

Prosodic Profiles in Parkinson's Disease and the Therapeutic Effects of SpeechVive on Prosody in Parkinson's Disease

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Abstract: Speakers with Parkinson's disease (PD) often become dysprosodic, which negatively impacts communicative effectiveness. Although it is known that individuals with PD are impaired in their ability to adjust acoustic cues required for prosodic inflection, reports of the prosodic profiles associated with dysprosody in PD remain inconsistent, likely due to the various speech tasks used across studies. Additionally, speakers with PD typically have cognitive deficits. Current therapy techniques used to treat dysprosody in PD are cognitively taxing. The SpeechVive has potential clinical implications for dysprosody in PD, as it has previously been found to improve some of the acoustic cues necessary for prosody. The present study aims to establish the prosodic profiles used by individuals with PD relative to older adults and speech task, and to determine the effectiveness of SpeechVive for treating dysprosody in PD. The study includes 22 individuals with PD and 10 older adult controls. Fifteen individuals received treatment with the SpeechVive for 12 weeks. Measurements of frequency, intensity, duration, location of silent pauses, and speech rate were analyzed from paragraph reading, lexical stress task, and intonation contours task. Results revealed that individuals with PD display prosodic impairments relative to older adults which differ by speech task. Treatment with the SpeechVive shows promise for clinical intervention as it improves some aspects of dysprosody.