

한국어의 발음 음소별 빈도로 본 한국어 PB Word의 타당성

변 성 완

Frequencies of Korean Phonemes and Reliability of Korean Phonetically Balanced Word Lists

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ABSTRACT

Background and Objective : Recent advances in the computer technology and the explosive increase in the internet contents have made it possible for us to calculate the exact frequencies of phonemes in the everyday dialogue of the Korean language, which can provide the basic data for the standardization of Korean phonetically balanced (PB) word lists. This study was aimed to investigate the frequencies of Korean phonemes and to compare the results with the existing Korean PB words lists. **Materials and Methods** : The author has developed a computer program that can convert words into written sentences as they are pronounced, and calculate the frequencies of the Korean phonemes. This study used 10 materials (total 171,824 syllables) collected from several TV dramas and news shows. **Results** : All materials showed a similar trend in the frequency pattern. According to the results, the existing PB words lists had too many /m/, /b/, /o/, /u/'s and too few /n/, /d/, /t/, /e/, /eu/, /i/'s. The most prominent discrepancy existed in the final consonants. **Conclusion** : The present study showed that the existing PB words lists need to be modified to reflect actual frequencies of phonemes. (**Korean J Otolaryngol 2001;44:485-9**)

KEY WORDS : Korean language · Phoneme · Speech audiometry.

(speech audiometry) Dewey⁸⁾ French⁹⁾
 (speech discrimination score) 가¹⁾²⁾¹¹⁾ 10-17)
 PB(Phonetically Balanced) word ,
 (monosyllable) PB word 가 가
 가 1-3) , PB word 가
 (1)
 Harvard Psycho- , (2)
 Acoustic Laboratories PAL PB - 50 4) , (3)
 Central Institute for the Deaf CID W - 22 PB word
 ,⁵⁾ Northwestern University NU Auditory test No. PB word
 4, No. 6 6)7)

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(1988)

1

PB word (Table 1).
PB word (Table 1).

(Table 2).
word 가
1) [ㄴ][ㄷ][ㄹ][ㅇ] (Table 1, Fig. 1).
2) [ㄱ][ㅡ][ㅣ] (Table 1, Fig. 2).
3) 가 65%
PB word 12%
가 [ㄴ]

Table 2. Frequencies of Korean phonemes according to the type of materials

| Ci | MD (%) | HD (%) | NS (%) | V | MD (%) | HD (%) | NS (%) | Cf | MD (%) | HD (%) | NS (%) |
|-------|--------|--------|--------|-------|--------|--------|--------|-------|--------|--------|--------|
| ㄱ | 11.9 | 13.7 | 12.8 | ㅏ | 24.2 | 21.4 | 21.1 | None | 65.3 | 65.7 | 62.6 |
| ㅋ | 1.9 | 1.8 | 1.6 | ㅑ | 4.9 | 3.1 | 5.2 | ㄱ | 2.8 | 1.7 | 2.3 |
| ㆁ | 10.7 | 10.1 | 10.9 | ㅓ | 1.4 | 1.1 | 0.6 | ㄴ | 14.3 | 10.6 | 10.9 |
| ㄷ | 8.5 | 7.8 | 8.9 | ㅕ | 0.1 | 0.0 | 0.0 | ㄷ | 2.2 | 2.3 | 2.6 |
| ㅌ | 1.8 | 1.9 | 1.5 | ㅗ | 13.6 | 10.3 | 9.5 | ㄹ | 4.8 | 7.4 | 6.5 |
| ㄹ | 7.4 | 9.0 | 7.9 | ㅛ | 4.0 | 4.2 | 4.1 | ㅁ | 4.0 | 3.2 | 4.3 |
| ㅁ | 7.0 | 6.2 | 5.0 | ㅜ | 4.1 | 4.5 | 4.8 | ㅂ | 0.8 | 0.8 | 1.0 |
| ㅂ | 4.1 | 4.5 | 4.4 | ㅠ | 0.7 | 1.5 | 0.5 | ㅇ | 5.9 | 8.4 | 9.9 |
| ㅅ | 0.6 | 0.3 | 0.2 | ㅡ | 8.8 | 11.0 | 9.7 | | | | |
| ㅆ | 9.7 | 8.5 | 8.7 | ㅓ | 1.3 | 1.7 | 1.7 | | | | |
| ㅈ | 1.9 | 1.9 | 2.6 | ㅖ | 0.4 | 0.1 | 0.3 | | | | |
| ㅊ | 15.3 | 15.9 | 13.7 | ㅘ | 0.4 | 0.6 | 1.2 | | | | |
| ㅌ | 7.8 | 7.7 | 8.4 | ㅙ | 1.2 | 0.4 | 0.9 | | | | |
| ㅍ | 1.1 | 0.9 | 0.7 | ㅚ | 6.8 | 7.3 | 6.7 | | | | |
| ㅑ | 2.0 | 2.3 | 3.0 | ㅜ | 0.8 | 0.7 | 1.2 | | | | |
| ㅋ | 1.1 | 0.8 | 1.6 | ㅠ | 0.0 | 0.0 | 0.0 | | | | |
| ㆁ | 1.8 | 1.0 | 1.7 | ㅡ | 0.4 | 0.4 | 0.6 | | | | |
| ㅆ | 1.2 | 0.9 | 1.4 | ㅣ | 10.7 | 12.5 | 12.4 | | | | |
| ㅎ | 4.2 | 5.1 | 5.1 | ㅏ | 0.8 | 1.8 | 1.7 | | | | |
| | | | | ㅑ | 14.5 | 16.9 | 17.1 | | | | |
| Total | 100 | 100 | 100 | Total | 100 | 100 | 100 | Total | 100 | 100 | 100 |

* : Actually no initial consonant.

Ci : Initial consonant ; V : Vowel ; Cf : Final consonant

MD : Modern Drama (77,949 syllables) ; HD : Historical Drama (58,885 syllables) ; NS : News Script (34,990 syllables)

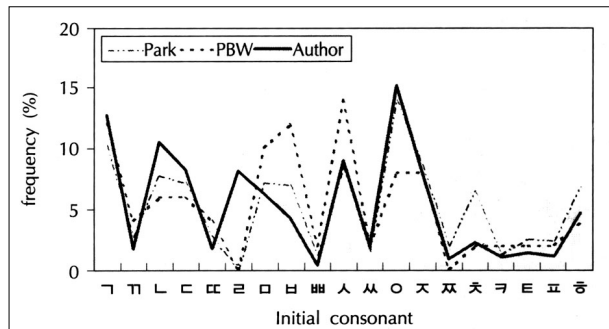


Fig. 1. Frequencies of initial consonants in Korean. Author : Present study (171,824 syllables) ; PBW : Hahm (1962)'s PB word lists ; Park : Park's study (77,898 syllables).

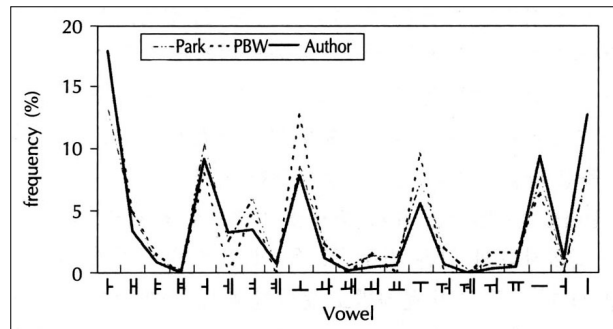


Fig. 2. Frequencies of vowels in Korean. Author : Present study (171,824 syllables) ; PBW : Hahm (1962)'s PB word lists ; Park : Park's study (77,898 syllables).

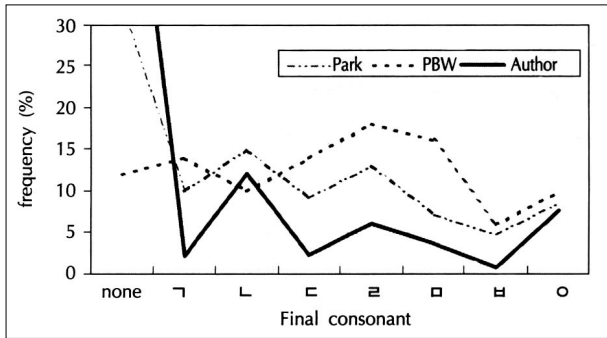


Fig. 3. Frequencies of final consonants in Korean. Author : Present study (171,824 syllables) ; PBW : Hahm (1962)'s PB word lists ; Park : Park's study (77,898 syllables).

[ㄹ][ㅁ] (Table 1, Fig. 3).

4)

(Table 2).

가 10-17)

가 가

1971 Park¹³⁾

가 가 77,898

498 10

498 98.2%

7 [ㄹ]

(Table 1).

가 7

가

Park¹³⁾

가 / / (7)/ (2000~3000)

[ㄹ][ㄹ][ㄱ][ㅂ]

[ㅎ] 가

[[] [ㄹ][ㄹ]

[ㅂ] , [ㅎ] [ㄱ]

65%

32%

, Park¹³⁾

(Table 1).

가

PB word

(Fig. 3).

[ㄹ]

[ㅂ][ㅊ][ㅋ][ㄷ]

, [ㅈ]

(Figs. 1 and 2).

[ㄹ]

(8.2%)

[ㄹ]

[ㄹ]

PB word

35%

PB word

88%

PB word

4 [ㄹ][ㅁ][ㄹ][ㅅ]

2 [ㄹ]

[ㄷ]

(2000~3000)

[ㅈ][ㅊ] 가

2~3, 3~4

가

가

17

| | | |
|------|-------------|-------------|
| | PB word | [ㄴ][ㄷ][ㄹ] |
| [ㅇ - |] [ㄱ][ㅡ][ㅣ] | , [ㅁ][ㅂ][ㅅ] |
| [ㅌ] | | |
| | 가 | |

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