## On the Weightlessness of Vowel Lengthening: Insights from Arabic Dialect of Yemen and Contribution to Psychoneurolinguistics

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Abstract: Introduction: It is well established that lengthening (longer duration) is considered one of the correlates of lexical and phrasal prominence. However, it is unexplored whether the scope of vowel lengthening in the Arabic dialect of Yemen (ADY) is differently affected by educated and/or uneducated speakers from different dialectal backgrounds. Specifically, the research aims to examine whether or not linguistic background acquired through different educational channels makes a difference in the speech of the speaker and how that is reflected in related psychoneurolinguistic impairments. Methods: For the above mentioned purpose, we conducted an articulatory experiment wherein a set of words from ADY were examined in the dialectal speech of thousand and seven hundred Yemeni educated and uneducated speakers aged 19-61 years growing up in five regions of the country: Northern, southern, eastern, western and central and were, accordingly, assigned into five dialectal groups. A seven-minute video clip was shown to the participants, who have been asked to spontaneously describe the scene they had just watched before the researchers linguistically and statistically analyzed recordings to weigh vowel lengthening in the speech of the participants. Results: The results show that vowels (monophthongs and diphthongs) are lengthened by all participants. Unexpectedly, educated and uneducated speakers from northern and central dialects lengthen vowels. Compared with uneducated speakers from the same dialect, educated speakers lengthen fewer vowels in their dialectal speech. Conclusions: These findings support the notion that extensive exposure to dialects on account of standard language can cause changes to the patterns of dialects themselves, and this can be seen in the speech of educated and uneducated speakers of these dialects. Further research is needed to clarify the phonemic distinctive features and frequency of lengthening in other open class systems (i.e., nouns, adjectives, and adverbs). Phonetic and phonological report measures are needed as well as validation of existing measures for assessing phonemic vowel length in the Arabic population in general and Arabic individuals with voice, speech, and language impairments in particular.

Keywords: vowel lengthening, Arabic dialect of Yemen, phonetics, phonology, impairment, distinctive features

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