

SUPRAGLOTTAL AIR PRESSURE VARIATIONS ASSOCIATED WITH CONSONANT COGNATE PAIRS PRODUCED BY DEAF PERSONS

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The current research further investigated whether there are consistent patterns within deaf speech (a deaf phonology), utilizing measures of supraglottal air pressure (P_{10}); these patterns were compared with those of normal hearing speakers. Specific measures examined were overall peak P_{10} values, peak P_{10} variations for voiced versus voiceless distinction, and influence of syllabic position and vowel context for consonant cognate pairs. It was also the purpose of this study to determine the constancy of production of deaf speakers over repeated utterances. The cognate pairs /t/, /d/ and /p/, /b/ were combined with the vowels /i/ and /a/ in vowel-consonant-vowel, consonant-vowel, and vowel-consonant forms; all syllable combinations were produced in the carrier phrase, "Say -- again". In addition, sentences specifically composed of words containing the consonants /p,b,t,d,s/ and /z/ were repeated five times each in succession. Five congenitally deaf children (a puretone average greater than 90 dB HL) with semi-intelligible speech repeated the speech sample. P_{10} was recorded via a custom fitted air pressure sensing tube molded to fit around the speaker's premaxillary arch. The resultant P_{10} traces were displayed on an oscillographic recorder. Measurement and analysis of the data indicated similar trends when comparing deaf speech to that of normal hearing speakers, especially the constancy of repeated utterances. These data indicate that deaf speakers exhibit a phonology which, although more inconsistent, is similar to that of normal hearing speakers. These results will be discussed in terms of rehabilitation of deaf communication (verbal).