

## Development of Pragmatic Meaning Comprehension: Insights from Japanese-speaking Children's Comprehension of an Implied Meaning Arising from a Particle

Studies suggested that children tend to face challenges in comprehending pragmatic meaning of sentences, and sources of difficulties have been discussed in the literature. Our study examined pragmatic meaning comprehension in Japanese-speaking school-age children.

Japanese has a morphological marker or particle called Contrastive *-wa*, which derives some implied meaning that influences the felicity of sentence (e.g. Kuno, 1973). When Contrastive *-wa* attaches to an object noun *ringo* 'apple' as in (1a), an implied meaning that contrasts apple and something else arises; whereas, such an implied meaning does not generate in (1b), where the object noun is marked by accusative-marking particle *-o*. While the exact nature of the implied meaning generated from Contrastive *-wa* is under debate in the field of theoretical Japanese linguistics (e.g. Kubota & Ido, 2025; Sawada, 2022; Tomioka, 2016), its existence is confirmed by adult Japanese speakers' robust sensitivity to it, which was indicated by their felicity rating using a Likert scale. In Nobuki et al. (2023), adults rated (1a) higher when the dog had something else instead of an apple (e.g. banana) (Figure 1a) than when it had nothing (Figure 1b). Contrastively, (1b) was rated higher when the dog had nothing (Figure 1b) instead of a banana (Figure 1a), which is the opposite rating pattern compared with (1a). On the other hand, four- to six-year-old preschool children did not differentiate (1a) and (1b) in the same study, indicating that they are not aware of the role of Contrastive *-wa*. Nobuki et al. (2025) pointed out possible task-driven difficulties caused by using a Likert scale in the previous study, and they tested preschoolers in a binary felicity judgment task (Chierchia et al., 2004), which allowed children to compare the felicity of (1a) and (1b) directly. However, they still did not show sensitivity to the implied meaning arising from Contrastive *-wa*. These findings seem to suggest that comprehending the implied meaning yielded from *-wa* is challenging for young children, and the acquisition of this particle happens at a later stage of development. Thus, building upon Nobuki et al. (2023, 2025), we started testing school-age children to examine how older children would respond to Contrastive *-wa*.

The task is the picture sentence verification task using a 5-point Likert scale, which is the same design as what was employed to test adults and preschoolers in Nobuki et al. (2023). If school-age children were aware of the role of Contrastive *-wa* and could incorporate the implied meaning in the felicity judgment, they were expected to rate (1a) higher when the dog had a banana (Figure 1a) rather than nothing (Figure 1b), and the opposite rating pattern was predicted for (1b), as adults did in Nobuki et al. (2023) (see Figure 2).

So far, we have tested twenty-seven school-age children (mean = 9;6, range = 7;0 to 11;7). As shown in Figure 3, they demonstrated the target-like judgment pattern by rating Contrastive *-wa* sentence (1a) significantly higher when the dog had an alternative object like a banana (Figure 1a) ( $p < .05$ ) and by rating Accusative *-o* sentence (1b) significantly higher when the dog had nothing (Figure 1b) ( $p < .01$ ). This suggests that school-age children have an emerging sensitivity to the implied meaning generated from Contrastive *-wa*. A closer investigation revealed that there are four children who consistently showed sensitivity to *-wa*, and two of them are 8-year-old while the rest is 11-year-old. Currently, majority of the participants is 7- to 8-year-olds (seven: N=8, eight: N=12, nine: N=1, ten: N=4, eleven: N=2), and the developmental trajectory of acquisition of Contrastive *-wa* is still not clear. Thus, we are aiming to collect more data from older children. Furthermore, it would be also important to test preschool-age children in different experimental paradigms in the future to investigate the source of difficulty of acquiring Contrastive *-wa*. Even though the contribution of *-wa* to determining the meaning of sentence happens at the pragmatic level, its nature also looks somewhat conventional as well (Hara, 2006), given that the implied meaning indeed arises whenever this particle is used. Considering such a nature of Contrastive *-wa*, further studies on the acquisition of this particle will help us better understand how children's linguistic knowledge becomes adult-like with respect to meaning comprehension more comprehensively.

- (1) a. *inu-wa ringo-wa motte-nai-yo.*  
 dog-Theme apple-**Contrastive** have-Neg-sentence final particle  
 'The dog doesn't have an apple (but it has something else).'
- b. *inu-wa ringo-o motte-nai-yo.*  
 dog-Theme apple-Accusative have-Neg-sentence final particle  
 'The dog doesn't have an apple.'

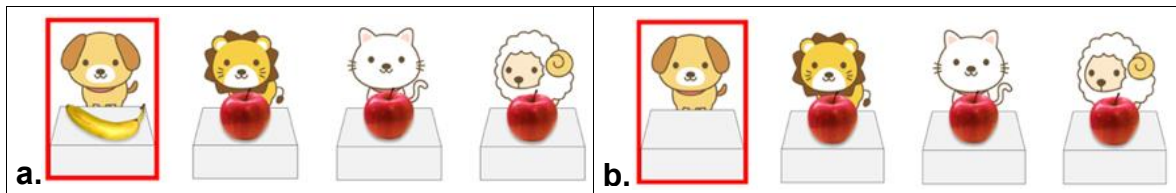


Figure 1. Picture materials from Nobuki et al. (2023, 2025): a. sample picture in which Contrastive *-wa* sentence (1a) was expected to be felicitous; b. sample picture in which Accusative *-o* sentence (1b) was expected to be felicitous.

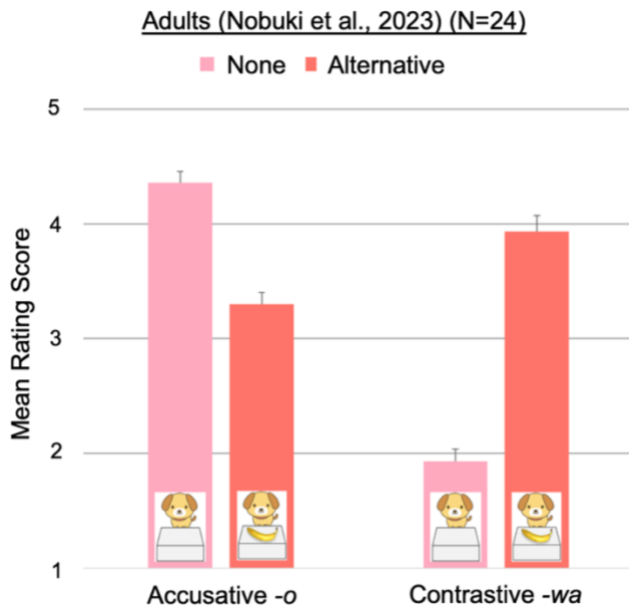


Figure 2. Results of adults (Nobuki et al., 2023); the error bars indicate the standard error.

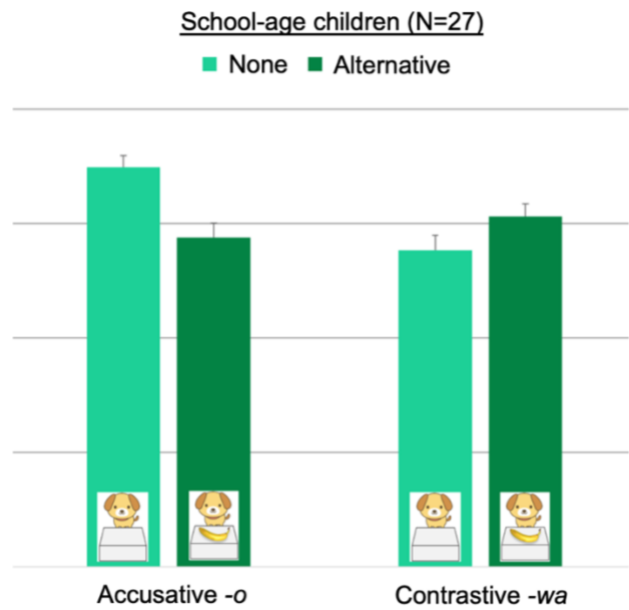


Figure 3. Results of school-age children; the error bars indicate the standard error.

References: Chierchia et al. (2004). *Experimental Pragmatics* (pp. 283-300); Hara, Y. (2006). *Proceedings of the 2004 Texas Linguistics Society Conference* (pp. 35-45); Kubota, Y. & Ido, M. (2025). *Contrastive wa operates on outlooks*. JK32; Kuno, S. (1973). In *The Structure of the Japanese Language*; Nobuki et al. (2023). *The role of linguistic cues and visual information in the felicity judgment of negative sentences in child Japanese*. BUCLD 48; Nobuki et al. (2025). *Comprehension of implied meaning in Japanese-speaking pre-school children: investigation of the role of Contrastive -wa*. SRCD 2025; Sawada, O. (2022). *Empirical Issues in Syntax and Semantics*, 14, 239-271; Tomioka, S. (2016). *The Oxford Handbook of Information Structure* (pp. 753-773).