

The Development and Care of Institutionally-Reared Children

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Abstract

This paper briefly summarizes the literature on elements of research, practice, and policy pertaining to the development and care of children raised in institutions. It covers the development of such children while they reside in institutions and after their transition to adoptive or foster families. Of special interest are attachment and indiscriminate friendliness, physical growth, neurobiological deficits, and sensitive periods. Early exposure of a year or two to a substandard institution is related to higher-than-expected rates of a variety of long-term neurological, physical, cognitive, and behavioral deficiencies and problems even in children subsequently reared in advantaged families. Countries that seek to transition from a reliance on institutions to family-care alternatives face a variety of unique challenges relating to prevailing historical, cultural, political, and financial circumstances of each country. While progress has been made, developing a child welfare system of family alternatives may take time in some countries.

The Development and Care of Institutionally-Reared Children

The contribution of early experiences to contemporary and long-term development is one of the most central questions for developmental sciences. Children reared in substandard institutions represent a naturally occurring population that has atypical early experience that has become the object of increasing study.

Numbers World Wide

Institutionalized children are a subset of children without permanent parents, a group that includes “true orphans” who do not have living parents, and “social orphans” who have at least one living parent who for a variety of reasons may be unable, unwilling, or unfit to rear the child.

Although accurate figures are impossible to obtain (Engle et al., in press), there are an estimated 163 million children in 93 countries without permanent parents (UNAIDS, UNICEF, USAID, 2004). The vast majority live in villages, kinship groups, refugee camps, on the street, and in a variety of other formal and informal care arrangements (Engle et al., 2009), but an estimated 2-8 million (Human Rights Watch, 1999; USAID, 2009) live in institutions, mostly in Eastern Europe, Latin America, Asia, and Africa. Although institutionalized children (typically living in orphanages, but sometimes in hospitals and other residential facilities) represent a small fraction of those without permanent parents, those reared in or adopted or fostered from such institutions have become the object of substantial study in recent years.

Characteristics of Institutions

Institutions vary from country to country, within countries, and over time in the physical, educational, and affective characteristics of the care they provide children. The few narrative and empirical published reports (Rosas & McCall, in press; Van IJzendoorn et al., in press) typically

pertain to orphanages for infants and young children. The group sizes tend to be large (9-16 children per ward, but sometimes up to 70), the children:caregiver ratio is high (e.g., 6-8 children per caregiver, although it is often much higher), children are grouped homogeneously by age and disability status, and they are “graduated” to new groups or institutions periodically when they reach certain developmental milestones or ages.

In addition, there are typically many different and changing caregivers per ward, and caregivers often work long shifts (up to 24 hours) and then are off for 1-3 days. For example, children in two Russian orphanages saw 60-100 different caregivers in the first 19 months of life and no caregiver today whom they saw yesterday or would see tomorrow (The St. Petersburg-USA Orphanage Research Team, 2008).

Finally, although there have been exceptions (e.g., Gavrin & Sacks, 1993; Vorria et al., 2003; Wolf & Fesseha, 1998), caregivers are frequently described anecdotally and empirically as being businesslike and perfunctory in performing their caregiving duties with little talking and minimal warm, sensitive, contingently-responsive interactions with children even in those settings in which the number of children per caregiver is relatively low (Vorria et al., 2003). This environment is in stark contrast to that of an ordinary family.

Children’s Development

Not surprisingly, children reared in institutions are substantially developmentally delayed, with potentially life-long consequences.

Children Residing in Institutions

Children living in institutions around the world average more than one standard deviation below levels expected of non-institutionalized children with respect to their physical growth, cognition, and general behavioral development, and attachment and social-emotional

development are mostly disorganized and delayed (Johnson & Gunnar, in press; Van IJzendoorn et al., in press; Van IJzendoorn, Bakermans-Kranenburg, & Juffer, 2007). But the variation is substantial; although some develop within typical ranges, it is not uncommon to find children averaging two standard deviations below the mean, with 40%-50% of institutionalized children below the tenth percentile of parent-reared children (The St. Petersburg-USA Orphanage Research Team, 2005; McCall, Groark, Fish, Harkins, Serrano, & Gordon, 2010).

Post-Institutionalized Children Placed in Families

Post-institutionalized (PI) children who have been adopted by typically advantaged parents (for a review see Palacios & Brodzinsky, 2010) display immediate and substantial catch-up in terms of physical growth (height, weight, and to a lesser extent head circumference), attachment, and cognitive and behavioral development as measured by standardized assessments (Juffer et al., in press; Van IJzendoorn & Juffer, 2006). This catch-up growth provides retrospective testimony to the developmentally depressing character of the institutions relative to family care.

But catch-up is not always complete with respect to general indices of social and behavioral development and especially attachment (Van den Dries, Juffer, Van IJzendoorn, & Bakermans-Kranenburg, 2009) and specific cognitive and behavioral problems (Gunnar, 2001; Juffer & Van IJzendoorn, 2005; MacLean, 2003; Pollak et al., 2010; Rutter et al., 2010).

Although most PI children develop quite typically after entering a family, those exposed to institutions for a longer period of time display higher rates of relative deficiencies and problems in several domains and more multiple problems (Hawk & McCall, 2011; Rutter et al., 2010) than would be expected of non-institutionalized children residing in the PI children's adoptive society or country of origin.

Specifically, even after spending years in an advantaged adoptive family, PI children may be slightly undersized physically and score slightly below expectations on general mental tests; they can exhibit a variety of executive functioning deficiencies (e.g., problems with attention, activity, short-term working memory, cognitive inhibition, rule following and rule changing, planning); attachment, relationship, and social engagement problems; and a variety of internalizing and externalizing behavior problems, especially in middle childhood and adolescence. At least one review (Julian, 2009) and a large longitudinal study (Van der Vegt, Van der Ende, Ferdinand, Verhulst, & Tiemeier, 2009) suggest that these problems do not simply represent an extremely troublesome adolescent period but persist in one form or another into adulthood.

Institutional Exposure or Other Factors?

Research in this area is predominantly non-experimental, so technically the delayed development of children within institutions and the higher rates of long-term deficiencies cannot be attributed unequivocally to institutional rearing. Undoubtedly, genetics, prenatal conditions (e.g., maternal exposure to drugs, alcohol, and other teratogens), birth complications (e.g., low birth weight, poor Apgar scores, lung immaturity), and pre-orphanage experience (e.g., birth hospital, an abusive/neglectful family) all have the potential to produce these developmental outcomes (Van IJzendoorn et al., in press; Juffer et al., in press). Further, these potentially confounding conditions are known to occur at higher-than-expected rates in at least some institutional populations (The St. Petersburg-USA Orphanage Research Team, 2005; Van IJzendoorn et al., in press).

Nevertheless, the preponderance of circumstantial evidence indicates that institutional experience contributes substantially to these concurrent and persistent developmental deficiencies (McCall, in press; Rutter et al., 2007). The most prominent evidence includes: 1) the uniformly delayed development of institutionalized children and their substantial catch-up growth in every domain after placement in family care despite variations in institutions and families; 2) a dose-response effect that is observed for time in the orphanage; and 3) intervention studies demonstrating profound improvement in children's development when the institutional environment is improved (The St. Petersburg-USA Orphanage Research Team, 2008) or children are randomly assigned to foster care (Bakermans-Kranenburg, Van IJzendoorn, & Juffer, 2008; Nelson, Furtado, Fox, & Zeanah, 2009).

Specific Developmental Problems and Issues

Several specific issues have been studied with particular vigor because of their broader theoretical and practical implications.

Attachment and Indiscriminate Friendliness

Although much of the literature is descriptive, attachment theory has provided one source of theoretical guidance regarding the long-term effects of early social-emotional and relationship deficiencies experienced by most institutionalized children (Bakermans-Kranenburg et al., in press). Indeed, six studies (Van IJzendoorn et al., in press) assessing the attachment of institutionalized children to their favorite caregiver using the Strange Situation Procedure or modifications of it indicate that on average 73% of institutionalized children display insecure disorganized attachment behavior, that is, an incoherent – fear without solution – strategy to separation and reunion with an attachment figure (Main & Hess, 1990). This is not surprising

given the typically neglectful environments and the lack of sensitive, responsive interactions with changing and inconsistent caregivers that most of these children experience.

Children living in institutionalized settings also show more indiscriminately friendly behavior than non-institutionalized children (Bakermans-Kranenburg et al., in press). Whereas for family-reared children apprehension about strangers is the norm, for institutionalized children a friendly approach to any adult willing to pay attention may enhance their chances of being cared for and actually promote positive caregiving (Chisholm, 1998). However, PI children who are adopted then present a more complicated picture (Bakermans-Kranenburg et al., in press). While most PI children become attached to their adoptive parent, some are simultaneously indiscriminately friendly to strangers (Bruce, Tarullo, & Gunnar, 2009; Rutter et al., 2007). It is not clear why indiscriminately friendliness persists in some PI children.

Psycho-Social Growth Failure

It is not widely appreciated that inadequate social-emotional and caregiver-child relationship environments can produce deficiencies in physical growth, a phenomenon called psycho-social growth failure (Johnson & Gunnar, in press). This phenomenon is supported by evidence that children in institutions that apparently provide adequate general nutrition and medical care are nevertheless undersized, and children show substantial catch-up growth when they leave the institution especially before 1-2 years of age (Van IJzendoorn et al., 2007). Further, growth can be improved if the psycho-social environment of the orphanage is improved without changing nutrition (The St. Petersburg-USA Orphanage Research Team, 2008) or if foster care is provided in a randomized trial (Johnson et al., 2010).

But psychosocial growth failure does not mean nutrition is irrelevant to institutional children's development. Even in orphanages that provide adequate macronutrients, children may

be undernourished in specific elements (e.g. iron) through dietary insufficiency or infection with parasites that diminish absorption or promote loss (Johnson & Gunnar, in press). Iron deficiency can persist even post-adoption after switching the child to a nutritious diet due to high iron demands for expanding red blood cell mass to accommodate catch-up growth. Thus, children with psychosocial growth failure may also experience relatively prolonged iron deficiency, which opens the possibility of subsequent cognitive and behavioral deficiencies typically associated with iron deficiency. Other micronutrients critical for brain development (e.g., zinc, copper, selenium, iodine) could be implicated in similar scenarios but are as yet understudied.

Another apparent consequence of psycho-social deprivation in PI girls and to a lesser extent in boys is much higher rates of early puberty (Johnson & Gunnar, in press), even when compared to non-PI children of the same ethnicity (Teilmann, Petersen, Gormsen, Damgaard, Skakkebaek, & Jensen, 2009). There are no studies comparing early vs. typical age at menarche PI girls and their longer-term behavioral problems; but among non-PI girls in western cultures, early puberty is related to higher rates of mental health problems, especially depression, earlier sexual activity, and more externalizing symptoms – all characteristics that occur at higher rates among PI children.

Neurobiological Costs of Institutionalization

Recently, PI children have been studied from a neurobiological perspective (Nelson, Bos, Gunnar, & Sonuga-Barke, in press), and the neurobiological evidence at least parallels the behavioral outcomes observed at higher rates in PI children.

Specifically, relative to family-reared children, as a group there is less metabolic, physiological, and neuro-chemical activity in the brains of mid-childhood-aged PI children, and there is abnormal development of the prefrontal cortex and amygdala. These regions are

typically associated in non-PI children with higher cognitive functions, memory, and emotion, and some studies show PI children with these brain deficiencies tend to have mild impairments of impulse control, attention, and social relations. These deficiencies may also be related to PI children's problems in inhibitory control, emotional regulation, and executive functioning, especially connecting separate aspects of the environment in thought (Nelson et al., in press). For example, the amygdala is sensitive to early negative or stressful experiences, such as abuse and neglect, and an atypical amygdala might be related to diminished or more extreme emotional responses to stress and threat, which in turn could be hypothesized to underlie a variety of internalizing and externalizing behavior problems that tend to be intercorrelated (Hawk & McCall, 2011).

Sensitive Period(s)

A crucial question is whether there is a sensitive age period during which exposure to a deficient institution produces the maximum developmental damage (Zeanah, Gunnar, McCall, Kreppner, & Fox, in press). Of course, the crucial experimental studies cannot be conducted, and most children enter the institution at a very early age and leave at varying ages, thus confounding time in the institution with specific ages and total duration of exposure. Consequently, the question is not answered definitively, but exposure for several months during the first two years of life is potentially sufficient to produce the higher rates of long-term problems that have been observed in PI children.

At least two lines of evidence converge on this proposition (Zeanah et al., in press). First, substantial research shows that long-term problems are more frequent in later-adopted PI children, and conversely, developmental catch-up and developmental improvements are greater when children are transitioned to families earlier. Second, several studies have investigated

children adopted at several different ages during the first three years of life, and these studies show a variety of long-term adverse outcomes (i.e., multiple problems and problems with behavior, executive functioning, and social skills) to be a step function of age at adoption. That is, children adopted at ages before the step have rates of problems at the same level as family-reared never-institutionalized children; then rates of problems increase precipitously, and the rates do not increase further with longer exposure to the institution.

However, the age at which the step occurs depends on several factors, including the severity of the orphanage experience and the specific outcome variable and its measurement. Children adopted from the severely and globally depriving Romanian orphanages in the 1990s show a step-like increase in risk for multiple long-term problems sometime around 6 months (Kreppner et al., 2007; Stevens et al., 2008). Children from psychosocially depriving Russian orphanages have a step function sometime around 18 months for several parent-reported problem behaviors, executive functioning, and social skills that are reported predominantly for adolescents (Hawk & McCall, 2011; Julian, 2010; Merz & McCall, 2010a, 2010b). For children adopted from various countries around the world including a large number from China (thought to be from better circumstances), the step function may occur sometime around the second birthday (Gunnar, Van Dulmen, and the IAP Team, 2007; Merz & McCall, 2010a). Further, studies suggest that children first entering the orphanage after 2 years of age may have fewer such problems (Lee, Seol, Miller, Sung, & Minnesota International Adoption Project Team, 2010; McKenzie, 1997, 2003; Vorria, Rutter, Pickles, Wolkind, & Hobsbaum, 1998).

Studies revealing step functions of age at adoption are individually consistent with a sensitive period hypothesis, but the pattern across studies consisting of an earlier age at the step with exposure to more severely depriving institutions suggests a cumulative exposure hypothesis

and possible epigenetic interpretations. In any case, these results imply that some duration of exposure to the institution is necessary to increase risk, but the effects may well be observed after as little as 6+ months in very severely depriving orphanages and within the first two years for many other institutions. This result implies that children should be transitioned out of institutions as soon as possible, because any specific institution will not know what length of exposure is too long.

What Should Be Done?

The research provides practitioners and policy makers with a few simple and profound conclusions: 1) Most institutions are not supportive of children's development and may produce long-term, perhaps permanent impacts on children's brains and their physical, cognitive, and social-emotional development; 2) these consequences can be disruptive and expensive for societies; 3) every effort should be made to avoid placing children in institutions in the first place and to transition children out of institutions as early in their lives as possible because damage can occur early and after relatively short exposure; and 4) adoptive, foster, and other family-type arrangements are better for children's development than most institutions.

There is no question that on average family alternative-care environments are better and cheaper long-term than institutions, but efforts to implement modern child welfare systems of family-care alternatives in the countries of the world that still rely on institutions face a variety of challenges (Groza, Bunkers, & Gamer, in press; Engle et al., in press).

For example, there may be long-standing historical, cultural, social, political, or religious hesitation or resistance of parents to rear someone else's child. This, coupled with insufficient financial means, can make it difficult to recruit enough domestic adoptive or foster parents. Financial systems need to be changed to provide incentives and adequate support to birth, kin,

foster, and adoptive parents. Many children may not be eligible for family care in some countries because they are not documented (no birth certificates) or are not legally relinquished, and children with special needs or disabilities and older children, especially those with behavior problems, are often not desired by such parents. Nevertheless, children are now adopted domestically at higher rates in some countries than in the past (e.g., in Brazil, India, China), and traditionally hard-to-place children are also being taken into domestic family care more frequently (e.g., girls in China and India) (Selman, 2009).

A burning issue of the 21st century is how to provide adequate care to the numerous children affected by the HIV/AIDS pandemic. Alternative solutions to institutional care, such as kinship care, may rise to meet the challenge or fall apart when financial resources are very limited or traditional extended family networks unravel because of this pandemic (Engle et al., in press).

Further, many children in institutions have at least one parent; but there is often a reason why that parent placed the child in the institution, and professional services and community-based support for such parents to keep their children or to have children restored to them are often lacking. Building the professional infrastructure to select, train, support, and provide services to such parents is likely to take many years.

Finally, although intercountry adoption provides excellent homes for institutionalized children, it should be regulated strictly and carefully according to the Hague Convention on Intercountry Adoption (Hague Adoption Convention, n.d.). Based on this convention, financial gains in intercountry adoption and illegal child trafficking should be banned. Importantly, to safeguard increasing possibilities for domestic family-care alternatives, the subsidiarity principle should be followed. This principle implies that it is a country's first priority to try to place the

child in the birth family or in kinship care, and if that is not possible, in domestic adoption, foster care, or kaffala (Islamic guardianship). Only when a family cannot be found within the country does intercountry adoption become an acceptable alternative.

In practice, if a country has substantial political will, leadership, financial resources, a well-conceived long-term plan, and few of the above-mentioned challenges, a professional child welfare system of family care alternatives could be put into practice in a few years. Even so, sometimes progress can be slow. In Ukraine, for example, there was political will, administrative commitment, and resources, but after five years of intensive effort, only 5,000 children were placed in foster care while 45,000 children remained in orphanages (Groark, McCall, & Li, 2009).

Thus, in many countries, unfortunately, large numbers of children are likely to remain in institutions in the foreseeable future, even when progress is being made toward creating family-care alternatives. Further, older children and children with disabilities or HIV/AIDS, who are often less preferred by parents, are likely to constitute an increasing proportion of the remaining institutional population.

Of course, research shows that institutions can be improved, and the development of both typical children and those with disabilities can be raised substantially (The St. Petersburg-USA Orphanage Research Team, 2008). Advocates, however, feel that improving institutions sometimes represents a simpler solution for a country than developing a comprehensive child welfare system and would divert attention and funds from developing family alternatives that are more in the children's best interest. But, importantly, since family care alternatives are generally cheaper, the savings could be used to improve the institutions in which the remaining children live. In the end, each country will need to develop a system consistent with its own values,

resources, culture, and practices, and some countries and non-governmental organizations have developed rather unique approaches to solving this issue (Engle et al., in press; Groza et al., in press).

The research convincingly suggests that children should either not be placed in institutions or removed from institutions as early as possible. Nations would do best for these children and their societies to develop community-based services to support birth parents and their extended families to keep their children while at the same time modernizing child welfare systems to create alternative family-care environments such as foster care, kaffala, and adoption. However, it is likely that developing a system of family care will take time and many children will remain in institutions for some years, so countries should improve the institutions for infants and young children first, but simultaneously aim to improve family care and other rearing for all children – all ages and genders, with and without disabilities, and all racial/ethnic origins.

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Footnote

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