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Voice source characteristics in six premiere country singers

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Abstract

Voice source and subglottal pressure were studied in six professional country singers’ speech and singing. Subglottal pressure was determined from the oral pressure during p-occlusion and, using inverse filtering, the voice source was analysed with regard to closed quotient and glottal compliance (the ratio between the AC airflow contained in the glottal pulse and subglottal pressure). The closed quotient did not covary with fundamental frequency but varied with vocal loudness, approaching about 0.6 in loud phonation. Glottal compliance, which can be postulated to reflect the degree to which the vocal folds yield to a given subglottal air pressure, was largely independent of vocal loudness but decreased with increasing fundamental frequency. Both a perceptual evaluation and an acoustic analysis suggested that the phonatory characteristics varied between and within singers depending on, among other things, the character of the song. However, by and large, comparisons between phonation in speech and singing revealed no great phonatory differences.

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