

The importance of foster care for orphanage children

Summary

An overwhelming amount of scientific studies have shown that young children need stable, continued care from their parents, or – when this is not possible - from a stable, limited number of caretakers who are irrevocably connected and available to the child. When comparing the upbringing of young children in foster care with upbringing in institutional care, research shows major differences in favour of foster care. In this article we will have a closer look at some factors that play an important role in why children who grow up in foster care will experience a healthier cognitive, emotional, and social development. We will address elements such as brain development, need of interactions with stable care givers, attachment needs, brain stimulation versus brain damage because of trauma, sensitive periods and the role of the caregiver. We will also show differences in development from children who live in Chinese institutions or in Chinese foster care after adoption in The Netherlands.

Prerogatives for healthy development of young children

During the first three years after birth, the brain goes through a major development in which the wiring of the brain is constructed. The architecture of the brain is composed of highly integrated sets of neural circuits (i.e. connections among brain cells) that are ‘wired’ under the continuous and mutual influences of both genetics and experiences, relationships, and physical conditions in which children live. Experiences “authorize” genetic instructions to be carried out and shape the formation of the circuits as they are being constructed. This developmental progression depends on appropriate sensory input and stable, responsive relationships to build healthy brain architecture. Abundant scientific evidence demonstrates that a major ingredient in this process is the “serve and return” relationship between children and their parents or other caregivers in the family or community. Young children naturally reach out for interaction through babbling, facial expressions, gestures, and words, and adults respond with the same kind of vocalizing and gesturing back at them. If the responses are unreliable, inappropriate, or simply absent, the developing architecture of the brain may be disrupted, and later learning, behaviour, and health may be impaired¹.



<https://developingchild.harvard.edu/resources/serve-return-interaction-shapes-brain-circuitry/>

Stress

As responsive relationships are developmentally expected and biologically essential, their absence signals a serious threat to child wellbeing, particularly during the earliest years, and this absence activates the body’s stress response systems. When decreased responsiveness persists, the lost opportunities associated with diminished interaction can be compounded by the adverse impacts of excessive stress activation, which can have lifelong consequences. This multidimensional assault on the developing brain underscores why significant deprivation is so harmful in the earliest years of life and why effective interventions are likely to pay significant dividends in better long-term outcomes in learning, health, and parenting of the next generation. Extensive biological and



developmental research over the past 30 years has generated substantial evidence that young children who experience severe neglect—defined broadly as the ongoing disruption or significant absence of caregiver responsiveness—bear the burdens of a range of adverse consequences. Indeed, deprivation or neglect can cause more harm to a young child’s development than overt physical abuse, including subsequent cognitive delays, impairments in executive functioning, and disruptions of the body’s stress response. When chronic deprivation leads to persistent activation of stress response systems in a young child, it can actually disrupt and weaken developing brain architecture. Over time, the wear and tear of this excessive stress response and the chemicals it releases can lead to academic struggles, difficulties in social adjustment, mental health problems, and even chronic physical disease.ⁱ

Family care versus institutional settings

Although institutions aim at a good, responsible upbringing of children, they cannot compete with ordinary family care. Apart from the small, family based institutions, with a permanent pair of parents living together and caring for the children, compared to family-care, institutions have severe disadvantages for the healthy development of children. Even high quality institutions have employed staff, which means that there is rotation in staff and a stable, permanent very number of caretakers, having a meaningful relationship with the child, is almost impossible to provide.



Bottle in bed

Usually institutions are characterized by

- large numbers of infants and young children
- large groups
- highly regimented “assembly-line” caregiving with minimal one-on-one interaction,
- youngsters who are ignored and unstimulated for virtually all of their awake hours,
- no adult-child relationships that are reliably responsive to a child’s individual need
- often staff with little or no training in the care of children
- frequent staff rotations, which means that infants are cared for by many different people, making it extremely difficult to develop meaningful relationships with any single caregiver^{i,ii}

Young children who live in such settings experience little more than transient serve and return interactions. Therefore, although basic needs for food, warmth, shelter, and medical care may be met (thereby avoiding most legal definitions of neglect), the setting itself may still be a precipitant of severe psychosocial deprivation for the youngest inhabitantsⁱ.

There are differences across institutions, and even within institutions, in the care provided. For example, staff-to-child ratios and philosophies regarding staff interactions with children vary, but have important implications for child well-being. Several researchers found that conditions in institutions can be substantially improved (e.g., increasing caregiver interactions with children), resulting in changes in child behavioural outcomes. Yet, despite evidence that improved institutions leads to better outcomes than poorer institutions, even institutional care with relatively high staff-to-child ratios and adequate cognitive stimulation has deleterious effects on young children’s developmentⁱⁱⁱ and can be defined as neglect.

Much research relating to profound neglect has been done in institutions, many of them extreme situations, such as those in Eastern Europe. However, studies have indicated that institutional care surrounding as described above, can be defined as neglect, as a constant, caring, sensitive caregiver is of paramount importance. In this article we will show results of the most important study comparing the development of children in institutional care and in foster care in a randomized

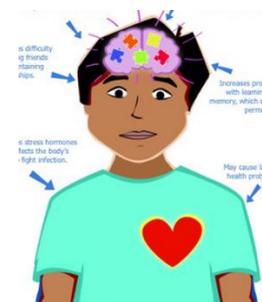
control trial (BEIP), results of meta-analyses and studies comparing children adopted in the Netherlands who had formerly been in institutional care or in foster care in China.

Adoption and foster care

Adoption and foster care are both family based interventions, in which a child can have a 'serve and return' situation, with a stable, caring caregiver. Adoption is a more stable situation, as this has the legal regulation of equal rights as a birth child, with permanency. Foster care is often a less permanent solution. During the very important first years of a child, it is paramount that the child has the individual attention in a family-based setting and research has shown that this matters in the further development of children. Foster care and adoption can provide the child with this care, but also in this setting, it is of great importance that the foster or adoptive carer is sensitive and the placement is as stable as possible.

Early life stress

Science tells us that repeated and persistent periods of prolonged unresponsiveness from primary caregivers will lead to excessive activation of a young child's psychological and physiological stress response systems. This, in turn, can lead to toxic stress and its consequences – a lifetime of impairments in learning, behaviour, and both physical and mental health. The Permanent Adverse Childhood Experiences (ACE) Study (1995-1997) is one of the largest investigations of childhood abuse and neglect and later-life health and well-being. The ACE study showed that it was not specifically the type of Early Life Stress, but the amount of stress factors that determined the effect of Early Life Stress (ELS). When a person had four or more types of ELS, health risks impressively increased, and life expectancy decreased^{iv}.

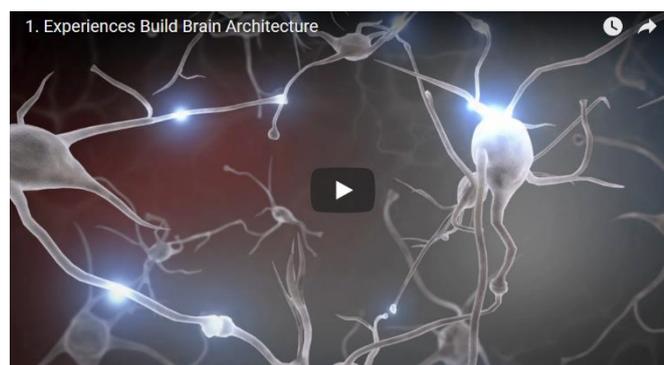


https://www.ted.com/talks/na_dine_burke_harris_how_childhood_trauma_affects_health_across_a_lifetime?language=nl

Conversely, extensive research points toward the healing power of nurturing, responsive, and reliable relationships for young children who have experienced severe neglect, with or without associated traumaⁱ

Brain development

Studies on children adopted from institutions show differences in the development of the brain. The RA study (14 adoptees with history of severe neglect) found significantly reduced total grey matter (the major component of the brain) and changes in the amygdala¹. A smaller left amygdala volume correlated significantly with longer stays in an institution. The amygdala has been identified as key brain structure sensitive to negative and/or stressful experience during childhood, such as those associated with neglect and physical/sexual abuse. This may extend to adversity related to institutional care. Overall, institutionalization led to dramatic reductions in brain



<https://developingchild.harvard.edu/resources/experiences-build-brain-architecture/>

¹ The amygdala is in the inside of the brain and has a primary role in the processing of memory, decision-making, and emotional reactions.

activity (as reflected in the EEG²) whereas placement in foster care before 2 years of age led to a more normal pattern of EEG activity several years later^v.

Internationally adopted children between ages of 8-10 performed worse on tests of memory, visual attention and learning than early adopted (<8 months) or non-adopted children. The more time spent in an institution, the poorer the performance on tests of inhibitory control³, visual attention, and visual memory/learning. The children also displayed less executive functioning – the task of the brain needed for planning, reasoning and problem solving, and less Theory of Mind. Theory of Mind is the ability to attribute mental states (beliefs, intents, desires, pretending, knowledge, etc.) to oneself and others and to understand that others have beliefs, desires, intentions, and perspectives that are different from one's own. Deficits in Theory of Mind and executive functions were associated with quasi-autism, disinhibited attachment and inattention/overactivity^v.

Attachment

Attachment is the emotional bond of infant to parent or caregiver. It is described as a pattern of emotional and behavioural interaction that develops over time, especially in contexts where infants express a need for attention, comfort, support or security. Parents' ability to perceive, interpret and react promptly to their infants needs and attention, in turn influence the quality of their attachment relationships. This attachment relationship developed with primary caregivers is the most influential in children's lives. A secure relationship fosters not only positive developmental outcomes over time, but also influences the quality of future relationships with peers and partners.



Secure parent-child relationships help children to a) regulate their emotion in stressful situations, b) explore their environment with confidence, and c) foster their cognitive, emotional and language development. Furthermore, children who are securely attached are predisposed to display positive social behaviours (e.g., empathy and cooperative behaviours) helping them to develop future positive relationships. On the other hand, insecure and disorganized attachment put children at increasing risk of problem behaviours and psychopathologies. Examples include preschool and school-aged aggression, depression and emotional dysregulation^{vi}.

The quality of attachment that an infant develops with a specific caregiver is largely determined by the caregiver's response to the infant when the infant's attachment system is 'activated' (e.g., when the infant's feelings of safety and security are threatened, such as when he/she is ill, physically hurt, emotionally upset, or frightened). Infants whose caregivers consistently respond to distress in sensitive or 'loving' ways, such as picking the infant up promptly and reassuring the infant, feel secure in their knowledge that they can freely express negative emotion which will elicit comforting from the caregiver^{vii}.

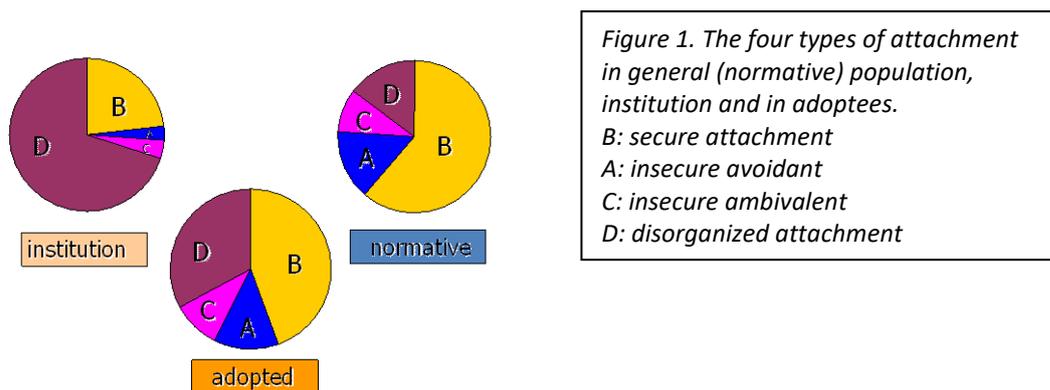
Scientists describe four types of attachment: organized secure attachment (B), in which the children can account on their caregivers, seek contact with their attachment figure when they are upset and are easily comforted. They have a secure base. In organized avoidant (A) or resistant (C) attachment, caregivers may have been insensitive in reaction or rejective or inconsistently responsive. Disorganized attachment is considered the most insecure type of attachment with disorganized children showing a breakdown of a consistent attachment strategy when dealing with a stressful

² Electro Encephalogram: records electrical activity in the brain.

³ This is the function of the brain, that tells us not to do things we might be inclined to.

situation. This is the most harmful type of attachment with the greatest risks of psychological and psychiatric disorders. Infants with disorganized attachment(D) face an unsolvable dilemma: when they have fear, there is no solution. Neglect can induce fear without solution.

Van Dries et al^{viii} compared the four types of attachment in a meta-analysis⁴ between the general population, children in institutions and children who had been adopted. Compared to the general population, the children in institutions showed less secure attachment and much more disorganized attachment. When they had been adopted, most could form an organized type of attachment and many made a recovery into secure attachment, although they still showed more disorganized attachment. Studies showed that regarding the overall effect for attachment security, foster children were comparable to adopted children.



To induce attachment, care takers (parents) need to be sensitive to the needs of the child, and response to the needs, in order to soothe the stress system in stressful circumstances. To be soothed, the child needs to trust the care giver (parent) to be reliable in being sensitive and responsive. A sensitive care taker is the most important factor for a child to get a secure attachment.

When there is a lack of a consistent, sensitive caretaker to take care of the needs of the helpless child, the stress system of the child will be turned on and will not be regulated back into a quiet state. This stress system needs to be regulated in order to be able to develop in a healthy way. Therefore Early Life Stress and attachment are closely connected.

One of the behaviours that seems to be typical of institutionalized children is disinhibited or indiscriminately friendly behaviour, characterized as affectionate and friendly behaviour toward all adults, including strangers, without the fear or caution that is characteristic of typically developing children. Children living in institutionalized settings show consistently more indiscriminately friendliness than comparison groups not living in institutions. 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^{ix}.

⁴ Meta-analysis is the statistical procedure for combining data from multiple studies. When the treatment effect (or effect size) is consistent from one study to the next, meta-analysis can be used to identify this common effect. When the effect varies from one study to the next, meta-analysis may be used to identify the reason for the variation.

The Bucharest Early Intervention Project (BEIP)

The Bucharest Early Intervention Project^x is one of the most important studies comparing the effects of institutions with foster care. In the year 2000, an American research group took half of a group of 136 Romanian infants and toddlers, who got into institutional care around birth into foster care. They randomly assigned the children either to Care As Usual (CAUG) in the institution or to high-quality foster care (FCG). The foster parents provided an attachment-based model of child-centered foster care,



Photo courtesy of Michael Carroll

and a team of three Romanian social workers trained and supported foster parents. Because the children were drawn from the same population and randomly assigned to groups, any group differences in outcomes must logically be due to the different forms of care to which the children were assigned. The researchers discovered impressive differences between the children placed in foster care compared to the ones who stayed in care as usual.

The BEIP showed impairment of institutional care on all important development terrains, and improvement when the children were placed in foster care. The BEIP also showed that it was important that the children were placed in a family as young as possible. The study showed that the most important terrains had sensible periods for development: when placed in foster care before the end of the sensitive period, the catch-up in the foster family was complete and the outcomes of the children in foster care were comparable to those of children raised in their families. After this period effects of the institutional care did not fully recover in the foster families.

Development of the brain

The study showed impairment of the development of the brain: both the development of the white matter and neural maturation of the brain of the CAUG were affected. The CAUG children showed impaired EEGs leading to impairments of IQ and cognitive outcomes, while recovery took place in the children in foster care. The stress system reactions were impaired (Early Life Stress), leading to changed stress hormones (e.g. blunted cortisol patterns) and the nervous system taking care of the body's unconscious actions.



<http://www.bucharestearlyinterventionproject.org/>

Attachment and behaviour and social problems

The children in the institution showed impaired attachment: less secure attachment and more disorganized attachment, although this could recover when they were placed in foster care before 24 months. The children placed in foster care showed less attachment disorders. The children in institutional care showed indiscriminate friendliness and the BEIP failed to find a reduction in indiscriminate friendliness when children were placed in foster care. The reason might be that indiscriminate friendliness is more persistent when institutionalized rearing extends beyond the age of 6 months and the children in the BEIP had spent longer in institutional care than 6 months^{ix}. The children placed in foster care showed less psychopathology than the children who stayed in institutional care: the girls in institutional care showed more internalizing behaviour disorders (e.g. Anxiety, depression) and the boys externalizing disorders (e.g. attention deficit/hyperactivity disorder, conduct disorder) and also callous-unemotional traits (lack of empathy, general deficient affect). Lack of attachment security was an important factor for displaying behaviour problems. The social skills in the children placed in foster care were also better than the children in CAUG.

	Effect of Institutional Care on	Effectivity of intervention of	Influenced by
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		placement in Foster Care	
Brain			
	White matter growth	x	
	Resting EEG activity	X stable	
	IQ/cognitive outcomes	X early	Attachment
	Language outcomes	X early	
Attachment	Secure attachment	X early	
	Disorganized attachment	X early	
	Inhibited type Reactive Attachment Disorder	X early	Lower baseline cognitive ability
	Indiscriminate friendliness	No effect	
Stress	HPA axis responses	x	
	cortisol	X early	
	Parasympathic nervous system reactivity	X early	
Behaviour	Internalizing disorders girls	x	Attachment
	Externalizing disorders boys	X stability	Attachment
	Callous-unemotional traits in boys	x	Caregiver responsiveness to distress
	Deciding who to befriend	x	
	Speech reticence and social engagement	X early	
	Social skills/behaviour	X early	Attachment and alpha-EEG

Table 1. Effects institutional care on important developmental domains in children, potentials of recovery in foster care and factors influencing the developmental domains (From the BEIP publications ^x)

The last studies when the children were about 12 years old still show improved development of the children placed in foster care, but they also show that instability of the foster placement decreases the favourable outcomes.

Meta analyses⁵ and overview in Monograph

The BEIP studies show the results of only 134 children from orphanages in Bucharest, put in high quality foster care. However, many of the results of the BEIP are confirmed in very large studies. The meta analyses from the research group from Juffer and Van IJzendoorn^{xi}, and the leading publication on institutional care and recovery in the Monographs of the Society for Research in Child Development show the neurobiological toll of institutional care, the delayed development and the

⁵ Meta-analysis is the statistical procedure for combining data from multiple studies. When the treatment effect (or effect size) is consistent from one study to the next, meta-analysis can be used to identify this common effect. When the effect varies from one study to the next, meta-analysis may be used to identify the reason for the variation.

effect on attachment and emotional development, but also the opportunities of foster care and adoption^{ll. v. xii, xiii}.

Meta-analyses show delays in several developmental domains, taking many studies and children in consideration. The head circumference is connected to brain development and has less catch-up than growth in height and weight. The results in the meta-analyses confirm the results found in the BEIP. Self-esteem reflects a person's overall subjective emotional evaluation of his or her own worth. Meta-analyses show that this is impaired in institutional care and can display a full catch-up after adoption.

	Development in institution	Catch-up in adoption/foster care	Study on number of children	
Height, Weight	Delay	Catch-up	2,600-3,700 children	van IJzendoorn, M.H.; Bakermans-Kranenburg, M.J.; Juffer, F. (2007)
Head circumference	Delay	Slower and incomplete	1,331 children	van IJzendoorn, M.H.; Bakermans-Kranenburg, M.J.; Juffer, F. (2007)
IQ	Average IQ 84	Average IQ 104	3,888 children	van IJzendoorn, M.H.; Luijk, M.P.C.M.; Juffer, F. (2008)
IQ and cognitive development	Scored lower than adopted peers	Scored similar to non-institutional peers in IQ, but school performance and language development lagged behind	17,767 children	Van IJzendoorn, Marinus H.; Juffer, Femmie; Poelhuis, Caroline W Klein (2005) van IJzendoorn, M.H.; Juffer, F. (2005)
Self esteem	Lower levels	No difference in levels with nonadopted comparisons	33,862 adoptees, 300 children in institution	Juffer, Femmie; van IJzendoorn, M.H (2007)

Table: Delays in institutional care and catch-up in adoption/foster care from meta-analyses^{ll. v. xiv, xv}.

Sensitive periods

Brain development is a combination of experience-expectant (access to caregiver, adequate nutrition, sensory and cognitive stimulation and linguistic input) and experience dependent mechanisms. When the immature nervous system, which actively awaits and seeks out environmental input and does so during sensitive periods of development, is deprived of such input, this may lead to underspecification and miswiring of circuits^{xvi}.

With regard to data on brain development, studies suggest that removing children from institutional care in the first 6 months of life is the most likely to result in functioning comparable to family-reared children, although there are very few studies that have been able to examine children placed in families this early. Beyond that, evidence for sensitive periods is less compelling, meaning that “the earlier the better” rule for enhanced caregiving is a reasonable conclusion at the current state of the science

The long-term development will depend on:

- The specific ages during which they were institutionalized

- How long the child is in the institution
- The features of their institutional environment and genetic make-up and prenatal experience.

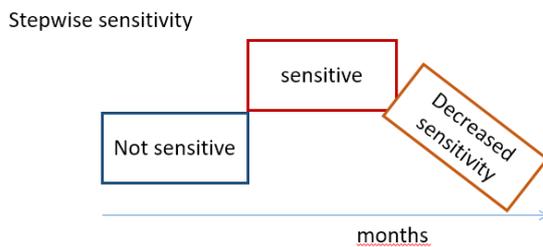


Figure 2. Stepwise sensitivity

The fact that in BEIP no effect was found in externalizing psychiatric disorders (eg ADD, ADHD), oppositional defiant disorder and indiscriminate friendliness might be due to early closure of the sensitive periods, as the average age of placement in foster care was 22 months (earliest 6 months).

Development	Cut-off point sensitive period in months	Authors as described in Zeanah ea 2011 ^{xvi}
Organized attachment	24	Smyke e.a. 2012 ^{xvii}
IQ, executive functions, quasi-autism, inattention/overactivity	6	ERA ^{xviii}
Secure attachment	12	Vd Dries ea 2009 ^{xiii} , Juffer ea 2011 ^{xiv}
IQ EEG, attachment	24	BEIP ^x
language	15	BEIP ^x , Windsor ea 2011 ^{xix}
Mental and social behaviour		
Clinical and borderline scores behaviour	18	Merz & Mc Call 2010 ^{xx}
Clinical and borderline scores behaviour	6	ERA ^{xviii}
Executive functions	18	Merz & Mc Call 2011 ^{xxi}

Table 3. Cut-off points of sensitive periods^{xvi, ix}

Additionally van IJzendoorn and Juffer (2006)^{xxii} showed that adoption before 12 months of age was associated with more complete catch-up than later adoptions for height, attachment and school achievement.

Effect of foster care or institutional care in China before adoption to the Netherlands

In the Netherlands van den Dries and colleagues looked into the differences in development of children raised in an institution in China, and children who had stayed in foster care before they had been adopted to the Netherlands. Ninety-two families with 50 post-institutionalized and 42 formerly fostered girls, aged 11-16 months on arrival, were studied 2 and 6 months after adoption. Van den Dries found significant differences on several domains of development^{xxiii xxiv}.

The influence of pre-adoption foster versus institutional rearing seemed more pronounced for cognitive and motor development than for physical development and hormonal stress regulation. At both assessments, the former foster children outperformed the post-institutionalized children on mental and motor skills.



The post-institutionalized children showed less secure attachment, whereas the former foster children did not differ from non-adopted children.

At both assessments the two groups of adopted children showed more disorganized attachments compared to non-adopted peers. Post-institutionalized and former foster children did not differ on indiscriminate friendliness, but children with more sensitive adoptive mothers

showed less indiscriminate friendliness. The former foster children showed a larger increase in responsiveness over time than the post-institutionalized children, suggesting that preadoption foster care is more beneficial for the development of children's responsiveness after adoptive placement than preadoption institutional care ^{xix}.

Although the post-institutionalized children in this study probably received relatively good physical and nutritional care in China, as indicated by their only minor growth delays, the absence of responsive care was supported by their large cognitive delays ^{xviii}.

For the former foster children the adoption was also inextricably associated with the separation and loss of their foster parent(s) in China, which may have had a negative effect on the development of a new attachment relationship with the adoptive parent. Therefore these children may need more time to work through their loss experience and to (re-establish an organized attachment relationship with their new caregiver.



Special needs adoptions

From literature we know that adoptees with medical special needs usually do not show more problem behaviour and that adoptive parents are generally satisfied with the adoption^{xxv}. Nowadays most adoptions from China are Special Needs (SN)adoptions: the children have major medical conditions.

In 2014 we studied Special Needs adoptions into the Netherlands from two high quality institutions in Taiwan, from with about 50% of the adoptions were special needs adoptions^{xxi}. The study consisted of a questionnaire of the adoptive parents of children with an average age of 12 (4-24). In this yet unpublished study we found hardly any significant differences in the group with (often major) Special Needs and the group without Special Needs. The major differences were found in development of the children, and internal problem behaviour (anxiety, depression, small effect) of girls with a visible medical condition. Although the parents had to invest much time in e.g. therapy, medical care and care, both the adoptive parents of both the non-special needs adoptees and the Special Needs adoptees were more satisfied with parenthood than the general Dutch population^{xxvi}.

UN Guidelines on Alternative Care

Results of studies on institutional care, foster care and adoption have inspired the UN Guidelines on Alternative care^{xxvii} to advise against institutional care in favour of adoption or foster care, unless institutional care is unavoidable. The guidelines state:

21. *The use of residential care should be limited to cases where such a setting is specifically appropriate, necessary and constructive for the individual child concerned and in his/her best interests.*
22. *..... In accordance with the predominant opinion of experts, alternative care for young children, especially those under the age of 3 years, should be provided in family-based settings. Exceptions to this principle may be warranted in order to prevent the separation of siblings and in cases where the*

placement is of an emergency nature or is for a predetermined and very limited duration, with planned family reintegration or other appropriate long-term care solution as its outcome.

22. Where large residential care facilities (institutions) remain, alternatives should be developed in the context of an overall deinstitutionalization strategy, with precise goals and objectives..... To this end, States should establish care standards to ensure the quality and conditions that are conducive to the child's development, such as individualized and small-group care, and should evaluate existing facilities against these standards. Decisions regarding the establishment of, or permission to establish, new residential care facilities, whether public or private, should take full account of this deinstitutionalization objective and strategy.

Gera ter Meulen, November 2017

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