

The not-so-selective adaptation of vowels

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Previous research points towards differences between the perception of consonants and vowels. The present study contributes to characterizing these differences by examining the low-level perception of vowels using selective adaptation. Selective adaptation is the effect that after repeated exposure to one endpoint of a sound continuum, more sounds along the continuum will be categorized as the opposite category. Previous studies using this paradigm focused on consonants and demonstrated limited generalization across acoustic and articulatory dimensions such as place of articulation. For example, the categorization of a [ba]-[da] continuum is not affected by repeated exposure to [ga] which is articulated further back than the "back" continuum endpoint (i.e., [da]). Motivated by the fact that vowels are produced and perceived in a more gradient manner than consonants, we tested whether generalization could be found with vowels that were presented in adaptor words. Specifically, we tested selective adaptation of a vowel height continuum ([u]-[o]) and a place of articulation (front-back) continuum ([y]-[u]) with the endpoint adaptors and other adaptors that only matched in one dimension. For example, [e] has the same height as [o], and [i] is front like [y]. Results showed selective adaptation of the same magnitude for all adaptors in the direction of the endpoint that matched in the critical dimension. Although the cause of this effect remains unclear, as it could be either adaptation of phonological features or simple acoustic contrast, our findings provide evidence supporting the recurrent claim that vowel perception is less restrictive than the perception of consonants.