

## **Experimental study on sound symbolism between “size” and “consonantal voicing” in Japanese and Turkish**

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In this presentation, the following two points are demonstrated:

1. There is sound symbolism between “size” and “consonantal voicing” in Japanese, but no such sound symbolism exists in Turkish.
2. There is a high possibility that size/voicing sound symbolism does not hold cross-linguistically.

The term *sound symbolism* refers to the association of certain meanings with certain sounds. In this study, we focus on the sound symbolic association of size with consonantal voicing. According to the experimental researches of Shinohara and Kawahara (2012), in Japanese, English and Chinese, there is sound symbolic association of largeness with voiced obstruents and smallness with voiceless obstruents, and they indicated that there is a high possibility that this sound symbolism holds cross-linguistically.

In their study, they conducted a questionnaire-based rating experiment, in which the participants rated the size of various nonsensical words. In such a questionnaire experiment, however, without a limit to response time, an intuitive and implicit sound symbolic association can not be necessarily reflected in participants' answers. To avoid this problem, we conducted an Implicit Association Test experiment (Greenwald, McGhee and Schwartz 1998) on Japanese and Turkish.

The experiment was performed on 16 native speakers of Japanese and 24 native speakers of Turkish. The following stimuli were presented to the subjects: (i) nonsensical words with voiced obstruents (e.g., /bono/), (ii) nonsensical words with voiceless obstruents (e.g., /pono/), (iii) pictures of big fish, and (iv) pictures of small fish. Then, the subjects were given two tasks: task 1 required classifying the items into two groups according to size/voicing sound symbolism (group I: (i) and (iii); group II: (ii) and (iv).) as fast as possible. Task 2 required classifying the items into two groups against this sound symbolism (group I: (i) and (iv); group II: (ii) and (iii).) as fast as possible. Response time was measured for comparison. If size/voicing sound symbolism had been present, it would presumably have been activated during classification, and hence the response time for task 1 would be shorter than that for task 2.

The results of the experiment for Japanese native speakers showed that the response time for task 1 was indeed shorter than that of task 2, and there was significant difference between tasks 1 and 2 ( $F(1,15) = 12.421, p < .005$ ). This demonstrates that Japanese indeed possesses the aforementioned sound symbolism as pointed out by Shinohara and Kawahara (2012). As for native speakers of Turkish, however, there was no significant difference between the two experimental tasks (it remains marginally significant.  $F(1,23) = 3.676, p < .10$ ), suggesting the non-existence of such sound symbolism. The discrepancy in the results observed for the speakers of the two languages indicates that size/voicing sound symbolism does not hold cross-linguistically.