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III. ATTACHMENT AND EMOTIONAL DEVELOPMENT IN INSTITUTIONAL CARE: CHARACTERISTICS AND CATCH UP

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Attachment has been assessed in the extreme environment of orphanages, but an important issue to be addressed in this chapter is whether in addition to standard assessment procedures, such as the Strange Situation, the lack of a specific attachment in some institutionalized children should be taken into account given the limits to the development of stable relationships in institutionalized care. In addition, this chapter discusses disinhibited or indiscriminately friendly behavior that is often seen in institutionalized children. Enhanced caregiving quality alone appears to be insufficient to diminish indiscriminate behavior, at least in some children, as evidenced by the persistence of indiscriminate behavior in children adopted out of institutions into adoptive families. We suggest that the etiology and function of indiscriminate, "friendly" behavior may be different for institutionalized versus not-institutionalized children. In the first case it may reflect a distortion or disruption of early attachment relationships; in the latter case it is likely to result from the lack of expected input in the form of contingent interactions with a stable caregiver in early life. We try to delineate infant and caregiver characteristics that are associated with secure attachment in institutional settings, given the inevitable fact that large numbers of infants worldwide are being raised, *and will be raised*, in contexts of institutional care. We conclude that much further study is needed of the development of children's attachments following adoption out of an institutional setting.

Disturbances of attachment are among the most pronounced effects of institutionalized care dating from pioneering observations in the 1940s (e.g., Burlingham & Freud, 1944). Although many institutions provide fairly clean

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environments, good medical care, and adequate nutrition, the rotating shifts and large number of caregivers (with a ratio of caregivers to children up to 1:12, Zeanah et al., 2005) limit the development of stable relationships between children and caregivers. By the time of their third birthday, many institutionalized children have had as many as 50 or more different caregivers (The St. Petersburg-USA Orphanage Research Team, 2008; see also Chapter I), and they have often not been able to establish a personal relationship with any of them.

Attachment theory has been developed on the basis of research in typical child rearing environments, in particular families. In some cases, the limits of the concept and theory of attachment seem to be reached, for example in pervasively disturbed clinical groups (Down's syndrome, autism), in atypical care settings (e.g., the communal kibbutz), and—as this chapter considers—children living in institutions where opportunities for developing a selective enduring attachment are extremely limited if not impossible. Yet, when care approaches the average expectable environment or where children are gifted with a propensity to seek out and make use of care available, whether they be institutionalized children, children with Down syndrome or autism, or those living in a communal care setting, relationships akin to secure organized attachments are observed with concomitant links to better outcomes than for children without this fundamental social advantage.

This chapter is organized around three conceptual and methodological issues:

1. When attachment is assessed in children reared in extreme institutional environments as opposed to in children reared in families, is the same construct being measured, and do the problems encountered in applying the standard assessment procedures, such as the Strange Situation Procedure with the Ainsworth coding system (and the Cassidy–Marvin coding system for children over 2 years of age), force us to reconsider attachment measures and/or theory?
2. What is the role of attachment and indiscriminate social behavior in adapting to the institutional environment of structural neglect? Specifically, what components in institutional care are responsible for attachment insecurity and disorganization? What caregiver and child characteristics are associated with secure attachment? How can institutional care be enhanced to promote more secure attachments?
3. How fast do attachments develop after adoption or fostering, how can we assess progress and problems in the development of attachments, and what can parents and professionals do to

facilitate postinstitutionalized children in creating their secure base and regulating their emotions in acceptable ways? How might attachments emerging in the institutional setting help or hinder the adaptation of postinstitutionalized children to a life in adoptive families or foster care? And last but not least, is complete recovery of attachment and emotion regulation possible, or do scars remain that limit recovery? An obvious critical variable is the age at which a child enters and leaves institutional care.

CHILD-CAREGIVER ATTACHMENTS IN INSTITUTIONS

Assessing Attachment in Institutionalized Children: Background Considerations

Bowlby (1951) was highly suspicious that a residential rearing environment could approximate a normal home life for a child, yet institutions continue to exist throughout the world more than a half-century after strong concerns were expressed (e.g., Bowlby, 1960; Burlingham & Freud, 1944; Spitz, 1946) regarding the devastating effects of institution life upon children. Institutional care settings typically do not meet the conditions of the average expectable environment. Depending on the child's age, the average expectable environment encompasses a range of species-specific elements, among which protective consistent caregiving, a supportive family, as well as socialization and open opportunities for exploration and mastery of the environment play an essential role. The presence of the average expectable environment appears to be an important prerequisite for the normal development of the child (Bowlby, 1980/1998; Cicchetti & Valentino, 2006; Hartmann, 1958). Due to its regimented nature, high child-to-caregiver ratios, multiple shifts and frequent changes of caregivers, institutional rearing almost inevitably deprives children of reciprocal interactions with stable caregivers. In this respect, institutional care implies structural neglect. A considerable number of studies have shown that children growing up in orphanages are at risk in various domains of functioning, including their physical, socioemotional, and cognitive development (Chapter I; The St. Petersburg-USA Orphanage Research Team, 2008).

Although attachment has been assessed in the extreme environment of orphanages, an important issue to be addressed in this chapter is whether the same construct has been measured, and whether problems in applying standard assessment procedures, such as the Strange Situation with the Ainsworth coding system or the Cassidy–Marvin system, should compel us to refine attachment measures and/or theory. Careful consideration is required of those studies reporting attachment patterns in institutions relying on the gold standard methods from normative and clinical research (i.e., Ainsworth's Strange

Situation Procedure—SSP; Ainsworth, Blehar, Waters, & Wall, 1978) and for disorganized attachment (Main & Solomon, 1990).

The initial studies of attachment within institutions suggested that infants brought up in residential group care, even in polymatric institutions with multiple caregivers, develop selective attachments with their caregivers (Stevens, 1975; Dontas, Maratos, Fafoutis, & Kargeli, 1985). However, these early studies did not observe infant–caregiver relationships with the Ainsworth Strange Situation paradigm. This work has taken place only in the last few years. The first such report came from the Metera Babies Center in Athens, Greece (Vorria et al., 2003). The study was designed to investigate infants reared in residential care from birth and who, therefore, had not experienced adverse family conditions prior to institutional life. All infants living in residential group care were observed in the institution with their caregivers to ensure that the infants showed some kind of attachment behavior to their most familiar caregiver. Infants who failed to show signs of attachment did not participate in the study. The results showed that the majority (66%) of the infants brought up in residential group care, when observed with their most familiar caregivers, showed disorganized patterns of attachment, compared to 25% of the infants in the comparison group of children growing up in their own two-parent families (Vorria et al., 2003). While satisfactory interobserver agreement on rating the Strange Situation behavior was observed, the Strange Situation tapes have not yet been studied in terms of the extent of attachment formation (see below). Thus, there is no firm way of knowing whether the Greek infants identified as "disorganized" in the Vorria et al. (2003) report are, in fact, reflective of infants with selective and established attachments in the way that has been assumed for disorganized infants living with birth parents in home-life settings, or whether these Greek institutionalized infants with disorganized attachments were showing fragmented attachment behavior that indicated a lower degree of, or stage in, attachment formation. However, only 8% of the infants were considered "unclassifiable," suggesting that the majority of the group care infants were attached to their caregivers (Vorria et al., 2003). In a study on institutionalized care in St. Petersburg, Russian Federation, up to 85% of the children showed disorganized attachment behavior, and the percentage of children that were classified as disorganized after an intervention that included both caregiver training and structural changes facilitating more stable relationships remained high, over 60% (St. Petersburg-USA Orphanage Research Team, 2008). A high proportion of disorganized attachments may thus be (statistically) normative for abandoned infants residing in institutional care. But is this disorganization, as we know it from the literature establishing the construct?

The literature on disorganized attachment should be briefly reviewed so that a normative picture of the phenomenon is held in mind for comparison with children's institutional life. Disorganized infant attachments were first

reported among maltreated infants (Carlson, Cicchetti, Barnettt, & Braunwold, 1989; DeMulder & Radke-Yarrow, 1991; O'Connor, Sigman, & Brill, 1987). According to Main and Hesse (1990), the key to the disorganized pattern is "fear without solution," that is, the infant both needs and resists proximity. The infant is biologically programmed to approach the caregiver for care and protection from anxiety and threat. Disorganized infants seek comfort from the caregiver but the caregiver is an additional source of anxiety, the caregiver is frightening or frightened as well as being (in a limited sense) available. This "dual coding" makes it difficult to form a coherent set of expectations on which disorganized infants can rely (Main, 1991). It is part of normal development to have different models of different people, but to have multiple and intensely contradictory models of the same caregiver leaves the infant profoundly confused and anxious in moments of distress. The caregiver may actively frighten the child through her behavior or may herself be frightened and unresolved in relation to past or current trauma in her own life, through loss, abuse, or violence. Why would disorganized attachments be so much in evidence in institutions (e.g., Marcovitch et al., 1997; Marvin & O'Connor, 1999), with an overall rate of 72.8% (see Chapter I)? Rather than unresolved mourning among the caregivers or physical abuse by them, it is the environment of neglect from limited resources that appears to lead to infant disorganization among institutionalized children. In the institutional context, disorganization may reflect a lack of opportunity for attachment or a delay in developing a selective organized attachment.

STRANGE SITUATION PROCEDURE AND THE CONTINUOUS ATTACHMENT RATING SCALE

Several studies have sought to answer the question of the applicability of the SSP. The St. Petersburg-USA Orphanage Research Team (2008) tested whether children showed convergent attachment classifications, ratings, and behavioral dimensions approximately corresponding to those observed for parent-reared children. The authors conclude that their evidence supports the use of the modified SSP with institutionalized children, but it should be noted that these data concern consistency within the procedure, that is, children classified as avoidant indeed showed patterns of behavior with high levels of avoidance and low levels of proximity seeking, contact maintaining, and resistance. A recent report of infant–caregiver patterns of attachment among Chinese children living in institutional settings confirms strikingly high levels of avoidance (in circa 50% of toddlers observed), with a complete absence of proximity seeking in the vast majority of the children (Steele, Steele, Archer, Jin, & Herreros, 2009). At the same time, an independent pass at these data with the 5-point scale assessing evidence of attachment

formation (after Zeanah et al., 2005) suggested that these extremely high levels of avoidant behavior could also be seen as a marked absence in attachment formation (see below). Interestingly, a cohort of Chinese toddlers matched with the institutionalized children by age and gender from a community sample showed no such absence of attachment formation, and could be normatively assigned to one of the classic avoidant, secure, ambivalent, and disorganized (ABCD) classifications for infant-parent attachment (Archer et al., 2009, April 2).

The strengths and limits of the attachment construct have perhaps been most rigorously studied in Ukrainian institutional care (Dobrova-Krol, Bakermans-Kranenburg, Van IJzendoorn, & Juffer, 2009) and in Romanian institutional care (Zeanah, Smyke, Koga, Carlson, and the Bucharest Early Intervention Project Core Group, 2005). Children were seen in the Strange Situation procedure with their "favorite" caregivers as determined by consensus of the staff, or, if no favorite caregiver could be identified, with a caregiver who worked regularly with the child and knew the child well. To document the apparent lack of a specific attachment in many institutionalized children in the Bucharest sample, Elizabeth Carlson working with Zeanah and colleagues (Zeanah et al., 2005) developed a 5-point rating scale of attachment to document the range of child behavior in the SSP that did not fit the traditional classification scheme, but might reflect a degree of, or stage in, attachment formation (Ainsworth, 1967). Ratings of 5 indicate attachment behavioral organization consistent with traditional A, B, C, and D classifications. Ratings of 4 reflect evidence of attachment behavioral organization and the presence of extreme or pervasive behavioral anomalies (beyond the scope of traditional disorganization coding). Ratings of 3, 2, and 1 were assigned for behavioral displays that indicated fragmented or incomplete sequences of attachment behavior differentially directed toward the caregiver, isolated attachment signals and responses, or no evidence of attachment behavior. The authors considered categorical attachment classifications (ABCD) only meaningful in the traditional sense for children receiving ratings of 4 or 5. Attachment classifications of children with scores lower than 4 on the attachment rating scale should be interpreted as "forced" classifications assigned to minimal displays of relevant attachment behavior (Zeanah et al., 2005). The difference between institutionalized and family-reared children was impressive. Every community child living with parents in their study had an attachment rating of 5, whereas only 3 of 95 children living in institutions had such a rating. Furthermore, except for one child rated as securely attached, all of the other organized attachment classifications in the institutionalized group received ratings lower than 5 (Zeanah et al., 2005).

The attachment rating scale was also applied to SSPs of institutionalized and family-reared children in Ukraine. Of 35 family-reared children, 34 children received a rating of 5, one child was rated a 4. None of the

family-reared children received a score lower than 4. However, of 29 institutionalized children, 12 were rated lower than 4 and only 7 children received a 5 (Dobrova-Krol et al., 2009). These numbers clearly favor family-reared children, although the contrast is less striking than in the Bucharest Early Intervention Project (BEIP) study. The caregiving situation in institutions in Ukraine may be somewhat better compared to Romanian institutions some years ago, at least with regard to the ratio of caregivers to children, which is 1:3-7 in Ukraine and 1:12 in Romanian institutions (see Chapter I). Quality of caregiving was related to the continuous attachment ratings in both studies: More sensitive caregiving was associated with higher ratings on the 5-point attachment rating scale. The attachment rating scale thus provides an important additional measure of attachment, reflecting the degree of attachment formation that is not self-evidently complete in institutionalized children. Moreover, it places attachment classifications assigned to children with low scores on the attachment formation rating scale in a more provisional context than those of children with a high rating on the attachment rating scale, where reliably rated attachment behavior has been observed, (e.g., proximity seeking, contact maintenance, avoidance, or resistance on reunion).

Unclassifiable Children

All studies with institutionalized children showed a number of children deemed "Unclassifiable." In studies using the continuous attachment rating scales, these children received low scores (1 or 2) on the scale, reflecting the fact that they did not show any attachment behavior at all or hardly differentiated between the caregiver and the stranger. It is often difficult to decide whether these children have formed any attachment relationship at all or are overwhelmed by the observation procedure, as might be the case with children with cognitive impairments. Previous studies on mentally retarded children did show some major problems with conducting and classifying the SSP (see Vaughn, Goldberg, Atkinson, & Marcovitch, 1994; Van IJzendoorn et al., 2007). Unclassifiable children may either reflect the absence of attachment formation in the neglectful environment of an institution or result from the cognitive requirements of the SSP that was developed for typically developing children.

An important issue for further discussion is how we can assess whether children have formed any attachment relationship at all. Situations beyond the SSP with more naturalistic observations (e.g., using the Attachment Q-Sort [AQS], Waters & Deane, 1985) or perhaps with other stressors than separations from the caregiver in an unknown room may be necessary to decide about the presence or absence of attachment behavior of institutionalized children. To disentangle the child's mere friendly or sociable behavior with the caregiver in the Strange Situation Procedure from genuine attachment

behavior, it may be necessary to administer the procedure twice, once with the caregiver who would be an attachment figure for the child and once with a caregiver who is *not* an attachment figure for the child. Differential patterns of child behavior in the two procedures would support the validity of the attachment assessment. To our knowledge no such study has done this (but see The St. Petersburg-USA Orphanage Research Team, 2008, who tested whether classifications differed as a function of whether the children were observed in the SSP with their most consistent caregiver or an alternative caregiver—it made no difference).

Collectively, studies on attachment in institutionalized settings raise questions about whether the SSP measures the same construct in institutionalized and home-reared children. We would argue that the construct of attachment is more complicated among institutionalized children and their caregivers than has so far been appreciated. The issue is that these children have attachments that are incompletely developed even though they may show characteristics of one the four major types or patterns of attachment. A study on attachment formation in foster children may be illustrative in this respect. Mary Dozier's diary study (Dozier et al., 2009) used characteristics of secure, avoidant, resistant, and disorganized attachments with children who were in the process of constructing new attachments to foster parents. These behaviors became evident within days to weeks, suggesting that there is a quantitative dimension when attachments are first created. Once attachments are well established, as they are with almost all home-reared infants, the quantitative aspect is no longer relevant because the attachments are fully developed. Perhaps children raised in settings such as institutions do not have sufficient contact with caregivers to develop fully formed attachments indicative of a selective organized relationship relied upon for safety and encouragement to explore. The question that these results raise extends beyond studies of institutionalized children to all circumstances where care is intermittent, chaotic, and otherwise radically different from the average expectable environment. That is, do some very high-risk home-reared children (e.g., neglected children) have attachments that also are incompletely developed? If so, then a quantitative dimension of attachment should perhaps be explored in studies of these children as well (Zeanah et al., 2005).

Furthermore, Muhamedrahimov and Palmov (2008) have suggested that institutionalized children often show behavior that is coded as disorganized attachment using the Main and Solomon (1990) scheme but that may reflect a strategy of coping with stress when the caregiver is emotionally unavailable even while providing adequate physical care for the child. Such unavailability suggests an overworked caregiver, who not only necessarily neglects the needs of the child, but may also use harsh parenting to regulate the child's behavior and emotional state. The child may then suppress his or her need for care,

comfort, and safety to maintain a relationship with the caregiver or may alternate avoidant and ambivalent patterns in stress situations, reflecting the insensitive, unpredictable, unstable, and inconsistent caregiving environment in the institution. It has been argued that over time institutionalized children learned to suppress the display of negative emotions and to favor positive (display) emotions as a somewhat organized strategy of behavior that is adaptive to the context of the institution (e.g., smiling, even when stressed, is more likely to get some social attention than being negative) (Muhamedrahimov, Konkova, & Vershinina, 2008).

Attachment and Indiscriminate Friendliness

Indiscriminate Friendliness in Adoptees and Institutionalized Children

One of the behaviors that seems to be typical of institutionalized children is disinhibited or indiscriminately friendly behavior, characterized as affectionate and friendly behavior toward all adults, including strangers, without the fear or caution that is characteristic of typically developing children (Tizard, 1977). In Tizard's study of young children placed in residential nurseries in London in the 1960s (Tizard & Hodges, 1978; Tizard & Rees, 1975), 38.4% of the institutionalized children were indiscriminate at age 4, approaching and seeking attention from relative strangers as readily as from familiar caregivers. It should be noted that some consider indiscriminate friendliness as an attachment disorder (O'Connor, Rutter, and the English and Romanian Adoptees Study Team, 2000); whereas others argue that it may represent an independent problem rather than a type of reactive attachment disorder (RAD) as suggested by DSM-IV criteria (Chisholm, 1998; Zeanah, 2000; Zeanah & Gleason, 2010; Zeanah, Smyke, & Dumitrescu, 2002). The DSM-IV description of a RAD differentiates between inhibited and disinhibited attachment disorders, and the disinhibited type is characterized by, seeking comfort with others, including relatively unfamiliar adults, without a preference for the attachment figure. In addition, these behaviors must arise in the context of pathogenic care, which is believed to be responsible for the disorder. Although indiscriminate friendliness is equivalent to disinhibited RAD, the relation between the latter and classifications of attachment appears to be quite complex. RAD disinhibited may be present with any classification of attachment, including secure, though it is more prevalent with aberrant patterns such as disorganized and insecure other classifications. Furthermore, enhanced caregiving quality alone is insufficient to diminish indiscriminate behavior, at least in some children, as evidenced by the persistence of indiscriminate behavior in children adopted out of institutions into advantaged middle-class homes (Rutter et al., 2007).

Indiscriminate friendliness or disinhibited behavior is usually assessed on the basis of a questionnaire or semistructured interview with the caregiver to evaluate the child's behavior toward the parent or favorite caregiver and other adults in both novel and familiar situations. Caregivers are asked whether the child wanders off without distress; whether their child is willing to go off with a stranger; how friendly the child is with new adults; whether the child is shy with new adults; what the child typically did upon meeting new adults (Chisholm, 1998). Additional questions included in some studies pertain to the lack of differentiation among adults and the failure to check back with the parent, but substantial convergence among caregiver report measures of indiscriminate behavior has been demonstrated (Zeanah, Smyke, & Dumitrescu, 2002).

Two contexts for indiscriminate friendliness can be distinguished, and as a result two sets of studies on children's indiscriminate behavior are presented in Table 2: Studies involving children *after adoption from institutionalized settings* (e.g., Chisholm, Carter, Ames, & Morison, 1995; O'Connor et al., 2003) and studies assessing indiscriminate behavior of children who *currently live in an institution* (e.g., Dobrova-Krol et al., 2009; Smyke, Dumitrescu, & Zeanah, 2002; Zeanah et al., 2005). In both types of studies, the comparison groups were never institutionalized children, most often from biological families (except for the study of the English and Romanian Adoptees Study Team, in which the comparison group consisted of never institutionalized domestically adopted children).

The two sets of studies seem to converge on the finding that institutionalized and postinstitutionalized children show significantly more severe indiscriminate behavior than never institutionalized children, even when the assessments take place many years after adoption (Hodges & Tizard, 1989; Rutter et al., 2007). Nevertheless, the distinction between the two sets of studies is important, not only when associations of indiscriminate behavior with other variables are considered, but also for the interpretation of the behavior itself. Chisholm (1998) suggested that indiscriminate behavior may well be adaptive in the institutional setting, where friendly children may receive what little attention caregivers are able to give. In her study, children scoring higher on measures of indiscriminate friendliness (after adoption) were more likely to have been favorites in the institution (according to their adoptive parents).

However, the function of indiscriminate behavior after adoption is less clear. In the BEIP, for example, indiscriminate friendliness among institutionalized children was predictive of psychiatric impairment, even for children who left institutions for family placements (Zeanah & Gleason, 2010). The persistence of indiscriminate friendliness (Chisholm, 1998; Rutter et al., 2007; Rutter, Kreppner, & Sonuga-Barke, 2009), in particular when institutionalized rearing extended beyond the age of 6 months, led Rutter to the suggestion that some form of biological programming may be responsible

TABLE 2

STUDIES ON INDISCRIMINATE FRIENDLINESS (IF)/DISINHIBITED ATTACHMENT

Study	Sample	Attachment	Indiscriminate Friendliness (IF)/Disinhibited Attachment	Outcomes
After adoption:				
Hodges and Tizard (1989)	Residential nurseries UK 4 years, 8 years, 16 years	Questionnaire (caregiver report)	Questionnaire (caregiver report)	1. IF related to length of stay in inst 2. IF related to peer relationship problems in adolescence
Chisholm et al. (1995)	Adoptees from Romanian orphanage	AQS-based questionnaire (parental report)	5-item interview	1. Adoptees more IF 2. IF unrelated to attachment
Chisholm (1998)	Adoptees from Romanian orphanage 39 months after adoption	SSP at home, PAA coding system	5-item interview, 2-item interview	1. Adoptees more IF 2. IF related to having been favorite in inst 3. IF related to CBCL 4. IF unrelated to attachment
Sabbagh (1995) in Chisholm (1998)[2]	Adoptees from Romanian orphanage			1. Secure adoptees > secure controls IF 2. Insecure adoptees = insecure controls IF
O'Connor et al. (2003)	Adoptees from Romanian orphanage; UK adoptees 4 years	SSP at home	3-item interview	1. >6 months inst → more IF 2. IF related to insecure-other
O'Connor et al. (2000)	Adoptees from Romanian orphanage; UK adoptees 4 years, 6 years	SSP at home	3-item interview	1. Mild IF in all groups 2. Severe IF only in institutionalized adoptees

(*Continued*)

TABLE 2

CONTINUED

Study	Sample	Attachment	Indiscriminate Friendliness (IF)/Disinhibited Attachment	Outcomes
Rutter et al. (2007)	Adoptees from Romanian orphanage; UK adoptees 6 years, 11 years	SSP at home	3- item interview	1. >6 months inst → more IF 2. IF related to insecure-other 3. IF stable 6–11 years 4. IF unrelated to quality adoptive home 5. Adoptees: IF related to cognitive impairment and peer relationship problems; never inst children: IF unrelated to cognitive impairment and peer relationship problems
Bruce et al. (2009)	International adoptees (adopted < 3 years) from institutions (Eastern Europe, China) and foster care (South Korea), 7 years	3-item parent interview	Observation (unfamiliar adult) and 3-item parent interview	1. IF adopted$_{insti+foster}$ > IF nonadopted 2. IF related to length of stay in inst 3. IF unrelated to severity of deprivation, attachment, cognition, and emotion abilities 4. IF related to lack of inhibitory control, even when controlling for length of stay in inst
Institutionalized children:				
Tizard and Rees (1975)	UK residential nurseries; adoptees from the nurseries	Questionnaire (caregiver report)	Questionnaire (caregiver report)	1. Institutionalized children more IF

(*Continued*)

TABLE 2

CONTINUED

Study	Sample	Attachment	Indiscriminate Friendliness (IF)/Disinhibited Attachment	Outcomes
Vorria et al. (1998)	Residential care Greece, comparison group	Interview (caregiver report)	Interview (teacher report)	1. Institutionalized children more IF with teacher
Zeanah et al. (2002)	Romanian orphanage; standard care or reduced number of caregivers per child (more consistent care); comparison group		Interview (caregiver report)	1. IF measures convergent 2. IF standard care > consistent care > comparison group 3. IF weakly related to aggression ($.17 < r < .26$, *ns*) 4. IF unrelated to having preferred attachment figure
Smyke et al. (2002)	Romanian orphanage; standard care or reduced number of caregivers per child (more consistent care); comparison group		5-item interview (caregiver report)	1. IF standard care > consistent care > comparison group 2. IF related to aggression ($r = .14$, ns), language ($r = -.28$, *ns*), and stereotypies ($r = .23$, $p = .03$) 3. IF unrelated to having preferred attachment figure 4. Being favorite → less IF
Roy et al. (2004)	UK, institutional care ($n = 19$) and foster car ($n = 19$), primary school		7-item interview on selective relationships with caregivers and peers	1. IF Institutionalized > IF foster 2. No association selective re caregivers vs. peers 3. For boys: If related to inattention/overactivity

(*Continued*)

TABLE 2
CONTINUED

Study	Sample	Attachment	Indiscriminate Friendliness (IF)/Disinhibited Attachment	Outcomes
Zeanah et al. (2005) SRCD	BEIP: Romanian orphanage; foster care; comparison group	SSP	"Stranger at the door"	1. IF inst > foster > never inst
Zeanah et al. (2005) CD	BEIP: Romanian orphanage; foster care; comparison group	SSP	3-item interview	1. IF inst > comparison group 2. IF unrelated to length of stay inst 3. IF unrelated to continuous attachment rating ($r = -.16$) 4. IF unrelated to attachment organization
Dobrova-Krol et al. (2009)	Ukraine orphanage; comparison group (family reared); with and without HIV	SSP	4-item interview	1. IF inst > comparison group 2. IF unrelated to continuous attachment rating 3. IF unrelated to security 4. Inst: IF related to positive caregiving ($r = .45$, $p < .05$); comparison group IF unrelated to positive caregiving ($r = .02$, *ns*)

Note. Studies with the same superscripts report on overlapping sample.

(Rutter et al., 2007). Below we consider the possibility that indiscriminate friendliness may be the result of biological programming by the neglectful environment mainly in the area of capacity for focused attention and effortful control. This argument suggests that the core difficulty for children with indiscriminate friendliness is a lack of self-control.

From the point of view of the prospective adoptive parent, "indiscriminate friendliness" is sometimes welcomed. Who would not want to believe that the child they are adopting was probably favored in the institution, and is therefore used to affection and attention and thus able to show it so fully? However, this perception is only rarely grounded in reality and serves much of the time to create a honeymoon that cannot last. As soon as the adopted child speaks intimate requests (e.g., "take me home"?) to a stranger, the adoptive parent is chastened. Roy, Rutter, and Pickles (2004) examined indiscriminate friendliness in relation to inattention/overactivity in a sample of formerly institutionalized children compared to children in stable foster care and nonadopted children. They noted that indiscriminate friendliness and inattention/overactivity were associated. Bruce, Tarullo, and Gunnar (2009) also examined indiscriminate friendliness (using the interview *and* observation of indiscriminate behavior) and found it associated with attention regulation as assessed with both parent report and neuropsychological tasks (e.g., go–nogo tasks). These results suggest problems in effortful regulation of attention as possibly underlying indiscriminate friendliness. Specifically, it may be that the inability to appropriately inhibit either verbal or physical approaches to strangers might be a broader reflection of attention and behavior regulatory problems and not necessarily issues in forming attachment relationships.

This is supported by the finding that associations between attachment and indiscriminate behavior appear to be equivocal. In Chisholm's study, adoptees' indiscriminate behavior was unrelated to quality of attachment with the adoptive parent (Chisholm, 1998; Chisholm et al., 1995), but others found somewhat more indiscriminate behavior in children classified as insecure-other in an adapted Strange Situation Procedure (administered at home) (O'Connor et al., 2003; Rutter et al., 2007), though it may be that in some cases it was the extremely friendly behavior with the stranger that contributed to their insecure-other classification. In general, indiscriminate friendliness does not seem incompatible with secure attachment to the adoptive parent, and it was found to be unrelated to the quality of care in the adoptive families (Rutter et al., 2007). Remarkably, indiscriminate behavior was associated with cognitive impairment and peer relationship problems in formerly institutionalized adopted children, but such a relation was not found in never institutionalized children (Rutter et al., 2007). However, it should be noted that in this study formerly institutionalized children showed more severe forms of indiscriminate behavior than never institutionalized

domestically adopted children (O'Connor et al., 2000), and it is unclear whether indiscriminate friendliness mediates the association between institutionalization and social and cognitive problems at later ages.

Children who currently live in institutionalized settings show consistently more indiscriminately friendly behavior than comparison groups not living in institutions (Dobrova-Krol et al., 2009; Smyke et al., 2002; Zeanah et al., 2002; Zeanah et al., 2005). But levels of indiscriminate friendliness appear unrelated to length of stay in the institution and to having a preferred attachment figure or not. Smyke and colleagues (2002) found that lower levels of indiscriminate friendliness were shown by children who were the favorites of a caregiver (contrary to Chisholm, 1998, who found higher levels of indiscriminate friendliness for adopted children who, according to their adoptive parents, had been favorites in the institution). An intervention aimed at providing more consistent care with only four different caregivers during the child's waking hours resulted in lower levels of indiscriminate behavior than standard care conditions (Smyke et al., 2002), but the BEIP failed to find a reduction in indiscriminate behavior for children randomized to foster care compared to children who remained in the institution. It may be that BEIP missed the window during which fostering would have reduced indiscriminate behavior; the youngest child was fostered at 7 months, with a mean age of around 22 months, and we already noted that indiscriminate behavior is more persistent when institutionalized rearing extends beyond the age of 6 months (see Table 2). Thus, it would seem that the absence of consistent care early in life, typical of institutional life, elicits (in some children) a fervent search for care from whoever appears to be available. And for the adult who is the target of this behavior, interest and warmth in return is difficult to inhibit!

The etiology and function of indiscriminate friendly behavior may be different for institutionalized versus noninstitutionalized children. Among family-reared children, indiscriminate friendliness is related to maltreatment and maternal psychiatric problems or substance abuse (Boris et al., 2004; Lyons-Ruth, Bureau, Riley, & Atlas-Corbett, 2009; Zeanah et al., 2004). In a study on institutionalized care in Ukraine, indiscriminate friendliness was positively related to more sensitive care for children in the institutional setting but not for the comparison group of family-reared children (Dobrova-Krol et al., 2009), although there was no relationship between sensitive care and indiscriminate friendliness in the BEIP (Zeanah et al., 2005). Whereas for family-reared children apprehension about strangers is the norm, and from an evolutionary point of view a good strategy to promote survival (Simpson & Belsky, 2008), for institutionalized children a friendly approach to any adult willing to pay attention may enhance their chances of being cared for and actually promote positive caregiving.

If this reasoning is sound, two important questions remain. First, why does indiscriminate friendly behavior appear to persist after adoption in a part of this group? Chisholm (1998) suggests that the behavior may be reinforced by adoptive parents and strangers after adoption; about 1 year after adoption most adoptive parents reported that they were pleased that their child was warm and loving and appeared to be fond of everyone (Chisholm, 1998, p. 1103). Alternatively, children's indiscriminate behavior might reflect a continuing need for ongoing social stimulation after their unstimulating early lives. The latter explanation could be consonant with Rutter's suggestion that some form of biological programming may be responsible for children who spent more than the first half year of their lives in highly depriving institutional care (Rutter et al., 2007). In that case, indiscriminate friendliness in institution-reared children is not adaptive—and indeed it may be questioned how much the child profits for the shallow contacts that result from their indiscriminate behavior. Instead, it results from the lack of expected input in the form of contingent interactions with a stable caregiver that is needed to facilitate the development of a preference for familiar caregivers.

The presumably experience-expectant process is shown in the transformation from a relatively indiscriminate response toward strangers, characteristic for the first months of life, to stranger anxiety occurring around 7–8 months (Bowlby, 1969/1997). Provence and Lipton (1962), who observed the development of institution-reared infants report that "in the second six months one saw no evidence of increasing personal attachment to a particular person" (p. 78), and that the infants "responded with equal enjoyment to everyone who came around" (p. 80). This possibility relates to the construct of sensitive periods (Chapter VI). That is, it appears that a normative period of indiscriminate behavior is present early in the first year of life. Beginning about 2–3 months of age, infants are quite interested in engaging in social interaction with almost anyone. At 7–9 months, this changes and for the first time they begin to exhibit wariness with strangers. This suggests inhibition of the affiliative motivational system described by Bowlby (1980). In children who experience serious neglect, however, the sensitive period for inhibition closes without the development of a selective or specific attachment in the context of a more-or-less continuous relationship, so that indiscriminate friendliness persists with potentially maladaptive consequences.

Thus, the etiology and function of indiscriminate friendliness may differ for family- and institution-reared children. In the first case it may reflect a distortion or disruption of early attachment relationships not uncommon in multiple-problem families. In the latter case it seems to result from the lack of expected input in the form of contingent interactions with a stable caregiver in early life, which is characteristic for institutional care and may be related to decreased emotional and behavioral regulation (Dobrova-Krol et al., 2009).

The second question pertains to the assessment of attachment with indiscriminately friendly institutionalized children. In the classic Strange Situation Procedure with the inclusion of a stranger and a caregiver, close attention to whether preference is shown to the caregiver over the stranger provides valuable information to ascertain the existence of a specific attachment that is not the reflection of mere sociable or friendly behavior. Specific (secure, insecure, or disorganized) attachments may or may not exist alongside indiscriminately friendly behavior. The inclusion of structured interviews (e.g., Working Model of the Child Interview or Parent Development Interview) exploring adoptive parents' beliefs or institutional caregiver's beliefs about the child's relationships to others, including views of the child's personality, emotion-regulation strategies, and behavior, are vital to consider alongside observations of actual behavior.

Indiscriminate Friendliness: Measurement Issues

As noted above, indiscriminate friendliness has most often been assessed on the basis of an interview with the caregiver. Although convergence among these somewhat varying interviews has been demonstrated (Zeanah et al., 2002), it should be noted that caregiver report of child attachment is generally considered less valid than observations of child attachment behavior. The validity of the AQS (Waters & Deane, 1985) was meta-analytically established for use by observers, but not for self-report use by parents or caregivers (Van IJzendoorn, Vereijken, Bakermans-Kranenburg, & Riksen-Walraven, 2004). The convergence of the child's behavior in the Stranger at the Door Procedure, where a stranger rings at the door and invites the child to go for a walk, and caregiver report of indiscriminate behavior was substantial in the BEIP ($kappa = .70$). Still, observational measures of indiscriminate friendliness may provide important information in addition to caregiver report of friendly behavior. The BEIP Stranger at the Door procedure may turn out to be an important breakthrough in the measurement of indiscriminate friendliness independent of caregiver report.

Table 2 summarizes the studies looking at indiscriminate friendliness with reference to sample, measurement, and outcome and should be seen as a call for further work that incorporates a variety of sources of information concerning children, while living in the institution and after foster or adoptive placements. These sources of information should include interviews of caregivers, direct observations of caregiving behavior, Strange Situation observations, and independent assessments of children's cognitive and social functioning. In this way, we may draw closer to a refined understanding of the causes and consequences of indiscriminate friendliness. The causes of indiscriminate friendliness are to be found in those studies that involve careful

observations of caregiver characteristics and behavior in institutions as well as child measures of effortful regulation of attention and behavior.

Quality of Care

A basic assumption of attachment theory is that "if an adult is providing regular physical and emotional care, then the child forms an attachment relationship" (Bowlby, 1969/1997). The quality of care, including caregivers' availability, sensitivity, acceptance, and a sense of belonging, is related to children's emotional and social outcomes. Sensitive care also implies a relationship between infant and caregiver that is stable over time. The most serious problem in many institutions is that the infant/caregiver ratio is too high to take good care of the infants. In Metera, for instance, the infant/caregiver ratio ranged from 4:1 to 6:1, which does not offer sufficient opportunities for one-to-one interaction and reciprocal communication (Vorria et al., 2003). Caregivers managed to feed the infants and keep them clean but they did not have time for play and emotional and social exchanges. Infants in Metera had little opportunity to interact with a caregiver; rather they had to struggle for the caregiver's attention. In a normal family setting, both caregiver and child negotiate in a cooperative way to ensure that the goals of both partners are achieved. In the institution, however, the infant can not see any consistent pattern behind the cuddle provided by the caregiver or the absence of cuddle, the anger or the lack of interest of the caregiver that appears to connect with his/her behavior (Schofield & Beek, 2007).

In the study of Greek institutionalized children (Vorria et al., 2003) undertaken at the Metera Babies Center, infants spent 17.5 out of 24 hr in bed, a factor which indicates that during a major part of the day the infants had little opportunity to interact with a caregiver who had the individual baby in mind. Under these circumstances, it is difficult to imagine how a pattern of attachment could develop, because normally such patterns are based on thousands of interactions between an individual infant and an individual (devoted) caregiver. A similar picture of too many children being cared for by too few caregivers grossly lacking in sensitivity has been suggested by Muhamderahimov (1999). The social-emotional environment of children in the Russian baby homes he studied was characterized by severe deficits in the sensitivity, responsivity, and stability of caregivers as well as neglect and maltreatment even in the context of obligatory caregiving duties (feeding, changing, hygienic procedures). Observations showed that in the situation of the longest and the most intense interaction with adults (i.e., during feeding), there was not only a lack of mutuality and reciprocity but even some violence consisting of poking a spoonful into the mouth and making "pickups" (i.e., the staff member touched the baby's face with the spoon 30 times within the period

of 1 min) (Muhamedrahimov, 1999). In Metera, some of the caregivers, as a method of discipline, used behaviors (e.g., shouting, knocking at the windows) that might be frightening to the infants. This may be among the reasons for having many infants with disorganized attachment (Vorria et al., 2003).

The stability of the caregivers is another serious problem related to institutional care. It should be realized that a 4:1 or 6:1 infant/caregiver ratio in reality does not refer to a room with four to six children and a caregiver, but perhaps 20–30 children in a room with four to six caregivers. Taking shifts, vacations, and staff turnover into account, it is clear that children in institutions usually are cared for by many different caregivers; by the age of 4 some children have had as many as 50 different caregivers (e.g., Tizard & Rees, 1975), or 50–100 by age 2 (The St. Petersburg-USA Orphanage Research Team, 2008), hampering the development of an attachment relationship with a stable caregiver. In the Metera Babies Center, the caregivers usually remained the same for many years, often until they retired; however, the fact that they work in shifts in large groups hampers attachment formation. Moreover, caregivers are often untrained, or trained to look after the infants and take physical care of them but not to interact with the children.

But even within problematic institutional environments, individual differences in caregiving appear to be importantly related to young children's development. For institution-reared Romanian toddlers, observed caregiving quality was related to three of six developmental outcomes whereas percentage of time institutionalized was related only to one of six developmental outcomes (Smyke et al., 2007). The microcaregiving environment within which each child develops is thus more predictive of development than the mere fact of institutionalization. Unfortunately, only a few studies have focused on the relation between quality of care on the level of the individual institutionalized children and their attachment pattern or indiscriminate behavior. In institutionalized children in Ukraine, more positive caregiving was related to higher scores on the continuous attachment rating scale as developed by Zeanah and colleagues (2005), to increased attachment security, and to more indiscriminate friendly behavior. Yet, associations between indiscriminate friendliness and any specific pattern of attachment were absent (Dobrova-Krol et al., 2009). Zeanah and colleagues, in contrast, found that indiscriminate friendliness was unrelated to continuous ratings of attachment. They also found, akin to the Ukraine work, that indiscriminate behavior was not linked to attachment disorganization, and neither was it related to quality of caregiving. Thus, although several studies on institutionalized care found associations between quality of care for the individual child and, in order, child attachment and indiscriminately friendly behavior, attachment and indiscriminate friendliness appear to be separate constructs that are not directly (inversely) related to each other.

Infant and Caregiver Characteristics That Are Associated With Secure Attachment in Institutional Settings

In spite of insufficient sensitive care in residential settings, it is important to mention that one in five of the Greek infants studied by Vorria and colleagues was securely attached with their caregiver (Vorria et al., 2003). This finding is interesting, because in the Zeanah et al. study none of the institutionalized children were found to be securely attached. It is likely that the quality of care in the Romanian institutions studied by Zeanah was markedly more neglectful and impoverished than the Metera Baby Center in Athens that is a source of pride to many in the medical profession providing for "unwanted" births. More similar to the Vorria et al. (2003) finding of 20% security of attachment is a recent report from a Chinese "showcase" institution where 20% of children were rated secure (Steele et al., 2009). And when care in an institution is genuinely well organized, normative levels of security (greater than 55%) have been observed, for example, in Chile (Herreros, 2009)—but to date that appears to be more the exception than the rule (see Chapter I).

It is widely accepted that relationships between caregivers and infants are the result of the interplay of both caregiver and infant characteristics. Infants may elicit specific caregiving responses that, in turn, could influence the type of attachment insecurity. Other factors that ought to be examined are medical complications experienced by the infants, such as premature birth. In the Greek study there was a higher proportion of prematurity among the group care infants (20.6%) compared to 4.9% of the family care infants. Prematurity may also influence parent-infant relationships (Goldberg & DiVitto, 1995). Research, however, shows that the majority of preterm infants are securely attached to their mothers (Van IJzendoorn, Goldberg, Kroonenberg, & Frenkel, 1992). A number of studies have tested the hypothesis of a genetic contribution to attachment patterns (Bokhorst et al., 2003; Finkel, Wille, & Matheny, 1998; O'Connor & Croft, 2001; Riciutti, 1992). The smallest sample and oldest study using a novel procedure for studying attachment suggested a possible genetic effect upon security versus insecurity of attachment. Yet the more recent reports on larger samples relying on the well-validated standard Strange Situation Procedure robustly support the suggestion that the development of attachment is mostly environmentally shaped. However, it may be that a protective genetic layout can account for some resilience. In a small study of Ukrainian preschoolers reared in institutional settings or in their biological families, a moderating role of 5HTTLPR for the association between rearing environment and attachment disorganization was found. Institutionalized children with the long variant of 5HTT showed lower levels of attachment disorganization than their institutionalized peers with short 5HTT alleles (Bakermans-Kranenburg, Dobrova-Krol, & Van IJzendoorn,

in press). Thus, children may differ in their vulnerability to extremely adverse rearing experiences, depending on their genetic characteristics (see Chapter I).

In the Greek study, an effort was undertaken to clarify what could account for the differences in attachment found in the infants growing up in residential group care (Vorria et al., 2003) focusing on children's temperament and social behavior. The results showed that the infants who were securely attached to their caregivers were found to be "happier," more social, and to initiate interaction with their caregivers more often. These characteristics were named "social moves," and these infants appeared to be more competent in their social behavior than the babies with disorganized attachments. It could be that the securely attached infants employed their social abilities in a way that enabled them to gain the most from their "impoverished" environment. Also, because of their social abilities, these infants may have been more rewarding to interact with, so their caregivers paid more and more sensitive attention to these infants, enabling the formation of secure attachment relationships. Also, it could be that the infants with secure attachments were more confident and outgoing in their social behavior, and it was this confidence that the measure of "social moves" was picking up. Other variables, such as caregiver characteristics, were not found to differentiate the group care infants who were securely attached to their primary caregivers and those who had a disorganized pattern of attachment.

Various temperamental characteristics may affect the infant–caregiver relationship. Infant sociability may help to increase the amount of caregiver attention, but fussy infants may achieve the same goal. They may attract more personal attention of the caregivers and so increase their chances of building a relationship with one or more of them. There may be parallels to the nutritional-anthropology literature, where several studies suggest that in very difficult circumstances infants who are higher in fussiness and negative emotionality have better chances to survive, either because they are favored by caregivers (because they are perceived as "fighters" for the struggle of life, see Scheper-Hughes, 1992) or because through their fussiness they succeed in getting more attention and thus more milk or food (DeVries, 1984). It might be that the group care infants who managed to develop secure attachment with their caregiver were more resilient; Rutter (2000) pointed out that even in the most disadvantaged environments some individuals manage to emerge unmarked.

Some of the best available evidence that suggests security of attachment may be increased among institutionalized children by reorganizing care within institutions comes from The St-Petersburg-USA Orphanage Research Team (2008). This team initiated an intervention program designed to improve the social-emotional relationship experience of Russian children birth to 4 years living in baby homes, which is also the first quasi-experimental

attempt to change attachment classifications within an institution. It consisted of (1) staff training (emphasizing sensitive, responsive, and developmentally appropriate interactions), and (2) structural changes (assigning two primary caregivers to smaller age- and disability-integrated groups, terminating transitions of children to new wards, establishing a "Family Hour" for primary caregivers to be with their children). These interventions provided significant change in the social and emotional behavior of typically developing children and for children with disabilities, although the latter group needed longer exposure and the pattern of results was sometimes different. Specifically, the intervention improved the caregiver-child relationship during free play and produced better quality of play, more positive affect, and more positive reciprocal engagement. Also, intervention typically developing children displayed higher positive emotional tone during free play and reunions and more negative emotional tone during separations and reunions. Similarly, intervention caregivers increased in positive and negative emotional tone and the number of different emotions that they displayed. The caregiver changes occurred roughly in parallel with the changes of children's emotional behavior.

Presumably, children living in the new caregiving environment (after training and structural changes) had the opportunity to develop a relationship with a more sensitive and responsive primary caregiver. Indeed, the rate of attachment disorganization was lower after the intervention (61.5% disorganized attachments) compared to a training-only and no-treatment control orphanages (85.9% and 85.2%, respectively). About 3–4 months after the intervention program was fully implemented, informal observations suggested that children showed less indiscriminate friendliness, more stranger anxiety, more social referencing, and greater likelihood of returning to the primary caregiver after contact with strangers (Muhamedrahimov, Palmov, Nikiforova, Groark, & McCall, 2004; Groark, Muhamedrahimov, Palmov, Nikiforova, & McCall, 2005). Outdoors they stayed closer to their primary caregiver. The authors assumed that indiscriminately friendly behavior decreased when children experienced a more sensitive and stable caregiving environment.

In sum, although child characteristics may be related to attachment quality, the observational and quasi-experimental evidence supports the idea that it is the qualities of the caregiver that are of overriding importance for attachment security and social-emotional development similar to studies on noninstitutionalized children as well (Van IJzendoorn et al., 1992).

DEVELOPMENT OF ATTACHMENT AFTER ADOPTION OR FOSTERING

There is diverse evidence to suggest that when adoptive placements are sensitive and well organized, then previously institutionalized children may develop secure attachments with their adoptive parents (e.g., Juffer,

Bakermans-Kranenburg, & Van IJzendoorn, 2005, see also Chapter II). The Greek infants from the Metera Babies Center as well as the control group infants were observed again in a follow up study at the age of 4 after at least 2 years in their adopted families, while the control group remained with their birth families (Vorria et al., 2006). Security of attachment was assessed using the AQS (Waters & Deane, 1985) and the Attachment Story Completion Task (ASCT; Bretherton, Ridgeway, & Cassidy, 1990). At the age of 4, adopted children still showed less secure attachment representations (as assessed with the ASCT) compared to the comparison children. On the ASCT, adopted children constructed narratives that contained fewer prosocial interactions between parent and child figures, were incoherent and avoidant during story telling, and were less likely to produce adequate story resolutions to the central conflict of each story stem, which might indicate that they had internalized less secure internal working models of attachment. The prosocial themes and the degree of narrative coherence and story resolution were significantly correlated with Q-Sort security scores, indicating that narrative measures reveal children's internal working models of attachment (Vorria et al., 2006). Significant between-group differences regarding attachment were still found between the adopted children and the comparison group.

A difficult finding from the Greek follow-up is that both adopted and control group children who as infants were securely attached to their caregiver/mother showed *less* attachment security to their adopted mother/biological mother 2 years later. Furthermore, some formerly institutionalized disorganized children were found to be securely attached to their adoptive mother, suggestive of a rebound effect in which the extreme sensitivity of the infant to deficient institutional care perhaps helped the formerly disorganized infant become secure in the context of more optimal care provided by the adoptive mother. Alternatively, children with firmly established secure attachments within the institution might experience a more severe loss in the transition to the adoptive family and have more difficulty in regaining trust in a new attachment figure. These children may need more time to get over the loss of their attachment figure in the institution and to form a secure attachment relationship with their adoptive parents. Without information on the attachment state of mind of the adoptive parents it is difficult to draw firm conclusions. It should also be noted that the average AQS score for the Greek preschoolers was significantly higher than the average security score found worldwide (see Van IJzendoorn et al., 2004), which suggest that a replication is badly needed to confirm these surprising findings.

Highly informative is a British study of postadoption social and emotional functioning of 4–7 year olds following multiple foster placements and much preadoption neglect and abuse (Steele et al., 2008). Steele and colleagues observed that formerly disorganized insecure children quickly showed signs of security but only if they were placed with an adoptive parent with a secure

and organized state of mind in response to the Adult Attachment Interview or AAI. This finding echoes the report of Dozier, Stovall, Albus, and Bates (2001), showing that babies removed from neglectful circumstances at 10 months of age began to show signs of secure attachment (proximity seeking and contact maintenance) but only if they were placed with a foster mother who provided a secure and organized response to the AAI.

Meta-analytic results showed that age at adoption was a significant moderator of attachment security of the child in the adoptive family. After on average 26 months in the adoptive families, children who were adopted before 12 months of age were as securely attached as their nonadopted peers, whereas children adopted after their first birthday showed less attachment security than nonadopted children (Van den Dries, Juffer, Van IJzendoorn, & Bakermans-Kranenburg, 2009).

CONCLUSION

Clearly much further study is needed of the development of children's attachments following adoption out of an institutional setting. At the same time, given the widespread growth in orphan populations worldwide and the diminishing interest many countries show in adoption outside their borders, a high priority for researchers and policy advocates must be that of improving the quality of care either within family environments or within institutional settings. The knowledge base is firmly established as to what can and should be done to facilitate secure attachments among institutionalized children, a process likely to have long-term efficacious consequences for children, families, and society.

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