian-born families whose Orphanage matches had completed a telephone interview. Therefore, 46 Canadian-born families completed all interview measures but only 43 families participated in the separation-reunion procedure conducted in families' homes.

Three Canadian-born families were added at Time 2 to serve as matches for the three new Orphanage families seen at Time 2; these families were not used in any Time 1-Time 2 comparisons. Two Canadian-born families who had participated at

Time 1 refused to participate at Time 2, and a third Canadian-born family could not be included at Time 2 because they were inadvertently tested one year too early.

The demographic characteristics of the two groups at Time 2 are displayed in Table 1. Socioeconomic status (SES) was primarily based on education and income and to a minor extent on occupational prestige. This index (Blishen, Carroll, & Moore, 1987) was developed from 1981 census data for the complete labor force in Canada. All occupations are divided into 514 groups with scores ranging from 28 to 78. Representative occupations of people whose Blishen score is near the mean of the present sample include firefighter, sales manager, health inspector, and real estate salesperson. Attendance at religious services was scored on a scale that ranged from 0 = does not attend, 1 = attends only on special occasions, 2 = attends monthly, and 3 = attends weekly. The Orphanage and Canadian-born groups did not differ significantly on any of the demographic characteristics shown in Table 1.

Early adopted (EA) group. The Early adopted group comprised 30 Romanian children (14 males, 16 females) who would have grown up in a Romanian orphanage if they had not been adopted to Canada before they were 4 months of age. They were matched in sex and age at interview ( $\pm 1$  mo.) to 30 children in the Orphanage group.

There were four new Early adopted families at Time 2. They served as matches for two Orphanage families who did not have an Early adopted match at Time 1, and for two of the new Orphanage families. Three Early adopted families who had served as matches at Time 1 were changed to serve as matches for different Orphanage families at Time 2. One was changed because we could not locate the Orphanage family at Time 2, and its matched Early adopted family could serve as a match for another Orphanage family who at Time 1 did not have an Early adopted match. Two families were changed because the Orphanage family to whom they were matched

Table 1

Demographic Characteristics of Matched Pairs of RO and CB Children

	n	RO Group	CB Group
Time in institution (months)	46	16.5 ( 8-53) <sup>a</sup>	-----
Age at adoption (months)	46	17.0 ( 8-68)	-----
Time in adopted home (months)	46	39.0 (26-57)	-----
Age at interview (months)	46	54.5 (50-110)	54.0 (50-109)
No. of children in family	46	2 ( 1-11)	2 (1-5)
Religious service attendance	46	1 ( 0-3)	0.5 (0-3)
Mother's education (yrs.)	46	13.9 ( 2.3) <sup>b</sup>	14.3 (2.3)
Father's education (yrs.)	39	14.5 ( 3.9)	15.0 (2.6)
Mother's age	46	38.1 ( 6.0)	37.4 (4.1)
Father's age	40	40.2 ( 6.8)	39.5 (4.1)
SES <sup>c</sup>	44	50.0 (13.9)	54.3 (15.5)
No. of single parents		5	2
Employment status of mothers			
No. not working		19	20
No. working part-time		8	16
No. working full-time		19	10
Type of residential area			
No. rural		4	1
No. suburban		38	42
No. urban		1	0

<sup>a</sup> Median (range)<sup>b</sup> Mean (standard deviation)<sup>c</sup> SES calculated as higher status parent's score on the 1981 socioeconomic index for occupations in Canada (Blisshen, Carroll, & Moore, 1987).

only participated in a telephone interview, and the Early adopted families could serve as matches for two other Orphanage families who had participated in the home visits. Time 1-Time 2 comparisons were done only with participants for whom Time 1 and Time 2 data were available on the same pair of families.

At the Time 2 interview 29 of the Early adopted children were individually matched in sex and age ( $\pm 1$  month) to the children in the Orphanage group, so that 26 were between 53 and 55 months of age, and the other three were 50 months, 57 months and 58 months of age. One Early adopted child was older (64 months old) and served as a match for an older (65 month old) Orphanage child. At Time 2 the median age of the Early adopted children was 54 months (range 50 to 64 months) and children had been in their adoptive homes for a median of 52 months (range 49 to 60 months). Two Early adopted families refused to participate in the home interview and in these cases telephone interviews were conducted and questionnaires were mailed to the families. Unfortunately, these children were not matched to Orphanage families who had completed telephone interviews. A third family agreed to the home interview but refused to be videotaped in the separation-reunion procedure. Therefore, 30 parents completed all of the interview measures, but only 27 families participated in the separation-reunion procedure.

The demographic characteristics of the 30 matched Orphanage and Early adopted families are presented in Table 2. Both mothers' and fathers' educational levels were significantly higher in the Early adopted group than in the Romanian orphanage group,  $t(27) = 2.15$ ,  $p < .04$  and  $t(24) = 2.98$ ,  $p < .006$ , respectively. Otherwise, the two groups did not differ on demographic characteristics.

The demographic characteristics of the Canadian-born and Early adopted matched groups are presented in Table 3. Mothers' age was significantly higher in the

Table 2

Demographic Characteristics of Matched Pairs of RO and EA Children

	n	RO Group	EA Group
Time in institution (months)	30	13.5 ( 8-28) <sup>a</sup>	1.0 ( 0-4)
Age at adoption (months)	30	14.0 ( 8-28)	2.0 ( 0-4)
Time in adopted home (months) 60)	30	40.0 (26-46)	52.0 (49-
Age at interview (months) 64)	30	54.0 (50-65)	54.0 (50-
No. of children in family	30	2 ( 1-9)	2 ( 1-5)
Religious service attendance	30	0.5 ( 0-3)	1 ( 0-3)
Mother's education (yrs.)*	29	13.9 ( 2.1) <sup>b</sup>	15.2 ( 2.7)
Father's education (yrs.)*	26	13.8 ( 3.9)	16.2 ( 2.9)
Mother's age	29	37.8 ( 5.0)	40.1 ( 6.4)
Father's age	26	39.6 ( 5.9)	41.1 ( 6.7)
SES	28	49.8 ( 14.0)	51.0 (12.8)
No. of single parents		4	1
Employment status of mothers			
No. not working		11	7
No. working part-time		4	11
No. working full-time		15	11
Type of residential area			
No. rural		6	6
No. suburban		23	23
No. urban		0	0

<sup>a</sup> Median (range)<sup>b</sup> Mean (standard deviation)\* $p < .05$

Table 3

Demographic Characteristics of Matched Pairs of CB and EA Children

	n	EA Group	CB Group
Time in institution (months)	30	1.0 (0-4) <sup>a</sup>	----
Age at adoption (months)	30	2.0 (0-4)	----
Time in adopted home (months)	30	52.0 (49-60)	----
Age at interview (months)	30	54.0 (50-64)	54.0 (50-64)
No. of children in family	30	2 (1-5)	2 (1-4)
Religious service attendance	30	1 (0-3)	0 (0-3)
Mother's education (yrs.)	30	15.2 (2.7) <sup>b</sup>	14.2 (2.1)
Father's education (yrs.)	30	16.2 (2.9)	15.0 (2.8)
Mother's age*	29	40.1 (6.4)	37.1 (4.1)
Father's age		41.1 (6.7)	39.5 (4.4)
SES		51.0 (12.8)	52.5 (26.7)
No. of single parents		1	2
Employment status of mothers			
No. not working		7	15
No. working part-time		11	10
No. working full-time		11	5
Type of residential area			
No. rural		6	0
No. suburban		23	28
No. urban		0	1

<sup>a</sup> Median (range)<sup>b</sup> Mean (standard deviation)

\*p &lt; .05



Early adopted group than in the Canadian-born group,  $t(28) = 2.54, p < .01$ .

Otherwise, the two groups did not differ on demographic characteristics.

### Procedure

Families were initially contacted by mail approximately 6 weeks prior to our visit. All aspects of the study were explained in this letter. Approximately 2 weeks later families were contacted by telephone. At this time we: a) established whether families were interested in participating in the study; b) reiterated the procedures in the study; c) fully explained the Separation-Reunion procedure so as to avoid confusion during the home visit; d) obtained parents' verbal consent for their child's participation; e) found out which parent was the primary caregiver (the parent who spent the most time with the child) and asked that this parent be the participant in the study; f) set up a time for the home visit; and g) ensured that only the primary caregiver and study child would be present in the home on the day of our visit. A written reminder restating the procedures was mailed to families approximately one week prior to the home visit. As well, the evening before our visit we telephoned parents to confirm the appointment and to go over the procedures once again. The parent's written consent for the child's participation was obtained when we first arrived at their home. Written permission for the coding and viewing of the videotape was obtained at the end of our visit.

Separation-reunion procedure. This procedure was developed with the aid of Dr. Patricia Crittenden (personal communication, March-April, 1993). Two female researchers were present on all home visits. Upon arrival at the home the First

Researcher interacted freely with both parent<sup>1</sup> and child. The Second Researcher (the author), who was to play the role of the "stranger" during the separation-reunion procedure, did not initiate any interaction with the parent or child. She busied herself with unloading equipment and setting up the videocamera. (The need for this behavior was explained to parents prior to our arrival). The videocamera was set up in such a way as to ensure filming of both the play interaction area and the door through which the caregiver would leave and return to the home.

Once the equipment was set up the First Researcher brought a standardized basket of toys into the center of the room where the play interaction was to take place. She invited the parent and child to play with the toys, and then unobtrusively left the house. The Second Researcher remained and videotaped the play interaction. Parents were not given any instructions concerning how to interact with their children. After 8 minutes of interaction the Second Researcher signalled the parent (by coughing) to leave the house and join the First Researcher outside. The child was unaware that her or his parent's departure was initiated by the researchers. Parents were not given any instructions concerning how to explain their departure to their child, except that they were asked to say to their child "Stay here until I get back". This was an attempt to keep the child in the same room as the videocamera. Many parents said more than the standard phrase. My reason for not giving parents standard instructions to use when leaving the child was that the way a parent negotiated the departure would be informative with respect to the way the dyad negotiated shared plans. The child's reaction to the parent's departure and the child's behavior during separation were videotaped. After approximately three minutes the parent returned and rejoined the

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<sup>1</sup> The majority of parent participants were mothers; however, one father in the CB group and two fathers in the EA group were the primary caregivers, and therefore were the participants in the present study.

child for an additional three minutes of play interaction (reunion episode). At the end of the 3-minute reunion episode the First Researcher returned to the house.

Parent interview. After the separation-reunion procedure was complete, the Second Researcher interviewed the parent while the First Researcher administered the Stanford-Binet Intelligence Scale: Fourth Edition (Thorndike, Hagen, & Sattler, 1986) to the child in another section of the house. The one- to two- hour interview covered a broad range of topic areas. Parents were asked about any difficulties they were experiencing with their children, children's daily routines, children's likes and dislikes, their behavior with peers and with the family, attachment security, and indiscriminate friendliness. After the interview was completed, the researchers left five questionnaires for the parent to complete and return by mail, including the Child Behavior Checklist (CBCL) for 4- to 18-year olds (Achenbach, 1991) and the Parenting Stress Index (Abidin, 1990). The entire visit with families lasted from one and a half to three hours.

#### Attachment Measures

Interview measure of attachment security. This measure constituted part of the interview with parents. The attachment security measure (Appendix A) comprised the 23 items with the highest and lowest loadings on the security scale of the Waters & Deane attachment Q-sort (1995). Parents in all three groups were asked to respond to each of the 23 items using a 5-point scale ranging from 1 = "very unlike my child" to 5 = "very like my child". The interviewer read each question aloud to the parent and recorded the parent's responses. Alpha coefficients for this scale were satisfactory: .80 for the Orphanage group; .77 for the Canadian-born group; and .78 for the Early adopted group.

Behavioral assessment of attachment. The videotape of each child during the separation-reunion episode was coded using the Preschool Assessment of Attachment (PAA) developed by Patricia Crittenden (1992). Given the greater subtlety and complexity of behavior in the preschool years than in infancy, Crittenden's system maintains but also extends Ainsworth's original attachment patterns (Ainsworth et al., 1978). Rather than relying solely on particular behaviors, as is necessary in infancy, Crittenden (1992) interprets children's behavior by considering six aspects of quality of attachment: strategy, pattern of behavior, pattern of negotiation, regulation of affect, secure base phenomena, and attachment figure's behavior.

Crittenden (1992) has suggested that the strategy children use in the Strange Situation indicates the way in which they have resolved the issue of maintaining proximity with an attachment figure in times of danger and exploring the environment when feeling secure. Using the PAA, the quality of a child's attachment is categorized as one of four patterns (secure, defended, coercive, or defended/coercive). Children who are secure use a strategy of participating in a goal-corrected partnership with their caregivers, maintaining proximity in times of stress and exploring widely when feeling safe and secure. Children who use a defended strategy (similar to Ainsworth's avoidant pattern in infancy) maintain proximity to an attachment figure during times of danger but do not alert the attachment figure to their needs for proximity. Such children avoid focusing attention on the relationship and take all responsibility for monitoring the environment, maintaining access to their caregivers, and regulating their own emotions. As Crittenden (1992, in press) describes them, defended children "seek to be close but not too close" to their caregivers. Children who use a coercive strategy (similar to Ainsworth's ambivalent pattern in infancy) attempt to force or coerce an unwilling attachment figure to meet their need for the attachment figure's

constant availability. Children classified as defended/coercive (A/C) display both defended and coercive strategies. As well, many defended/coercive children display stereotyped behavior. Each pattern, with the exception of the defended/coercive pattern, consists of at least three subpatterns (Appendix B). Crittenden also includes both a secure other (SO) and insecure other (IO) pattern in her system. These classifications are made when children are clearly either secure or insecure but the strategies they use in interaction with their caregivers do not reflect any of the standard subpatterns. For a complete discussion of these patterns see Crittenden (1985, 1992).

Seven coders were trained for 10 days, eight hours a day, by Dr. Patricia Crittenden at Simon Fraser University in April, 1994. All coders reached an 80% criterion of agreement with Dr. Crittenden during training. After training, five coders, all of whom were graduate students in developmental or clinical psychology, coded the videotapes. None of them had any contact with the families, and they were blind to group membership. One coder was responsible for coding 110 videotapes, and the other four coders each provided second codes on one quarter of the tapes. Three additional videotapes had been coded by the training group as a whole and were not included in reliability estimates. Therefore, all videotapes were double-coded and reliability estimates were based on 110 videotapes. Percent agreement between the independent coders was calculated prior to discussion. The percent agreement for each classification was: Defended (A) 56%; secure (B) 85%; coercive (C) 64%; IO and A/C combined 75%. Kappa = .52 across the 5 categories A, B, C, A/C, and IO. Percent agreement between the two coders for secure vs. insecure pattern decisions was 77% (Kappa = .54). Percent agreement across secure, typical insecure, and atypical insecure patterns was 75.4% (Kappa = .59). All disagreements were resolved through discussion.

### Measures of Indiscriminate Friendliness

Five-item indiscriminately friendly behavior measure (5IF). This measure comprised part of the interview with parents. Parents were asked five questions assessing (a) whether a child wandered without distress, (b) whether a child was willing to go home with a stranger, (c) how friendly a child was with new adults, (d) whether a child was ever shy, and (e) what a child typically did upon meeting new adults. The exact questions asked and their scoring are displayed in Appendix C. Parents' responses to each question were audiotaped and were coded categorically by two independent coders who were blind both to the adoption status of the children and to the hypotheses of the present study. For each question a child was given a score of 1 if the parent gave a response indicating indiscriminate friendliness. Scores on this measure ranged from 0 to 5. Percent agreement for pairs of coders across all items was 90% (Orphanage group), 89% (Canadian-born group) and 90% (Early adopted group). Any disagreements between coders were resolved by discussion. The alphas for these items were: .72 for the Orphanage group; .69 for the Canadian-born group; and .58 for the Early adopted group.

Two-item indiscriminately friendly behavior measure (2IF). In an attempt to assess whether there were group differences on the more extreme indiscriminately friendly items I developed another measure of indiscriminate friendliness using the two most extreme items from the 5-item measure: a) child wanders without distress and b) child would be willing to go home with a stranger. I considered these items more extreme examples of indiscriminate friendliness because they assessed behaviors that involved willingly leaving an attachment figure and/or not using an attachment figure as a secure base. Children were given a score of 1 on each item if their parent

gave a response indicating indiscriminate friendliness. Scores on this measure ranged from 0 to 2.

Observers' ratings of indiscriminately friendly behavior. Shortly after entering a family home both researchers rated the child's indiscriminately friendly behavior, using a procedure similar to one developed by Tizard (1977). This procedure entailed two standardized overtures to the child. First, the First Researcher turned to the child saying "Hello" and addressed him/her by name. This was the Response to Greeting measure (RGM). Children's responses to this overture were rated independently by both coders on a 7-point scale on which 1 = inappropriately wary (cries and/or runs away); 2 = extremely wary (moves away warily but is not upset); 3 = appropriately wary (responds but is wary); 4 = friendly (responds without wariness but does not display any positive affect (e.g., smiling); 5 = very friendly (smiles and talks spontaneously); 6 = extremely friendly (approaches researcher, makes physical contact, treats researcher as familiar); 7 = inappropriately friendly and affectionate (approaches researcher immediately, is physically affectionate). Next, the First Researcher offered the child two toys and asked "Would you like to come and look at these"? This was the Response to Toys measure (RTM). Children's responses to this overture were coded using the same 7-point scale described above.

All inter-researcher correlations between ratings on both the RGM and the RTM were significant for all groups, RGM, Orphanage group  $r(43) = .80, p < .001$ ; Canadian-born group  $r(43) = .87, p < .001$ ; Early adopted group  $r(28) = .68, p < .001$ ; RTM, Orphanage group  $r(43) = .83, p < .001$ ; Canadian-born group  $r(43) = .90, p < .001$ ; Early adopted group  $r(28) = .65, p < .001$ . In order to ascertain whether these two measures could be combined I conducted a reliability analysis using the means of the two coders' ratings on each measure. The resulting alpha coefficients for each

group were satisfactory: .92 for the Orphanage group; .90 for the Canadian-born group; and .86 for the Early adopted group. A composite of these two measures was generated by summing the researchers' ratings on each measure and taking a mean of this score. The resulting means were used in subsequent analyses.

Parental report of children's indiscriminately friendly behavior. An additional measure of indiscriminate friendliness was included as part of the interview with parents. Parents were asked the question "Would you describe (child's name) as overly friendly?". From the interview audiotape, parents' responses to this question were coded on a 5-point scale on which 1 = never; 2 = seldom; 3 = sometimes; 4 = almost always; 5 = always. Percent agreement between coders prior to discussion was 82%. Any disagreements were resolved through discussion. If a parent reported that his or her child was "overly friendly" the parent was then asked if such behavior concerned them and whether there had been improvement in this behavior over time. These questions were used for descriptive analyses.

Coders' ratings of indiscriminately friendly behavior. After having listened to the entire audiotaped interview each coder independently rated the child's indiscriminate friendliness using the same 7-point scale used in the observers' ratings of indiscriminately friendly behavior. The correlations between the two coders' ratings were significant in all groups, Orphanage group  $r = .97, p < .001$ ; Canadian-born group  $r = .90, p < .001$ ; Early adopted group  $r = .78, p < .001$ . Given these significant correlations, all subsequent analyses were conducted using the mean rating of the two coders.

#### Child Behavior Checklist (CBCL)

Parents in all three groups completed the Child Behavior Checklist (CBCL) for 4- to 18-year-olds (Achenbach, 1991) and returned it by mail. This questionnaire



consists of 113 items to which parents indicate whether an item is 0 = "not true of my child", 1 = "somewhat or sometimes true of my child", or 2 = "very true or often true of my child". Possible scores on the CBCL range from 0 to 226. The reliability and validity of the CBCL have been thoroughly documented in several studies (Achenbach, 1991). The items discriminate significantly between clinic-referred and non-referred children and convergent validity has been demonstrated by high correlations with the Conners Parent Questionnaire and the Quay-Peterson Revised Behavior Problem Checklist (Achenbach, 1991).

Besides yielding a Total Problem score, the CBCL provides scores for both Internalizing and Externalizing behavior problems. The Internalizing dimension taps withdrawn types of behavior, for example, "child is withdrawn" or "child looks unhappy". The Externalizing dimension is characterized by acting-out behaviors, for example, "child has a hot temper" or "child destroys others' things".

#### Parenting Stress Index (PSI)

Parents in all three groups also completed the PSI (Abidin, 1990) and returned it by mail. This self-report screening instrument consists of 120 items designed to identify parent-child relationships at risk for both parenting and child behavior problems. Three sources of stress are identified by this measure: stress originating from the child, stress originating from the parent, and stress from life circumstances. The Child Domain contains seven subscales: high scores in this domain are associated with parents who perceive their children as both less reinforcing and more difficult to parent than most children. The Parent Domain contains six subscales; high scores in this domain suggest that sources of stress result from specific aspects of parental functioning such as feelings of isolation or depression. In the present study alpha

coefficients for the Total Stress score (.95), Child Domain scores (.92) and Parent Domain scores (.92) were satisfactory.

#### Stanford-Binet Intelligence Scale: Fourth Edition

The Stanford-Binet, Fourth Edition (Thorndike, Hagen, & Sattler, 1986) consists of 15 subtests and can be administered across an age range from 2 to 23 years. The reliability and validity of the scale has been thoroughly documented (Sattler, 1992). The Stanford-Binet yields an overall Composite Score, a Verbal Comprehension factor and a Nonverbal Reasoning factor. Only the Composite score was used in the present study.

#### Parent Interview Measures

As part of the interview, parents were asked about conditions in the orphanage from which their child was adopted. Parents were asked whether their child was dirty or soiled in the institution (0 = yes, 1 = no), whether toys were available for children to play with (0 = no, 1 = yes), and whether their child had been a favorite in the institution (0 = no, 1 = yes). A measure of the total number of child problems was also derived from the number of problems that parents reported during the interview.

### Results

All results with alpha levels  $< .10$  are reported to avoid the possibility of Type I errors, given the importance of not overlooking any characteristics of this unusual population.

#### Preliminary Analyses

Age and gender differences. Given that there might have been age and gender differences in both children's attachment security scores and their scores on indiscriminate friendliness, I did initial analyses to investigate these possibilities at

Time 2. Within-group analyses of differences between younger and older children on these measures were only conducted for the Orphanage and Canadian-born groups because there was only one older Early adopted child. Mean scores on the attachment security measure and the five measures of indiscriminate friendliness for the younger and older children in the Orphanage and Canadian-born groups are presented in Table 4. The 13 older children in the Orphanage and Canadian-born groups did not score differently from the younger children in these groups on any of these measures. All subsequent analyses were done without regard to age group.

I also considered whether there were gender differences on these measures. Mean scores for males and females on the measure of attachment security and the five measures of indiscriminate friendliness are presented in Table 5. No significant gender differences were evident in any group on any of these measures. As a result, all subsequent analyses were collapsed across gender.

#### Attachment Security Interview Measure

Time 1 - Time 2 comparisons. These analyses were conducted only on participants for whom I had Time 1 - Time 2 data on the interview measure of attachment security. Attachment security scores were correlated from Time 1 to Time 2 in all groups: Orphanage  $r(42) = .53, p < .0001$ ; Canadian-born  $r(42) = .54, p < .0001$ ; and Early adopted  $r(23) = .42, p < .04$ . Within-group changes in children's attachment security scores were assessed using matched-pairs  $t$ -tests. Mean scores on this measure are presented in Table 6. Orphanage children scored significantly higher on attachment security at Time 2 than they had scored at Time 1,  $t(42) = 3.00, p < .005$ . Children in the Canadian-born and Early adopted groups did not score differently from Time 1 to Time 2 on attachment security: Canadian-born  $t(41) = 1.64, p = .108$ ; Early adopted  $t(25) = 1.15, p = .26$ . More important, at Time 2

Table 4

Attachment Security and Indiscriminate Friendliness Scores of Younger and Older Children Within the RO and CB Groups

	RO Group				CB Group			
	Younger (n=33)		Older(n=13)		Younger (n=33)		Older(n=13)	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
<u>Measures</u>								
Attachment Security	86.4	11.4	90.3	8.6	89.3	8.1	89.1	10.0
5 IF	2.6	1.5	2.2	1.7	1.0	1.3	0.7	0.9
2 IF	0.61	0.65	0.63	0.82	0.12	0.33	0.0	0.0
Observers' ratings	4.3	1.0	4.3	1.0	3.5	0.8	3.2	0.8
Parents' ratings	3.6	1.5	3.0	1.8	1.3	1.0	1.4	1.2
Coders' ratings	5.2	1.3	4.7	1.8	3.6	1.0	3.4	1.0

Table 5

Attachment Security and Indiscriminate Friendliness Scores of Male and Female Children Within the RO, CB, and EA Groups

Measures	RO Group			CB Group			EA Group		
	n	<u>M</u>	<u>SD</u>	n	<u>M</u>	<u>SD</u>	n	<u>M</u>	<u>SD</u>
<b>Attachment Security</b>									
Males	21	87.3	9.2	21	87.2	8.7	14	85.2	8.9
Females	25	87.6	12.1	25	91.0	8.3	16	88.8	9.7
<b>5 IF</b>									
Males	21	2.4	1.6	21	0.90	1.3	14	0.57	1.08
Females	25	2.7	1.5	25	0.96	1.2	16	0.87	1.02
<b>2 IF</b>									
Males	21	0.57	0.81	21	0.04	0.21	14	0.0	0.0
Females	25	0.68	0.74	25	0.12	0.33	16	0.06	0.25
<b>Observers' ratings</b>									
Males	21	4.1	1.0	21	3.2	0.86	13	3.1	0.90
Females	22	4.5	1.0	21	3.7	0.73	14	3.4	0.80
<b>Parents' ratings</b>									
Males	21	3.3	1.7	21	1.3	0.96	14	1.1	0.26
Females	25	3.5	1.6	25	1.4	1.0	16	1.2	0.77
<b>Coders' ratings</b>									
Males	21	4.9	1.3	21	3.5	1.1	14	3.2	0.80
Females	25	5.2	1.6	25	3.6	0.84	16	3.6	0.76

Table 6

Group Scores on Attachment Security Interview Measure at Time 1 and Time 2.

	n	<u>Time 1</u>		<u>Time 2</u>	
		<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
RO group**	43	<u>82.2</u>	10.5	<u>86.6</u>	10.3
CB group	42	87.3	7.9	89.3	8.8
EA group	26	88.8	8.6	86.8	8.8

\*\*  $p < .01$

Orphanage children no longer scored differently on attachment security from children in the other two groups:  $t(45) = .96$ ,  $p = .34$  (Orphanage vs Canadian-born);  $t(29) = .44$ ,  $p = .66$  (Orphanage vs Early adopted).

### Attachment Patterns

Children's attachment patterns were assessed only at Time 2. Table 7 provides descriptive data with respect to the number of children in each group displaying particular attachment patterns. The breakdown in terms of subpatterns is presented in Appendix D.

Secure/insecure patterns. The attachment patterns that comprise the PAA include two secure patterns and four insecure patterns. These are: secure (B), secure (other) (B), insecure defended (A), insecure coercive (C), insecure defended/coercive (A/C), and insecure (other). Considering the matched pairs in each group, more of the Orphanage group (63%) than of the Canadian-born group (42%) had insecure attachment patterns, Sign test,  $p = .07$ , and more of the Orphanage group (58%) than of the Early adopted group (35%) had insecure patterns, Sign test,  $p = .07$ . There was no difference between matched Canadian-born children and Early adopted children in terms of insecurity, Sign test,  $p = .77$ .

### Relation Between Attachment Patterns and Scores on the Attachment Security

#### Interview Measure

Independent  $t$ -tests were conducted to determine whether children with secure attachment patterns had different scores on the Attachment Security Measure from children with insecure patterns. Mean attachment security scores for secure and insecure children in each group are presented in Table 8. Orphanage children who were classified as insecurely attached had lower attachment security scores than Orphanage children classified as securely attached,  $t(41) = 1.79$ ,  $p = .08$ . The same

Table 7

Attachment Patterns Displayed by Each Group

	<u>RO Group</u>		<u>CB Group</u>		<u>EA Group</u>	
	n	%	n	%	n	%
Secure (B)	10	23	25	58	17	63
Secure (Other)	6	14	0	—	1	4
Insecure Defended (A)	12	28	11	26	6	22
Insecure Coercive (C)	6	14	7	16	3	11
Insecure (Other)	4	9	0	—	0	—
Defended/Coercive (A/C)	5	12	0	—	0	—



Table 8

Mean Attachment Security Scores of Secure and Insecure Children in Each Group

	n	<u>Attachment Security Scores</u>	
		<u>M</u>	<u>SD</u>
RO Group <sup>+</sup>			
Secure	16	91.5	8.3
Insecure	27	84.4	11.0
CB Group <sup>+</sup>			
Secure	25	91.1	6.4
Insecure	18	86.3	10.7
EA Group			
Secure	18	86.5	8.9
Insecure	9	87.1	11.8

<sup>+</sup>  $p < .10$

result was found between secure and insecure children in the Canadian-born group,  $t(41) = 1.77, p = .08$ . No difference was found on attachment security scores between secure and insecure children in the Early adopted group,  $t(25) = .15, p = .88$ .

Between group differences on the attachment security measure and the PAA revealed somewhat inconsistent results. On the basis of the PAA attachment patterns Orphanage children were significantly more insecure than both Canadian-born and Early adopted children. They did not, however, score differently from the comparison groups on the attachment security items. I conducted further analyses to examine this inconsistency. Sagi et al. (1995) found that although the full Q-sort differentiated children who had been classified as secure and insecure using a separation-reunion procedure, the measure did not differentiate secure from insecure avoidant children. Q-sort differences between secure and insecure children were accounted for by differences between secure and insecure resistant children. Because many of the children in the present study classified as insecure on the PAA had defended (avoidant) classifications, I examined whether this might explain the different sets of findings on the attachment security measure and the PAA. I tested differences in attachment security scores across all groups between children classified as secure (B), children classified as insecure defended (A) and children classified as insecure coercive (C). Children's mean attachment security scores are presented in Table 9. Children classified as insecure coercive (C) scored significantly lower on the attachment security items than both secure children,  $t(73) = 3.31, p < .001$ , and insecure defended children,  $t(43) = 1.82, p = .07$ . Children classified as secure did not score differently on attachment security from children classified as insecure defended,  $t(86) = .90, p = .37$ .

Table 9

Mean Attachment Security Scores for Children Classified as Secure, Insecure  
Defended and Insecure Coercive on the PAA

	n	<u>Attachment Security Scores</u>	
		<u>M</u>	<u>SD</u>
Secure (B)	59	89.6	7.8
Insecure Defended (A)	29	87.8	10.8
Insecure Coercive (C)	16	<u>81.8<sup>a</sup></u>	10.1

<sup>a</sup> Significantly different from the means of Secure and Insecure Defended.

Atypical patterns. It was clear from the attachment patterns in Appendix D that Orphanage children displayed several of the more atypical attachment patterns in Crittenden's system. The atypical patterns were viewed as patterns that were both less common and more extreme (i.e., A3, A4, C3, C4, A/C, IO and SO). Atypical patterns, according to Crittenden would include secure (other). However, "other" patterns, especially secure (other) are very rare (Crittenden, 1992); Crittenden has not reported any children classified as secure (other) in her published results, and Teti et al. (under review) reported only one child classified as secure (other) in their sample of 54 children of depressed and nondepressed mothers. So, initially I had to evaluate whether children classified as secure (other) should be considered as part of a secure grouping or as part of the atypical grouping. This was done by comparing secure (other) children to the remaining secure children and to children classified as insecure (other) in the Orphanage group on a number of variables. These analyses were restricted to children in the Orphanage group because there were no children classified as insecure (other) in the two comparison groups. One Early adopted child was classified as secure (other) but was not included in these analyses. Her scores on all of the variables were within the same range as the scores of Orphanage children classified as secure (other). Mean scores for these analyses are presented in Appendix E. Children classified as secure (other) did not differ from children classified as secure on Total CBCL scores, the Internalizing dimension or the Externalizing dimension of the CBCL, the Total score of the Parenting Stress Index, the Child Domain or the Parent Domain of the PSI, the Attachment Security Interview Measure, or on any of the measures of indiscriminate friendliness. Secure (other) children did, however, score significantly lower on the Stanford-Binet than Orphanage children classified as secure.

In contrast, children classified as secure (other) scored significantly lower than insecure (other) children on the Total CBCL, the Externalizing dimension of the CBCL, the Total Parenting Stress score, and on the more extreme measure (2IF) of indiscriminate friendliness. As well, secure (other) children scored significantly higher than insecure (other) children on the Stanford-Binet.

In summary, secure (other) children did not differ from secure children on any of the measures except the Stanford-Binet. In contrast, secure (other) children scored lower than insecure (other) children on behavior problems, parenting stress, and indiscriminate friendliness, and higher on the Stanford-Binet. On the basis of these findings, the decision was made to include secure (other) children in the secure grouping. Therefore I redefined atypical patterns as including only atypical insecure patterns (i.e., A3, A4, C3, C4, A/C, and IO). Significantly more of the Orphanage children (52%) than of the Canadian-born children (17%), Sign test,  $p < .006$ , and significantly more Orphanage children (35%) than Early adopted children (11%), Sign test,  $p < .006$ , displayed atypical patterns.

#### Correlates of Orphanage Children's Attachment Patterns

In examining correlates of Orphanage children's attachment patterns I first considered differences between children classified as secure and children classified as insecure. In the event that significant differences were found between secure and insecure children, I next examined whether there were differences between children classified as secure, typical insecure, and atypical insecure.

Background characteristics. Given that factors associated with Orphanage children's institutionalization might contribute to children developing insecure attachment patterns, I examined whether secure and insecure Orphanage children differed on a number of variables associated with their institutionalization. Orphanage

children classified as insecure were no more likely than Orphanage children classified as secure to have spent a longer time in institution,  $t(41) = .75$ ,  $p = .46$ , or to have come from poorer quality institutions<sup>2</sup>,  $t(41) = .24$ ,  $p = .81$ . I used Chi-square analyses to examine any differences between secure and insecure Orphanage children in terms of whether children were dirty or soiled when met in the institution, whether they had toys available to them, and whether they had been favorites in the institution. All of these analyses were nonsignificant. There was no association between children's secure and insecure patterns and these institutional variables.

Other background variables that might have influenced children's attachment patterns were the age at which children were adopted and the length of time children had been in their adoptive homes. Orphanage children displaying insecure attachment patterns were no more likely than Orphanage children displaying secure patterns to have been older when they were adopted,  $t(41) = 1.04$ ,  $p = .30$ .

Child characteristics. To determine whether secure and insecure Orphanage children differed on child characteristics, I examined whether there were secure/insecure differences in children's IQ, in parents' interview reports of child problems, and in child behavior problems as assessed by the CBCL. Children's mean scores on these measures are presented in Table 10. Insecure Orphanage children displayed significantly lower IQ scores than secure Orphanage children,  $t(41) = 2.09$ ,  $p < .04$ . Parents of insecure Orphanage children did not report more child problems during the interview than did parents of secure Orphanage children,  $t(38) = .93$ ,  $p = .35$ . Differences were evident, however, in children's CBCL scores. Within the Orphanage group, insecure children had significantly higher Total scores on the

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<sup>2</sup> The quality of the institutions was rated by a Romanian physician who was familiar with the conditions in the orphanages in which the children in this sample were housed. She rated each of the institutions on a 5-point scale that ranged from 1 = very poor to 5 = very good.

Table 10

Child Characteristics Associated with Secure and Insecure Attachment Patterns in RQ Children

	<u>Secure</u>		<u>Insecure</u>	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
Stanford Binet IQ*	90.8 (n=16)	14.9	80.5 (n=27)	16
Total problems	4.6 (n=15)	1.8	5.2 (n=25)	2.0
CBCL Total Score*	27.5 (n=16)	18	45.5 (n=24)	28.9
Internalizing+	3.2	4.2	6.1	5.9
Externalizing**	9.1	7.2	17.4	11

+p < .10

\*p < .05

\*\*p < .01

CBCL,  $t(38) = 2.22$ ,  $p < .03$ , than secure children. In addition, insecure children had significantly higher scores than secure children on both the Externalizing Dimension,  $t(38) = 2.65$ ,  $p < .01$ , and the Internalizing Dimension of the CBCL,  $t(38) = 1.69$ ,  $p = .09$ . Significantly more insecure Orphanage children (47%) than secure Orphanage children (19%) scored above the clinical cut-off on the CBCL,  $\chi^2 = 3.09$ ,  $p < .10 > .05$ . Insecure Orphanage children were 2.5 times as likely to score above the clinical cut-off as secure Orphanage children.

To examine the extent to which these differences in child characteristics were the result of the scores from children with atypical insecure patterns I conducted one-way ANOVAS testing differences among secure children, typical insecure children and atypical insecure children in the Orphanage group. Mean scores on these measures are presented in Table 11. Significant differences among groups were found on children's Stanford-Binet scores,  $F(2, 40) = 6.26$ ,  $p < .004$ , children's Total CBCL scores,  $F(2, 37) = 4.00$ ,  $p < .03$ , and their scores on the Externalizing dimension of the CBCL,  $F(2, 37) = 4.52$ ,  $p < .05$ . Pairwise comparisons using the Newman-Keuls procedure revealed that atypical insecure children scored lower than both secure ( $p < .05$ ) and typical insecure children ( $p < .05$ ) on the Stanford-Binet, and scored significantly higher than secure children on the Total CBCL ( $p < .05$ ), and on the Externalizing dimension of the CBCL ( $p < .05$ ).

To examine whether the secure/insecure differences in child characteristics were specific to children in the Orphanage group, I analyzed whether secure and insecure children in the Canadian-born and Early adopted groups differed in terms of their IQ scores and their scores on the CBCL. Children's mean scores on these measures are presented in Appendix F. Secure and insecure children in the Canadian-



Table 11

Child Characteristics Associated with Secure, Typical Insecure and Atypical Insecure Attachment Patterns in RO Children

	Secure		Typical Insecure		Atypical Insecure	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
Stanford Binet IQ**	90.8	14.9	88.4	13.9	<u>73.1</u>	14.6
	(n=16)		(n=13)		(n=14)	
CBCL Total Score*	<u>27.5</u>	18.0	36.3	27.3	<u>53.3</u>	28.8
	(n=16)		(n=11)		(n=13)	
Internalizing	3.2	4.2	4.5	4.0	7.5	7.0
Externalizing*	<u>9.1</u>	7.2	14.5	11.6	<u>19.9</u>	10.3

\* $p < .05$

\*\* $p < .01$

born and Early adopted groups did not differ significantly on IQ scores or on the CBCL.

Family characteristics. A family characteristic that might have been associated with children's insecure attachment patterns was the amount of stress their parents experienced. Total parenting stress scores and stress originating from the Child Domain and the Parent Domain are reported for secure and insecure Orphanage children in Table 12. Parents of children with insecure patterns reported significantly more parenting stress than parents of children with secure patterns,  $t(36) = 2.17, p < .03$ . Parents of insecure Orphanage children reported significantly more stress than parents of secure children originating from both the Child Domain,  $t(36) = 2.23, p < .03$ , and the Parent Domain,  $t(36) = 1.78, p < .08$ .

Once again, in order to ascertain whether these secure/insecure differences were largely the result of the atypical insecure group I reanalyzed the parenting stress data, testing possible differences among secure, typical insecure, and atypical insecure orphanage children. Mean scores for the three groups are presented in Table 13. There was a significant group effect for Total Parenting Stress,  $F(2, 35) = 2.93, p = .06$ , and for stress in the Child Domain,  $F(2, 37) = 2.96, p = .06$ , with parents of secure Orphanage children reporting the lowest stress scores and parents of atypical insecure Orphanage children reporting the highest stress. Newman-Keuls pairwise comparisons revealed, however, that no two groups were significantly different from each other in terms of Parenting stress.

I next considered possible family demographic differences between Orphanage children classified as either secure or insecure. Mean scores on these demographic variables are presented in Table 12. There were no significant differences between secure and insecure children on either mothers' or fathers' age,  $t(41) = .96, p = .34$ ,

Table 12

RO Secure and Insecure Differences on Family Characteristics

	Secure			Insecure		
	n	<u>M</u>	<u>SD</u>	n	<u>M</u>	<u>SD</u>
Total PSI*	16	205.9	41.8	22	238.4	48.0
Child Domain (PSI)*	16	94.8	19.7	22	113.0	27.9
Parent Domain (PSI)+	16	111.1	26.3	22	125.4	22.9
No. of children in family	16	2.5	2.4	27	3.0	2.5
Mother's Education+	16	14.8	2.6	27	13.4	2.0
Father's Education	13	15.3	2.8	25	13.9	4.3
SES*	16	55.8	11.3	26	46.3	14.5
Mother's Age	16	39.1	5.9	27	37.3	5.8
Father's Age	13	39.3	6.5	25	40.6	7.1

+p &lt; .10

\*p &lt; .05

Table 13

Parenting Stress (PSI) Scores of Secure, Typical Insecure, and Atypical Insecure ROChildren

	Secure (n=16)		Typical Insecure (n=10)		Atypical Insecure (n=12)	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
Total PSI+	205.9	41.8	227.2	37.9	247.8	54.8
Child Domain+	94.8	19.7	107.4	23.5	117.7	31.3
Parent Domain	111.1	26.3	119.8	17.1	130.0	26.6

+p &lt; .10

$t(36) = .55, p = .58$ , or fathers' education,  $t(36) = 1.01, p = .32$ . Mothers of Orphanage children classified as insecure, however, had significantly less education than mothers whose children were classified as secure,  $t(41) = 1.91, p = .06$ , and families of insecure Orphanage children came from significantly lower SES backgrounds,  $t(40) = 2.23, p < .04$ . In order to examine whether these demographic differences were the result of families of Orphanage children with atypical insecure patterns, I conducted a one way (group) ANOVA on mothers' education and SES. There was no group effect for mothers' education,  $F(2, 40) = 2.00, p = .14$ . There was a significant group effect for SES,  $F(2, 39) = 4.14, p < .02$ . Newman-Keuls pairwise comparisons revealed that families whose children were classified as atypical insecure came from significantly lower SES backgrounds than families whose children were classified as secure.

In order to examine whether these secure and insecure differences in family characteristics were specific to children in the Orphanage group, I analyzed whether secure and insecure children in the Canadian-born and Early adopted groups differed in terms of parenting stress and family demographic variables. Mean scores on these measures are presented in Appendix G. Parents of insecure Canadian-born children scored higher than parents of secure Canadian-born children on the Total PSI,  $t(36) = 2.10, p < .05$ , the Child Domain (PSI),  $t(36) = 2.06, p < .05$ , and on the Parent Domain (PSI),  $t(36) = 1.87, p = .06$ . There were no differences between secure and insecure Early adopted children on the PSI. There were no demographic differences between secure and insecure children in either the Canadian-born group or the Early adopted group.

### Indiscriminate Friendliness

Time 1-Time 2 comparisons on five-item indiscriminately friendly behavior measure (5IF). Time 1 - Time 2 changes in children's indiscriminate friendliness could

only be assessed for 29 children in the Orphanage group and 25 children in the Early adopted group because in our earliest interviews with families we did not ask the indiscriminate friendliness questions, and because parents of the Canadian-born children were not asked these questions at Time 1. Time 1 5IF scores were significantly correlated with Time 2 5IF scores in both the Orphanage group  $r(29) = .51, p < .005$ , and the Early adopted group  $r(25) = .57, p < .005$ . Within-group changes in indiscriminate friendliness scores from Time 1 to Time 2 were assessed using matched-pairs  $t$ -tests. Orphanage children continued to display as much indiscriminately friendly behavior at Time 2 ( $M = 2.5$ ) as they had displayed at Time 1 ( $M = 2.6$ ),  $t(28) = .23; p = .82$ . In contrast, Early adopted children scored significantly lower on indiscriminate friendliness at Time 2 ( $M = .76$ ) than they had scored at Time 1 ( $M = 1.6$ ),  $t(24) = 3.80; p < .001$ .

#### Group Differences on Indiscriminate Friendliness Measures at Time 2

Five-item indiscriminately friendly behavior measure (5IF). Mean scores for each group on this measure are presented in Table 14. Orphanage children displayed significantly more indiscriminately friendly behavior than both Canadian-born children,  $t(45) = 5.24, p < .0001$ , and Early adopted children,  $t(29) = 6.08, p < .0001$ . The Canadian-born and Early adopted children did not differ in terms of indiscriminate friendliness,  $t(29) = .74, p = .46$ .

Table 15 provides the percentages of children in each group for whom an indiscriminately friendly response was given on each item. Between group differences on each of the indiscriminately friendly items were analyzed using Sign tests. Orphanage children displayed each indiscriminately friendly behavior significantly more than both Canadian-born and Early adopted children (all  $ps < .02$ ). Canadian-born and Early adopted children did not differ significantly on any item.

Table 14

Scores of Matched Groups on 5IF Measure of Indiscriminate Friendliness at Time 2

	n	RO Group		CB Group		EA Group	
		<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
RO vs. CB***	46	2.5	1.6	.93	1.2	_____	
RO vs. EA***	30	2.7	1.5	_____		.73	1.0
CB vs. EA	30	_____		.96	1.2	.73	1.0

\*\*\*p &lt; .001

Table 15

Percentage of Children in Each Group Displaying Indiscriminately Friendly Behavior  
on Each Item

	RO Group (n=46)	CB Group (n=46)	EA Group (n=30)
Wanders without distress	28%	2%	0
Willing to go home with a stranger	35%	7%	3%
Very friendly to new adults	74%	58%	31%
Never been shy with new adults	46%	20%	14%
Approaches new adults	74%	22%	24%



Two-item indiscriminately friendly behavior measure (2IF). Median scores on the 2IF were: Orphanage group (Mdn = 0, range 0 to 2), Canadian-born group (Mdn = 0, range 0 to 1), Early adopted group (Mdn = 0, range 0 to 1). Between group differences on this measure were analyzed using the Sign test. Orphanage children scored significantly higher on the 2IF measure than both Canadian-born children ( $p < .001$ ) and Early adopted children ( $p < .001$ ). Children's scores in the Canadian-born and Early adopted groups did not differ ( $p = .62$ ).

Observers' ratings of indiscriminately friendly behavior (RGM & RTM). Mean scores for the matched groups on this measure are presented in Table 16. Orphanage children were rated by researchers as significantly more indiscriminately friendly than both Canadian-born children,  $t(40) = 4.57$ ,  $p < .001$  and Early adopted children,  $t(26) = 4.32$ ,  $p < .001$ . Canadian-born and Early adopted children's ratings did not differ,  $t(24) = .24$ ,  $p = .81$ . Orphanage children's mean ratings on this scale were between "friendly" and "very friendly", whereas Canadian-born and Early adopted children's mean ratings were between "appropriately wary" and "friendly".

Parents' report of children's indiscriminately friendly behavior. Mean scores for the matched groups on this measure are presented in Table 17. Parents of Orphanage children were significantly more likely to describe their children as "overly friendly" than were parents of Canadian-born children,  $t(45) = 7.49$ ,  $p < .001$ , and parents of Early adopted children,  $t(29) = 8.19$ ,  $p < .001$ . There was no significant difference in Canadian-born and Early adopted parents' reports of their children being "overly friendly",  $t(29) = 1.03$ ,  $p = .31$ . Orphanage parents' mean rating indicated that on average they described their children as "sometimes" to "almost always" overly friendly, whereas Canadian-born and Early adopted parents' mean ratings indicated that on average they described their children as "never" or "seldom"

Table 16

Mean Scores of Matched Groups on Observers' Ratings of Indiscriminate Friendliness

	n	RO group		CB group		EA group	
		<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
RO vs CB**	41	4.3	1.0	3.5	.83	-----	
RO vs EA**	27	4.3	1.0	-----		3.2	.85
CB vs EA	25	-----		3.3	.88	3.2	.87

\*\*  $p < .001$ .

Table 17

Mean Scores of Matched Groups on Parents' Ratings of Indiscriminate Friendliness

	n	RO group		CB group		EA group	
		<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
RO vs CB***	46	3.4	1.6	1.4	1.0	_____	
RO vs EA***	30	3.7	1.5	_____		1.1	.59
CB vs EA	30	_____		1.3	.96	1.1	.59

\*\*\*p &lt; .001

indiscriminately friendly.

Coders' ratings of indiscriminately friendly behavior. The mean coders' ratings for each group are presented in Table 18. Coders rated Orphanage children as significantly more indiscriminately friendly than both Canadian-born children,  $t(45) = 5.59, p < .001$ , and Early adopted children,  $t(29) = 7.17, p < .001$ . There were no differences in coders' ratings of Canadian-born and Early adopted children's indiscriminately friendly behavior,  $t(29) = .49, p = .62$ . Coders' mean ratings indicated that they rated Orphanage children on average from "friendly" to "very friendly" and rated children in the two comparison groups on average from "appropriately wary" to "friendly".

#### Summary of Group Differences on Indiscriminate Friendliness Measures

On every measure of indiscriminate friendliness, Orphanage children scored significantly higher than children in the two comparison groups. Parents, coders, and observers all reported more IF behavior in Orphanage children than in Canadian-born or Early adopted children. Early adopted children, who had experienced little or no time in institution, did not differ from Canadian-born children on any of the five measures of indiscriminate friendliness.

#### Correlates of Indiscriminate Friendliness in Orphanage Children

Background characteristics. Given that indiscriminate friendliness was particularly associated with children who had institutional experience, I considered several aspects of children's orphanage and family experience in an attempt to understand this behavior more clearly. These relationships were analyzed using Pearson Product Moment correlations (or, in the case of dichotomous variables, point biserial correlations) and are presented in Table 19. Orphanage children's

Table 18

Mean Scores of Matched Groups on Coders' Ratings of Children's Indiscriminate  
Friendliness

	n	RO group		CB group		EA group	
		<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
RO vs CB***	46	5.09	1.5	3.59	.97	-----	
RO vs EA***	30	5.2	1.3	-----		3.4	.79
CB vs EA	30	-----		3.5	1.0	3.4	.81

\*\*\*  $p < .001$ .

Table 19

Correlations Between RO Children's Indiscriminate Friendliness, Aspects of Their Institutional Environment, and Background Variables

	n	5IF	2IF	Observers' Rating	Parents' Rating	Coders' Rating
Time in Institution	46	-.12	.00	.03 (n=43)	-.14	-.25
Quality of Institution	46	.03	.12	.09 (n=43)	.21	.00
How Dirty Child was in Institution	43	.04	.05	.06 (n=40)	.06	.12
Availability of Toys	39	.22	.08	.33 * (n=37)	.15	.11
Child was Favorite	38	.44**	.34* (n=36)	.10	.32*	.33*

\* $p < .05$

\*\* $p < .01$

indiscriminate friendliness was unrelated to their total time in institution and to the quality of the institution in which they had lived. As well, this behavior was unrelated to the quality of their physical care (i.e., dirty or soiled) and to whether children had toys to play with in the institution. Observers' ratings of children's indiscriminate friendliness were positively related to whether toys were available to children in the institution, but none of the other four measures of indiscriminate friendliness were related to the availability of toys. Four of the five measures of indiscriminate friendliness were significantly correlated with the child having been a favorite in the institution. Children scoring higher on measures of indiscriminate friendliness were more likely to have been favorites in the institution.

Child characteristics. The child characteristics I examined as possible correlates of indiscriminate friendliness were children's IQ scores, total number of child problems reported by the parent in the interview, and CBCL scores. Correlations between Orphanage children's scores on the five measures of indiscriminate friendliness and these child characteristics are presented in Table 20. There was a significant ( $p = .08$ ) negative relationship between Orphanage children's scores on the more extreme indiscriminate friendliness measure (2IF) and their scores on the Stanford Binet IV. Orphanage children's scores on the 5IF, parents' ratings and coders' ratings were significantly associated with the total number of problems reported for them in the parent interview. Orphanage children's scores on all measures of indiscriminate friendliness except the observers' ratings were significantly correlated with both their Total scores on the CBCL and their scores on the Externalizing dimension. Children's scores on the Internalizing dimension were significantly correlated with only one indiscriminate friendliness measure, the 2IF.

Table 20

Correlations Between RO Children's Scores on Indiscriminate Friendliness and Child Characteristics

	n	5IF	2IF	Observers' Rating	Parents' Rating	Coders' Rating
IQ	43	-.17	-.26 <sup>+</sup>	-.04 (n=43)	-.09	-.05
Total problems	43	.29*	.18	.12 (n=40)	.35*	.34*
<u>CBCL</u>						
Total Score	42	.41**	.60***	.05 (n=39)	.36*	.32*
Internalizing		.17	.39*	.09	.22	.34
Externalizing		.43**	.59***	-.01	.34*	.30*

<sup>+</sup>p < .10

\*p < .05

\*\*p < .01

\*\*\*p < .001



Family characteristics. Given that there were few associations between children's indiscriminate friendliness and characteristics of the institutions where children had been housed, I wanted to investigate whether there were particular adoptive family characteristics associated with children's indiscriminate friendliness. As shown in Table 21, children's indiscriminate friendliness was significantly associated with parenting stress on the Parenting Stress Index developed by Abidin (1990). Orphanage children's scores on every measure of indiscriminate friendliness except observers' ratings were significantly associated with parents' reports of total stress and stress originating in the Child Domain. Parenting stress originating from the Parent domain was significantly associated with the 5IF, the 2IF, and with parents' reports of "overly friendly" behavior in their children.

I found no relation between Orphanage children's scores on any of the measures of indiscriminate friendliness and several family demographic characteristics including the number of children in the family, mothers' and/or fathers' education, and SES. As shown in Table 21, however, children's indiscriminate friendliness was related to both mothers' age and fathers' age. The 5IF, coders' ratings and parents' ratings of indiscriminate friendliness were negatively associated with both mothers' and fathers' age. The higher children's scores on indiscriminately friendliness, the younger were both mother and father. The more extreme measure of indiscriminate friendliness (2IF) and observers' ratings of indiscriminate friendliness were not related to mothers' and fathers' age.

### Relations Between Children's Attachment and Their Scores on Indiscriminate Friendliness

Interview measure of attachment security. The correlations between Orphanage children's scores on the interview measure of attachment security and the

Table 21

Correlations Between RO Children's Scores on Measures of Indiscriminate Friendliness and FamilyCharacteristics

	5 IF	2IF	Observer Rating	Parent Rating	Coder Rating
Total PSI	.48** (n=40)	.58*** (n=40)	.11 (n=37)	.43** (n=40)	.31* (n=40)
Child Domain	.46**	.57***	.15	.39*	.32*
Parent Domain	.42**	.50**	.05	.42**	.25
No. of children in family	-.13 (n=46)	.005 (n=46)	-.12 (n=43)	-.09 (n=46)	-.07 (n=46)
Mother's Education	-.06 (n=46)	-.09 (n=46)	.13 (n=43)	.01 (n=46)	.02 (n=46)
Father's Education	.10 (n=41)	-.01 (n=41)	.03 (n=41)	-.07 (n=41)	.001 (n=41)
SES	-.05 (n=45)	-.02 (n=45)	.13 (n=43)	.02 (n=45)	.01 (n=45)
Mother's Age	-.36* (n=46)	-.18 (n=46)	.07 (n=43)	-.44** (n=46)	-.27+ (n=46)
Father's Age	-.30+	-.19	-.06	-.46**	-.30+

+p &lt; .10

\*p &lt; .05

\*\*p &lt; .01

\*\*\*p &lt; .001

five measures of indiscriminate friendliness are presented in Table 22. There were significant negative associations between Orphanage children's scores on four of the five indiscriminate friendliness measures and their attachment security scores. In other words, Orphanage children with high scores on indiscriminate friendliness scored lower on attachment security than Orphanage children with low scores on indiscriminate friendliness.

Attachment patterns. Independent  $t$ -tests were used to examine any possible differences in indiscriminate friendliness between Orphanage children classified as secure and those classified as insecure with respect to attachment. Secure and insecure children's mean scores on the five measures of indiscriminate friendliness are presented in Table 23. Orphanage children classified as insecure scored significantly higher on the 2IF than orphanage children classified as secure,  $t(41) = 2.01$ ,  $p < .05$ . There were no differences between children classified as secure and children classified as insecure on any of the other measures of indiscriminate friendliness.

To examine whether the difference between secure and insecure children on the more extreme measure of indiscriminate friendliness (2IF) could be accounted for by the scores of children in the atypical insecure group I conducted a one way (secure, typical insecure, atypical insecure) ANOVA on children's 2IF scores. There was a significant group effect for children's 2IF scores  $F(2, 40) = 2.64$ ,  $p = .08$ , with atypical insecure children receiving the highest scores and secure children receiving the lowest scores. Newman-Keuls pairwise comparisons revealed, however, that no two groups were significantly different from each other in terms of 2IF scores.

Handley-Derry et al. (1995) found that secure children in their orphanage group displayed significantly more indiscriminate friendliness than secure comparison children, whereas insecure orphanage children did not differ from insecure comparison

Table 22

Correlations Between RO Children's Attachment Security Interview Scores and the Five Measures of Indiscriminate Friendliness

	n	5 IF	2IF	Observers' Rating	Parent Rating	Coders Rating
Attachment	46	-.40**	-.54**	-.02	-.44**	-.25 <sup>+</sup>
Security				(n=43)		

<sup>+</sup>  $p < .10$

\*\* $p < .01$

Table 23

Scores of RO Children With Secure and Insecure Attachment Patterns (PAA) on Five Measures of Indiscriminate Friendliness

	<u>Secure</u>			<u>Insecure</u>		
	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>
5 IF	16	2.3	1.2	27	2.6	1.7
2IF *	16	0.31	0.47	27	0.77	0.84
Observers' Rating	16	4.3	1.0	26	4.3	1.0
Parents' Rating	16	3.4	1.6	27	3.4	1.7
Coders' Rating	16	4.9	1.3	27	5.1	1.5

\*  $p < .05$

children in terms of indiscriminate friendliness. In order to examine whether I would obtain similar results, I analyzed differences between secure Orphanage and Canadian-born children and differences between insecure Orphanage and Canadian-born children on the five measures of indiscriminate friendliness. Mean scores are presented in Table 24. In contrast to the Handley-Derry study, in the present study both secure and insecure Orphanage children scored significantly higher than Canadian-born children in the same attachment categories on all five measures of indiscriminate friendliness.

Table 24

Scores of Secure RO and CB Children and Insecure RO and CB Children on the Five Measures of Indiscriminate Friendliness

	Secure				Insecure			
	RO Group (n=16)		CB Group (n=25)		RO Group (n=27)		CB Group (n=18)	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
5 IF	2.3	1.2	1.0	1.3**	2.6	1.7	.88	1.2**
2IF	.31	.47	.04	.20**	.77	.84	.16	.38**
Observers' Rating	4.3	1.0	3.6	.72*	4.3	1.0	3.3	.94**
Parents' Rating	3.4	1.6	1.5	1.1***	3.4	1.7	1.3	.97***
Coders' Rating	4.9	1.3	3.7	1.0**	5.1	1.5	3.4	.91***

\*  $p < .05$

\*\*  $p < .01$

\*\*\*  $p < .001$

## Discussion

Two different measures of attachment were used in the present study. The first of these was the 23 attachment items from the Waters and Deane Q-sort (1985), used at both Time 1 and Time 2. One of the limitations of the first phase of this study (Time 1) was that these items had never before been used in a questionnaire format. In spite of that limitation, they reliably differentiated Orphanage children from both Canadian-born and Early-adopted children. In the present study (Time 2), children's scores on the attachment security items were associated with children's behavior problems and parenting stress in ways consistent with attachment theory and research. For example, children with high scores on the CBCL scored low on attachment security, and high parenting stress scores were associated with low attachment security. In addition, my hypothesis that Orphanage children would score higher on the attachment security measure than they had scored on this measure at Time 1 was supported.

In spite of the convergent validity seemingly bestowed on the attachment security items by these results, there was only partial convergence between them and those obtained by using the PAA (Crittenden, 1992). On the positive side, Orphanage and Canadian-born children classified as insecure on the PAA did score significantly lower on the attachment security items than did Orphanage and Canadian-born children classified as secure on the PAA. On the negative side, Orphanage children's scores were not different from either Canadian-born or Early adopted children on attachment security, and this lack of group differences does not agree with the differences found in the PAA data. Together the two sets of results suggest that the interview measure of attachment security may not be as sensitive to the quality of children's attachment as is a behavioral assessment of attachment like the PAA.



Support for this suggestion comes from a study by Sagi et al. (1995), who found that although the Waters and Deane (1985) Q-sort (from which my attachment security questionnaire was derived) differentiated secure children from insecure children (avoidant and resistant/ambivalent combined), it did not differentiate secure children from insecure avoidant children. I found results consistent with Sagi et al. (1995) in the present study. Although the 23 items differentiated secure from insecure children, the items did not differentiate secure (B) from defended (A) children. Children classified as coercive (C) scored significantly lower on the attachment security items than both secure and insecure defended children. The attachment items that evaluate insecurity are characterized by descriptions of ambivalent and coercive behavior (e.g., child is demanding and impatient with you; child sometimes wants to be picked up but then fusses to be put back down again). In contrast, the items that evaluate security could be indicative of either security or avoidance (e.g., uses your facial expressions as a good source of information when something looks risky or threatening; if frightened or upset, he/she stops crying and quickly recovers if you hold him/her). It is therefore likely that the finding that Orphanage children did not differ at Time 2 from Canadian-born or Early adopted children on the 23 item attachment security measure was due to children who actually had insecure defended attachments scoring as secure on those items.

The present study contributes to the ongoing validation of the PAA as a measure of attachment in the preschool years. Even with this unusual sample of children, coders were able to classify all children using the patterns in Crittenden's system. Children's attachment patterns, as assessed by the PAA, were associated with behavior problems and parenting stress in ways consistent with both attachment theory and attachment research. The present research also extends previous work that has

used the PAA by demonstrating its versatility as an assessment of attachment in the preschool years. The present separation-reunion procedure was conducted in children's homes and entailed only one separation episode as opposed to the standard two separations. It is likely that with this procedure, the behaviors displayed by children were more subtle than the behaviors that might have been displayed in a standard laboratory Separation-Reunion, but the PAA was still sensitive enough to permit the coding of attachment patterns with this procedure.

In contradiction to claims in the early literature on institutionalized children, the orphanage children in the present sample were able to form attachment relationships with their adoptive parents. There was no indication of any of the orphanage children being unattached, and coders were able to classify children using the categories of the PAA (Crittenden, 1992). Two-thirds of the Orphanage children fell within the same patterns of attachment as 93% of the Canadian-born children. This finding challenges suggestions in the early literature that institutionalized children were unable to form attachments with subsequent caregivers (Goldfarb, 1955; Spitz, 1945). Although Tizard and her colleagues (Hodges & Tizard, 1989; Tizard & Hodges, 1978; Tizard & Rees, 1975) found that institutionalized children were able to form attachments with their caregivers after having spent their first few years in institution, it is important to note that the institutions from which Tizard derived her sample reflected far better conditions than the reported conditions in Romanian orphanages (Chisholm, Carter, Ames, & Morison, 1995). The present findings, therefore, extend those of Tizard, demonstrating that children exposed to more extreme institutional conditions also were able to form attachment relationships. The present findings support Bowlby's contention that any sensitive period for the development of attachment is broad (Bowlby, 1988). Even children who had spent

three or four years in a Romanian institution were able to form attachments with their adoptive parents.

Although all of the Orphanage children formed attachments, significantly more of them displayed insecure attachment patterns than children in both the Canadian-born and Early adopted groups. This supports recent work on a sample of Romanian adoptees living in the Toronto area: Handley-Derry et al. (1995) found significantly fewer secure attachments among Romanian adoptees than among a normative sample of healthy 4-year-olds. The findings from both of these studies demonstrate that parents who intend to adopt internationally must be concerned about their children's social-emotional development as well as developmental delays, medical problems, and behavioral concerns.

Given that orphanage children were exposed to extreme neglect, and in some cases abuse, the present findings contribute to the growing literature on attachment in maltreated children. In the majority of studies that have examined attachment in maltreated samples, such children are typically insecurely attached to their abusive and/or neglectful caregivers (Crittenden, 1985, 1991; Egeland & Sroufe, 1981; Schneider-Rosen, Braunwald, Carlson, & Cicchetti, 1985). Although it is clear that in the present Orphanage sample children were not abused and neglected by their current adoptive caregivers, children's prior experience of extreme neglect in the orphanage may have contributed to their quality of attachment. Overall, the distribution of attachment patterns in the present Orphanage group was similar to the distribution of patterns found in maltreated samples of children. In the present study, 63% of Orphanage children were insecurely attached. In studies that have considered attachment in maltreated children the percentage of insecure attachments ranges

anywhere from 50 to 100 percent (Easterbrooks et al., 1993; Greenberg et al., 1991; Speiker & Booth, 1988).

The present findings suggest, however, that when the attachment process does go wrong in previously institutionalized children, it may go very wrong. I found that significantly more Orphanage children than Canadian-born or Early adopted children displayed atypical attachment patterns, patterns that some researchers have suggested are risk factors in the development of psychopathology (Carlson & Sroufe, 1995; Crittenden, 1988). Such patterns (particularly A/C and insecure (other)) are rare in normative samples of children, and are more often found in clinical samples of maltreated infants (Speiker & Booth, 1988) and children (Cicchetti & Barnett, 1991, Crittenden, 1988), or in children whose parents display some form of psychopathology (Teti, Gelfand, Messinger, & Isabella, 1995; Radke-Yarrow, Cummings, Kuczynski, & Chapman, 1985).

Although the distribution of secure and insecure patterns in the Orphanage group resembles other maltreated samples, the distribution of atypical patterns is quite different. In the present study, 4 Orphanage children out of 43 were classified as insecure (other). This pattern is rare even in maltreated samples: Crittenden (1992) only found from 1 to 3 children classified as insecure (other) in approximately 100 maltreated children in her samples. Insecure (other) by definition indicates behavior that is difficult to classify. This classification is given when a child is clearly insecure, but the strategy that he or she uses in interaction does not fit any of the established insecure patterns. Clearly, some orphanage children have developed attachment strategies that are unusual or non-normative. Whether such children have developed a coherent strategy in terms of attachment is unclear. Teti (under review) describes the

insecure (other) pattern as reflecting the lack of a clear-cut, recognizable strategy in relation to attachment.

The number of A/C patterns in the present Orphanage sample also differs from other maltreated samples. Five of the 43 Orphanage children (12%) were classified as defended/coercive (A/C). While this percentage is more than is found in normative samples (Carlson et al., 1989; Crittenden, 1988), it is far less than the 50% of A/C patterns reported by Crittenden (1988) for maltreated children. Other researchers have also reported that anywhere from 50 to 80 percent of maltreated preschoolers displayed disorganized and/or A/C attachment patterns (Carlson et al., 1989; Cicchetti & Barnett, 1991). A critical difference between the present sample and other maltreated samples are the characteristics of the parents. In maltreated samples, children are subjected to abuse and/or neglect at the hands of their attachment figures. This is certainly not the case for most children in the present sample. Although Orphanage children have experienced extreme neglect, this was not perpetrated by their present attachment figures. This might explain the reduced number of A/C patterns in this sample relative to other maltreated samples. The children in the present study do not have to shift their own interaction strategies rapidly in response to the rapidly shifting and often unpredictable behavior of a hostile caregiver.

Using the Cassidy-Marvin system for assessing attachment in the preschool years, Handley-Derry et al. (1995) found significantly more controlling and disorganized attachment patterns among Romanian adoptees than among controls. The controlling pattern is characterized by behavior in which the child attempts to control the interaction with his/her caregiver by being either punitive or caregiving (Greenberg et al., 1992). In Crittenden's system (1992) being punitive is considered a coercive pattern (C3) and caregiving is considered a defended pattern (A3).

Crittenden suggests that children classified as caregiving (A3) defend against displaying true affect (i.e., anger) by displaying overbright, false affect. In addition, such children use cognition in an attempt to anticipate their caregiver's behavior. Children classified as controlling in the Cassidy and Marvin system are often combined with children classified as disorganized. Therefore, all the patterns that I have considered "atypical" in the PAA (A3, A4, C3, C4, A/C IO) would be encompassed by the controlling, disorganized, and insecure (other) patterns in the Cassidy-Marvin system. Both the present study and the Handley-Derry et al. (1995) study found comparable percentages of Romanian children displaying these atypical attachment patterns. In the present study 33% of Orphanage children displayed atypical attachment patterns and in Handley-Derry et al.'s (1995) study slightly over 40% of their adoptees displayed controlling, disorganized or insecure (other) attachment patterns.

There are two possible explanations for finding significantly more insecure attachments in the Orphanage group: the children's age at adoption or their institutional experience. Even though the attachment patterns displayed by Orphanage children were unrelated to any institutional variables that I examined, I would argue that the more likely explanation for their insecure attachment patterns is the impact of institutionalization on attachment rather than the children's age at adoption. First, Orphanage children's attachment patterns were unrelated to their age at adoption, and the older Orphanage children did not differ from the younger Orphanage children on any measures in the present study. Second, children's insecure attachment patterns were associated with children's lower IQs and behavior problems, two child characteristics that were likely due to the neglect they experienced as a result of institutionalization.

Rather than institutionalization per se, it seems likely that it was the impact that institutionalization had on children's behavior that was related to children's attachment patterns. One child characteristic that resulted from institutional care was children's IQs. Orphanage children classified as insecure scored lower on the Stanford-Binet than Orphanage children classified as secure. It was the atypical insecure children who contributed most to this difference. The mean IQ among Orphanage children with typical attachment patterns was 90 (Average range) whereas the mean IQ among Orphanage children with atypical insecure patterns was only 73 (Slow learner range). One possibility is that such a low mean IQ, coupled with the children's other problems, may have interfered with their ability to convey their attachment needs and to respond to the cues given by attachment figures, thus compromising the development of a secure attachment. Similarly, it may have been more difficult for adoptive parents to understand and respond sensitively to children's needs, if children were unable to convey those needs clearly.

In a recent meta-analysis, van IJzendoorn, Dijkstra, & Bus (1995) claimed that insecure attachment was associated with a lower level of cognitive functioning, although the results of the meta-analysis suggested that this relationship was weak. All of the studies included in the meta-analysis, however, used infants between 11 and 25 months of age. Goldberg (1988) has suggested that the mother plays a more powerful role than does the child in shaping the quality of the attachment relationship in infancy. Therefore, during infancy, child characteristics such as IQ may not contribute as much to the quality of the relationship. The association between attachment and IQ may be more substantial among preschoolers whose attachment is defined as a goal-corrected partnership. Given that at preschool age the members of the dyad communicate with each other regarding shared plans and adjust their

behavior accordingly, one might suggest that the child contributes more to the determination of the quality of attachment during the preschool years than during infancy. If a child is not doing his or her part in terms of communication and negotiation, the attachment relationship may suffer.

Institutionalization also had an impact on children's behavior problems. Insecure Orphanage children, particularly children with atypical insecure attachment patterns, displayed significantly more behavior problems (both internalizing and externalizing) than secure children, and significantly more insecure Orphanage children than secure Orphanage children scored above the clinical cut-off on the CBCL. This finding supports results reported by Handley-Derry et al. (1995). Although these researchers did not find a significant overall difference in behavior problems between their secure and insecure adoptees, they did find that children in their controlling group were 2.2 times more likely than secure children to score above the clinical cut-off on the CBCL.

There is a substantial literature demonstrating that children's insecure attachment patterns predict both concurrent (Easterbrooks, Davidson, & Chazan, 1993; Greenberg et al., 1992) and subsequent behavior problems (Erikson, Sroufe, & Egeland, 1985). In many of the studies that have examined attachment and behavior problems, attachment was assessed in infancy and behavior problems were assessed during the preschool years (Erikson et al., 1985; Lyons-Ruth et al., 1993). These studies have shown strong links between insecurity in infancy and later disruptive behavior problems. It is important to note, however, that other risk factors (e.g., low income, family discord, possibly temperament) in combination with insecurity predict later behavior problems more reliably (Easterbrooks, Davidson, & Chazan, 1993; Speiker & Booth, 1988) than does attachment security alone. Therefore, insecure



attachment does not "doom a child to psychopathology" (Carlson & Sroufe, 1995, p. 605) nor does secure attachment entirely buffer a child from later difficulties. As Rutter (1985) has noted, attachment may serve either as a risk factor (in the case of insecure attachment) or as a protective factor (in the case of secure attachment), particularly in high-risk samples. When multiple stressors are present in the family environment, a secure attachment may aid in buffering a child against poor outcomes whereas an insecure attachment may contribute yet another risk to an already chaotic environment.

An additional stressor that was associated with insecure attachment patterns in Orphanage children was the lower SES of their adoptive parents. This is consistent with other findings in the attachment literature (Crittenden, 1985; Lyons-Ruth, Alpern, & Rapacholi, 1993). Because the "lower SES" in the present study was not very low in absolute terms, it is unlikely that lower SES alone led to insecure attachments in Orphanage children. It is more likely that lower SES is associated with other stressors (e.g., single parenthood) that might influence a parent's ability to be responsive to his or her child (Speiker & Booth, 1988). For example, if there is one parent in the household this not only means one income, but also may mean a parent is unable to get away from the stresses involved in parenting young children.

In the present study parents of insecure Orphanage children reported experiencing more parenting stress in both the child and parent domains. Again, this was largely the result of parents whose children were classified as atypical insecure. In accord with the present findings, Teti et al. (1995) found that depressed mothers with children classified as A/C, insecure (other) or anxious-depressed (AD, a new classification in the PAA system) reported significantly more parenting stress than mothers of children classified as secure.

The direction of effects, however, is impossible to evaluate. Insecure Orphanage children, particularly those who displayed atypical insecure patterns, had lower IQs and more behavior problems, came from lower SES backgrounds, and their parents experienced more stress. Although it is dangerous to attribute a directional link, I think we can examine these influences using a transactional argument (Sameroff, 1983). For example, it may be that these children's behavior problems led to more stress for their parents; more stress interfered with the parent's ability to be sensitively responsive to his or her child's cues; this compromised the security of attachment and led to more acting-out behavior on the part of the child, and a cycle had begun. In these cases I think there was an unfortunate coming together of children with problems, and parents who were overwhelmed by those problems. On a practical level this may mean that parents need to be especially skilled as parents to deal with children from orphanages.

The Early adopted group displayed significantly more secure attachments than the Orphanage group, and, consistent with my hypothesis, the Early adopted group did not differ from Canadian-born children in terms of attachment. Because such children were adopted before they were four months of age, I found no reason to expect that the development of attachment in this group would differ from children in the Canadian-born group, because attachment was developing on-time. In contrast, Handley-Derry et al. (1995) reported no difference in attachment classifications between their Home and Institution groups. It is possible that these contrary findings may reflect differences in sample selection. For example, children were included in my Early-adopted group only if they were adopted before 4 months of age and if their parents were certain that they would have gone to an orphanage if they had not been adopted. The age at which children in Handley-Derry's (1995) Home group were adopted is

unclear. In addition, it is not clear what proportion of children adopted from homes would have gone to orphanages if they had not been adopted. If a large number of their Home sample were with their biological families for several months prior to their adoption, the sample comprises children with very different experiences from the present Early adopted sample. Children in Handley-Derry's Home sample may have experienced the trauma of a broken attachment as a result of their adoption. Therefore, the delineation between Handley-Derry's Home and Institution groups may not be as distinct as the delineation between the Orphanage and Early adopted group in the present study. These considerations might partially account for the difference in results found in the two studies. For the most part, however, the reasons for the difference remain unknown.

The present research provides substantial evidence that indiscriminately friendly behavior is characteristic of children who have experienced early institutionalization. Orphanage children scored significantly higher than both Canadian-born and Early-adopted children on every measure of indiscriminate friendliness, and Early-adopted children did not differ from Canadian-born children on any measure. Seventy-one percent of parents of Orphanage described their children as "overly friendly", and 90% of parents reported either little or no improvement in this behavior over time. Unlike many of the behaviors associated with institutionalization (e.g., stereotypies), children's displays of indiscriminate friendliness generally did not decrease during the first two to four years in their adoptive homes. It is difficult to suggest how long such behavior may continue, given that some children in Tizard's study still displayed indiscriminate friendliness at eight years of age (Tizard & Hodges, 1978), five years after having left the institution.

Although the early literature did make reference to indiscriminate friendliness in institutionalized children (Spitz, 1945; Goldfarb, 1955; Bowlby, 1958; Tizard & Rees, 1975), few of those researchers chose to examine this behavior explicitly or to provide an explanation for its occurrence. Spitz (1945) considered indiscriminate friendliness as part of the condition he termed "affect hunger"; Bowlby described "shallow affect" as a characteristic of institutionalized children; and Tizard (1977) suggested that such behavior indicated that children were not deeply attached to anyone. Indiscriminate friendliness may serve an adaptive function in an orphanage where resources are extremely limited. Amid the passivity of the majority of children, an indiscriminately friendly child may receive what little attention caregivers have time to give. This possibility is supported by the finding that indiscriminate friendliness was positively associated with having been a favorite in the institution.

What function would this behavior have post-adoption? Research on other children who have experienced extreme neglect in the context of their own families provides one possibility. Crittenden (1988b) described children who had experienced neglect as very passive and cognitively delayed in their first year of life. Once such children were able to locomote on their own, however, they were able to provide themselves with the stimulation that they were lacking. Crittenden (1988b) claimed that neglected toddlers became "uncontrolled seekers of novel experiences. They roamed their homes and yards without restraint and created effects wherever they went." (p. 173). For Orphanage children, their indiscriminate friendliness might also reflect a need for stimulation after their unstimulating early lives.

Another possibility, one that I favor, is that after such extreme deprivation in orphanage, children began to learn that adults would take care of their needs, and that adults were wonderful. This might also explain why indiscriminate friendliness is not

diminishing in Orphanage children; initially it is a behavior that is reinforced by both parents and strangers. At Time 1, parents were pleased that their child was warm and loving and appeared to be fond of everyone; only three parents in the Orphanage sample reported indiscriminate friendliness in their children as a behavior of concern (Chisholm, Carter, Ames, & Morison, 1995). Talking to strangers in stores was "cute", and usually such behavior resulted in positive reactions from strangers. It was probably the case that children adopted from Romanian orphanages received much more attention from strangers than the average child, given the media attention surrounding the events in Romania. According to their parents' reports, Orphanage children were often approached, talked to, and hugged by total strangers, so it is not so difficult to imagine that they felt that such behavior was appropriate. Initially, this may be not unlike the indiscriminate behavior we see in infants prior to the formation of a discriminate attachment.

Does this mean that Orphanage children are indiscriminate in terms of attachment? This may be one interpretation of their behavior. Orphanage children who had high scores on indiscriminate friendliness scored low on the attachment security interview measure. When I consider children's PAA attachment patterns, however, the results are less clear. Insecure Orphanage children scored significantly higher than secure Orphanage children only on the more extreme measure of indiscriminate friendliness (2IF). The 2IF measure includes wandering without distress and being willing to go home with a stranger, items that explicitly evaluate the lack of secure base behavior. Sabbagh (1995), who examined Romanian adoptees' behavior toward the stranger in a Strange Situation procedure, found contrary results, that is, that Romanian adoptees classified as secure displayed significantly more indiscriminately friendly behavior toward a stranger than secure controls. Insecure

Romanian adoptees in her sample did not display more indiscriminate friendliness toward a stranger than insecure controls. It is unclear from Sabbagh's study, however, whether there was a significant difference in indiscriminately friendly displays between secure and insecure adoptees. She and her colleagues (Sabbagh, 1995; Marcovitch et al., 1995) have suggested that the indiscriminate friendliness of Romanian adoptees may contribute to the "appearance" of security in these children and that in classifying adoptees using the traditional Strange Situation we may be identifying some "false secures". In the present sample, however, when I compared secure Orphanage children to secure Canadian-born children, and insecure Orphanage children to insecure Canadian-born children in terms of indiscriminate friendliness, both the secure and insecure Orphanage children scored significantly higher than Canadian-born children with the same security classification. Therefore, in the present sample there was no evidence that indiscriminate friendliness was characteristic of children classified as secure. Instead, the only differences that were found linked indiscriminate friendliness to insecurity. In addition, secure children in the present sample differed from insecure children in ways that are consistent with attachment theory and research (e.g., secure children had fewer behavior problems and their parents reported less parenting stress), so it seems unlikely that they have been misclassified on the basis of their indiscriminate friendliness.

Given that even Orphanage children classified as secure display indiscriminate friendliness, I cannot agree that their indiscriminate friendliness should be equated with attachment disorder (Zeanah, 1996). The more extreme indiscriminately friendly behaviors do seem to be associated with insecure attachment, but much of the indiscriminate friendliness displayed by Orphanage children (i.e., eagerly approaching strangers, asking questions, never having been shy) is not directly linked to their

attachment to parents. I had previously argued (Chisholm et al., 1995) that if indiscriminate friendliness continued to be displayed as children grew older, it would cause more concern for parents because, as Provence and Lipton (1962) suggested, parents might feel disappointment when the parent-child relationship failed to grow deeper over time. When asked at Time 2, the majority (60%) of parents reported concern about children's indiscriminate friendliness, but, having spoken with all of the families I do not have the sense that parents connect this behavior to the attachment relationship.

Indiscriminate friendliness does, however, go hand in hand with other problems. It was associated with more behavior problems in children and with more parenting stress. Although the direction of these effects cannot be confidently ascertained, it is reasonable to expect that children who wander and who would be willing to go home with strangers would create considerable stress for parents. Conversely, parents who are overwhelmed by their children's behavior problems may not be as attentive as other parents, and as a result children may seek stimulation from other adults.

Children's experience in Romanian orphanages constituted a risk factor for the development of attachment. The dramatic environmental change brought about by children's adoption provided the opportunity to overcome early deprivation. Given an optimal environment with few stressors, Orphanage children were able to form secure attachment relationships with their adoptive parents. Early institutional experience had an impact on security of attachment when coupled with other stressors. In families where difficult child behaviors were combined with parents who were experiencing stress, children developed insecure attachments. This is consistent with Rutter's (1985) contention that one risk factor in isolation does not lead to an increased

probability of risk for psychopathology. Rather, it is the combination of several risk factors working together that substantially increases the likelihood of future difficulty.

Romanian Orphanage children generally arrive in their adoptive homes in very poor condition. Dealing simultaneously with a large number of problem areas (medical, intellectual, social-emotional, and behavior problems) requires an exceptionally high commitment from parents, one that is much greater than that required of most parents, and more stress-producing. The fact that a sizeable number of adoptive parents of children from Romanian orphanages have been successful in promoting secure attachments in their children is a considerable and laudable achievement.



## References

- Abidin, R.R. (1990). Parenting Stress Index (3rd Edition). Charlottesville, VA: Pediatric Psychology Press.
- Achenbach, T.M. (1991). Manual for the Child Behavior Checklist/4-18 and 1991 Child Behavior Profile. Burlington, VT: University of Vermont, Department of Psychiatry.
- Ainsworth, M.D.S. (1982). Attachment: Retrospect and prospect. In C.M. Parkes & J. Stevenson-Hinde (Eds.), The place of attachment in human behavior. New York: Basic Books.
- Ainsworth, M.D.S. (1990). Epilogue: Some considerations relevant to theory and assessment regarding attachment beyond infancy. In M.T. Greenberg, D. Cicchetti, and E.M. Cummings (Eds.), Attachment in the preschool years: Theory, research, and intervention (pp 463-488). Chicago, IL: University of Chicago Press.
- 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.
- Ames, E.W., & Carter, M. (1992). Development of Romanian orphanage children adopted to Canada. [Abstract] Canadian Psychology, 33 (2), 503.

Blishen, B.R., Carroll, W.K., & Moore, C. (1987). The 1981 socioeconomic index for occupations in Canada. Canadian Review of Sociology and Anthropology, 24, 465-487.

Bowlby, J. (1958). The nature of the child's tie to his mother. International Journal of Psychoanalysis, 39, 350-373.

Bowlby, J. (1969/1982). Attachment and loss: Vol. 1 Attachment. New York: Basic Books.

Bowlby, J. (1973). Attachment and loss: Vol. 2. Separation. New York: Basic Books.

Bowlby, J. (1988). Lecture 2: The origins of attachment theory. A secure base (pp.20-38). New York: Basic Books.

Bretherton, I. (1985). Attachment theory: Retrospect and prospect. In I. Bretherton and E. Waters (Eds.), Growing points of attachment theory and research (pp. 3-35). Monographs of the Society for Research in Child Development, 50 (1-2, Serial No. 209) .

Carlson, V., Cicchetti, D., Barnett, D., & Braunwald, K. (1989). Disorganized/disoriented attachment relationships in maltreated infants. Developmental Psychology, 25, 525-531.

Carlson, E.A., & Sroufe, A.L. (1995). Contributions of attachment theory to developmental psychopathology. In D. Cicchetti & D.J. Cohen (Eds.), Developmental Psychopathology, Vol. 1, Theory and Methods. (pp. 581-617). New York: Wiley.

Cassidy, J. (1988). Child-mother attachment and the self in six-year-olds. Child Development, *59*, 121-134.

Chisholm, K., Carter, M., Ames, E.W., & Morison (1995). Attachment security and indiscriminately friendly behavior in children adopted from Romanian orphanages. Development and Psychopathology, *7*, 283-294.

Chisholm, K., & Savoie, L. (1992). Behavior and attachment problems of Romanian orphanage children adopted to Canada. [Abstract] Canadian Psychology, *33:2a*, 504.

Cicchetti, D., & Barnett, D. (1991). Attachment organization in maltreated preschoolers. Development and Psychopathology, *3*, 397-411.

Cicchetti, D., Cummings, E.M., Greenberg, M.T., & Marvin, R.S. (1990). An organizational perspective on attachment beyond infancy: Implications for theory, measurement and research. In M.T. Greenberg, D. Cicchetti, and E.M. Cummings (Eds.), Attachment in the preschool years: Theory, research, and intervention (pp 3-51). Chicago, IL: University of Chicago Press.

Crittenden, P. (1985). Maltreated infants: Vulnerability and resilience. Journal of Child Psychology and Psychiatry, 26, 85-96.

Crittenden, P. (1988a). Relationships at risk. In J. Belsky & T. Nezworski (Eds.), Clinical implications of attachment (pp.137-174). Hillsdale, NJ: Erlbaum.

Crittenden, P. (1988b). Family and dyadic patterns of functioning in maltreating families. In K. Browne, C. Davies, & P. Stratton (Eds.), Early prediction and prevention of child abuse (pp. 161-189). Chichester, England: J. Wiley.

Crittenden, P. (1991). Family patterns of relationship in normative and dysfunctional families. Development and Psychopathology, 3, 491-512.

Crittenden, P.M. (1992). Quality of attachment in the preschool years. Development and Psychopathology, 4, 209-243.

Crittenden, P.M. (in press). Attachment and psychopathology. In S. Goldberg, R. Muir, & J. Kerr (Eds.), Attachment theory: Social, developmental, and clinical perspectives. Hillsdale, NJ: The Analytic Press.

Crittenden, P.M., & Claussen, A.H. (1993, March). Validation of a theory-based system for assessing quality of attachment in the preschool years. Paper presented at the biennial meeting of the Society for Research in Child Development, New Orleans, LA.

Crittenden, P.M., & Claussen, A.H. (1994, June). Quality of attachment in the preschool years: Two approaches to validation. In P.M. Crittenden (Chair), Quality of attachment in the preschool years. Symposium conducted at the International Conference on Infant Studies, Paris, France.

Crittenden, P.M., Partridge, M.F., & Claussen, A.H. (1991). Family patterns of relationship in normative and dysfunctional families. Development and Psychopathology, 3, 491-512.

Easterbrooks, M.A., Davidson, C.E., & Chazan, R. (1993). Psychosocial risk, attachment, and behavior problems among school-aged children. Development and Psychopathology, 5, 389-402.

Egeland, B., & Sroufe, L.A. (1981). Developmental sequelae of maltreatment in infancy. New Directions for Child Development, 11, 77-92.

Emde, R.N. (1990). The third phase of attachment research. In M.T. Greenberg, D. Cicchetti, and E.M. Cummings (Eds.), Attachment in the preschool years: Theory, research, and intervention. (pp ix-xii). Chicago, IL: University of Chicago Press.

Erikson, M.F., Sroufe, L.A., & Egeland, B. (1985). The relationship of quality of attachment and behavior problems in preschool in a high risk sample. In I. Bretherton & E. Waters (Eds.), Growing points of attachment theory and research (pp.

147-166). Monographs of the Society for Research in Child Development, 50, (1-2, Serial No. 209).

Fagot, B.I., & Pears, K.C. (1996). Changes in attachment during the third year: Consequences and predictions. Development and Psychopathology, 8, 325-344.

Fisher, L., Ames, E.W., Chisholm, K., & Savoie, L. (in press). Problems reported by parents of Romanian orphans adopted to British Columbia. International Journal of Behavioral Development.

Goldberg, S. (1988). Risk factors in infant-mother attachment. Canadian Journal of Psychology, 42 (2), 173-188.

Goldfarb, W. (1945a). Psychological privation in infancy and subsequent adjustment. American Journal of Orthopsychiatry, 14, 247-255.

Goldfarb, W. (1945b). Effects of psychological deprivation in infancy and subsequent stimulation. American Journal of Psychiatry, 102, 18-33.

Goldfarb, W. (1955). Emotional and intellectual consequences of psychologic deprivation in infancy: A reevaluation. In P. Hoch & J. Zubin (Eds.), Psychopathology in childhood, (pp. 105-119). New York: Grune & Stratton.

Greenberg, M.T., Speltz, M.L., DeKleyen, M., & Endriga, M.C. (1992). Attachment security in preschoolers with and without externalizing behavior problems: A replication. Development and Psychopathology, 3, 413-430.

Handley-Derry, M., Goldberg, S., Marcovitch, S., McGregor, D., Gold, A., & Washington, J. (1995, September). Determinants of behavior in internationally adopted Romanian children. Paper presented at the Society for Behavioral Pediatrics, Philadelphia, PA.

Hodges, J. & Tizard, B. (1989). Social and family relationships of ex-institutional adolescents. Journal of Child Psychology and Psychiatry, 30 (1), 77-97.

Lewis, M., Feiring, C., McGuffog, C., & Jaskir, J. (1984). Predicting psychopathology in six year olds from early social relations. Child Development, 55, 123-136.

Lieberman, A.F. & Pawl, J.H. (1988). Clinical applications of attachment theory. In J. Belsky & T. Nezworski (Eds.) Clinical implications of attachment (pp.327-347). Hillsdale, NJ: Erlbaum.

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(1), 64-73.

Lyons-Ruth, K., Alpern, L., Repacholi, B. (1993). Disorganized infant attachment classification and maternal psychosocial problems as predictors of hostile-aggressive behavior in the preschool classroom. Child Development, 64, 572-585.

Main, M. (1983). Exploration, play, and cognitive functioning as related to infant-mother attachment. Infant Behavior and Development, 6, 167-174.

Main, M., Kaplan N., & Cassidy, J. (1985). Security in infancy, childhood, and adulthood: A move to the level of representation. In I. Bretherton and E. Waters (Eds.) Growing points of attachment theory and research (pp. 6-104). Monographs of the Society for Research in Child Development, 50, (1-2, Serial No. 209).

Marcovitch, S., Goldberg, S., Gold, A., Washington, J., Wasson, C., & Krekewich, K. (1995, March). Determinants of behavior problems in internationally adopted Romanian children. Paper presented at the biennial meeting of the Society for Research in Child Development, Indianapolis, IN.

Marvin, R.S. (1977). An ethological-cognitive model for the attenuation of mother-child attachment behavior. In T. Alloway, P. Pliner, and L. Krames (Eds.), Advances in the study of communication and affect, Vol.3: Attachment behavior. (pp 25-60). NY: Plenum Press.

McMullan, S. & Fisher, L. (1992). Developmental progress of Romanian orphanage children in Canada. [Abstract] Canadian Psychology, 33:2a, 504.

Morison, S.J., Ames, E.W., & Chisholm, K. (1995). The development of children adopted from Romanian orphanages. Merrill-Palmer Quarterly, 41 (4), 411-430.



Provence S. & Lipton, R.C. (1962). Infants in institutions. International Universities Press.

Radke-Yarrow, M., Cummings, E.M., Kuczynski, L., & Chapman, M. (1985). Patterns of attachment in two- and three-year-olds in normal families and families with parental depression. Child Development, 56, 884-893.

Rapoport, J.L. & Ismond, D.R. (1990). DSM-III-R Training Guide for Diagnosis of Childhood Disorders, 76-81.

Rutter, M. (1985). Resilience in the face of adversity: Protective factors and resistance to psychiatric disturbance. British Journal of Psychiatry, 147, 598-611.

Sabbagh, R. (1995). Attachment and behavior toward strangers in Romanian preschoolers adopted into Canadian families. Unpublished master's thesis, University of Toronto, Toronto, Ontario, Canada.

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, (2-3, Serial No. 244).

Sameroff, A. (1983). Developmental systems: Contexts and evolution. In P.H. Mussen (Ed.), Handbook of child psychology, (4th Ed.) (pp. 237-294). NY: Wiley.

Sattler, J.M. (1992). Assessment of children: Revised and updated Third Edition. San Diego, CA: Jerome M. Sattler, Publisher.

Schneider-Rosen, K., Braunwald, K.G., Carlson, V., & Cicchetti, D. (1985). Current perspectives in attachment theory: Illustrations from the study of maltreated infants. In I. Bretherton and E. Waters (Eds.) Growing points of attachment theory and research (pp.194-210). Monographs of the Society for Research in Child Development, 50, (1-2, Serial No. 209).

Singer, L.M., Brodzinsky, D.M., Ramsey, D., Steir, M., & Waters, E. (1985). Mother-infant attachment in adoptive families. Child Development, 56, 1543-1551.

Speiker, S.J., & Booth, C.L. (1988). Maternal antecedents of attachment quality. In J. Belsky & T. Nezworski (Eds.), Clinical implications of attachment (pp. 95-135). Hillsdale, NJ: Erlbaum.

Spitz, R.A. (1945). An inquiry into the genesis of psychiatric conditions in early childhood. I. Hospitalism. Psychoanalytic Study of the Child, 1, 53-74.

Speltz, M.L., Greenberg, M.T., & DeKlyen, M. (1990). Attachment in preschoolers with disruptive behavior: A comparison of clinic-referred and nonproblem children. Development and Psychopathology, 2, 31-46.

Teti, D.M., & Gelfand, D.M. (1996). The Preschool Assessment of Attachment: Construct validity in a sample of depressed and nondepressed mothers. Manuscript submitted for publication.

Teti, D.M., Gelfand, D.M., Messinger, D.S., & Isabella, R. (1995). Maternal depression and the quality of early attachment: An examination of infants, preschoolers, and their mothers. Developmental Psychology, 31 (3), 364-376.

Teti, D.M., Nakagawa, M., Das, R., & Wirth, O. (1991). Security of attachment between preschoolers and their mothers: Relations among social interaction, parenting stress, and mothers sorts of the attachment Q-set. Developmental Psychology, 27 (3), 440-447.

Thorndike, R.L., Hagen, E.P., & Sattler, J.M. (1986). Guide for administering and scoring, the Stanford-Binet Intelligence Scale: Fourth Edition. Chicago, IL: Riverside.

Tizard, B. (1977). Adoption: A second chance. London: Open Books.

Tizard, B., & Hodges, J. (1978). The effect of early institutional rearing on the development of eight-year-old children. Journal of Child Psychology and Psychiatry, 19, 99-118.

Tizard, B. & Rees, J. (1974). A comparison of the effects of adoption, restoration to the natural mother, and continued institutionalization on the cognitive development of four-year-old children. Child Development, 45, 92-99.

Tizard, B. & Rees, J. (1975). The effect of early institutional rearing on the behavior problems and affectional relationships of four-year-old children. Journal of Child Psychology and Psychiatry, 16, 61-73.

van IJzendoorn, M.H., Dijkstra, J., & Bus, A.G. (1995). Attachment, intelligence and language: A meta-analysis. Social Development, 4(2), 115-128.

van IJzendoorn, M.H., & Bakermans-Kranenburg, M.J. (1996). Attachment representations in mothers, fathers, adolescents, and clinical groups: A meta-analytic search for normative data. Journal of Consulting and Clinical Psychology, 64 (1), 8-21.

van IJzendoorn, M.H., & van Vliet-Visser, S. (1986). The relationship between quality of attachment in infancy and IQ in Kindergarten. Journal of Genetic Psychology, 149 (1), 23-28.

Waters, E. (1995). Appendix A. The attachment Q-set (Version 3.0). 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. 234-246). Monographs of the Society for Research in Child Development, 60, (2-3, Serial No. 244).

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 of attachment theory and research. Monographs of the Society for Research in Child Development, 50*, (1-2, Serial No. 209).

Waters, E., Posada, G., Crowell, J., & Lay, K. (1993). Is attachment theory ready to contribute to our understanding of disruptive behavior problems? *Development and Psychopathology*, 5, 215-224.

Yarrow, L.J., & Goodwin, M.S. (1973). The immediate impact of separation: Reactions of infants to a change in mother figure. In L.J. Stone, H.T. Smith, & L.B. Murphy (Eds.), *The competent infant: Research and commentary* (pp. 1032-1040). New York: Basic Books.

Zeanah, C.H. (1996). Beyond insecurity: A reconceptualization of attachment disorders in infancy. *Journal of Consulting and Clinical Psychology*, 64(1), 42-52.

## Appendix A

Interview Measure of Attachment Security

- 1) \_\_\_\_\_ readily shares with you or lets you hold things if he/she is asked to. (+)
- 2) When \_\_\_\_\_ returns to you after playing, he/she is often fussy for no clear reason. (-)
- 3) \_\_\_\_\_ follows your suggestions readily, even when they are clearly suggestions rather than orders. (+)
- 4) \_\_\_\_\_ keeps track of your location when he/she is playing around the house. For example, he/she calls now and then or he/she takes notice if you change rooms or activities. (+)
- 5) \_\_\_\_\_ sometimes gives the impression that he/she wants to be put down, and then fusses or wants to be picked right back up. (-)
- 6) \_\_\_\_\_ clearly shows a pattern of using you as a base from which to explore, that is, he/she moves out to play, returns, and then moves out to play again. (+)
- 7) \_\_\_\_\_ is demanding and impatient with you. He/she fusses and persists unless you do what he/she wants right away. (-)
- 8) \_\_\_\_\_ follows you when he/she is asked to do so. Refusals or delays which are playful don't count unless they are clearly disobedient. (+)
- 9) \_\_\_\_\_ recognizes when you are upset. He/she becomes quiet or upset, or he/she tries to comfort you, or even asks what is wrong. (+)
- 10) When you pick \_\_\_\_\_ up, he/she puts his/her arms around you or puts his/her hand on your shoulder. (+)
- 11) \_\_\_\_\_ acts like he/she expects you to interfere with his/her activities when you are simply trying to help him/her with something. (-)

Appendix A continues

- 12) If you reassure \_\_\_\_\_ by saying something like "it's o.k." or "it won't hurt you", he/she will approach or play with things that initially made him/her cautious or afraid. (+)
- 13) When \_\_\_\_\_ plays with you, he/she plays roughly. For example, he/she bumps, scratches, or bites, even though he/she does not necessarily mean to hurt you. (-)
- 14) \_\_\_\_\_ is easily upset if you make him/her change activities, even if the new activity is something he/she often enjoys. (-)
- 15) When you enter a room that \_\_\_\_\_ is in, he/she quickly greets you, without you having to greet him/her first. For example, he/she smiles, shows a toy, gestures, or says "Hi". (+)
- 16) If \_\_\_\_\_ is frightened or upset, he/she stops crying and quickly recovers if you hold him/her. (+)
- 17) When you don't do what \_\_\_\_\_ wants right away, he/she acts as if you were not going to do it at all. For example, he/she fusses, gets angry, walks off to do other activities, etc. (-)
- 18) At home, \_\_\_\_\_ gets upset or cries when you walk out of the room. (-)
- 19) \_\_\_\_\_ easily becomes angry at you. (-)
- 20) \_\_\_\_\_ uses your facial expressions as a good source of information when something looks risky or threatening. (+)
- 21) \_\_\_\_\_ cries as a way of getting you to do what he/she wants. (-)
- 22) When something upsets \_\_\_\_\_ he/she tends to stay right where he/she is and cry. (-)
- 23) If you move very far as \_\_\_\_\_ is playing, he/she follows along and continues to play in the area you have moved to. He/she doesn't stop playing, doesn't get upset and doesn't have to be called or carried along. (+)

## Appendix B

## Preschool Assessment of Attachment: Attachment Patterns

(from: Crittenden (1992). Quality of attachment in the preschool years. Development and Psychopathology, (4)2, 209-241).

Secure Patterns of Behavior1. Secure Reserved (B1-2).

- verbally direct and clear; takes the initiative in involving attachment figure (AF) in play or conversation.
- engages in very little proximity with AF.
- confident and comfortable resolving issues verbally.

2. Secure Comfortable (B3).

- open with AF regarding separations and/or reunions but doesn't require extensive plan-making or reassurance.
- provides evidence of an assumed trust in AF's whereabouts and willingness to communicate with AF regarding their mutual set-goal.
- displays feelings without distortion: particularly competent at regulating feelings and resolving discomfort.
- resolves discomfort upon reunion by sharing some form of intimacy with AF.
- most relaxed, calm, and comfortable of groups.

Appendix B continues



### 3. Secure Reactive (B4)

- needs more reassurance and closeness than secure comfortable children
- presents feelings openly, expresses some doubt about own competence, and requests more help with affect regulation than other secure children.
- trusts AF's willingness to communicate with him or her.
- takes responsibility for regulating own affect.
- explores the environment and affiliative relationships, and uses both to assist with affect regulation.
- seeks proximity even in pre-separation episodes, quite likely to cry when left alone, and engages in less exploration than other secure children.
- unlikely to be persistently pouty or dependent.

### Defended Patterns of Behavior

#### 1). Inhibited (A1-2).

- avoids close contact or bids for close contact with an AF who generally behaves in an interfering or rejecting manner.
- in preschool years avoidance is more covert; child appears focussed on other acceptable activities which allow him or her both to remain in proximity to AF and also to be sufficiently occupied that AF could not expect him or her to interact closely.
- occasionally rejects physical intimacy by pushing away.
- resistance behavior is often followed by appeasing behavior.

#### 2). Caregiving (A-3).

- in response to an AF who is withdrawn or unresponsive, attempts to cheer

Appendix B continues

AF with overbrightness or nurturance.

- simulates involvement by carrying on a monologue directed toward AF, and keeps AF busy.
- unlike inhibited may initiate or tolerate closeness in an attempt to please the AF but this positive behavior appears brittle.

### 3) Compliant (A-4).

- defends against AF's hostile displays by becoming compliant.
- vigilant and overresponsive to any demands from AF.
- because of child's extreme readiness to comply, AF rarely appears demanding or controlling.
- shows limited range of affect and inability to engage in productive play.
- like caregiving children, will often tolerate extended episodes of closeness rather than offend AF.

## Coercive Patterns of Behavior

### 1) Coercively threatening (C1).

- uses angry behavior to threaten the AF into compliance with his or her wishes.

### 2) Coercively disarming (C2).

- uses coy and winsome behavior to bribe AF into rescuing him or her. This behavior ranges from shy (head down, thumb in mouth) to sweetly flirtatious (coy looks, high babyish voice tone) to seductively disarming (sudden glorious smiles, proffered gifts).
- underlying struggle to force AF to meet his or her wishes

Appendix B continues

### 3) Coercively Punitive (C-3).

---- carries threatening behavior to an extreme by creating situations in which the AF is openly punished (e.g., hitting tantrums, screaming) or embarrassed (e.g., refusal of affection, demands that the AF do babyish foolish things prior to child's compliance). Such behavior appears hostile and retaliatory in nature.

### 4) Coercively Helpless (C-4).

---- displays of extreme helplessness (e.g., sitting frozen and motionless with lowered head, to pitifully helpless, whimpered calls to AF using "baby talk").

### Defended/Coercive (A/C) Patterns of Behavior

- displays both defended and coercive strategies
- merges strategies or alternates between displays of defensive and coercive behaviors.
- may display high levels of proximity seeking and contact maintaining as well.
- stereotypic behaviors may be present (e.g., stilling, rocking, huddling on the floor).

### Secure (Other)

This classification is given when a coder is confident that the child is clearly secure but the child's behavior and organization of his/her behavior does not fit any of the established secure patterns.

Appendix B continues

Insecure (Other)

Similar to secure (other) in that the coder is confident the child is insecure but his/her behavior and/or strategy in interaction does not fit any of the insecure patterns.

## Appendix C

## Indiscriminately Friendly Questions

1) How friendly has your child been with new adults?

0 = generally not friendly (e.g., wary, does not approach new adults, clings to parents).

0 = mixed reaction (e.g., usually friendly but sometimes cries, friendly to some strangers but not others, wary at first but then warms up).

1 = very friendly, interacts freely with all new adults.

2) Is your child shy or does he/she ever make strange?

0 = child has always been shy

0 = did not play strange/shy, now does

1 = has never been shy or was initially shy/strange; is no longer

3) What does your child do when he or she meets new adults?

0 = is upset by new adults (e.g., cries, clings to parents, covers eyes)

0 = stands back, observes, evaluates.

1 = approaches adult (shows toys, speaks, asks questions).

Appendix C continues

4) Would your child be willing to go home with an adult he or she had just met?

0 = never has been willing

0 = yes initially, currently no

1 = always has been willing; or no initially, currently yes

5) Does your child have a tendency to wander off?

0 = no, does not wander

0 = wanders but is distressed at separation.

1 = wanders and is not distressed at separation.

## Appendix D

## Attachment Patterns Displayed By Each Group

	RO Group	CB Group	EA Group
Secure (Balanced)			
B 1-2 (Reserved)	2	16	5
B 3 (Comfortable)	6	8	8
B 4 (Reactive)	2	1	4
SO	6	0	1
Defended (A)			
A 1-2 (Inhibited)	7	9	5
A 3 (Compulsive Caregiving)	5	1	1
A 4 (Compulsive Compliance)	0	1	0
Coercive (C)			
C 1-2 (Threatening Disarming)	6	6	3
C 3 (Punitive)	0	0	0
C 4 (Helpless)	0	1	0
Defended/Coercive (A/C)	5	0	0
Insecure (Other)	4	0	0

## Appendix E

## Mean Scores of RO Children Classified as Secure, Secure (Other) and Insecure (Other)

	Secure		Secure (Other)		Insecure (O)	
	(n=10)		(n=6)		(n=4)	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
Stanford-Binet IQ+	96.0	14.3	82.3	12.6	57.0	5.5**
CBCL						
Total Score	26.2	15.7	29.8	22.9	69.2	28.2*
Internalizing	3.3	3.2	3.1	5.8	9.5	7.5
Externalizing	9.9	8.7	7.8	4.1	25.0	9.4**
Parenting Stress						
Total Score	210.3	48.8	198.6	29.2	260.0	61.0+
Child Domain	93.9	20.7	96.3	19.8	127.6	33.6
Parent Domain	116.4	29.8	102.33	18.3	132.3	30.6
Attachment Security	89.8	9.1	93.1	6.6	89.2	6.6
IF Measures						
5IF	2.3	1.4	2.3	0.81	3.2	2.2
2IF	0.40	0.51	0.16	0.40	1.25	0.95*
Observers' Ratings	4.2	1.2	4.6	0.84	5.0	1.7
Parent Rating	3.3	1.8	3.6	1.2	4.2	1.5
Coders' Rating	4.9	1.3	4.9	1.3	6.0	2.0

+p &lt; .07

\*p &lt; .05

\*\*p &lt; .01



## Appendix F

## Child Characteristics Associated With Secure and Insecure Attachment Patterns in CB and EA Children

	Canadian-born group				Early adopted group			
	Secure		Insecure		Secure		Insecure	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
Stanford-Binet IQ	110	9.2	105.8	8.1	98.5	16.5	96.7	10.6
	(n=25)		(n=16)		(n=18)		(n=9)	
CBCL Total Score	18.9	11.9	21.1	12.1	18.4	12.2	24.5	13.5
	(n=22)		(n=16)		(n=15)		(n=8)	
Internalizing	3.2	2.6	4.3	3.9	4.0	3.4	4.2	3.6
Externalizing	7.4	5.3	8.8	5.5	7.4	5.6	10.8	6.4

## Appendix G

Family Characteristics Associated With Secure/Insecure Attachment Patterns in CB and EA Children

	Canadian-born group				Early adopted group			
	Secure		Insecure		Secure		Insecure	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
Total PSI	198.0 (n=22)	32.1	223.4 (n=16)	42.5*	211.1 (n=14)	29.0	196.6 (n=8)	34.4
Child Domain (PSI)	86.0	14.5	98.1	21.6*	96.5	11.4	92.5	16.1
Parent Domain (PSI)	111.9	20.7	125.2	22.9+	114.5	21.8	104.1	19.5
No. of children in family	2.1 (n=25)	.78	2.4 (n=18)	.98	1.8 (n=18)	0.78	2.3 (n=9)	1.3
Mother's Education	14.0 (n=25)	2.3	14.6 (n=18)	2.4	15.6 (n=18)	3.0	14.1 (n=9)	1.6
Father's Education*	14.1 (n=23)	2.0	16.1 (n=17)	3.1	16.1 (n=18)	3.1	16.3 (n=9)	2.9
SES	54.2 (n=25)	13.6	52.8 (n=17)	17.4	51.4 (n=17)	13.2	49.5 (n=9)	10.8
Mother's Age	37.1 (n=25)	4.2	38.0 (n=18)	4.2	41.2 (n=18)	6.3	38.0 (n=9)	6.0
Father's Age	39.1 (n=24)	3.8	40.1 (n=17)	4.6	42.6 (n=18)	6.3	39.0 (n=9)	7.5

+  $p < .10$ \*  $p < .05$