The Perceptual Cues for Nasal Finals in Standard Chinese

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1. Overview

Problem
What are the primary perceptual cues for nasal Finals in Standard Chinese, especially for native Chinese listeners?

Method
Synthesizing three-formant stimuli in which the second formant (F2) and the third formant (F3) were varied.

Conclusion
Although F3 plays a role in the perception of velar nasal Finals, F2 is the primary perceptual cues for nasal Finals in Standard Chinese.

Impact
Providing a baseline for Japanese students

2. Nasal Finals

2.1 Perception
- Nasal codas
  - only suggest the manner of articulation (H. Wang, 2012)
- Vowel part
  - nasalized vowels have a crucial influence on the perception of nasal Finals (Z. Y. Wang, J. S. Zhang, 2014)
- Place-of-articulation information for nasal Finals:
  - Nasalized vowel > Vowel nucleus > Nasal coda (Jinsong Zhang et al. 2013)

2.2 Production
- Nasal codas
  - exert an anticipatory effect on the articulation of the vowel part (Z. J. Wu, M. C. Lin, 1989)
- Vowel part
  - F2 and F3 in the nasalized vowels have the significant difference (M. C. Lin, J. Z. Yan, 1994)

2.3 Our question:

3. Experiment

3.1 Synthesis stimulus

3.2 Results

4. Conclusions

Differences between F2 and F3 in the perception of nasal Finals:
- F2: /n/ & /ŋ/
- F3: /ŋ/

F2 is the primary perceptual cues for nasal Finals in Standard Chinese.