

VOCAL DYNAMICS IN EXPRESSING EMOTIONS IN CLASSICAL, POP, AND JAZZ STYLES OF SINGING

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Expressing emotions is one of the primary speech related functions of the larynx. Patients with Parkinson's disease have trouble in expressing emotions at linguistic and non linguistic (facial expression) levels. Understanding the vocal dynamics in expressing emotions like joy and sorrow can help speech pathologists treat patients, engineers design automated speech for augmentative communication devices, vocal instructors train students effectively, and speech scientists understand basic voice production.

This project has both clinical and performance related significance. The primary aim of this pilot project was to investigate the vocal dynamics in expressing emotions of joy and sorrow in singing. The research team wanted to explore singers' voice for this study because they can express emotions voluntarily. The subject is a 21 year old female with more than six years of training. This subject is versatile in several styles of singing. The secondary aim of this study was to explore three different styles of singing, Classical, Pop, and Jazz. The subject demonstrated the basic emotions of interest, joy and sorrow, and also a "neutral" level for comparison.

The measures of interest for the primary aim were Open Quotient (duration of vocal folds being open during vibration) and Speed Quotient (the ratio between the speed of vocal folds opening and closing during vibration). Results indicate that the singer increased the levels of open quotient (glottal opening) for expressing sorrow. This suggests that increasing glottal opening and letting more air flow through the glottis can help auditory perception of sorrow.