

Infants' phonotactic sensitivities to regularities involving low-salient fricatives: a cross-linguistic study

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Infants' sensitivity to language-specific phonotactic regularities emerges between 6- and 9-months of age (Friederici & Wessels, 1993; Jusczyk et al., 1994). However, the acquisition of phonotactic regularities involving perceptually low-salient phonemes (i.e., phoneme contrasts that are difficult to discriminate), has rarely been studied and prior results show mixed findings (Gonzalez-Gomez & Nazzi, 2015; Henrickson, Seidl & Soderstrom, 2020). Here, we aimed to assess infants' acquisition of such regularities involving the low-salient contrast of /s/- and /ʃ/. Using the headturn preference procedure, we assessed, in two experiments, whether French- and German-learning 9-month-old infants are sensitive to language-specific regularities varying in frequency within and between the two languages. Experiment 1 (N = 48) targeted infants' sensitivities to word-initial consonant clusters (i.e., /st/ and /sp/ frequent in French, but infrequent in German, /ft/ and /fp/ frequent in German, but infrequent in French). In Experiment 2 (N = 48), we investigated infants' sensitivities to word-initial singletons followed by a vowel (i.e., /sV/ frequent in French, but infrequent in German, /fV/ frequent in German, but infrequent in French). We analyzed the data using mixed-effects models. French-learning infants showed significant sensitivities to language-specific phonotactic regularities, with a familiarity preference in Experiment 1 and a novelty preference in Experiment 2 (Exp 1: $p < .05$; Exp 2: $p < .001$), while we did not find statistical evidence for phonotactic sensitivity in the German-learning infants group (Exp 1: $p = .36$; Exp 2: $p = .55$), suggesting crosslinguistic acquisition patterns. Although not significant in Experiment 1, the interaction between language and phonotactic was significant in Experiment 2 ($p < .05$), confirming that French and German groups' sensitivities to phonotactic regularities differed between each other. Our findings suggest that infants' early phonotactic sensitivities extend to regularities involving perceptually low-salient phoneme contrasts at 9 months, and highlight the importance of conducting cross-linguistic research on such language-specific processes.