

The Phonetics of Emphatic Vowel Lengthening in English

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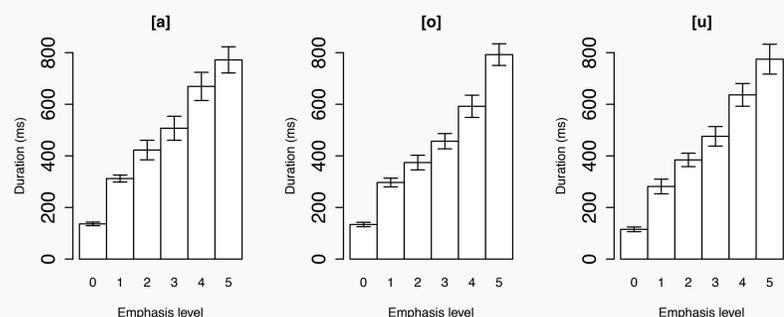
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Introduction

Duration-based lexical vowel contrasts tend to be binary (Ladefoged and Maddieson 1996).

Kawahara and Braver (2013, in press) showed that Japanese speakers can produce up to 6-way durational distinctions to show varying levels of emphasis.

Sample results (Kawahara and Braver 2013):



Question: Can English speakers, with no lexical length contrast, produce such 6-way distinctions?

Experimental stimuli

7 target *intensifier* words, which can be lengthened to show emphasis, in carrier sentences. E.g.:

That guy is so creepy

Also: *very, too, way, super, mad, really*

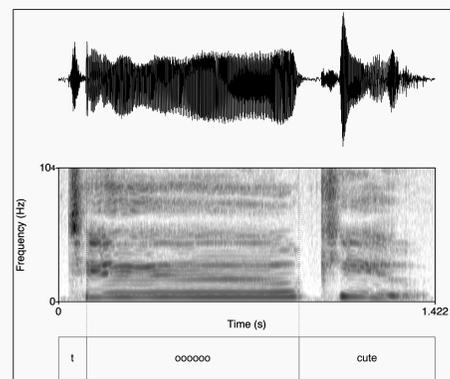
Each target word had 5 degrees of emphasis, plus one no-emphasis condition:

No Emphasis	so	Level 3	soooo
Level 1	soo	Level 4	sooooo
Level 2	sooo	Level 5	soooooo

Method

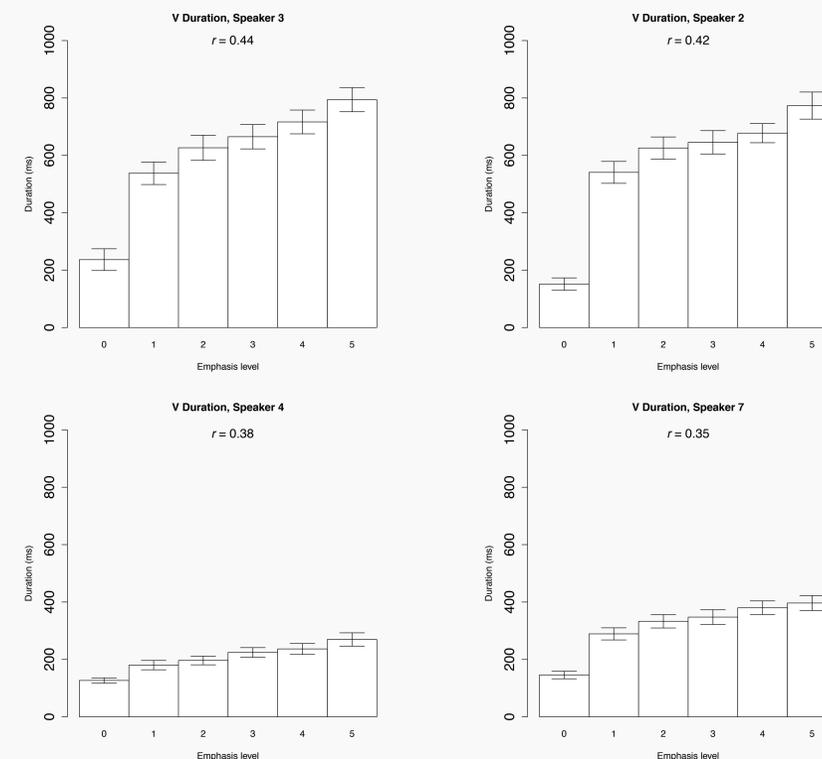
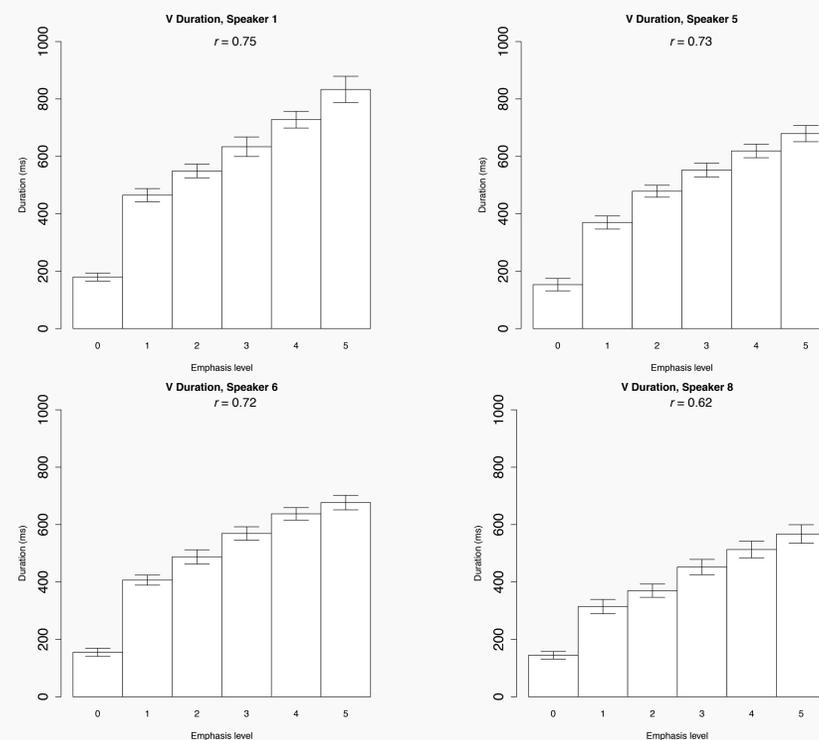
Stimuli were read 10 times (randomized) by 8 female native English speakers.

Duration measurement procedure for *too* (level 5):



Results

Speakers ordered by correlation between emphasis level and duration (high to low):



All correlations significant to $p < 0.001$.

All speakers showed the greatest distinction between levels 0 and 1.

Discussion

Even though English (unlike Japanese) lacks a duration-based lexical contrast, some speakers (1, 5, 6, 8) made 6-way durational distinctions to express degrees of emphasis, much like the Japanese speakers in Kawahara and Braver (2013). Both English and Japanese speakers all made a large distinction between levels 0 and 1.

Follow-up study: English listeners were unable to accurately categorize emphasis level, though tended to correctly identify the no emphasis condition.