# Can Singing Facilitate Second Language Acquisition?

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## INTRODUCTION

Learning the vocabulary of a foreign language is critical for mastering the language (Grass & Selinker, 1994). There has been increasing interest in whether songs can facilitate vocabulary learning. Previous studies have suggested that sung sequences facilitate statistical learning compared to spoken sequences. Participants in Schon, Boyer, Moreno, Besson, Peretz & Kolinsky, (2008) heard computer-generated strings of 11 syllables . The syllables were combined into six trisyllabic words (e.g. *gimysy*, *mimosi*), which were presented as a continuous stream of syllables. In the singing condition, each syllable was consistently presented in the same tone (e.g. *gimysy* C5 D5 F5, *mimosi* E6 Db6 G5). During the test phase, participants who heard sung syllables were better able to detect illegal words (e.g., *gysimi*, *mosigi*) than those who heard spoken sequences.

In Li and Brand (2009)'s study, Chinese ESL learners who were proficient in English were randomly assigned to one of 3 groups: all-music, half-music and non-music class. In the two out of 3 treatments, "classical" pop songs (e.g. Beatles, Led Zeppelin) were used as song materials in class. ESL students improved their reading, writing, listening and oral skills through the songs and lyrics. However, performances in vocabulary posttest between all-music and non-music group were not significantly different.

We examine the effect of song on learning Korean nouns and verbs when the syllables of the words consistently occur with the same tones. Participants heard the words in sentences; they were not instructed to learn the words but instead were told to learn the rules exemplified by the sentences.

## RESEARCH QUESTION

Is incidental learning of Korean words enhanced by presenting the words in sung rather than spoken sentences?

## METHOD

Participants (*n* = 27, Introductory Psychology students) were assigned to one of three conditions (natural speech prosody, monotone, or singing) and told they would hear an English sentence followed by two Korean sentences that were translations of the English sentence but differed in some way. They were instructed to try to learn the rules of the language by repeating the Korean sentences. The sentences were constructed with the following eight nouns and verbs (Table 1).

| Table 1 | |
| --- | --- |
| **VERBS** | **NOUNS** |
| Geuryochuda (draw) | Kong (ball) |
| Poneyda (send) | Chek (book) |
| Kwuhaychuda (get) | Shinpal (shoe) |
| Tonkida (throw) | Kwail (fruit) |
| Palda (sell) | Kurim (picture) |
| Chuda (give) | Ppang (bread) |
| Boyokuda (show) | Satang (candy) |
| Sachuda (buy) | Kabang (bag) |

## Sequence of Procedures

### 1. Noun and Verb Familiarization

"You will hear an English word, followed by the Korean translation. The Korean word will be repeated twice. In the pause after the word, repeat the word out loud."

Nouns co-occurred with pictures illustrating the word and the written English-Korean words (Figure 1). Verbs occurred with the English-Korean words but there were no depictions of the actions.



Bag - kabang

Figure 1

Book - chek
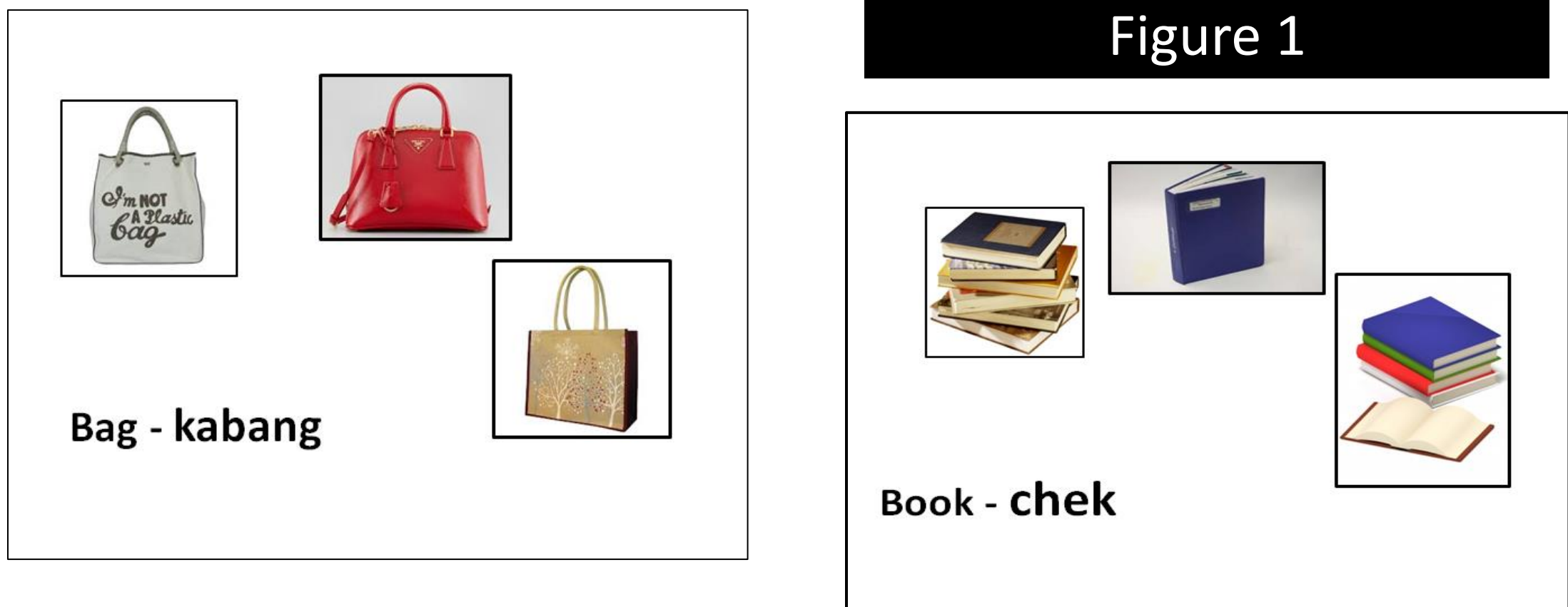
### 2. Sentences : Study-Test

In each of three blocks of study –test trials, participants heard 16 sets of sentences:
Gail gets Beth a ball.  (spoken)
**Gail-ka  Beth-ul  kong-ul  kwu-hay-chu-da.**
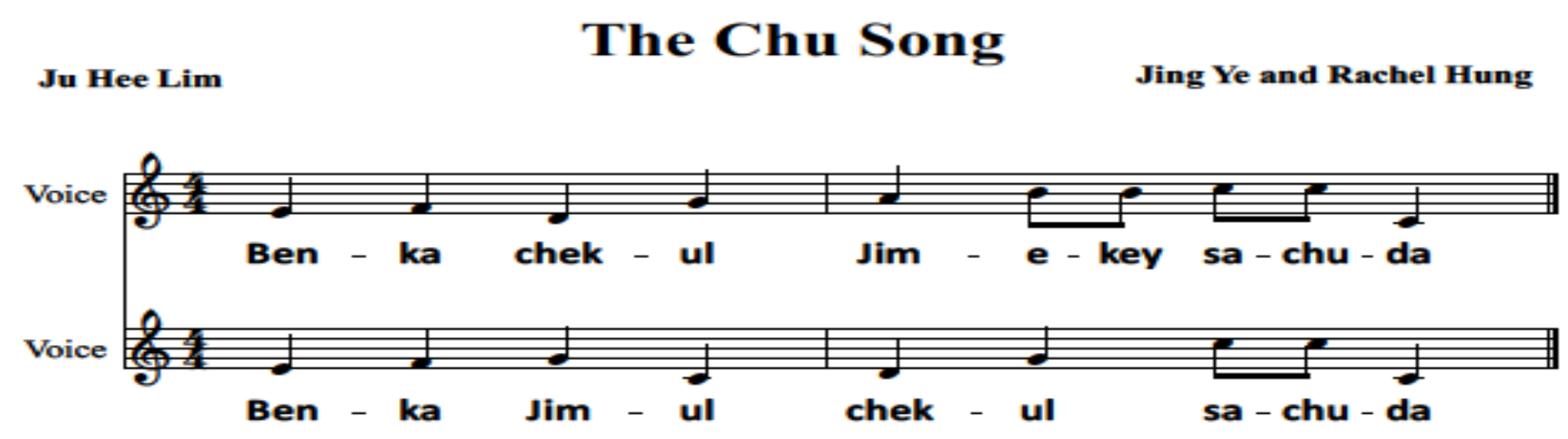Gail -Nom Beth Acc   ball Acc    get      Decl
**Gail-ka  kong-ul  Beth-ekey  kwu-hay-chu-da.**
Gail Nom   ball Acc  Beth Dat    get      Decl

**Experimental conditions for Korean sentences**
1. Sentence intonation
2. Monotone (recitation) intonation
3. Singing voice

**"Repeat the Korean sentences exactly as the speaker/singer In the pause after the sentence"**
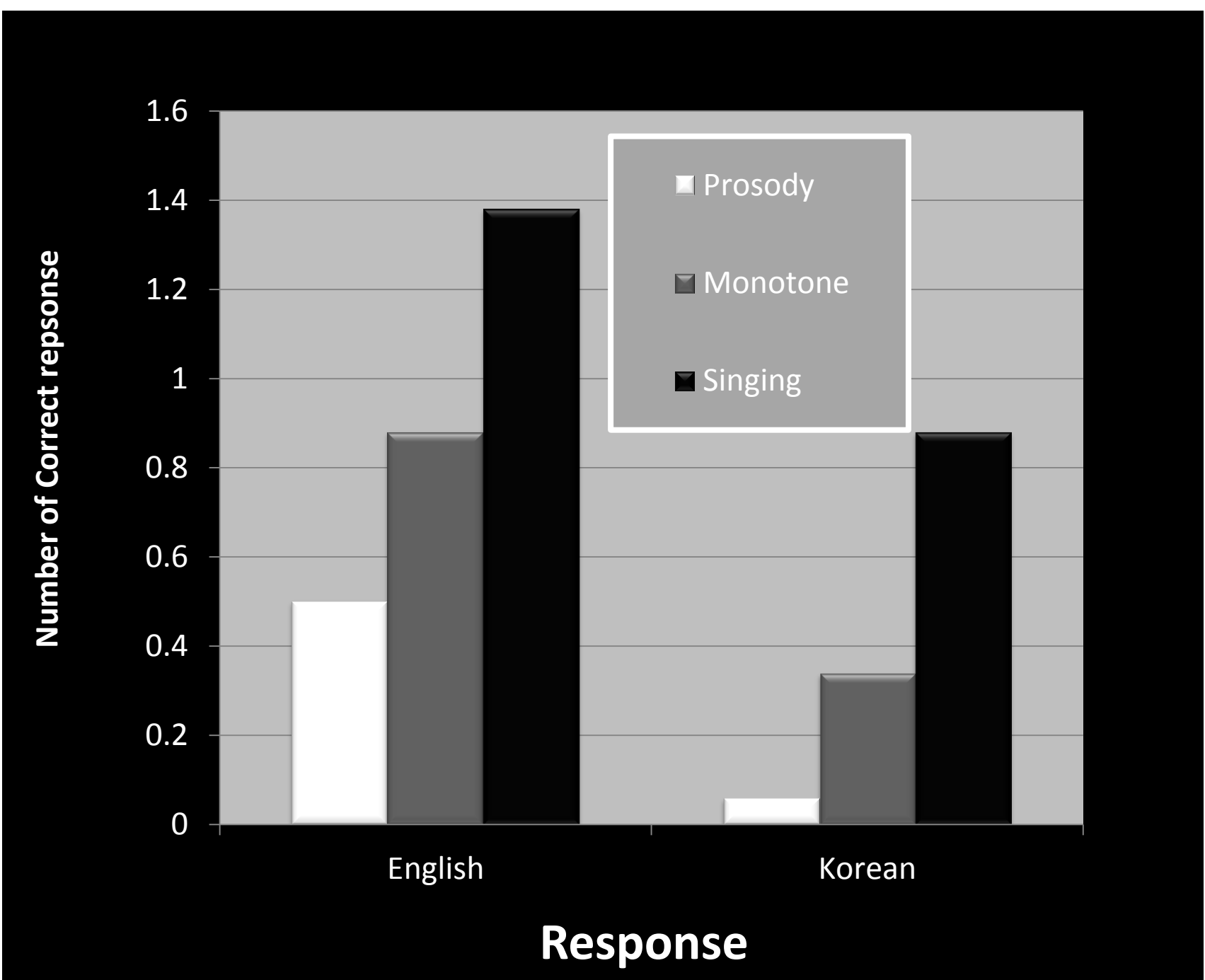


### SINGING CONDITION  (Figure 2)

Syntax Rules Test after each bloc(12 correct, 12 incorrect sentences    Correct?? Incorrect???

### 3. Vocabulary Tests
- Korean nouns to English (Oral response)
- Korean verbs to English (Oral response)
- English nouns to Korean (Oral response)
- English verbs to Korean (Oral) response)
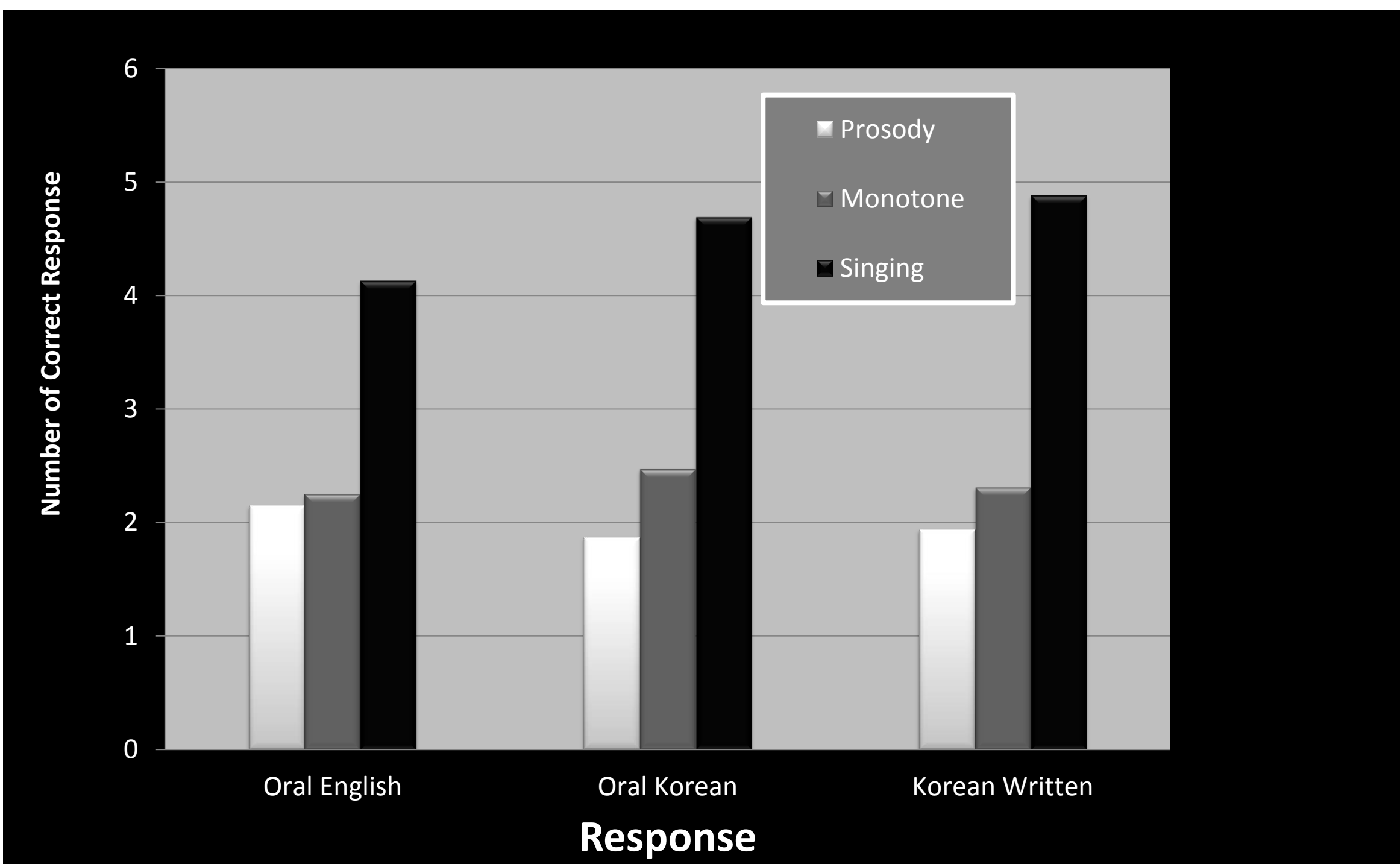- English nouns to Korean (Written Response)

## RESULTS

### VERB TESTS



**Analyses:** One-way analyses of variance with three levels (Prosody, Monotone, Singing).
**Verbs:** *p*s > .10
**Nouns** (All tests):  Singing > Prosody = Montone  (*p*s = .031 to .001).

### NOUN TESTS



## SUMMARY and CONCLUSIONS

No effect of conditions emerged for verbs, but recall of nouns was better in the singing condition than in either the monotone or natural speech prosody condition (which did not differ reliably from each other). This result differs from Li and Brand (2009) but is consistent with Schon et al. (2008) who paired syllables with tones in artificial word learning. However, whereas Schon et al. demonstrated that song facilitates finding word boundaries in a stream of sounds, we found song efficacious for learning L2 words.

The non-significant effect of condition on verbs may reflect the fact that pictures were used to depict noun meaning but not verb meaning during word familiarization. Also, the verbs were relatively more confusable with each other (e.g., *buy* and *sell*; *get* and *give*) and some verbs contained more syllables than any of the nouns. Even so, the trend was toward better verb learning in the singing condition, which raises the possibility that a longer learning period might have produced an advantage of singing for verbs as well as nouns.

A major limitation concerns the tests which required a response in the Korean language. The experimenters who transcribed the responses were not trained linguists or phoneticians. However, since they collected data in all three conditions, this limitation cannot explain the superior learning in the singing condition for nouns. Furthermore, we did obtain English responses to Korean words and also included a test in which learners wrote the Korean words in response to English nouns. We conclude that song can enhance learning L2 vocabulary.

### REFERENCES

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- Schon, D., Boyer, M., Moreno, S., Besson, M., Peretz, I. & Kolinsky, R. (2008). Songs as an aid for language acquisition. *Cognition, 106,* 975-983.