

Does two vs. three make a difference in phonology?: An exploration of dissimilatory effects of tensification in Korean compound

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Aim In Korean, the initial lenis obstruent of the second member of a compound can undergo tensification (e.g. /san/ ‘mountain’ + /pul/ ‘fire’ → [sanp’ul] ‘wild fire’). Previous studies ([1, 2]) have suggested that the likelihood of this process may be reduced when two laryngeally marked consonants are already present, raising the possibility that Korean phonology exhibits a dissimilatory constraint prohibiting three instances of the same feature. If such a pattern were productively, it would be theoretically significant, as it would constitute rare evidence that phonological computation can count beyond two (see e.g. [3]). However, whether such a pattern can in fact be productive requires experimental verification. Previous research ([4]) tested this hypothesis by experimentally manipulating the number of tense consonants in the first member of compounds, but found no differences between two tense consonants vs. three consonants. This result may simply imply, however, that Korean tensification is not sensitive to dissimilation at all. To address this limitation, the present study examines whether dissimilatory effects arise when potential blockers and the undergoing segment are within the same morpheme. In short, whereas previous experimental work has tested the first member of compounds, this work explored the role of the second member (Word-B).

Method An online experiment was conducted with 55 native speakers of Korean. The stimuli consisted of a real Korean noun as the first member (Word-A) and a nonce word as the second member (Word-B), with three conditions defined by the number of tense consonants contained in that morpheme (0, 1, or 2; see Table 1). Trisyllabic nonce words were used for Word-B to allow the inclusion of two tense consonants, and five items were prepared for each condition. These nonce words were combined with five real Korean nouns as the first member of the compound Word-A ([tuŋ] ‘back’, [son] ‘hand’, [nun] ‘eye’, [pol] ‘cheek’, and [pal] ‘foot’), yielding a total of 75 compound stimuli (5 Word-A × 15 Word-B). Participants were asked to listen to two auditory realizations of each compound—one with tensification and one without—and to select the pronunciation they would naturally use. The responses were analyzed using a Bayesian logistic mixed-effects model, with tensification choice as the dependent variable and the number of tense consonants in Word-B as the main predictor.

Results Figure 1 displays a violin plot illustrating the distribution of tensified responses for each number of tense consonants in Word-B. The red diamonds stand for the overall averages for each condition (0.30, 0.18, and 0.19 from left to right), while the transparent blue circles represent the average for each condition by participant. A single tense consonant in Word-B reduced the probability of tensification compared to the zero-tense condition; however, adding a second tense consonant did not further reduce the tensification rate, which remained comparable to that of the one-tense condition.

Conclusion The results of the present experiment show that Korean compound tensification is sensitive to the presence of a tense consonant within the same morpheme, but is not sensitive to a difference between one and two tense consonants. Specifically, while the presence of a single tense consonant reduced the likelihood of tensification, adding a second tense consonant did not lead to any further reduction. Taken together with the results of [4], the present study concludes that Korean does not possess a phonological constraint that counts three instances of tense features. This conclusion runs counter to the claim put forward by [2], and is instead consistent with the more traditional view that phonological systems do not count beyond two at the segmental level [3].

Table 1. The list of nonce-word stimuli used for Word-B.

0 tense C	1 tense C	2 tense C
[kasidza]	[kas'idza]	[kas'ite'a]
[padosu]	[pat'osu]	[pat'os'u]
[tadzoga]	[tate'oga]	[tate'ok'a]
[sabɛgi]	[sap'ɛgi]	[sap'ek'i]
[tɛadogɛ]	[teat'ogɛ]	[teat'ok'ɛ]

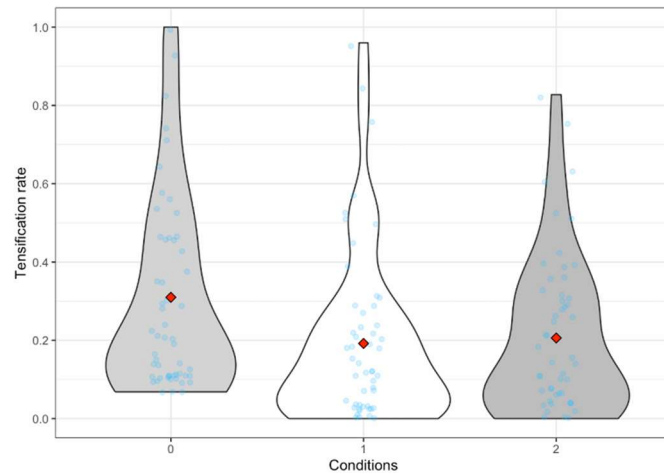


Fig. 1. The tensified response ratios for the three conditions in Experiment.

References

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