

# **Dialectal variation in obstruent voice and the Voicing Effect in English: An acoustic study on New Zealand English**

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The Voicing Effect (VE; aka Pre-Fortis Clipping) is a well-documented process whereby vowels are shorter before voiceless/fortis consonants. Cross-linguistically, its size is found considerably larger in English (0.60-0.70) than elsewhere (0.80-0.90; ratios from Chen 1970), and it is generally claimed that in English, preceding vowel duration serves as a primary cue to the perception of the obstruent's fortisness.

More recently, research on the English VE has turned to its size in spontaneous speech (rather than isolated, read words) and non-pre-pausal positions, and to its non-uniformity in English varieties. Tanner et al. (2020) identify a scale in which the VE size is larger in the US than in England than in Scotland, which indicates that in general, the larger the functional load of vowel length (due to final devoicing and/or more aspiration/less active voice in parts of the US), the larger the VE.

It is this research trend we aim to contribute to with the investigation of southern-hemisphere Englishes, crucially missing from the scale. While the present paper scrutinises New Zealand (Pākehā) English (NZE) and Māori English (ME), our next phase will include Australian English, too. Our database is comprised of sound recording corpora of spontaneous NZE speech from the Tauranga City Libraries and the digitalNZ radio archives (see URLs below), whose relevant chunks are extracted and analysed in PRAAT. VOT and vowel duration measurements are made, and the speech rate is calculated; for the statistical analysis, the Bayesian model is applied. The research questions we aim to investigate are as follows:

1. Previous, smaller-scale studies report larger VE in NZE than in either BrE or AmE (0.56-0.60; MacLagan and Hay 2007; Cho 2016). Do our results confirm this? Does this correlate with a relatively/considerably long VOT in NZE?

Our hypothesis: NZE is aligned with US English, being closer to the maximal end of the scale in terms of both VOT and the VE, although with lower values, due to the more spontaneous speech style in our sample.

2. Descriptions of ME (e.g., Warren and Bauer 2004) attribute traditionally weaker/less frequent aspiration to it (as a substrate effect). Do the ME speakers in our database preserve this feature? Are their lenes tenuis or voiced? Where does ME's laryngeal system locate it on the VE scale?

Our hypothesis: ME's moderate aspiration assigns it to the lower end of the scale, i.e., close to Scotland, in terms of both VOT and the VE.

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### Sound recording corpora

Tauranga City Libraries: <https://paekoroki.tauranga.govt.nz>

digitalNZ radio archives: <https://digitalnz.org/records?tab=Audio&text=#>

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