

# Internal open word juncture features in three varieties of English: perception and production

Jane Setter<sup>1</sup> | Peggy Mok<sup>2</sup> | Ee Ling Low<sup>3</sup> | Donghui Zuo<sup>2</sup>

## Introduction

This pilot study compares the perception and production of word juncture characteristics amongst speakers of three varieties of English, Hong Kong English (HKE), Singapore English (SE) and British English (BE), using juncture pairs such as *key part* vs. *keep art*.

We find that, even though reaction time data indicates that listeners perform quickest in the variety they are most familiar with, not only are juncture differences in BE difficult for Hong Kong and Singapore listeners to perceive, they are also the most difficult for British listeners. Juncture characteristics in HKE are the easiest to distinguish among the three varieties. When the acoustic features of the juncture cues are examined, it is found that, among other acoustic characteristics, pause duration amongst the HKE speakers across the word boundaries is the greatest. We conclude that this is possibly the most important factor in making HKE more intelligible to the three groups of listeners. This is discussed in terms of intelligibility in English in the Asia Pacific region.

## Hong Kong and Singapore English

In terms of the development of NVEs, Schneider puts HKE at Phase 3 in his Dynamic Model of the Development of Postcolonial Englishes (2007), i.e., at “nativisation”, indicating that the variety is in a state of “cultural and linguistic transformation” (Schneider 2007: 40). In the context of the return of HK to China in 1997, Schneider notes that the drive to use English is “stronger than might have been anticipated” (2007: 139). SE, on the other hand, is a recognized NVE., which Schneider (2007: 153) places at Phase 4 in the Dynamic Model, “endonormative stabilisation”, which indicates that the English spoken in the territory is a variety in its own right, on equal terms with other recognized varieties.

HKE has identifiable phonetic as well as other linguistic features which have been documented in a number of recent studies (e.g., Deterding et al. 2008, Setter et al. 2010). There are many studies on SE phonetics and phonology, both acoustic and auditory (see Brown, 2005).

## Perception

### Hypotheses:

1. Juncture boundaries in BE will be most difficult to distinguish for listeners in all three varieties;
2. Those in HKE will be the easiest to distinguish;
3. Listeners will do best in their own variety in terms of percentage correct (PC) and reaction time (RT).

### Method:

- 25 HKE, 25 BE and 10 SE listeners
- 24 juncture pairs selected based on previous experiments (Lehiste 1960; Schwab et al 2008)
- Recorded by a typical speaker of each variety
- Carrier phrase “HE said XX”.
- Word pairs extracted and presented to listeners in three sections, one per variety, randomised within groups
- Both word pairs presented visually on a computer screen with an audio file using DMDX
- Participants pressed Z for the pair on the left and M for the pair on the right.
- Time out was set at 8000ms.

## Results

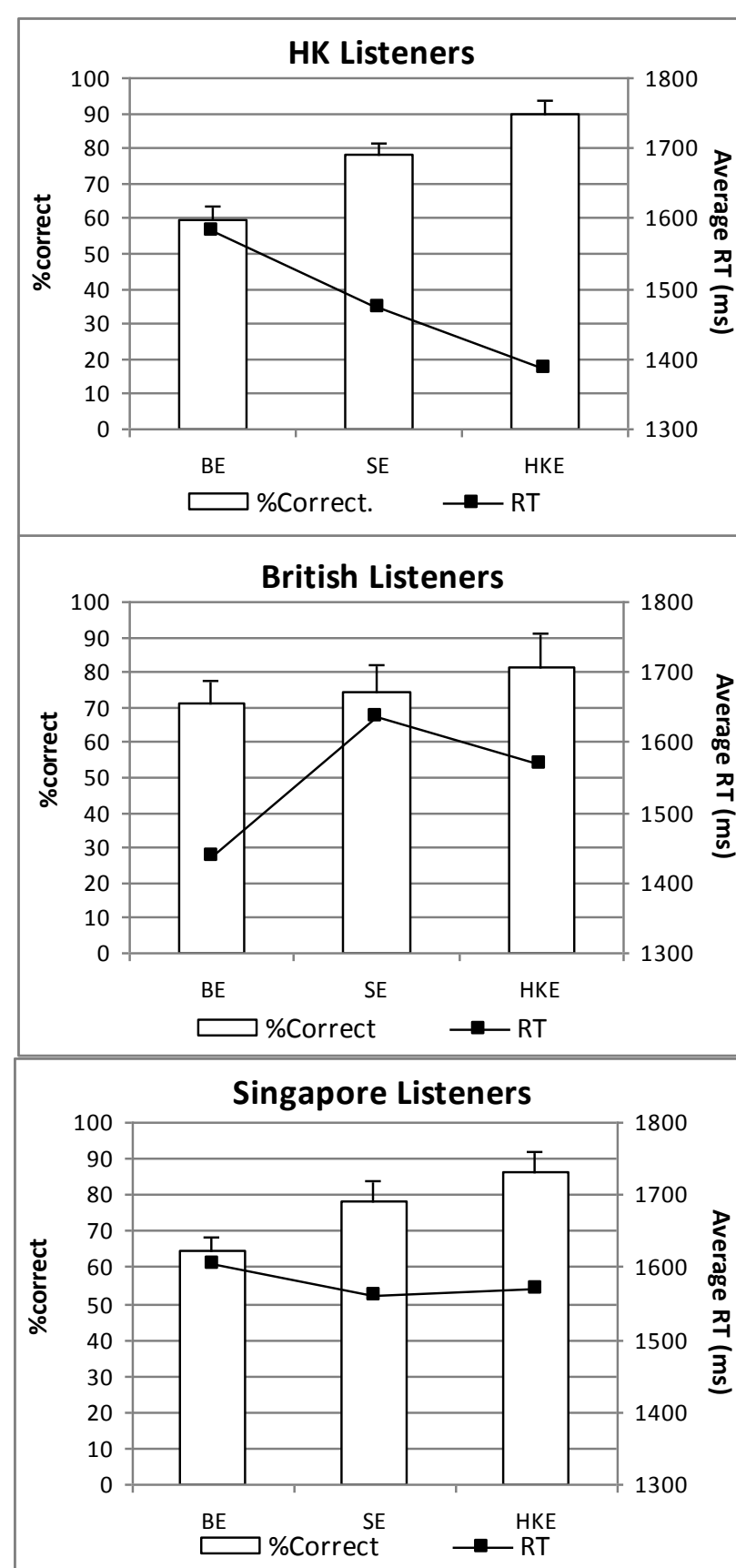


Figure 1. PC and RT for the three English varieties

1. Juncture boundaries in BE were the most difficult to distinguish for all listeners.
2. Those in HKE were the easiest.
3. All listeners did best in their own varieties in terms of RT. Hong Kong and British listeners performed best on their own varieties in terms of PC; Singaporean and Hong Kong listeners scored equally in SE.

Differences between medial segment types in terms of ease of perception. For all listener groups:

- HKE: stops (St) > sonorants (So) > clusters (Cl)
- BE: Cl > So > St.
- SE: So > Cl > St.

## Production

### Method:

- 10 HKE, 10 BE and 3 SE speakers
- The same 24 juncture pairs
- Carrier phrase “I read X X to you”
- Measured average word duration, duration/silence across the juncture boundary and formant data

### Results

**Formant data:** BE vowels in the second syllable following the consonant(s) were more centralised than in HKE. There was also less coarticulation in HKE than in BE.

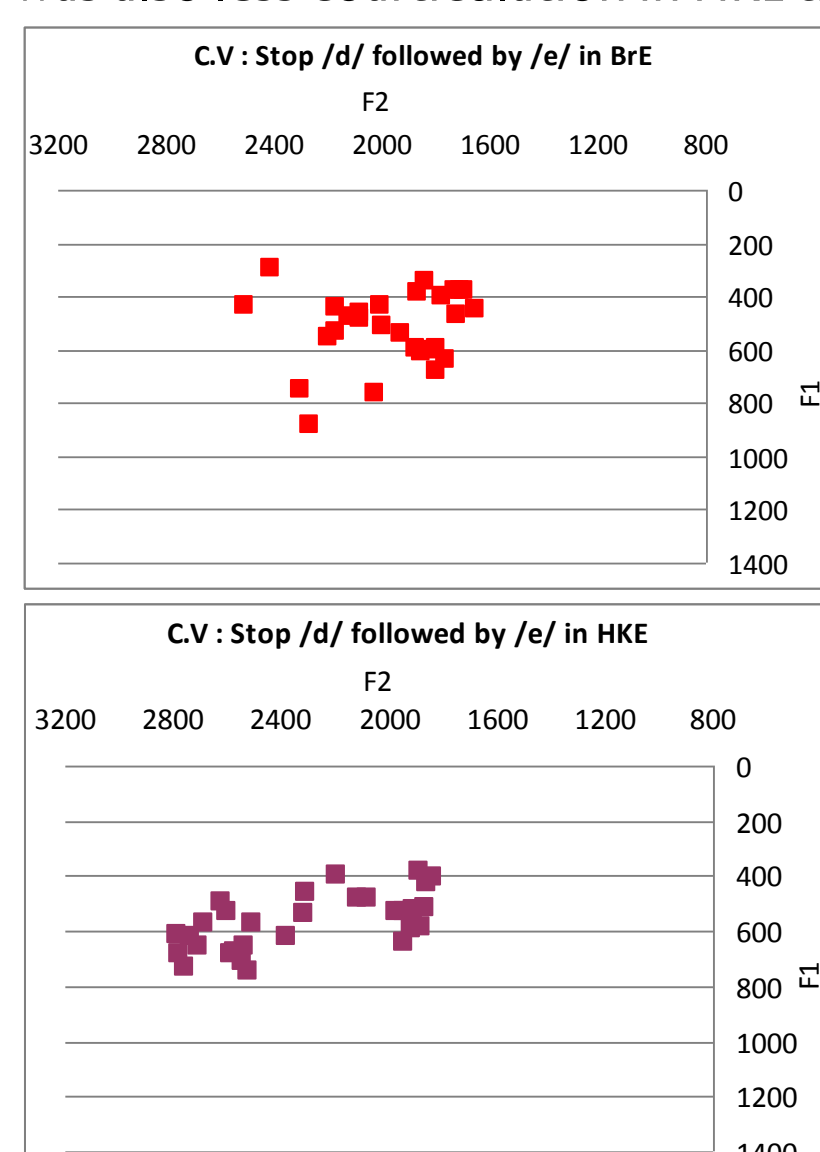


Figure 3. Sample vowel formant data for BE and HKE

- **Av word duration:** HKE (33ms) > SE (30ms) > BE (26ms)
- **Duration/silence across juncture boundary:** HKE and SE silences > BE
  - E.g. Av duration in C (St).V syllables: SE (116ms) > HKE (101ms) > BE (72ms)
- SE and HKE = greater number of tokens containing silence.

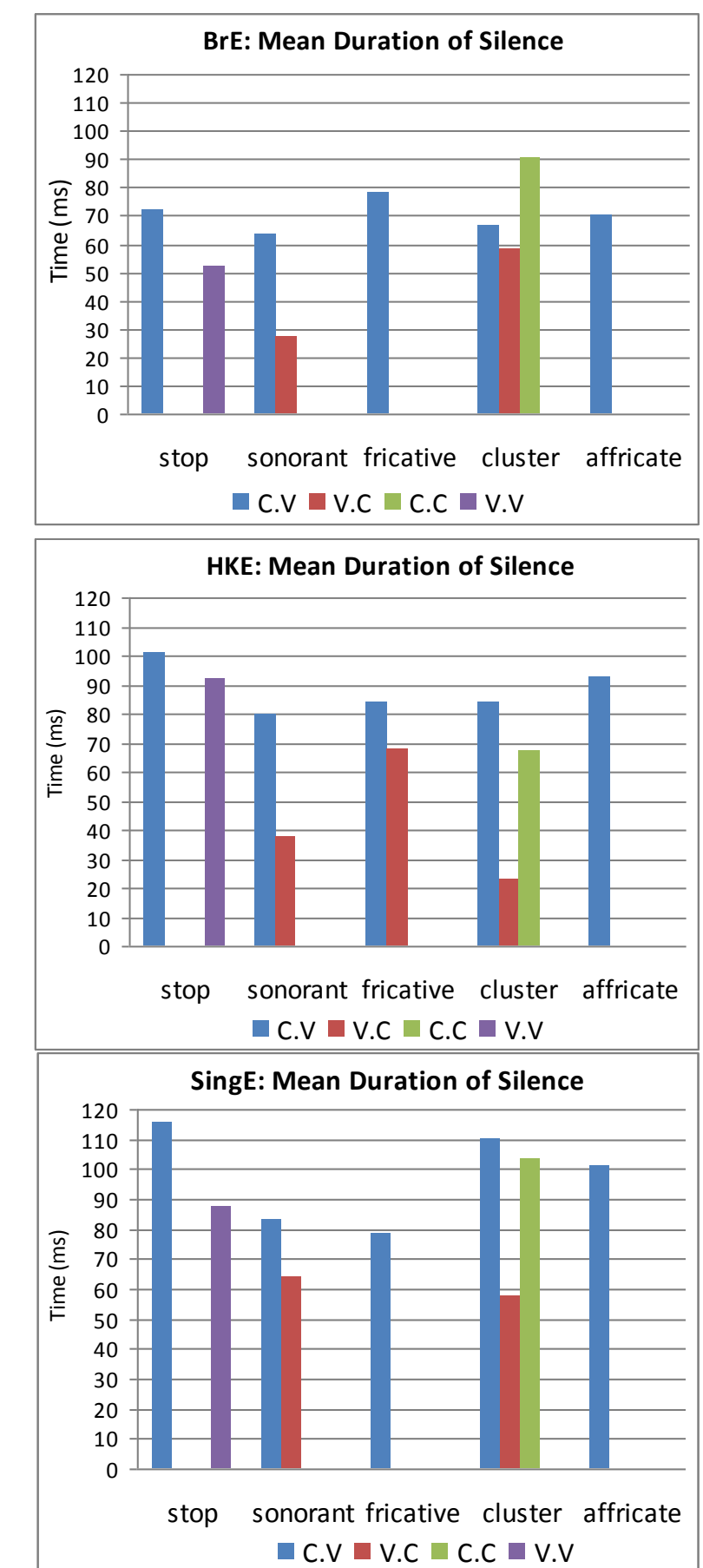


Figure 2. Mean duration of silence for the three varieties (ms)

## Discussion

HKE, an emerging variety of English, has been shown to be more intelligible than SE and BE. From the results presented here, it is possible that juncture clarity and degree of coarticulation may correlate with intelligibility; the greater silences across juncture pairs in HKE could, for example, improve its intelligibility to other speaker groups. As this study used only a small set of subjects (and only one of each “typical” speaker in the perception experiment), however, collection and analysis of greater amounts of data are necessary.

### References

- Brown, A. (2005). A bibliography on Singapore English pronunciation. In D. Deterding, A. Brown & E. L. Low (Eds), *English in Singapore: phonetic research on a corpus* (pp. 184-202). Singapore: McGraw Hill Education.
- Deterding, D., Wong, J. & Kirkpatrick, A. (2008). The pronunciation of Hong Kong English. *English World-Wide* 29/2: 148-175.
- Lehiste, I. (1960). An acoustic-phonetic study of internal open juncture. *Phonetica* 5, 1-54.
- Schneider, E. (2007). *Postcolonial English: Varieties around the world*. Cambridge: Cambridge University Press.
- Schwab, S., Miller, J., Grosjean, F., Mondini, M. 2008. Effect of speaking rate on the identification of word boundaries *Phonetica* 65, 173-186.
- Setter, J., Wong, C. S. P. & Chan, B. H. S. (2010). *Hong Kong English*. Edinburgh: Edinburgh University Press.

### Acknowledgements

- This research was partly funded by a British Council / Association of Commonwealth Universities grant and a grant from the Chinese University of Hong Kong.
- We wish to thank Ao Ran (Singapore) and Chris Ryder (UK) for data collection assistance.

### Contact information (authors' email addresses)

j.e.setter@reading.ac.uk | peggymok@cuhk.edu.hk  
eeling.low@nie.edu.sg | donghuizuo@gmail.com