# Research Article

## OVERHEARING A LANGUAGE DURING CHILDHOOD

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**Abstract—***Despite its significance for understanding of language acquisition, the role of childhood language experience has been examined only in linguistic deprivation studies focusing on what cannot be learned readily beyond childhood. This study focused instead on long-term effects of what can be learned best during childhood. Our findings revealed that adults learning a language speak with a more nativelike accent if they overheard the language regularly during childhood than if they did not. These findings have important implications for understanding of language-learning mechanisms and heritage-language acquisition.*

The prevailing wisdom is that children cannot learn a language by merely overhearing it (Pinker, 1994; Rice, 1983; Sachs, Bard, & Johnson, 1981; Snow et al., 1976). Yet little is known about what might best reveal the effects of childhood overhearing, namely, later acquisition of an overheard language. Finding such effects would benefit current understanding of language-learning mechanisms (Au & Romo, 1997).

Consider the timing of input. If deprived of early linguistic input, children generally do not fully acquire a language—especially its phonology and morphosyntax—even when input is available later (e.g., Curtiss, 1977; Flege, 1987; Flege, Yeni-Komshian, & Liu, 1999; Johnson & Newport, 1989; Newport, 1990; Oyama, 1976). This implies that language learners can best make use of relevant input during certain maturational states. Despite its significance, input timing has thus far been investigated only in linguistic deprivation studies focusing on what cannot be learned readily beyond childhood. The study of childhood overhearing reported here constitutes a first step in exploring long-term effects of what can be learned readily during childhood. Specifically, it explored whether adults learning a language would have more nativelike mastery of its phonology and morphosyntax if they overheard the language regularly during childhood than if they did not.

This study also has applied implications. Although there are advantages to being bilingual (e.g., Taylor, Meynard, & Rheault, 1977), raising bilingual children in a predominantly monolingual environment such as the United States is not easy (Taylor, 1987; Wong-Fillmore, 1991). Is there any point for bilingual parents so situated to try? If childhood experience with a language—even if incomplete or discontinued—turns out to help older learners master that language, the answer would be "yes" after all. It would then also make sense for policymakers to allocate more resources to language programs for young children.

Our study focused on phonology and morphosyntax because these aspects of language seem easy for children to acquire and difficult for adults to master. They are therefore good candidates for revealing long-term effects of childhood overhearing.

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## PHONOLOGY

Much can be learned from hearing a language. Hearing the ambient language helps preverbal infants learn about its characteristic intonational and rhythmic patterns (Dehaene-Lambertz & Houston, 1998; Mehler, Dupoux, Nazzi, & Dehaene-Lambertz, 1996). Although all newborns seem alike in how they categorize speech sounds, they learn to group distinct speech sounds into consonants and vowels that are relevant to their ambient language during their first year of life (Eimas, Siqueland, Jusczyk, & Vigorito, 1971; Jusczyk, 1997; Kuhl & Iverson, 1995; Werker & Tees, 1984). Once acquired, such perceptual categories appear to persist even years after exposure to the language has ended (e.g., because of emigration; Tees & Werker, 1984).

But becoming a native listener is one thing; passing oneself off as a native speaker (even only in accent) is another. This chasm may appear wider than it is, however. Improving perception could improve production because accurate speech perception may help language learners modify their speech to emulate native speakers (Best, 1994; Flege, 1995; Kuhl & Meltzoff, 1982). Indeed, an intensive training regimen designed to help Japanese adults hear /r/ and /l/ in English accurately improved not only their perception, but also their production of these consonants (Bradlow, Pisoni, Akahane-Yamada, & Tohkura, 1997); such improvements were still evident 3 months after training (Bradlow, Akahane-Yamada, Pisoni, & Tohkura, 1999). Thus, overhearing a language during childhood might help adults learn to speak that language with a more nativelike accent, even if they start learning it in earnest well past childhood.

To test this idea, we compared adult learners of Spanish who had overheard Spanish regularly during childhood with those who had no regular exposure to Spanish until around age 14. If childhood overhearing has measurable benefits for an adult learner's Spanish accent, the childhood overhearers should sound better than the typical late second-language (L2) learners. We also compared these two groups with native Spanish speakers to see how nativelike they sounded. We should note one caveat: "Pure" overhearers are difficult to find. The overhearers in our study typically could say some words and commonly used phrases in the overheard language. Fortunately, the typical late L2 learners in this study could also do this because they had been living in a city with a substantial Latino presence (Los Angeles). We nonetheless assessed all participants' childhood speaking experience to get more systematic information.

### Method

#### *Participants*

Using a detailed language-background questionnaire and follow-up interview, we screened approximately 200 college students enrolled in 2nd-year Spanish language classes. We identified 11 childhood overhearers and many typical late L2 learners. The childhood overhearers reported that they had overheard informal Spanish spoken by native speakers for at least several hours ($M = 9.3$ hr, $SE = 3.7$ hr) each week for at least 3 years between birth and age 6; such overhear-

  

ing experience became less frequent afterward (e.g., $M = 3.7$ hr/week, $SE = 1.2$ hr/week between ages 6 and 12). They had spoken and had been spoken to in Spanish minimally (e.g., occasional Spanish words or short phrases embedded in English utterances) until they started taking Spanish classes around age 14.

The typical late L2 learners had minimal exposure (i.e., spending less than an hour each week around someone who uttered at most isolated Spanish words or short phrases) or had no regular exposure to Spanish until they started taking Spanish classes around age 14. Twelve typical late L2 learners were randomly selected within the constraints that they match our overhearer sample roughly in both gender composition and the Spanish instructors to which they were assigned. All of the overhearers and typical late L2 learners were enrolled in a 2nd-year Spanish class at the University of California, Los Angeles; none had been regularly exposed to any language other than English and Spanish. The two groups did not differ reliably in the mean number of years of Spanish classes in either high school (3.8 and 4.5 years, respectively) or college (0.66 and 0.75 year). Ten native speakers of Spanish were also recruited from the same university to serve as another comparison group.[1] The mean age and gender composition were 21.7 years and 70% women for the native speakers, 19.7 years and 82% women for the overhearers, and 18.9 years and 67% women for the typical late L2 learners. Written informed consent was obtained from all participants.

Self-reports of childhood Spanish experience corresponded well with reports from independent informants.[2] For additional corroboration, we assessed the participants' knowledge of childhood slang in Spanish. Because childhood slang is typically used by native speakers around children, the ability to produce and understand childhood slang could be a good indicator of childhood experience with a language. For slang production, participants read 20 expressions in English (e.g., *cry baby*, *pacifier*, *dry crust in the eyes*) and were asked to "say aloud what these words mean in Spanish slang or informal Spanish as you would hear them at home, in the neighborhood, or in a school yard." For slang comprehension, participants heard 40 childhood slang terms in Spanish (e.g., *chiqueado*, "spoiled child"; *las escondidas*, "hide-and-seek") read by a native Spanish speaker and were asked to say in English what the words meant. The test was self-paced, and the responses were audiotaped and later transcribed and compared against a list of acceptable responses compiled by a team of native Spanish speakers who spoke a variety of dialects commonly found in southern California. As expected, the native speakers produced and understood childhood slang in Spanish extremely well. The overhearers did significantly worse than the native speakers but still reliably better than the typical late L2 learners (Table 1). Together with the self-reports, these findings suggest that the overhearers' childhood experience with Spanish, in terms of speaking and understanding, was rather limited.

### *Stimuli*

Participants were asked to read aloud 36 Spanish sentences presented on a computer screen. Each sentence contained a target word in the frame, *Diga ____ por favor* ("Say ____ please"). The target words contained voiceless stops /p, t, k/ and voiced stops /b, d, g/ in either word-initial (e.g., *tacos*, *beso*) or word-medial (e.g., *notar*, *jabón*; see Table 2) position.

### *Procedure*

Each sentence was presented on a computer screen for 3 s. Participants were instructed to say each sentence naturally, as if they were speaking to someone in Spanish. They were also asked to stress the second word in the sentence (i.e., the target word) and not to pause between words. The 36 sentences were presented three times and in random order. The utterances were audiotaped using a head-mounted microphone and a Marantz PMD-222 or PMD-430 professional recorder. Participants were tested individually in a small room lined with acoustical foam.

### *Phonology assessment*

We use the term "phonology" in a broad sense meaning "sound" contra to grammar. We examined accent at both the phonetic level (using acoustical measurements, namely, voice onset time, VOT) and the phonological level (namely, phonemic patterns and a phonological rule).

At the phonetic level, we focused on VOT for voiceless stop consonants (/p, t, k/) because it is a widely used and informative phonetic measure for assessing phonology in people's first language and in L2 acquisition (e.g., Eimas et al., 1971; Williams, 1979). Simply put, VOT refers to the time from the release of a stop consonant (e.g., when the lips open in saying /p/) to the onset of voicing (vocal cord vibration) of the following vowel. The VOT for /p, t, k/ is typically 30 to 50 ms longer in English than in Spanish (e.g., Lisker & Abramson, 1964). If overhearing Spanish during childhood helps an adult learner's Spanish accent, overhearers should produce /p, t, k/ with a more nativelike, and hence shorter, VOT than typical late L2 learners.

At the phonological level, our assessment capitalized on a robust difference between Spanish and English phonology. When a Spanish voiced stop (/b, d, g/) appears between two vowels, it becomes lenited. That is, the air flow is only partially blocked rather than completely cut off. To the untrained ear of a native English speaker, a lenited Spanish /b/ sounds somewhat like a "v," and a lenited Spanish /d/ sounds somewhat like the "th" in the English word *this*. These phonological rules apply to /b, d, g/ appearing in intervocalic contexts both within a word (e.g., the /b/ in *sabor*) and across words (e.g., the /b/ in *Diga beso . . .*). These rules do not exist in English. If childhood overhearing helps adult learners master these rules, overhearers should produce Spanish /b, d, g/ as lenited consonants in intervocalic contexts more often than typical late L2 learners.

The "Diga . . . por favor" utterances were digitized (at a sampling rate of 12.5 kHz), and the spectrograms were analyzed by trained researchers who were not aware of the speakers' prior experience with Spanish. VOT was measured for all target voiceless stops. The target

1. Using language-background data, two coders independently categorized each of the 33 participants as native, overhearer, typical late L2 learner, or not classifiable. They agreed on 94% of the cases ($\kappa = .93$), resolving any disagreements through discussion. Two native Spanish speakers in our lab listened to speech samples of the 10 self-identified native speakers and confirmed the self-reported native-speaking competence.

2. We asked each participant to help us contact someone who would know about his or her childhood experience with Spanish. Independent informant reports were obtained for 4 of the 11 overhearers, confirming that they heard Spanish spoken by native speakers regularly during childhood and spoke Spanish minimally (i.e., no more than isolated words or short phrases occasionally). Informant reports were obtained for 3 of the 12 typical late L2 learners, confirming that they had no regular exposure to Spanish during childhood.

**Table 1.** *Participants' performance on tests of Spanish abilities*

| Measure | Native speakers | Childhood overhearers | Typical late L2 learners |
|---|---|---|---|
| Childhood slang | | | |
| Production | $79_a$ (10) | $17_b$ (3) | $3_c$ (2) |
| Comprehension | $88_a$ (4) | $22_b$ (4) | $3_c$ (10) |
| Voice onset time (ms) | | | |
| Word-initial voiceless stops | $19.3_a$ (1.1) | $19.6_a$ (2.5) | $36.2_b$ (4.8) |
| Word-medial voiceless stops | $22.4_a$ (1.2) | $23.4_a$ (4.0) | $31.2_a$ (3.4) |
| Percentage lenited | | | |
| Word-initial voiced stops | $43_a$ (9) | $24_a$ (8) | $1_b$ (1) |
| Word-medial voiced stops | $72_a$ (3) | $63_a$ (8) | $23_b$ (5) |
| Accent rating | | | |
| Voiceless stops | $4.3_a$ (0.06) | $3.5_b$ (0.12) | $2.2_c$ (0.15) |
| Voiced stops | $4.4_a$ (0.08) | $3.3_b$ (0.15) | $2.7_c$ (0.12) |
| Morphology production | | | |
| Gender agreement | $93_a$ (4) | $70_b$ (5) | $68_b$ (6) |
| Number agreement | $92_a$ (5) | $88_a$ (4) | $85_a$ (5) |
| Grammaticality judgment | | | |
| Accuracy | $94_a$ (1) | $64_b$ (2) | $63_b$ (3) |
| Reaction time (ms) | $1{,}042_a$ (190) | $2{,}475_b$ (374) | $2{,}209_{a,b}$ (304) |

*Note*. For the measures of childhood slang, morphology production, and accuracy of grammaticality judgment, the table indicates the mean percentage correct. Accent ratings were on a 5-point scale, with higher ratings indicating more nativelike pronunciation. Standard errors are given in parentheses. Within a row, means with the different subscripts were reliably different from each other according to Tukey's HSD test, two-tailed, $p < .05$. Numbers with the same subscript were not reliably different from each other.

voiced stops were each categorized as either a stop or a lenited consonant (distinguished by an abrupt or a gradual change, respectively, in amplitude between the consonant and following vowel). To assess measurement and coding reliability, two researchers independently analyzed approximately 12% of the data. The differences between measurers on mean VOT were minimal, ranging from 2.5 to 3.7 ms for individual participants. The percentages of agreement between coders on categorizing voiced stops ranged from 92% to 97% for individual participants (κs: .70–.92).

To see if any benefits of childhood overhearing can be detected by the average native speaker, we asked 28 native speakers to give accent ratings on the target consonants (e.g., the /p/ in *pase*) in the 36 "Diga . . . por favor" sentences produced by 29 of the 33 participants in the main study (7 native speakers, 10 overhearers, and 12 typical late L2 learners).[3] Each native speaker rated one token from a third of each participant's 36 sentences on a 5-point scale (1 = *very strong foreign accent, definitely nonnative*; 2 = *strong foreign accent*; 3 = *noticeable foreign accent*; 4 = *slight foreign accent*; 5 = *no foreign accent, definitely native*), in 12 blocks of sentences with each block containing the same sentence (e.g., *Diga pase por favor*) produced by all 29 participants. Each rater heard a representative subset of the 36 stimulus words, containing one exemplar of each phoneme-and-position combination (e.g., /b/ in word-initial position). The sentences were digitized at 12.5 kHz and presented over headphones in random order within each block. The interrater reliability was very high (average accent scores for individual participants: intraclass $R = .98$).

## Results

If overhearing Spanish during childhood helps the accents of adults learning Spanish, overhearers should produce voiceless stops (/p, t, k/) with more nativelike, and hence shorter, VOTs than typical late L2 learners. As shown in Table 1, the overhearers were virtually nativelike by this measure for the word-initial position; their VOT was reliably shorter than the typical late L2 learners', $F(2, 30) = 8.4$, $p < .001$. A similar, although not statistically reliable, pattern was seen in the word-medial position, $F(2, 30) = 2.3$, $p > .1$. The typical late L2 learners' VOT pattern—longer VOT in word-initial than word-medial position—mirrors the initial-strengthening phenomenon in English

**Table 2.** *Stimulus words for phonology production*

Word-initial set: *base, beca, beso, datos, deja, día, gallo, gato, goma, pase, pena, peso, tacos, teja, tía, callo, caso, coma*

Word-medial set: *cabeza, jabón, sabor, nadar, pedido, rodar, hogar, pagó, pegó, zapeta, vapor, tapón, matar, metido, notar, tocar, sacó, pecó*

3. The raters were self-identified and verified native speakers of Spanish recruited at the University of California, Los Angeles (see footnote 1 for the verification procedure). To date, we have accent ratings on only 29 participants.

(Fougeron & Keating, 1997). Their pattern differed reliably from the native speakers' and the childhood overhearers' (Table 1), $F(1, 20) = 6.6$, $p < .05$, and $F(1, 21) = 6.2$, $p < .05$, respectively, for the Position X Group interaction; the latter two groups were virtually identical, $F(1, 19) = 0.12$. These findings suggest that although typical late L2 learners cue the boundary of a prosodic word in Spanish by lengthening VOT, as they do in English, overhearers cue the word boundary as native Spanish speakers do.

If childhood overhearing helps adult learners master phonological rules in the target language, overhearers should produce Spanish /b, d, g/ as lenited consonants in both within-word and across-word intervocalic contexts reliably more often than typical late L2 learners. This was exactly what we found (Table 1), $F$s(2, 30) $> 10$, $p$s $< .001$, for both intervocalic contexts.

Finally, the overhearers' accents were judged by the native-speaker raters to be reliably more nativelike than the typical late L2 learners' (Table 1), $F$s(2, 26) $> 27$, $p$s $< .001$.

These findings suggest that lasting benefits of overhearing a language during childhood are measurable by phonetic analyses and are psychologically real to the average native speaker of that language.[4] Such benefits seem to come with no costs to the overhearers' dominant-language phonology: VOT measurements of the overhearers' word-initial English /b/ and /p/ suggested nativelike pronunciation.[5]

An important question remains: Does the amount of childhood overhearing matter? The language-background data on the 11 overhearers allowed us to estimate the amount of overhearing per week ($M = 9.3$ hr, $SE = 3.7$ hr) and the duration of overhearing at least 3 or 4 hr per week ($M = 3.5$ years, $SE = 0.9$ year) between birth and age 6. As it turned out, these estimates were not reliably related to our phonological measures summarized in Table 1 ($r$s ranging from $-.29$ to .25, $p$s $> .38$, two-tailed; 9 of the 12 $r$s went against the predicted direction). However, given the relatively small sample size and crude estimates, it remains an open question whether the amount of childhood overhearing—above and beyond a few hours a week for a few years—actually matters.

## MORPHOSYNTAX

Can childhood overhearers "soak up" the small grammatical markers (e.g., the ubiquitous *-os* and *-as* endings of nouns, adjectives, and determiners in Spanish signaling masculine and feminine plural, respectively) the way they acquire a good accent?

### Method

#### *Participants*

The same participants from the phonology assessment participated in the morphosyntactic assessment.

#### *Stimuli and procedure*

To assess morphosyntax production, we elicited Spanish noun phrases to examine number and gender agreement among determiners, adjectives, and nouns (e.g., the plural marker *s* and masculine marker *o* in *los pianos blancos*, "the white pianos"). Participants were asked to complete five simple four-piece jigsaw puzzles verbally. Each puzzle was presented on a computer screen for 18 s, with a puzzle frame (showing numbered spaces for the pieces) appearing above the four puzzle pieces. There was a picture of one or two colored objects on each puzzle piece. To complete a puzzle, participants had to say aloud, for instance, "Pon los pianos blancos en cuatro, pon la vaca negra en tres, . . ." ("Put the white pianos in four, put the black cow in three, . . ."). The noun phrases needed to specify the puzzle pieces varied in number (singular vs. plural) and gender (feminine vs. masculine) marking.

The puzzles were designed to elicit four combinations of number and gender markers. For example, one puzzle included pieces depicting a black piano (*el piano negro*: singular masculine), a black cow (*la vaca negra*: singular feminine), two white pianos (*los pianos blancos*: plural masculine), and two white cows (*las vacas blancas*: plural feminine). Participants' responses were audiotaped and independently transcribed by two native Spanish speakers; a third native speaker resolved any discrepancies. Then two native speakers coded the determiner-noun agreement and noun-adjective agreement independently, with any discrepancies resolved by a third native speaker. (Disagreement between any pair of transcribers or coders occurred in less than 5% of the words or codes.) Our prediction was that if childhood overhearing helps adult learners speak with correct basic morphosyntax, such as number and gender agreement in noun phrases, the overhearers would do better than the typical late L2 learners.

We also assessed these participants' ability to detect morphosyntactic errors in other people's speech. They listened to 33 grammatical sentences and 33 similar but ungrammatical sentences. Each ungrammatical sentence contained an error in marking in one of these categories: number or gender agreement in noun phrases (e.g., **la flores*, **el carro blanca*), number or person agreement in verbs (e.g., **Marta corren*, **nosotros comienzan*), tense-aspect marking in verbs (e.g., **Dentro de cuatro años, soy un abogado*), negation (e.g., **El conoce a nadie*), or indirect object (e.g., **El enseña a nosotros*). The 66 sentences were each presented twice over headphones in a random order. The test was self-paced, and participants indicated their responses

4. We did not assess speech sound perception because of the results of a pilot study of categorical perception of Spanish /t/ and /d/ using stimuli created at Haskins Laboratories. Surprisingly, even native speakers (who had been bilingual in Spanish and English since early childhood, like the native speakers in the main study) used the "English" VOT boundary. Although a more Spanish-like boundary was obtained from several monolingual Spanish speakers, we ended this line of pursuit because of the floor effects obtained with the bilingual native Spanish speakers.

5. We collected production data on English word-initial /b/ and /p/ from 5 native speakers, 6 overhearers, and 7 typical late L2 learners who had participated in the Spanish phonology assessment. They were asked to say, "Take a _____ once again," with *beggar*, *bonnet*, *pepper*, and *pocket* as target words. Their mean VOTs were, respectively, 11 ms, 11 ms, and 10 ms for /b/, and 56.8 ms, 49.1 ms, and 51.3 ms for /p/ ($SE$s: 4.0–6.5 ms). These results are comparable to published results from monolingual native English speakers (e.g., Eimas et al., 1971; Lisker & Abramson, 1964). Analyses of variance revealed no reliable group differences for either the voiced or the voiceless stops, $F$s(2, 15) $< 1$, suggesting all three groups were equally nativelike. Interestingly, their mean VOTs for initial /p/ in Spanish were 13.4 ms ($SE = 1.3$), 9.3 ms ($SE = 1.4$), and 31.1 ms ($SE = 10.9$), respectively. So, both the native speakers and the overhearers shortened their VOT by about 40 ms going from English to Spanish, resulting in a mean VOT comfortably within the range of published estimates for native Spanish speakers (4–16 ms; e.g., Lisker & Abramson, 1964; Williams, 1979). By contrast, the typical late L2 learners shortened their VOT by only about half as much, resulting in a mean VOT well outside the range produced by native speakers.

("grammatical" or "ungrammatical") by pressing a button on a button box. (The stimuli are available upon request.)

### Results

On both morphosyntax tasks, the overhearers and the typical late L2 learners performed virtually equally (Table 1). In the case of morphosyntax production, both groups performed worse than the native speakers in marking gender agreement, $F(2, 25) = 5.7$, $p < .01$, but they were quite nativelike in marking number agreement, $F(2, 25) < 1$. The overhearers and the typical late L2 learners were comparable in both the accuracy and the reaction times of their grammaticality judgments. The native speakers judged with almost perfect accuracy, and they were reliably more accurate than the other two groups, $F(2, 27) = 33.3$, $p < .001$. The native speakers were also faster than the overhearers ($p < .05$) and marginally faster than the typical late L2 learners ($p = .063$), $F(2, 27) = 4.4$, $p < .05$. These findings converge to reveal no measurable benefits of childhood overhearing in morphosyntax, in sharp contrast to the sizable benefits in phonology.

## DISCUSSION

This study complements linguistic deprivation studies in highlighting the importance of childhood language experience. Although waiting until adulthood to learn a language almost guarantees a bad accent, having overheard the target language during childhood seems to lessen this predicament substantially. This study also speaks to other fundamental questions about language development. One such question is, how might the nature of childhood experience affect language acquisition? Our findings on childhood overhearing suggest that even incomplete language experience during childhood can have lasting benefits. These findings add to the body of evidence on how perception might affect production in phonological development: Deaf infants' babbling typically starts late and never becomes sophisticated (e.g., Oller & Eilers, 1988), experimental intervention aimed at improving speech perception also improves production (Bradlow et al., 1997, 1999), and overhearing a language regularly during childhood helps adult learners speak that language with a better accent.

What underlying mechanisms might mediate the relation between childhood overhearing and adult learners' accents? Recall that the childhood overhearers in our study also spoke a little—mostly isolated words and short phrases—as children. Could their limited speaking experience have joined force with regular overhearing experience to tune their perceptual-motor system during childhood, thereby "inoculating" them against having a heavy foreign accent when learning the language in high school or college? Growing up in a heritage-language context might also contribute to childhood overhearers' ethnic identity, which could in turn contribute to the lasting benefits of childhood overhearing documented in this study. It is therefore important to sort out how early minimal speaking experience and cultural identity might mediate the relation between childhood language experience and later language development.

Our study explored a new approach to investigating how the timing and nature of input might affect language acquisition. The variety of naturally occurring incomplete and discontinued childhood language experience offers a valuable window onto language-learning mechanisms. For instance, by studying adult learners who spoke their heritage language during early childhood before becoming virtually monolingual in the majority language, researchers could learn whether, and how, early experience with a language establishes a learner's mental representation of the language in some fundamental and long-lasting way (Chomsky, 1981), and how much implicit childhood memory for the structure of a language can be recovered through language reacquisition. By studying adults who regularly heard their heritage language during childhood but spoke only the majority language, researchers could learn how much of a language can be acquired with little or no corrective feedback. Our study on childhood overhearing is just a first step into this virtually uncharted territory in the study of language acquisition.

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