

The study investigates the acoustic manifestation of prosodic prominence in four languages in which the functional load of word- and sentence-level prominence differs.

German and Syrian Arabic have variable lexical stress that is marginally distinctive. In Hungarian, stress is always word-initial and thus fully predictable, while it is nearly always located on the penultimate syllable in Polish. The functional load hypothesis predicts that stress marking is only consistently realized in languages in which it is potentially distinctive.

In previous studies, the investigation of stress and accent realizations was often confounded, meaning that stressed syllables were often located in accented words, and vice versa. In our material, target vowels appeared in all four combinations of +/-accent and +/- stress conditions.

The predictability of word-level prominence was indeed manifested in prosodic cues. Stress in German and Syrian Arabic was reflected by higher fundamental frequency and energy, while spectral balance only played a role in the latter. Polish stressed vowels were marked by higher energy, but only under accentuation, while for Hungarian, only lengthening and higher f_0 were observed.

German, Hungarian and Polish express sentence-level prominence by pitch accents. This was expressed by duration, pitch, and energy in German. Polish pitch accents were not accompanied by higher energy, and Hungarian ones lacked lengthening. No consistent differences were found for Syrian Arabic.

The results show that the functional load of word- and sentence-level prominence interacts with the number of cues utilized for emphasis marking.