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ScienceDirect
Journal of Memory and Language 58 (2008) 998–1011
Journal of Memory and Language
www.elsevier.com/locate/jml

Salvaging a childhood language

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Received 6 December 2006; revision received 2 November 2007
Available online 4 March 2008

Abstract

Childhood experience with a language seems to help adult learners speak it with a more native-like accent. Can analogous benefits be found beyond phonology? This study focused on adult learners of Spanish who had spoken Spanish as their native language before age 7 and only minimally, if at all, thereafter until they began to re-learn Spanish around age 14 years. They were compared with native speakers, childhood overhearers, and typical late-second-language (L2)-learners of Spanish. Both childhood speakers and overhearers spoke Spanish with a more native-like accent than typical late-L2-learners. On grammar measures, childhood speakers—although far from native-like—reliably outperformed childhood overhearers as well as typical late-L2-learners. These results suggest that while simply overhearing a language during childhood could help adult learners speak it with a more native-like phonology, speaking a language regularly during childhood could help re-learners use it with more native-like grammar as well as phonology.

Keywords: Childhood language; Language acquisition; Phonology; Morphosyntax; Grammar; Spanish

Childhood language experience seems special. Without childhood exposure to a language, we generally cannot fully master it even if massive input is available later. Indeed, late language learners typically find phonology (e.g., Flege, 1987, 1991; Oyama, 1976) and morphosyntax difficult to master (e.g., Newport, 1990; but cf. Flege, Yeni-Komshian, & Liu, 1999). By contrast, if children's immersion in a language begins by age four or five years, they can often pass as native speakers, except perhaps when scrutinized by experts (Flege & Eefting, 1988; Williams, 1977, 1980).

What would happen if a child started out speaking one language, then switched to speaking another language almost exclusively, using the first language only sparingly if at all thereafter? In one study, adults who had been adopted from Korea to France as monolingual Korean children between ages three and eight years seemed unable to access their childhood language memory. They could neither discriminate among certain Korean speech sounds (Ventureyra, Pallier, & Yoo, 2004) nor identify Korean sentences from a series of sentences in unfamiliar languages (Pallier et al., 2003), performing

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doi:10.1016/j.jml.2007.11.001

just like native French speakers never exposed to Korean. Moreover, adoptees' event-related fMRI brain activation patterns revealed no signs of recognition of Korean: their patterns did not differ while listening to Korean *vs*. a completely unfamiliar language, and their patterns for French *vs*. Korean looked just like those of native French speakers (Pallier et al., 2003). Dramatic and rapid first-language loss has also been documented in other studies of international adoption (e.g., Isurin, 2000; Nicoladis & Grabois, 2002).

Several case studies, however, suggest that childhood languages apparently can become accessible under age-regressed hypnosis (e.g., Ås, 1962; Au & Romo, 1997; Fromm, 1970). In each case, an adult or young adolescent managed to speak and answer simple questions in a childhood language, although in his normal alert state he understood little of the childhood language and perhaps was not even aware that he used to speak it. Such cases hint that early childhood language memory can last for many years, although retrieving it may require drastic means such as hypnosis. Research on aphasia in bilinguals has also uncovered tacit memory of childhood languages (e.g., Paradis, 2004).

Measurable benefits of childhood language memory have also been found in adults who, unlike participants of Pallier and colleagues' adoptee studies, grew up living with their biological families and had continued, albeit very minimal, exposure to their heritage language. For instance, English-speaking adults who had heard Hindi regularly only before age two could distinguish among difficult Hindi consonants much better than novice adults (Tees & Werker, 1984). Analogous benefits in speech sound perception were observed for Korean–American adults who had heard Korean regularly before age 6 (Oh, Jun, Knightly, & Au, 2003). Childhood language experience also seems to have lasting benefits for speech production. Adult learners of Spanish who had overheard Spanish regularly only before age 7 spoke it with a more native-like accent than those without such experience, and this advantage was evident by both acoustical analyses and native-speaker accent ratings (Au, Knightly, Jun, & Oh, 2002; Knightly, Jun, Oh, & Au, 2003). Adult re-learners of Korean who had spoken Korean regularly only as young children had an analogous advantage over adult novice learners for both production and perception of Korean speech sounds (Oh et al., 2003).

Beyond documenting lasting benefits of childhood language experience, these studies also highlight naturally occurring subtypes of such experience. For instance, some have spent enough time around native speakers to learn to speak a heritage language as their dominant or only language during their early years (i.e., childhood speakers); others have had too little exposure to native speakers to learn to speak the language (e.g., only a few hours each week), but the exposure they did have was quite regular (e.g., childhood hearers). Comparing such subtypes could enrich our understanding of the impact of childhood language experience (e.g., Kondo-Brown, 2005). That is exactly what we did in our study of adult re-learners of Korean (Oh et al., 2003), and both acoustical analyses and native-speaker accent ratings revealed that childhood speakers sounded more native-like than childhood hearers, who did not sound reliably better than the novice learners in their Korean class. The comparison between childhood speakers and childhood hearers helps us focus on probable benefits of speaking Korean during childhood (e.g., helping adult re-learners speak the language with a more native-like accent).

We further focused on a sub-sample of childhood speakers who spoke no Korean or virtually no Korean (i.e., no more than short Korean phrases or isolated words) beyond age 6 years, which is when childhood hearers' exposure ended in that study. Importantly, this sub-sample of childhood speakers still sounded reliably more native-like than the novice learners, whereas the childhood hearers did not. However, unlike the full sample, they no longer had a clear advantage over childhood hearers. It seems, then, that speaking a language during childhood helps adults learn to speak the language later with more native-like phonology, but how much it helps may depend on how long they spoke it as children.

Together, our studies of adult re-learners of Spanish and Korean have documented measurable benefits of childhood language experience for phonology (Au et al., 2002; Knightly et al., 2003; Oh et al., 2003). In our present study, we looked for analogous benefits for grammar. There is some evidence that such benefits, if any, are smaller (e.g., Flege et al., 1999). Still, like phonology, basic morphosyntax is readily acquired by children but seems difficult to master by adult learners (e.g., Newport, 1990; Snow & Hoefnagel-Hohle, 1978). It is therefore a good candidate for revealing any lasting benefits of childhood language experience. We did not assess morphosyntax in our earlier study of childhood hearers and speakers of Korean (Oh et al., 2003). We did assess the Spanish morphosyntax of childhood overhearers but did not find any measurable benefits (Au et al., 2002; Knightly et al., 2003). In this study, we will compare childhood speakers and childhood hearers to hunt for possible benefits of speaking a language during early childhood, especially in the domain of grammar.

Methods

Participants

Using a detailed language-background questionnaire and follow-up interview, we screened about 200 undergraduate students enrolled in second-year college-level