

## Vowel height and duration in Chilean Spanish

High vowels are generally shorter than low vowels: there is a positive correlation between F1 and duration in English and cross-linguistically (House and Fairbanks 1953, Peterson and Lehiste 1960). My thesis examines correlations between F1 and duration within categories, in addition to the more standard between-category analysis, to better understand the relationship between vowel height and duration. I consider two competing explanations for the vowel height/duration relationship, and my results rule in favor of a phonological explanation over a physiological/phonetic explanation. I further argue that the method introduced here can be a useful tool in general to decide whether gradient phonetic features are mechanical in nature or part of the grammar. Six native speakers of Chilean Spanish were recorded reading lists of minimal pairs (i.e. “biso” – “beso”) and had their vowels analyzed in the PRAAT acoustic software for f1 height and duration. Statistics processed in SPSS revealed a positive correlation between categories and no correlation within categories, suggesting a phonological explanation. This evidence confirms both my hypothesis and previous research that the relationship between vowel height and duration is a controlled feature, and shows that we can learn from examining continuous phonetic features within categories, in addition to the more standard between-category analysis.