



Universiteit
Leiden
The Netherlands

Development after international adoption

Dries, L. van den

Citation

Dries, L. van den. (2010, October 27). *Development after international adoption*. Retrieved from <https://hdl.handle.net/1887/16079>

Version: Not Applicable (or Unknown)

License: [Licence agreement concerning inclusion of doctoral thesis in the Institutional Repository of the University of Leiden](#)

Downloaded from: <https://hdl.handle.net/1887/16079>

Note: To cite this publication please use the final published version (if applicable).

1 General introduction

DEVELOPMENT AFTER ADOPTION

Institutional care is associated with deprivation and subsequent developmental problems, such as cognitive deficits (e.g., Nelson, Furtado, Fox, & Zeanah, 2009, for a meta-analysis see Van IJzendoorn, Luijk, & Juffer, 2008) and delayed physical growth (D.E. Johnson & Gunnar, 2010; Miller, Chan, Comfort, & Tirella, 2005). Several meta-analyses have shown that many children continue to show developmental delays and difficulties after their adoption, for example with respect to physical growth, school achievement, and behavior problems (Juffer & Van IJzendoorn, 2005; Van IJzendoorn, Bakermans-Kranenburg, & Juffer, 2007; Van IJzendoorn, Juffer, & Klein-Poelhuis, 2005), although impressive catch-up after adoption has also been reported in these developmental domains (Van IJzendoorn & Juffer, 2006).

Much less is known about possible differences in the delays and catch-up of children adopted from foster care compared to children adopted from institutional care. Staying in foster care before international adoption takes place is a relatively new phenomenon (K.A. Johnson, 2004; Zeanah et al., 2003) and many adoption studies do not differentiate between former foster and post-institutionalized adopted children. However, foster homes may offer children a pre-adoption rearing arrangement of higher quality compared to institutional care (Nelson et al., 2009; Stovall & Dozier, 2000; Van Londen, Juffer, & Van IJzendoorn, 2007), resulting in fewer or smaller developmental problems both before and after the adoption. One of the few studies that compared the development of these two groups of adoptees found a more normative physical growth and better cognitive outcomes for (Guatemalan) children adopted from foster care compared to children adopted from institutional care (Miller et al., 2005). However, both groups of children had comparable motor and language skills and social-emotional competencies. In addition, the delayed physical growth of the former foster children and the finding that longer foster care placements resulted in larger developmental delays, suggests that pre-adoption foster care may not always be optimal either (Miller et al., 2005). In the current thesis, children adopted from foster care and institutional care in China are compared on several salient developmental domains - attachment, cognitive and motor development, physical growth, stress regulation, and social behavior - to examine whether pre-adoption foster care is beneficial (or: less detrimental) for children's development and whether type of pre-adoption care influences children's adaptation to their new life in the adoptive family.

To date, both in the Netherlands and worldwide, China is the main country of origin for adoption (Selman, 2009a). One of the reasons many Chinese children became available for adoption was the implementation of the one-child policy in China and the subsequent abandonment of mostly healthy infant girls (K.A. Johnson, 2004), and more recently of children with special needs (Selman, 2009b). Until now, few studies have focused exclusively on children from China (but see for example Miller & Hendrie, 2000; Tan, Marfo, & Dedrick, 2007), as international adoption from China is a relatively new development (Selman, 2009a). It is however important to study specific groups of adoptees because the quality of pre-adoption care appears to vary greatly between countries and over time (Gunnar, Bruce, & Grotevant, 2000; K.A. Johnson, 2004; Miller, 2005), which hinders the generalizability of developmental outcomes to adoptees from other countries (see also Pomerleau et al., 2005).

CHINA'S ONE-CHILD POLICY AND ITS CONSEQUENCES

With more than 1.3 billion inhabitants China is the most populous country worldwide (National Population and Family Planning Commission in China, 2009) and home to almost 20% of the world population. In 1979 China implemented the one-child policy to slow population growth and prevent social and economic problems such as poverty and famine (Ebenstein, 2010). As the name suggests, the one-child policy forbids families to have more than one child, although currently this strict version of the rule only applies to a minority of the population. In many areas more lenient policies have been implemented, such as rules based on birth spacing, which allow families to have a second child five years after the birth of their first child (Hesketh, Li, & Zhu, 2005). But also the one-son-or-two-child policy is widespread, allowing parents to have two children, but only when their first child is a girl (K.A. Johnson, 2004). Chinese parents (used to) have a strong preference for a son, because sons take care of their elderly parents, whereas girls marry out and move to their husband's family. In addition, sons are seen as strong laborers, they carry on the family name, and continue the patrilineal family line (K.A. Johnson, 2004). There is some evidence that this strong preference for boys is shifting nowadays (Hesketh et al., 2005).

Families who violated birth-planning restrictions were sometimes punished, for example by handing out substantial fines or confiscating personal belongings (Hesketh et al., 2005; K.A. Johnson, 2004, Roessingh, 2009). In addition, when "unauthorized" pregnancies were detected, forced terminations and sterilizations have occurred (Greenhalgh, 1994; K.A. Johnson, 2004), although the stringency with which birth-planning restrictions and punishments were adhered to varied per district and over time (Hesketh et al., 2005; K.A. Johnson, 2004).

Even though the one-child policy has successfully restricted population growth, it also has several negative and unintended consequences, such as the anticipated problems with China's care for the elderly in the near future (Ebenstein & Sharygin, 2009), and the current skewed gender distribution (Hesketh et al., 2005; Zhu, Li, & Hesketh, 2009). In the cohorts born between 1980 and 2000, an

estimated surplus of 22 million boys was to be born relative to the number of girls (Ebenhart & Sharygin, 2009), while another study estimated an excess of 32.7 million males in 2005 (Zhu et al., 2009). These numbers raise questions about what happened to China's "missing girls" (Ebenstein, 2010). Among others, the proportionally low number of girls seems to be the result of non-registration of infant girls, but sex-selective abortions and "gendercide" (infanticide of infant girls) are also mentioned as explanations (Ebenhart & Sharygin, 2009; K.A. Johnson, 2004). Since these practices are illegal, official figures are not available (Ebenhart & Sharygin, 2009). For families who cannot afford to raise their daughter and deal with subsequent penalties, another escape route from birth-planning authorities is to abandon their infant girl. Exact figures on child abandonment are hard to obtain, but increases in child abandonment have been found to go hand in hand with stricter enforcements of birth-planning regulations (K.A. Johnson, 2004). Birth parents do not abandon their children lightheartedly and often leave their child at places where they know the child will be discovered almost immediately (K.A. Johnson, 2004; Zhang, 2006). Although many Chinese parents have tried to arrange domestic adoptions for their children, for example by abandoning them on the doorstep of a childless couple (Zhang, 2006), numerous abandoned children have been raised in institutions (K.A. Johnson, 2004).

In 1995 the BBC aired a documentary on Chinese institutions, titled "*The dying rooms: China's darkest secret*", in which the high mortality rates, inadequate staffing and insufficient financial support were denounced worldwide. In China the poor quality of institutional care was mostly unknown to the public, as the implementation of the one-child policy was so politically sensitive that the true magnitude of the problem was hidden (K.A. Johnson, 2004). At the time the documentary was released, China's attempts to improve the quality of institutional care were just getting off the ground (K.A. Johnson, 2004). In 1992 China had officially opened the borders for international adoption to relieve the overcrowded institutions, while accepting the inevitable consequence that the caregiving conditions in the institutions would become more widely known (K.A. Johnson, 2004; Selman, 2009a). Although the negative publicity following the documentary temporarily backfired on the early attempts to improve institutional care, these efforts gradually restarted and increased, leading to an improved quality of institutional care, especially in institutions arranging international adoptions and benefiting from international adoptions fees (K.A. Johnson, 2004).

In 1998, only a couple of years after China opened the borders for international adoption, China became the main country of origin for adoption to the Netherlands, responsible for a quarter of the international adoptees (Ministry of Justice, 2000). The number of children adopted from China continued to rise from that year on with a peak of 800 adoptions in 2004 (Figure 1), which was more than 60% of the total number of adoptees arriving that year (Ministry of Justice, 2009). In the Netherlands, three adoption organizations are licensed to arrange adoptions from China: 'Meiling', 'Stichting Kind en Toekomst' and 'Wereldkinderen', and all three organizations participated in our study. When

our data collection started in the fall of 2005 the number of adoptions from China had just begun to decrease drastically (see Figure 1), maybe partly as a result of the increase of domestic adoption in China (Selman, 2009b).

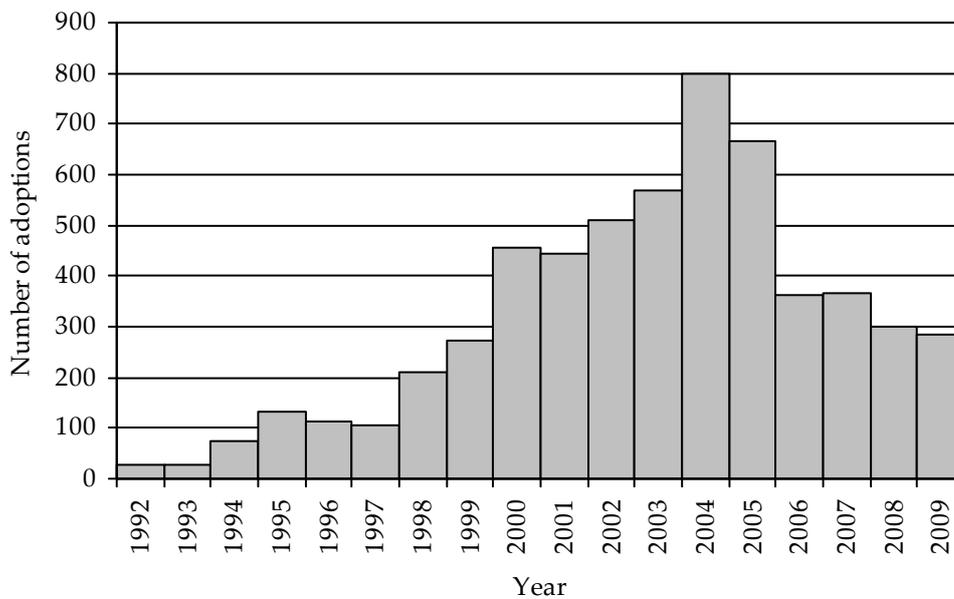


Figure 1. Number of children adopted from China into the Netherlands from 1992 to 2009.

EFFECTS OF INSTITUTIONAL CARE

Of all studies examining the effects of institutional care, one study is specially worth mentioning, namely the Bucharest Early Intervention Project (BEIP; Zeanah et al., 2003). The BEIP study is a unique study, developed to examine the effects of institutional care on the development of young children and to investigate whether these effects can be reversed by placements in foster care. All Romanian institutions included in the study had a regimented daily schedule, a high child-to-caregiver ratio and a management led by medical personnel. The uniqueness of the BEIP study lies in the *random* assignment of institutionalized children to either foster care or continued institutional care, which eliminated the possibility that primarily healthier or developmentally more advanced children were selected for foster care placement. In total, 136 institutionalized children who had lived in institutions for at least half of their life were included (age: 5 - 31 months), of whom 69 were placed in foster families (Zeanah et al., 2003). The BEIP study is highly relevant to our study as it also examined the potential beneficial effects of foster care placements compared to institutional care. However, unlike the children in our study, all foster children in the BEIP study experienced institutional care *before* their placement in foster families.

The main conclusion of the BEIP study is that institutional care is detrimental for child development, while foster care placements effectively reduce the negative effects of early institutional care and result in significant developmental gains (Nelson et al., 2009). Compared to the institutionalized children, the foster children showed more secure and fewer atypical attachments (Smyke, Zeanah, Fox, Nelson, & Guntrie, 2010) and displayed fewer reactive attachment disorders (Nelson et al., 2009); they showed better cognitive outcomes (Nelson et al., 2007), fewer emotional disorders (Nelson et al., 2009), and displayed more positive emotions (Ghera et al., 2009). For several domains, such as attachment, cognition and language development, timing of the foster care placement appeared to be essential, with earlier placements leading to larger developmental gains (Nelson et al., 2007, 2009; Smyke et al., 2010), although the age cutoffs varied. For attachment security and cognitive development, children placed before 24 months of age showed more substantial improvement than children placed after their second birthday (Nelson et al., 2007; Smyke et al., 2010), while for language acquisition the deflection point was at 15 months (Nelson et al., 2009). For attachment (dis-)organization no specific age cutoff was found within the studied cutoff range of 18 to 28 months: All cutoffs resulted in more organized attachments for earlier placed children compared to later placed children (Smyke et al., 2010). The higher effectiveness of earlier placements points to the presence of a sensitive period during infant development. When children are deprived of relevant stimulation during a period when they are most receptive to these experiences, their subsequent development can be compromised and their catch-up less complete (Nelson et al., 2009; Rutter et al., 2004).

Although the BEIP study, as well as other studies (e.g., Dobrova-Krol, Van IJzendoorn, Bakermans-Kranenburg, & Juffer, 2010) and meta-analyses (e.g., Van IJzendoorn et al., 2008) all point to adverse child development during and after institutional placements, the debate about the possible consequences of institutional care has not ended yet. Recently, Whetten and colleagues (2009) received extensive media coverage for their study on institutionalized children, claiming that "Institutions are not so bad" (Grady, 2009). Whetten and colleagues reported greater intellectual functioning, better memory, fewer behavioral and emotional problems, and comparable physical growth in 1,357 institutionalized children in 5 'less wealthy nations' (e.g., Ethiopia) compared to 1,480 community children in the same countries, and concluded that institutional care is not associated with poorer wellbeing than community care.

However, in a critical review of the Whetten et al. study Bakermans-Kranenburg and Van IJzendoorn (2009) drew attention to several aspects of the study, such as the quasi-experimental design and the poor living conditions in the included countries, which may have decreased the differences between the institutionalized and the community children in the study. In addition, Bakermans-Kranenburg and Van IJzendoorn (2009) note that the Whetten et al. study is incomparable with other studies on institutional care in two ways: 1) Whetten et al. included institutions with stable caregivers, while it is highly questionable whether stable and continuous caregiving is a common feature of institutional care (see e.g.,

Dobrova-Krol, Van IJzendoorn, Bakermans-Kranenburg, Cyr, & Juffer, 2008; Groark, Muhamedrahimov, Palmov, Nikiforova, & McCall, 2005); 2) The children in the Whetten et al. sample were relatively old - 6 to 12-year old - and one third of them had lived in institutional care for less than four years, whereas institutional care has been found to be especially detrimental in the first year(s) of children's life (see also Kaufman, Dozier, & Schauffer, 2009).

AIMS OF THE STUDY

The general aim of this study is to examine the development of children after international adoption, both empirically and meta-analytically. In our meta-analysis we studied children's attachment relationships with the adoptive parents. A central assumption in attachment theory is that children develop an attachment relationship during the first year of life, based on their daily interactions with caregivers (Bowlby, 1982). Whether children develop secure or insecure attachment relationships depends on the quality of care they receive: secure children appear to have sensitive, nurturing caregivers whereas insecure children usually have less sensitive caregivers (Ainsworth, Blehar, Waters, & Wall, 1978; De Wolff & Van IJzendoorn, 1997). Institutions can be classified into three levels based on their quality of care: (1) institutions characterized by global deprivation of health, nutrition, stimulation, and relationship needs; (2) institutions with adequate health and nutrition, but deprivation of stimulation and relationship needs; and (3) institutions that meet all needs except for stable relationships with consistent caregivers (Gunnar, Bruce, & Grotevant, 2000). This absence of stable and responsive caregivers is hypothesized to lead to a compromised attachment development, which has been confirmed in several studies in which high rates of insecure attachment were found in institutionalized children (Smyke et al., 2010; Vorria et al., 2003; Zeanah, Smyke, Koga, Carlson, & the BEIP group, 2005).

A transition to a more stable and responsive adoptive family environment may contribute to an increase in attachment security, but empirical research on attachment in adopted children is equivocal, with some studies reporting similar attachment security for adopted and non-adopted children (e.g., Joseph, 2002), whereas other studies report less attachment security in adopted children (e.g., O'Connor, Marvin, Rutter, Olrick, & Britner, 2003). To combine the outcomes of all available studies that focused on the attachment relationships of adopted children a meta-analysis was conducted. In this meta-analysis we contrasted the findings of different sets of studies (e.g., children adopted before 12 months of age versus children adopted after their first birthday) to determine relevant factors involved in the formation of the attachment relationships.

The empirical part of this thesis systematically examined and compared the development of former foster and post-institutionalized children in a short-term longitudinal design, in order to assess the hypothesized beneficial effects of pre-adoption foster care compared to pre-adoption institutional care. In addition, we compared both groups of children with respect to their adaptation to the new life in their adoptive family. To our knowledge, this is the first time that possible

differences between pre-adoption foster care and pre-adoption institutional care have been studied in a longitudinal design. In this study, 92 families who adopted an infant girl from China, aged between 11 and 16 months on arrival in the Netherlands, were visited at home and visited the university, two and six months after adoptive placement. In addition, the adoptive parent completed questionnaires about their family and the pre-adoption experiences of their adopted child (for example, months in institutional and/or foster care before the adoption) and their child's behavior (for example, indiscriminate friendliness). To study the development of the children over time, the assessments at the two and six-month visits were identical. Based on their pre-adoption care experiences, 50 children were classified as post-institutionalized children and 42 children were classified as former foster children.

OUTLINE OF THE THESIS

Chapter 2 of this thesis provides an overview of studies focusing on the attachment relationships of children with their adoptive parents and meta-analytically combines the outcomes of these studies. Chapter 3 addresses the question whether the physical growth, stress regulation, and cognitive and motor development differs between children adopted from foster care and children adopted from institutional care in China (and how these outcomes correspond to those of non-adopted children), and examines the adopted children's development over time. Chapter 4 reports on the social-emotional development of the adopted children and focuses on the question whether the former foster and post-institutionalized children differ from each other and from non-adopted children in attachment security and attachment disorganization, in their behavior towards their new parents (child responsiveness), and in their behavior towards strangers (indiscriminate friendliness). In Chapter 4 the role of the parental sensitivity is taken into account when studying the development of the children over time. In Chapter 5 the results of the studies are discussed and integrated, and implications for future research are presented.

REFERENCES

- Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. (1978). *Patterns of attachment: A psychological study of the strange situation*. Hillsdale, N.J.: Erlbaum.
- Bakermans-Kranenburg, M. J., & Van IJzendoorn, M. H. (2009, December 24). No evidence for orphanages being 'not so bad' [Msg 2]. Message posted to <http://www.plosone.org/annotation/listThread.action?inReplyTo=info%3Adoi%2F10.1371%2Fannotation%2F834fc617-1295-4273-bd59-83db7283034&root=info%3Adoi%2F10.1371%2Fannotation%2F834fc617-1295-4273-bd59-683db7283034>.
- Bowlby, J. (1982). *Attachment and loss (Vol. 1). Attachment* (2nd ed.). New York: Basic Books.
- De Wolff, M. S., & Van IJzendoorn, M. H. (1997). Sensitivity and attachment: A meta-analysis on parental antecedents of infant attachment. *Child Development, 68*, 571-591.
- Dobrova-Krol, N. A., Van IJzendoorn, M. H., Bakermans-Kranenburg, M. J., Cyr, C., & Juffer, F. (2008). Physical growth delays and stress dysregulation in stunted and non-stunted Ukrainian institution-reared children. *Infant Behavior & Development, 31*, 539-553.
- Dobrova-Krol, N. A., Van IJzendoorn, M. H., Bakermans-Kranenburg, M. J., & Juffer, F. (2010). Effects of perinatal HIV infection and early institutional rearing on physical and cognitive development of children in Ukraine. *Child Development, 81*, 237-251.
- Ebenstein, A. (2010). The "missing girls" of China and the unintended consequences of the one child policy. *The Journal of Human Resources, 45*, 87-115.
- Ebenstein, A., & Sharygin, E. J. (2009). The consequences of the "missing girls" of China. *The World Bank Economic Review, 23*, 399-425.
- Ghera, M. M., Marshall, P. J., Fox, N. A., Zeanah, C. H., Nelson, C. A., Smyke, A., et al. (2009). The effects of foster care intervention on socially deprived institutionalized children's attention and positive affect: results from the BEIP study. *Journal of Child Psychology and Psychiatry, 50*, 246-253.
- Grady, D. (2009, December 18). Study suggests orphanages are not so bad. *The New York Times*, p. A18.
- Greenhalgh, S. (1994). Controlling births and bodies in village China. *American Ethnologist, 21*, 3-30.
- Groark, C. J., Muhamedrahimov, R. J., Palmov, O. I., Nikiforova, N. V. & McCall, R. B. (2005). Improvements in early care in Russian orphanages and their relationships to observed behaviors. *Infant Mental Health Journal, 26*, 96-109.
- Gunnar, M.R., Bruce, J., & Grotevant, H.D. (2000). International adoption of institutionally reared children: Research and policy. *Development and Psychopathology, 12*, 677-693.
- Hesketh, T., Li, L., & Zhe, W. X. (2005). The effect of China's one-child family policy after 25 years. *The New England Journal of Medicine, 353*, 1171-1176.

- Juffer, F., & Van IJzendoorn, M. H. (2005). Behavior problems and mental health referrals of international adoptees: A meta-analysis. *JAMA - The Journal of the American Medical Association*, 293, 2501-2515.
- Johnson, D. E., & Gunnar, M. R. (2010). Growth failure in institutionalized children. In R. B. McCall, M. H. van IJzendoorn, F. Juffer, V. K. Groza, & C. J. Groark (Eds.), *Children without permanent parental care: Research, practice, and policy*. Submitted manuscript.
- Johnson, K. A. (2004). *Wanting a daughter, needing a son: abandonment, adoption, and orphanage care in China*. St. Paul, Minnesota: Yeong & Yeong Book Company.
- Joseph, S. R. (2002). The relationship between adopted young adults and their non-adopted siblings in the perceptions of current family relationships. *Dissertation Abstracts International*, 63 (03), 1550B (UMI No. 3045686).
- Kaufman, J., Dozier, M., & Schauffer, C. (2009, December 26). A look at children and orphanages. [Letter to the editor]. *The New York Times*, p. A22.
- Miller, L. C. (2005). *The handbook of international adoption medicine. A guide for physicians, parents, and providers*. Oxford: Oxford University Press.
- Miller, L. C., Chan, W. Comfort, K., & Tirella, L. (2005). Health of children adopted from Guatemala: Comparison of orphanage and foster care. *Pediatrics*, 115, 710-717.
- Miller, L. C., & Hendrie, N. W. (2000). Health of children adopted from China. *Pediatrics*, 105, 1-6.
- Ministry of Justice (2000). Statistische gegevens betreffende de opnemingsgezinnen in Nederland van buitenlandse adoptiekinderen in de jaren 1995-1999. [Statistical data on the inclusion of internationally adopted children in Dutch families in the years 1995-1999]. The Hague, The Netherlands: Ministry of Justice.
- Ministry of Justice (2009). Adoptie. Trends en analyse: Statistisch overzicht interlandelijke adoptie over de jaren 2004 tot en met 2008. [Adoption. Trends and analysis: Statistical overview of intercountry adoption during the years 2004 to 2008]. The Hague, The Netherlands: Ministry of Justice.
- National Population and Family Planning Commission in China (2009). Main Population Data in 2009, China. Retrieved April 5, 2010 from <http://www.npfpc.gov.cn/en/about/detail.aspx?articleid=100226103318203294>.
- Nelson, C. A., Furtado, E. A., Fox, N. A., & Zeanah, C. H. (2009). The deprived human brain. *American Scientist*, 97, 222-229.
- Nelson, C.A., Zeanah, C. H., Fox, N. A., Marshall, P. J., Smyke, A. T., & Guthrie, D. (2007) Cognitive recovery in socially deprived young children: The Bucharest Early Intervention Project. *Science*, 318, 1937-1940.
- O'Connor, T. G., Marvin, R. S., Rutter, M., Olrick, J. T., & Britner, P. A. (2003). Child-parent attachment following early institutional deprivation. *Development and Psychopathology*, 15, 19-38.
- Pomerleau, A., Malcuit, G., Chicoine, J. F., Seguin, R., Belhumeur, C., & Germain, P., et al. (2005). Health status, cognitive and motor development of young children adopted from China, East Asia, and Russia across the first 6 months after adoption. *International Journal of Behavioral Development*, 29, 445-457.

- Roessingh, M. (2009). Waarom China mij twee dochters schonk. Over bevolkingsbeleid en adoptie. [Why China offered me two daughters. About population policy and adoption]. Amsterdam: Uitgeverij Atlas.
- Rutter, M., & O'Connor, T. G. (2004). Are there biological programming effects for psychological development? Findings from a study of Romanian adoptees. *Developmental Psychology, 40*, 81-94.
- Selman, P. (2009a). From Bucharest to Beijing; changes in countries sending children for international adoption 1990 to 2006. In G. Wrobel, & E. Neill (Eds.), *International Advances in Adoption Research* (pp. 41-69). Chichester, England: John Wiley & Sons Ltd.
- Selman, P. (2009b). The rise and fall of intercountry adoption in the 21st century. *International Social Work, 52*, 575-594.
- Smyke, A. T., Zeanah, C. H., Fox, N. A., Nelson, C. A., & Guthrie, D. (2010). Placement in foster care enhances quality of attachment among young institutionalized children. *Child Development, 81*, 212-223.
- Stovall, K. C., & Dozier, M. (2000). The development of attachment in new relationships: Single subject analyses for 10 foster infants. *Development and Psychopathology, 12*, 133-156.
- Tan, X. T., Marfo, K., & Dedrick, R. F. (2007). Special needs adoption from China: Exploring child-level indicators, adoptive family characteristics, and correlates of behavioral adjustment. *Children and Youth Services Review, 29*, 1269-1285.
- Van IJzendoorn, M. H., Bakermans-Kranenburg, M. J., & Juffer, F. (2007). Plasticity of growth in height, weight and head circumference: Meta-analytic evidence of massive catch-up of children's physical growth after adoption. *Journal of Developmental and Behavioral Pediatrics, 28*, 334-343.
- Van IJzendoorn, M. H., & Juffer, F. (2006). The Emanuel Miller memorial lecture 2006: Adoption as intervention. Meta-analytic evidence for massive catch-up and plasticity in physical, socio-emotional, and cognitive development. *Journal of Child Psychology and Psychiatry, 47*, 1228-1245.
- Van IJzendoorn, M. H., Juffer, F., & Klein-Poelhuis, C. W. (2005). Adoption and cognitive development: A meta-analytic comparison of adopted and nonadopted children's IQ and school performance. *Psychological Bulletin, 131*, 301-316.
- Van IJzendoorn, M. H., Luijk, M. P. M. C., & Juffer, F. (2008). IQ of children growing up in children's homes: A meta-analysis on IQ delays in orphanages. *Merrill-Palmer Quarterly, 54*, 341-366.
- Van Londen, M., Juffer, F., & Van IJzendoorn, M. H. (2007). Attachment, cognitive, and motor development in adopted children: Short-term outcomes after international adoption. *Journal of Pediatric Psychology, 32*, 1249-1258.
- Vorria, P., Papaligoura, Z., Dunn, J., Van IJzendoorn, M. H., Steele, H., Kontopoulou, A., et al. (2003). Early experiences and attachment relationships of Greek infants raised in residential group care. *Journal of Child Psychology and Psychiatry, 44*, 1208-1220.

- Whetten, K. Ostermann, J., Whetten, R. A., Pence, B. W., O'Donnell, K., Messer, L. C., et al. (2009). A comparison of the wellbeing of orphans and abandoned children ages 6-12 in institutional and community-based care settings in 5 less wealthy nations. *PLoS ONE*, *12*, e8169.
- Zeanah, C. H., Nelson, C. A., Fox, N. A., Smyke, A. T., Marshall, P., Parker, S. W., et al. (2003). Designing research to study the effects of institutionalization on brain and behavioral development: The Bucharest Early Intervention Project. *Development and Psychopathology*, *15*, 885-907.
- Zeanah, C. H., Smyke, A. T., Koga, S., Carlson, E., & the BEIP Core Group (2005). Attachment in institutionalized and community children in Romania. *Child Development*, *76*, 1015-1028.
- Zhang, W. (2006). Child adoption in contemporary rural China. *Journal of Family Issues*, *27*, 301-340.
- Zhu, W. X., Li, L., & Hesketh, T. (2009). China's excess males, sex selective abortion, and one child policy: Analysis of data from 2005 national intercensus survey. *British Medical Journal*, *338*, b1211.

