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Development after international adoption

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5. General discussion: Adoption, Risk, and Protection

INTRODUCTION

This thesis examined the development of adopted children to shed more light on the effects of deprivation on child development and the potential for catch-up and recovery after placement in a more advantageous environment. In the first part of the thesis a meta-analysis is presented in which we compared adopted children's attachment relationships with the normative attachment distribution of non-adopted children raised by their biological parents, and - as a comparison - we also compared the attachment distribution of foster children with the normative distribution. The second part of the thesis focused on the development of former foster and post-institutionalized children, 11 to 16 months old at arrival, two and six months after their adoption from China. Several salient developmental domains were studied: attachment, cognitive and motor development, physical growth, stress regulation, and social-emotional behavior. In this chapter the results are summarized and discussed, and recommendations for practice and future research are presented.

ATTACHMENT

Meta-analysis

For adopted children the development of a secure attachment relationship with their adoptive parents is not straightforward, as they have been subjected to experiences of separation and loss of their caregivers (Bowlby, 1982) and, additionally, many of them have experienced social deprivation in institutional care (e.g., Zeanah, Smyke, Koga, Carlson, & the BEIP Core Group 2005), possibly preventing the development of (secure) selective attachment relationships. For foster children comparable risks may be present, as there are several similarities in the background of adopted and foster children. For example, foster children have also experienced a separation from their birth parents and many have been victims of neglect or abuse before their foster placement (e.g., Department for Children, Schools and Families, 2008; Oosterman & Schuengel, 2008). There are, however, also differences between foster and adopted children, which makes the foster group an interesting comparison group. For example, foster children may still have - some - contact with their biological parents and they may have experienced multiple disruptions and placements (see e.g., Oosterman, Schuengel, Slot, Bullens, & Doreleijers, 2007) due to the temporary nature of foster care placements.

In our meta-analysis (see Chapter 2) we found that adopted children (47% secure [B], 31% disorganized [D]) showed less favorable outcomes compared to normative, non-adopted children (62% B, 15% D), but they scored favorably compared to still institutionalized children (11% B, 73% D). Adoption thus appears to be a risk factor resulting in more insecure and disorganized attachment (compared to non-adopted comparisons) as well as a protective factor leading to an improvement in the distribution of attachment relationships (compared to still institutionalized peers).

Our analyses on the core set of studies, using only reliable observational measures, revealed that especially children adopted before their first birthday benefited from their adoptive placement and showed secure attachments as often as non-adopted children. This may be due to their placement in a generally sensitive adoptive family during a period when attachment is still developing (Ainsworth, Blehar, Waters, & Wall, 1978; Bowlby, 1982), and may also have resulted from a shorter exposure to deprived care. In the BEIP study (see Introduction), Smyke and colleagues found that children placed before their second birthday presented more secure attachment relationships than children placed after their second birthday (Smyke, Zeanah, Fox, Nelson, & Gunthrie, 2010). It would therefore be interesting to meta-analytically contrast attachment security of children adopted before their first birthday with children adopted between their first and second birthday, and with children adopted after their second birthday. Unfortunately, insufficient studies were available to examine these contrasts in our meta-analysis.

We found that Eastern European children showed less attachment security than Asian children, which may be explained by the poor reputation of institutional care in Eastern European countries (Dobrova-Krol, Bakermans-Kranenburg, Van IJzendoorn, & Juffer, 2010; Nelson et al., 2009; Zeanah et al., 2003). When both observational and self-report measures of attachment security were included in a meta-analytic comparison, the risk for adopted children to develop insecure attachment relationships after their first birthday was not revealed, thus showing the advantage of using standardized observations compared to self-report measures.

The adopted children showed disorganized attachments more often than non-adopted children, but no evidence of beneficial effects of early placement were found, suggesting that early experiences of neglect and maltreatment negatively influence attachment *organization*, even when these experiences do not extend beyond the first year of life. This corresponds with studies in which 13-month old children who experienced maltreatment in their first year of life showed high levels of disorganized attachment (Carlson, Cicchetti, Barnett, & Braunwald, 1989; Cicchetti, Rogosch, & Toth, 2006). Both for attachment security and disorganization other contrasts, such as domestic versus international adoption and same-race versus transracial placements, were not significant. These different 'types' of adoption may be less relevant, compared to the significant effect of the adoptive placement itself. As only a limited number of studies used - reliable - observational measures to assess attachment, we could not disentangle the

effects of age at placement and the other contrasts, possibly masking their effects. When more studies on the attachment of adopted children become available, additional moderators (e.g., pre-adoption foster care versus institutional care) can be included in future research.

Comparable with the adopted children, foster children showed more disorganized attachments than non-fostered children. Further, foster children were as securely attached as the normative group. For the foster children no moderators were tested, so we do not know whether earlier placements have the same beneficial effect for foster children as they have for the adopted children.

Empirical study

In our empirical study we included young girls adopted from foster care ($n = 42$) and institutional care ($n = 50$) in China. As the former foster children were expected to have received more family-like care, better developmental outcomes were anticipated for former foster children compared to children raised in institutional care. The outcomes of our empirical study correspond with the results of our meta-analysis: Both the former foster and post-institutionalized children did not differ from the meta-analytic distribution of secure and disorganized attachment of adopted children. However, the children raised in foster families were as securely attached as non-adopted children, whereas the post-institutionalized children showed more insecure attachments. Both groups of adopted children showed more disorganized attachments than the normative group. On the continuous attachment scales there were no differences between the former foster and post-institutionalized children, and a catch-up over time was not found. The A/B/C/D-classifications of the children were not stable over time, with some children developing an organized attachment strategy between both assessments and others developing a disorganized strategy. The A/B/C-classifications were more stable, suggesting instability of especially disorganized attachment.

PHYSICAL GROWTH AND STRESS REGULATION

Several studies have documented the detrimental effects of institutional care on physical growth. A meta-analysis on the physical growth of adopted children indeed found large delays at adoptive placement, with effect sizes (Cohen's d) ranging from -2.36 to -2.60 (Van IJzendoorn, Bakermans-Kranenburg, & Juffer, 2007). In our study, the adopted children showed modest growth delays for weight, height and head circumference, which were similar for the post-institutionalized and former foster children (see Chapter 3). We found a significant catch-up over time for weight and head circumference, especially for earlier adopted children, suggesting the presence of a sensitive period during which recovery is easier (Nelson et al., 2007). The former foster and post-institutionalized children had similar patterns of diurnal cortisol production compared to non-adopted children, proposing pre-adoption foster and institutional care were not risk factors for the development of the stress regulation system (see Chapter 3).

COGNITIVE AND MOTOR DEVELOPMENT

A meta-analysis on the cognitive development of institutionalized children has clearly shown the disadvantageous effect of institutional care (Van IJzendoorn, Lujik, & Juffer, 2008), with institutionalized children scoring 20 IQ points lower than family-reared children. In our study we indeed found large cognitive delays for the post-institutionalized children ($M = 74$ at Time 1 and $M = 84$ at Time 2), and significantly smaller delays for the former foster children ($M = 84$ at Time 1 and $M = 92$ at Time 2). Both groups of children showed a significant and remarkable catch-up in cognitive development after adoption. The motor development of the adopted children was below that of non-adopted children, with again significantly larger delays for the post-institutionalized children ($M = 85$ at both assessments) than for the former foster children ($M = 93$ at Time 1 and $M = 91$ at Time 2). Between both assessments the adopted children did not show a catch-up in motor development; their motor skills developed in a similar pace as those of non-adopted children (see Chapter 3). This may be due to the fairly complex skills the children needed to develop (e.g., walking) and the relatively high level of motor development at the first assessment.

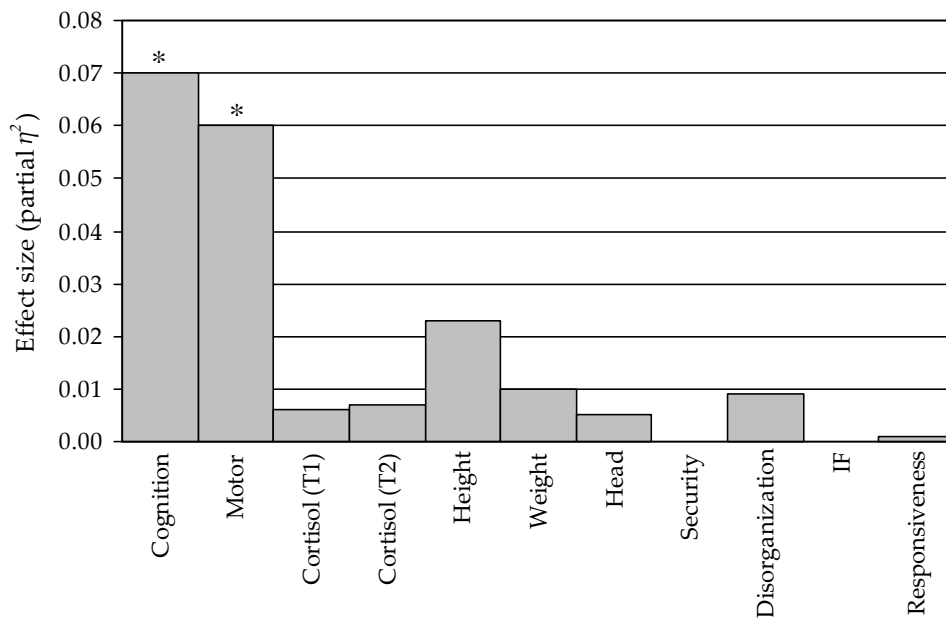
SOCIAL-EMOTIONAL DEVELOPMENT

Due to high child-to-caregiver ratios, regimented daily routines and frequent changes in caregiving personal, institutionalized children are often deprived of stable and personal contact with their caregivers, which may lead to a compromised social development (Bakermans-Kranenburg et al., 2010). For example, when a group of Romanian children was adopted from institutional care, more than half of the children were characterized as unresponsive (McMullan & Fisher, 1992). In our study the adopted children showed adequate levels of responsiveness to their adoptive mother, and they showed an increase in responsiveness over time. This increase was larger for the former foster children, possibly due to their familiarity with family care. We found low levels of indiscriminate friendliness in the adopted children, which were comparable to the levels found in non-adopted children. These low levels may be due to the presence of just enough (basic) social stimulation in China to develop a preference for individual caregivers. Although this could not be verified, it is at least consistent with the better cognitive development that we found for children with lower levels of indiscriminate friendliness. In addition, we found less indiscriminate friendliness in children of more sensitive mothers, suggesting an influence of the adoptive parents on the level of their children's indiscriminate friendliness (see Chapter 4).

THE INFLUENCE OF DIFFERENT TYPES OF PRE-ADOPTION CARE

Our hypothesis that foster care would be less detrimental for child development than institutional care could not be confirmed for all developmental domains (see Figure 1). For example, for physical growth, similar - modest - growth

delays were found for the post-institutionalized and former foster children. These only modest growth delays may point to a relatively adequate quality of pre-adoption health care and nutrition in Chinese institutions nowadays (Johnson, 2004; Van Schaik, Wolfs, & Geelen, 2009), which may subsequently explain the lack of differences in physical growth between the two groups of adopted children. However, consistent with our hypothesis, the former foster children outperformed the post-institutionalized children on cognitive and motor development, probably because the foster children experienced more one-on-one attention and stimulation before their adoptive placement than the post-institutionalized children. This is supported by the normative levels of secure attachment the former foster children showed after their adoption. Nevertheless, the significant cognitive and motor delays of the former foster children suggest imperfections in pre-adoption foster care as well.



* $p < .05$, pointing to larger delays for the institutionalized children. Motor: Motor development; T1: Time 1; T2: Time 2; Head: Head circumference; Security: Continuous security scores; Disorganization: Continuous disorganization scores; IF: Indiscriminate friendliness; Responsiveness: Child responsiveness.

Figure 1. Effect sizes of the comparison between former foster and post-institutionalized children as reported in the repeated measures ANOVA's.

The absence of a sensitive and stable caregiver has been found to negatively influence children's social development (Bakermans-Kranenburg et al., 2010). In our study we indeed found that the post-institutionalized children showed more insecure attachments than non-adopted children, whereas the former

foster children showed secure attachments as often as the non-adopted children, demonstrating the beneficial effect of pre-adoption family-rearing. However, an effect of family-care on attachment disorganization was not found. Further, the former foster and post-institutionalized children did not differ in their mean levels of indiscriminate friendliness, responsiveness to the mother, and continuous attachment scores. This may be due to the 'only' suboptimal quality of pre-adoption foster care, supported by the developmental delays of the former foster children, but may also reflect a just sufficient quality of institutional care. In a study on institutionalized children in Romania only 3% of institutionalized children showed clear attachment patterns. Ten percent of the institutionalized children showed no attachment behavior, 25% of the children showed fragmented or incomplete sequences of attachment behavior and 31% showed only isolated attachment signals and responses (Zeanah et al., 2005). The children in our study all showed a selective, although often disorganized, attachment relationship with their adoptive parents two months after their adoption, which may point to sufficient (basic) social care in China necessary to develop selective attachment relationships. We have no empirical data to verify this, but it is in line with a recent study on Chinese institutionalized children that showed clear attachment patterns for all children (Steele, Steele, Jin, Archer, & Herreros, 2009).

Several studies have reported a link between inconsistent and instable caregiving and high levels of indiscriminate friendliness (for a review see Bakermans-Kranenburg et al., 2010), and less sensitive parenting styles have been reported to result in low levels of child responsiveness (Chaudhuri, Easterbrooks, & Davis, 2009; Salo et al., 2009). The relatively high level of responsiveness and low level of indiscriminate friendliness of the post-institutionalized children thus support the presence of some (basic) social care in the institutions, which for instance may have been provided during feeding and other caregiving routines. Because it was not possible to visit the children directly after their arrival in the Netherlands, we do not know whether the post-institutionalized children differed from the former foster children when they first met their adoptive parents, and whether they had already benefited from the generally more sensitive care in the adoptive family at our first assessment (two months after adoption). The high percentage of disorganized attachment in both post-institutionalized and former foster children shows that although the children may have received basic social care in China, the quality of this care was insufficient for a normative development of attachment organization. For both groups of children the loss of their pre-adoption caregiver may also have been important in the development of disorganized attachment relationships after adoptive placement.

CLINICAL IMPLICATIONS

What does it mean for children to be raised in foster families or institutions in China before their adoption to another country, in this case the Netherlands? Taken together, the quality of care in the Chinese institutions in which half of our children were raised, seems to correspond with the second level of deprivation,

as described by Gunnar, Bruce, and Grotevant (2000), in which adequate health care and nutrition are provided, but the needs for stimulation and stable relationships are not met (see General introduction). The advanced outcomes of the former foster children on several developmental domains point to a lower level of deprivation in foster care, although the former foster children presented developmental delays as well. This suggests that the shift from institutional care to family-based foster care in China (Johnson, 2004; Liu & Zhu, 2009) is a positive development and should be encouraged, although at the same time the quality of foster care should also be improved.

Reliable, empirical information on the foster care system in China is hard to obtain. Foster parents have been reported to develop emotional bonds with their foster children (Wang, 2007 as cited in Liu & Zhu, 2009), but there are also anecdotal reports of the use of the foster care system as part of governmental welfare programs, where poor families are paid to take care of institutionalized children (Zhong, 2004). The quality of care in these families is often unknown (Zhong, 2004), which suggests that a more regulated foster care program in China and a focus on parenting education seems desirable. In addition, as long as not all abandoned children can be cared for by foster parents, improving the quality of institutional care is also essential (Bakermans-Kranenburg & Van IJzendoorn, 2009), for example by assigning stable caregivers to children (Groark, Muhamedrahimov, Palmov, Nikiforva, & McCall, 2005; St. Petersburg-USA Orphanage Research Team, 2008), providing more cognitive stimulation (Bakermans-Kranenburg, Van IJzendoorn, & Juffer, 2008), and promoting sensitive caregiving (Juffer, Bakermans-Kranenburg, & Van IJzendoorn, 2008).

Furthermore, it is important to focus on life after placement in the adoptive family as post-institutionalized children (see Chapter 4) and later adopted children (see Chapter 2) are at elevated risk of developing insecure attachments, while both early and later adopted children (see Chapter 2) and former foster and post-institutionalized children (see Chapter 4) are at risk of developing disorganized attachments. Therefore, interventions aimed at enhancing sensitive parenting and promoting attachment security may be beneficial for adopted children. An example of such an intervention using video-feedback has been presented by Juffer, Bakermans-Kranenburg and Van IJzendoorn (2005). In addition, Stovall and Dozier (2000) have suggested that foster (and by implication adoptive) parents should actively counteract their children's alienating behavior for secure attachment relationships to develop: Parents should not only respond sensitively to children needs, but also to their children's avoidant or resistant attachment behaviors. As our study shows elevated risks for attachment disorganization and demonstrates that the attachment relationships of the children are open to change in the first months after adoption, we conclude that *early* interventions, soon after adoptive placement, are badly needed. This is even more urgent because nowadays early - beneficial - placements (before the child's first birthday, as shown in our meta-analysis, see Chapter 2) are no longer common in international adoption and children will have been exposed to pre-adoption deprivation for longer periods of time.

LIMITATIONS AND FUTURE DIRECTIONS

Pre-adoptive care

In the current empirical study it was not feasible to include detailed information about pre-adoption care, as many adoptive parents had no information on relevant caregiving characteristics, such as the child-to-caregiver ratio, and the presence of physical abuse and/or social and emotional neglect. Caregiving environments can however vary greatly between and within institutions (Gunnar et al., 2000; Steele et al., 2009), and may also vary between foster families, demonstrating the importance of obtaining information on pre-adoption care in order to explain adoptees' diverse developmental trajectories. Moreover, such information can help adoptive parents to better understand their children's behavior and development. Unfortunately, as China is an immense country and the children in our study were adopted from many institutions, it was impossible to assess the pre-adoptive care the children experienced. Regrettably, we also had no information on why some children were placed and remained in institutions while others were raised in foster families.

Different developmental trajectories do not only reflect different qualities of pre-adoption care, but may also reflect individual child characteristics, such as birth weight and prenatal alcohol exposure, on which information was unfortunately not available. Thus, to effectively study the development and catch-up of adopted children, future research should - whenever possible - use a comprehensive approach and take salient factors into account, such as the pre-, peri- and postnatal history of the children (e.g., prenatal alcohol and/or drug exposure; Ladage, 2009; Miller, Chan, Tirella, & Perrin, 2009), their biological make-up (Bakermans-Kranenburg & Van IJzendoorn, 2007; Ellis & Boyce, 2008), the quality of pre-adoption care (e.g., malnutrition and deprivation; Ladage, 2009; Zeanah et al., 2005), and rearing arrangements in the adoptive family (e.g., parental sensitivity; Juffer et al., 2005). The use of a comprehensive approach when studying the development of adopted children is gaining popularity, although the lack of information on birth parents and pre- and perinatal histories of the children continues to be problematic. Palacios and Brodzinsky (2010) recently published an overview of adoption research in which they identified three successive trends in adoption research. In the first phase adoption researchers compared adopted with non-adopted children, mainly identifying maladjustment, developmental delays and behavior problems, while in the second phase researchers focused on the positive catch-up and recovery of adopted children after early adversity. Currently, in the third phase the emphasis is and should be on gaining insight in the individual variability of adoptees' adjustment, with as primary goal defining the neurobiological, developmental, and relational factors influencing the adjustment of adopted children. In this third phase, the concept of differential susceptibility, which suggests that some individuals are more susceptible to environmental influences than others - for better and for worse - might play a crucial role (Belsky, Bakermans-Kranenburg, & Van IJzendoorn, 2007).

Parental attachment and sensitivity

Studies have found a high correspondence between parental representations of attachment and infant-parent attachment relationships. The model of intergenerational transmission of attachment is based on the assumption that parental attachment representations influence parents' sensitive responsiveness to infants' attachment behaviors and thus influence the infants' attachment relationships (Van IJzendoorn, 1995). This intergenerational transmission of attachment may also be present for children raised in foster or adoptive families. For example, Dozier and colleagues (Dozier, Stovall, Albus, & Bates, 2001) have found that foster children organize their attachment behavior around the availability of their new foster parent, with children of foster mothers with non-autonomous (insecure) states of mind showing disorganized attachments more often (63% D) than children of autonomous mothers (21% D). This may suggest that the adoptive parents' attachment representations may also have played a role in the development of the attachment relationships of the adopted children in our study. Although it was not feasible to measure parental attachment representations in the current study, we have included parental sensitivity, which is part of the model of intergenerational transmission of attachment, at least for the organized attachment strategies. In our study, mean maternal sensitivity scores fell within the normal range and were not related to attachment security or disorganization, possibly due to the relatively short period of time the children have spent in the adoptive family. Sensitivity was related to indiscriminate friendliness, with children of more sensitive mothers showing lower levels of indiscriminate friendliness.

Special needs adoptions

In our study almost no children with special needs were present, although for example one child had a missing underarm, while another child had ear microtia. However, in the last few years the number of special needs adoptions from China has increased rapidly (Selman, 2009), creating an urgent need for studies focusing on these children. One preliminary study (Tan, Marfo, & Dedrick, 2007) has examined differences between children adopted from China to the USA with and without special needs, and found no differences in developmental delays at placement and parent-reported problem behavior, both in preschool and school-aged children, assessed at approximately two and six years after arrival, respectively. However, in that study the mean ages at adoption differed significantly between children with and without special needs, preventing robust conclusions.

As many children with special needs need extra medical attention after their adoption and possibly experience additional separations from their adoptive parents due to hospital admittance, these children may also require specific parental care, for instance to form secure attachment relationships with their adoptive parents. On the other hand, as children with special needs may have received more, and more specialized care in China (e.g., a child with a cleft lip/ palate needs more assistance during feeding; Pronk, 2007), they may also

have a certain advantage compared to children without special needs. Whether parents adopting a child with special needs require specific, additional support to optimally care for their child becomes a relevant question with the current increase of special needs adoptions, and should be examined in future studies.

CONCLUSION

Our meta-analysis on attachment revealed that adopted children show a favorable attachment development compared to still institutionalized children, pointing to the positive effects of adoptive placement compared to institutional care (Van IJzendoorn & Juffer, 2006). The adopted children still lag behind the non-adopted children, although children adopted before their first birthday develop secure attachment as often as non-adopted children. Based on our empirical study we conclude that both former foster and post-institutionalized adopted children show developmental delays for disorganized attachment, physical growth, and cognitive and motor development compared to non-adopted children. However, positive catch-up after adoption was confirmed for the former foster and post-institutionalized children for physical growth, cognition, and child responsiveness to the mother. For physical growth earlier adopted children showed a larger catch-up over time compared to later adopted children, while for responsiveness we found a larger catch-up for the former foster children than for the post-institutionalized children.

Pre-adoption foster care appeared to be associated with more favorable outcomes than pre-adoption institutional care for cognitive and motor development, and for attachment security. The less favorable outcomes for post-institutionalized children converge with the extensive evidence on the detrimental effects of institutional care. Similar to what Bowlby already hypothesized in the 1950's (Bowlby, 1952), for children without parents both adoptive and foster care placements provide better child-rearing arrangements than institutional care.

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