The Production of Emphatic Stress Test for Korean

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Abstract

The Production of Emphatic Stress Test in the Right Hemisphere Language Battery is revised for the Korean version to elicit prosodic prominence more effectively using corrective focus. The mean score obtained by 80 Korean speakers without language disorders was 4.88 ($\pm$0.33) for the revised subtest and 4.56 ($\pm$0.67) for the subtest in its original format out of 5 points for each. The variety of the speakers' responses in the current study anticipates the intricacy of assessing prosody for clinical evaluation.

Keywords: focus, prominence, phrasing, RHLB, Korean

Introduction

The Right Hemisphere Language Battery (RHLB; Bryan 1995) is a tool developed to test language comprehension and production that are pertinent to the function of the right cerebral hemisphere. The RHLB contains a test for prosody. The original Production of Emphatic Stress Test, however, has a limitation regarding direct application to the Korean language because of cultural and linguistic differences.

Unlike English, which is a head-prominence language, phrasal boundaries mark prominence in Korean (Jun 2011). Language-specific strategies exploiting morpho-syntactic alternatives can also come into play to express contrastive information. Examining the production of focus prominence remains a practical procedure to assess (semi-)spontaneously produced speech prosody in clinical settings. Hence, the original emphatic stress test was retained with a revision in the Korean version of RHLB (K-RHLB, in development). We describe the structure of the K-RHLB's emphatic stress test and report the test scores of speakers without language disorders as a reference. Finally, observed intonation patterns and empirical criteria for assessing focus prominence are discussed.

Methods

Materials

The Production of Emphatic Stress Test of the K-RHLB consists of the following two parts, with five items for each.

Emphatic Stress Test Ga (A)

This subtest has five items for inducing corrective focus, with one preceding practice item at the beginning. For each item, a picture is provided for reference, and an examiner asks a yes or no question including a word that does not conform to the picture. Participants are asked to respond with *ani-o* 'no' and then correct the faulty component. An (expected) example sentence for an examiner and a test subject is given below, respectively, in Yale Romanization of Korean.

(1) Practice Item

Examiner:	yeca-ka	koki-lul	sa-le	ka-yo?
	woman-nom	meat-obj	buy-part	go-hon
	'Does the woman go for buying meat?'			
Subject:	ani-o,	yeca-nun	yachay-lul	sa-le	ka-yo.
	neg-hon	woman-top	vegetable-obj	buy-part	go-hon
	'No, the woman goes for buying vegetables.'			

Emphatic Stress Test Na (B)

This subtest consists of five items, preceded by one practice item, translated from the original RHLB. In each item, two pictures are presented side by side. After the examiner says the first half of the sentence, referring to the first picture, the participant completes the second half of the sentence based on the contrastive components depicted in the second picture. The participant is expected to produce the rest of the sentence, introducing two or three words with new information. A pair of example (target) phrases for an examiner and a subject is as follows:

(2) Practice Item

Examiner:	namca-nun	cenhwa-lul	ha-ci	anh-ko,
	man-top	telephone-obj	do-part	neg-conj
	'The man does/did not make a phone call, but'			
Subject:	pyenci-lul	sse-ss-e-yo.		
	letter-obj	write-past-decl-hon		
	'wrote a letter.'			

Procedures

Each participant was tested individually by an examiner trained in linguistics and phonetics. A series of pictures for eliciting speech was presented on a monitor, and the participant's response was recorded. Evaluation scores collected from 80 native speakers of Korean without language disorders were analyzed [57 female and 23 male; mean age: 36.1 (±12.6)]. They are from the

Seoul/Gyeonggi (26) or Daejeon /Chungcheong (54) region where they lived while under the age of 15. The speakers' dialects have no lexical tone or lexical pitch accent.

Results

Each speech item received one point for the appropriate stress. The mean score for subtest A is 4.88 ($\pm$0.33) and that for subtest B is 4.56 ($\pm$0.67), out of 5 for each. The total mean score for both subtests is 9.44 ($\pm$0.74) out of 10. The stress pattern varied by sample, but the most salient acoustic correlate for stress was the fundamental frequency in the first or second syllable of the targeted unit or in the right boundary of the Accentual Phrase (AP; cf. Jun 2011 for the K-ToBI convention, i.a.). The particle, rather than the target morpheme itself, was accentuated frequently (cf. Fig. 1). Dephrasing after the focused word and drastic lowering of the pitch after the focused phrase were also confirmed.
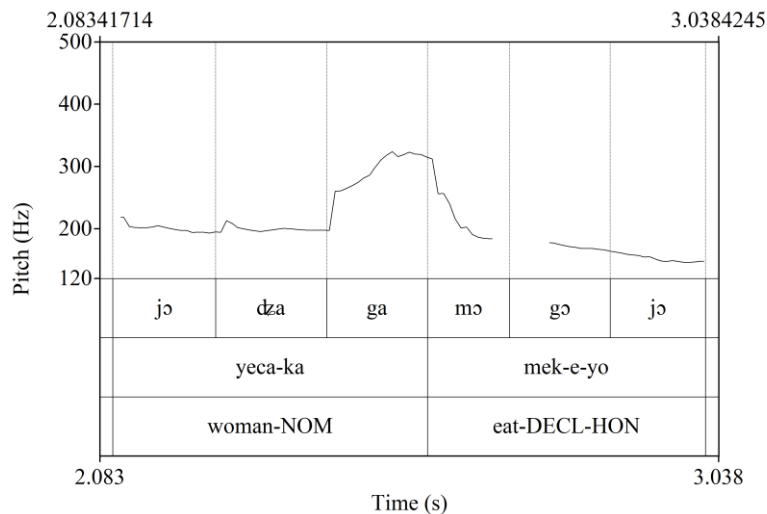

Figure 1. Prominence of the particle *-ga* [nominative] following the corrective target word *yeca* 'woman'.

Discussion

Speakers were better at subtest A with corrective focus than at subtest B with contrastive focus. However, the overall score (mean = 9.44) is lower than that for the English-speaking control group's (30 neurologically normal subjects) emphatic stress test in the original battery (Bryan 1995), the mean of which was 10 ($\pm$0) out of 10, indicating perfect performance.

   Whereas many experimental studies on the production of focus prosody in Korean are conducted either based on reading tasks or with repetitive practice, the extemporary responses in the present test varied from utterance to

utterance, both in morpho-syntactic composition and in prosodic realization. Emphasis was expressed through a combination of three different manners in the speakers' utterances.

First, speakers omitted components with given information. It is usual for Korean speakers to omit the sentence's subject or postpositions, especially in colloquial speech. Meanwhile, the answer ellipsis is likely to bring the most emphasized word toward the utterance-initial position. Although subtest A is devised in order to elicit corrective focus prominence within a sentence with about 3-4 APs, speakers sometimes had difficulty maintaining the original sentence structure given in the examiner's question. This is possibly not only due to cognitive load but also to the unnaturalness of repeating the components that are out of focus.

Second, speakers used morpho-syntactic composition to highlight the target unit. One simple example is that a speaker says *pakk-ey-nun pi-ka wa-yo* 'It is raining outside.' instead of *pakk-ey pi-ka wa-yo*. Here, the insertion of the particle -*nun* [topic], without being focused itself, can have the effect of emphasizing the succeeding constituent with regard to *pakk-ey* 'outside'. Another type of syntactic modulation is the change of word order.

Third and finally, the focus prominence could be expressed and perceived in prosody. Pitch was a salient cue signaling phrasing among other phonetic cues within an Intonation Phrase (Jun 2011, i.a.), in part by definition. Often, the prominence was found in the postposition rather than the target word itself, as in Fig. 1 above.

The current result shows that emphatic stress can be expressed in various ways. The prosodic realization of focus in Korean may not be as clear and consistent as in English (cf. discussion on the perception of focus prominence by Korean listeners in Lee, Cho 2020). The same fact also implies difficulty in testing prosody for Korean. This calls for objective criteria for the evaluation of intonation in clinical settings.

Acknowledgements

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