

# Perception of geminates in Japanese by French-speaking learners

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This study investigates the capacities to differentiate geminate/singleton consonants by French-speaking learners of Japanese as a foreign language (FJ). The learners of Japanese without a similar phonological contrast in their native languages have difficulty making this distinction (Sonu et al., 2013, Tsukada et al. 2015).

However, little is known about the case of FJ. In French, neither vowel length nor word-internal geminate obstruent distinction exists (Single Category in PAM: Best & Tylor, 2007). To investigate how much FJ can distinguish geminate/singleton consonants, we conducted an AXB experiment. The stimuli were non-words with CiVj(Ci)CiVj structure where Ci was /k/, /p/, or /s/. Vowels were /i, e, a, o, u/ and the same vowels were inserted in the first and second vowel slots. The stimuli were read by one male and one female native speakers of Tokyo Japanese with two pitch patterns: Low-High and High-Low. The participants included 10 first-year university students in Japanese studies (FJ1), 9 third-year students (FJ3) and 6 native speakers of Japanese (NJ).

The results indicate that FJ1 and FJ3 had an error rate of about 10% in average, while the NJ's error rate was 4% in average. The difference between FJ1 and NJ and between FJ3 and NJ were statistically significant ( $X^2(1) = 45.69$ ,  $N = 2832$ ,  $p < .001$  between FJ1 and NJ,  $X^2(1) = 38.354$ ,  $N = 2655$ ,  $p < .001$  between FJ3 and NJ). Both FJ and NJ indicated a higher error rate in the case of fricative /s/ and high vowels /i, u/. However, when the stimuli were read in High-Low pitch, FJ show difficulty differentiating geminate/singleton contrast. These results should be compared with the case of other presumably SC cases (long vs. short vowels, /h/ vs. /Ø/ by FJ) and with TC cases (geminate/singleton by Italian-speaking learners, for example).

## References

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