

Cross-cultural Influence on Processing Honorification: A Language and Social Interaction Approach

[1] Research group

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[2] Research setup

Research focus

The current research focuses on investigating the neural correlates of processing honorific expressions by native speakers of Japanese and Chinese with a special emphasis on the impact of cross-language and cross-cultural communication on their language processing.

distance. On the other hand, in Mandarin Chinese, there is no systematic honorific expressions, speakers of lower social status only substitute the second person pronoun to its respectful counterpart to express respectfulness towards the higher social status interlocuters (see Figure1 for examples).

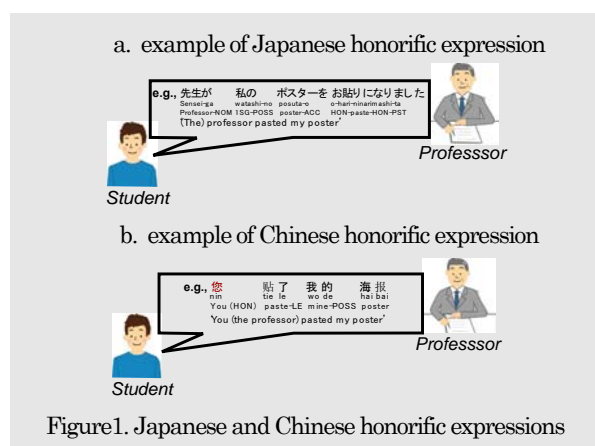
Previous neurological studies have mainly focused on exploring the neural mechanisms of processing linguistic knowledge. However, little is known about how linguistic knowledge is processed with sociocultural information to comply with cultural norms and conventions by language users with different linguistic and cultural background. Therefore, using fMRI, the current study aims at examining the neural mechanisms of processing honorific expressions by native speakers of Japanese, Chinese, and Chinese learners of Japanese.

Progress

From April 2018 to February 2019, we conducted an fMRI experiment by recruiting 33 native speakers of Japanese and 40 Chinese learners of Japanese.

We created an honorific judgment task containing auditory sentences, and all sentences were divided into four conditions: conventional honorific expressions by lower social status speakers, conventional non-honorific expressions by higher social status speakers; unconventional honorific expressions by both lower and higher social status speakers. Participants were instructed to judge whether the heard sentences were conventional expressions during fMRI scanning. Chinese participants performed both the Chinese and Japanese tasks. Japanese participants only performed the Japanese one.

Currently, we have only analyzed the Japanese participants' brain imaging data. A two-way ANOVA test was performed using SPM12. In order to know how the linguistic knowledge and social knowledge of social status information were integrated in the brain to comprehend culturally conventional



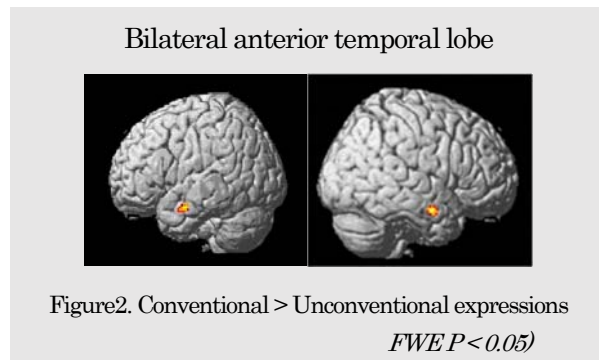
Japanese honorific expressions are called grammaticalized or sociocultural verb agreement honorific expressions, which marks interlocuters' social relations by adding affix on verb stems. Conventionally, the honorific expressions are often employed by interlocuters of lower social status to express politeness and honor toward an interlocutor of higher social status or who has longer social

expressions, we compared the contrasts between conventional expressions with unconventional honorific expressions. Furthermore, in order to know the neural mechanisms of the grammaticalized or sociocultural verb agreement honorific expressions. We examined the effect of lower social status expressions.

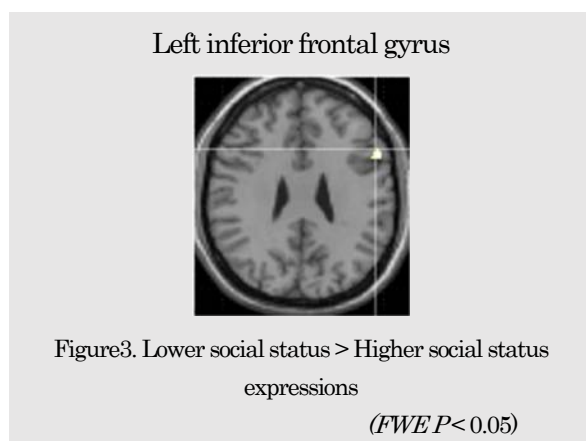
[3] Research outcomes

(3 – 1) Results

The conventional expressions produced greater activations in the bilateral anterior temporal lobe (see Figure2) than the unconventional expressions (*FWE P* < 0.05 voxel-based whole brain analysis). The anterior temporal lobe may involve in integrating sociocultural information with linguistic knowledge.



For the effect of lower social status expressions significant activations was found in the left inferior frontal gyrus (BA44), which is well known as a key area for syntactic processing (see Figure 3).



(3 – 2) Future perspectives

To investigate how the factor of cross-cultural differences are involved in language processing by language users with different backgrounds, we will further analyze the image data of Chinese native

speakers and Chinese learners of Japanese by comparing the results to Japanese native speakers . We will finalize the results and submit a paper to a peer-reviewed journal.

[4] List of Papers

- 1) The 8th Winter School by Tohoku Society of Young Researchers in Neuroscience, 02.10, 2019. Akiu Resort Hotel Crescent Miyagi Prefecture, Japan. "Neural Correlates of Japanese Honorific Expressions" (Oral presentation)
- 2) The 26th Annual Meeting of Cognitive Neuroscience Society, San Francisco, USA, March 26th, 2019 "Neural Correlates of Pragmatic Knowledge: Focusing on Japanese Honorific Expressions" (Poster presentation)