



Language development of internationally adopted children: Adverse early experiences outweigh the age of acquisition effect



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ABSTRACT

We compared English language and cognitive skills between internationally adopted children (IA; mean age at adoption = 2.24, $SD = 1.8$) and their non-adopted peers from the US reared in biological families (BF) at two time points. We also examined the relationships between outcome measures and age at initial institutionalization, length of institutionalization, and age at adoption. On measures of general language, early literacy, and non-verbal IQ, the IA group performed significantly below their age-peers reared in biological families at both time points, but the group differences disappeared on receptive vocabulary and kindergarten concept knowledge at the second time point. Furthermore, the majority of children reached normative age expectations between 1 and 2 years post-adoption on all standardized measures. Although the age at adoption, age of institutionalization, length of institutionalization, and time in the adoptive family all demonstrated significant correlations with one or more outcome measures, the negative relationship between length of institutionalization and child outcomes remained most robust after controlling for the other variables. Results point to much flexibility and resilience in children's capacity for language acquisition as well as the potential primacy of length of institutionalization in explaining individual variation in IA children's outcomes.

Learning outcomes: (1) Readers will be able to understand the importance of pre-adoption environment on language and early literacy development in internationally adopted children. (2) Readers will be able to compare the strength of the association between the length of institutionalization and language outcomes with the strength of the association between the latter and the age at adoption. (3) Readers will be able to understand that internationally adopted children are able to reach age expectations on expressive and receptive language measures despite adverse early experiences and a replacement of their first language with an adoptive language.

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1. Introduction

Although language development in internationally adopted (IA) children has been a subject of a considerable amount of research in developmental psychology and psycholinguistics, this topic has not received as much attention in the field of communication disorders, even though studying language development in this population, particularly children adopted post-infancy, can illuminate some important issues critical for understanding the role of environmental factors in language acquisition. One central issue regarding international adoption involves age of adoption as an important factor determining the level of language children can ultimately attain post-adoption. IA children experience an abrupt interruption of the first language (L1) input and its sudden replacement with input in another language, which leads to arrested development and rapid loss of L1 – with most expressive use of L1 lost within 6–12 weeks and most receptive abilities lost within 16–22 weeks post-adoption in children adopted between the ages of 3–4 years (Glennen, 2002; Hyltenstam, Bylund, Abrahamsson, & Park, 2009; Pallier et al., 2003; Scott, Roberts, & Glennen, 2011; Ventureyra, Pallier, & Yoo, 2004). On the other hand, IA children experience a rapid surge in the acquisition of the adoptive language and become monolingual in it, with this “second L1” replacing the language they had been acquiring since birth rather than being added to it, as is the case for simultaneous or sequential bilinguals.

The term “second L1” implies that the mechanisms at play in the acquisition of the adopted language are more similar to monolingual L1 than to sequential L2 acquisition. However, in contrast to monolingual L1 acquisition, in this case, the onset of acquisition is delayed and commences after the child has passed through several critical maturational changes, which control early language development and involve precise timing and continuity with subsequent language development. For example, during the first year of life, children’s linguistic system is thought to undergo maturationally and experientially controlled changes from universalist to perceptually tuned to the language-specific properties of their ambient language, shown to be related to subsequent language development (Kuhl, 2010; Kuhl et al., 2008). Thus, by the age of 12 months, children experience a decline in foreign-language consonant discrimination, an increase in native consonant discrimination, and become sensitized to the statistical information in their linguistic input, using it as cues for speech segmentation, word learning, and grammar building (Arciuli & Torkildsen, 2012; Kuhl et al., 2006; Maye, Werker, & Gerken, 2002).

It is not fully known what effect starting this process anew in the second or third year of life has on language development. Some work has suggested that there, in fact, exists a “very early critical period” leading to persistent gaps in the level of language skills, measured in the adoptive language, between IA and their biological family raised non-adopted peers (Deltenserie & Genesee, 2014a; Deltenserie, Genesee, & Gauthier, 2013; Gauthier & Genesee, 2011). More specifically, a series of studies by Genesee and colleagues followed a group of children from China adopted into French-speaking families and found that the children persistently lagged behind their non-adopted peers reared by their biological families on measures of language development, as late as 8 years post-adoption. It was hypothesized that children’s language development was negatively affected by the delayed exposure to the second L1 (or perhaps was due to the interaction between children’s first and the second L1s), with verbal short-term memory suggested to be at the core of their linguistic vulnerability.

Consistent with this hypothesis, multiple studies reported that IA children adopted after 12 months of age exhibit lower levels of language development in their adoptive language than their non-IA peers raised in biological families or IA children adopted in early infancy (Glennen & Masters, 2002; Loman, Wiik, Frenn, Pollak, & Gunnar, 2009). IA children adopted after the age of 12 months were also shown to have a substantially higher than average incidence of speech and language disorders, ranging between 30% and 40% in most studies (Glennen, 2002) and in some studies reaching as high as 64% (Beery & Francis, 2011).

At the same time, multiple studies of language development in IA children have reported a massive catch-up, particularly by the time they reach school age (Scott, 2009) and attain a level of language development only slightly below their non-IA peers ($d = -.09$), as estimated from 14 studies with 15,000 participants (van Ijzendoorn & Juffer, 2006b). In a recent longitudinal study (Glennen, 2014), when measured three years post adoption, the percentage of children with language or speech delays in a sample of IA children adopted from Eastern Europe matched population estimates. The most recent meta-analysis (Scott et al., 2011) reported an overall significant difference of medium magnitude ($g = -.44$) between IA children and their peers growing up in biological families in the adoptive country. Thus, studies investigating language outcomes of IA children report variable results, and it remains an important research goal to understand what factors moderate language outcomes in this population.

Studies that specifically looked for an association between language development and the age at adoption also have reported mixed results. Thus, some studies documented a negative relationship between the two (Glennen & Masters, 2002; Melàs, Kvello, & Dalen, 2013), whereas others did not find a relationship between the age at adoption and language development (Glennen, 2014, 2015). In a recent meta-analysis (Scott et al., 2011), the overall effect of the age at adoption on language attainment was significant, but small ($g = -0.29$), and when analyzed separately for three age-at-adoption groups (for children adopted at 12 months or less, 13–14 months, and 25–35 months), the effect was small ($g = -.24$, $-.35$, and $-.29$, respectively) and not significant for any group. In the longitudinal study by Glennen (2014), while children adopted at ages 1 and 2 reached age expectations on expressive and receptive language measures more quickly than children adopted at ages 3 and 4, by three years post-adoption, test scores were no longer significantly different across age-of-adoption groups. Thus, even though there is a documented “earlier-is-better” trend with respect to the relationship between the age at adoption and language outcomes, the findings remain inconclusive.

As the age at adoption may be viewed as an index of the delay in the onset of the acquisition of adopted language, a negative relationship between the former and language attainment would be consistent with the Critical Period Hypothesis

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