

Consonant articulation in young adults: a palatometric study
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Palatometry has proven to be a useful clinical and research tool for measuring tongue-to-palate contact during speech. The goal of this study was to quantify the level of intra- and inter-speaker articulatory variability in a group of young adults. Test stimuli were VCV nonsense words using a schwa in the initial position, 15 alveolar, palatal, and velar consonants medially, and three corner vowels, /a/, /i/, /u/ for the final sound. From these palatometric recordings, a variability index was calculated to quantify the degree to which the same electrodes were contacted for tokens of the same sound within and across speakers.

Different aspects of articulation (i.e. place, manner, voicing, coarticulation) were considered for comparison. Significant differences in the degree of variability were found for place of articulation in the /i/ vowel context and for manner of articulation in the /a/ vowel context. Also in the /a/ vowel context, significant differences were found between the commonly misarticulated sounds, /l/, /r/, and /s/. Consonants coarticulated with /a/ were found to be significantly less variable than with /u/. Also, individual speakers who were more variable in one vowel context tended to be more variable in other vowel contexts.