The effect of increased vocal intensity on interarticulator timing in Parkinson's disease: A preliminary analysis K. Richardson, J. Sussman, E. Stathopoulos, J. Huber, & K. Tjaden

Purpose: The current study examined the effect of increased vocal intensity on interarticulator timing in individuals with Parkinson's disease. Methods: Ten individuals with mild to moderate hypophonia secondary to PD were studied. Over an eight-week treatment period, multitalker babble noise was presented monaurally during everyday communication contexts to elicit increased vocal intensity (Lombard effect). Acoustic measures of voice onset time (VOT) and voicing into the silent closure gap were used to index post-treatment changes in interarticulator timing. Results: Results indicated two distinct performance subgroups. One subgroup of speakers (n=6) exhibited more typical VOTs and decreased voicing into the silent closure gap at higher SPLs, suggesting improved temporal coordination between the articulatory and phonatory systems in response to treatment. A second subgroup of speakers (n=4) showed no post-treatment change in VOT, but exhibited increased voicing into the silent closure gap at higher SPLs, thus suggesting poorer articulatory-phonatory control following targeted voice therapy. Conclusions: Results suggest that targeted voice therapy may have benefits that extend beyond the larynx for some individuals with PD. However, further investigation is warranted to explore individual differences in response to treatment. The identification of speaker-specific voicing and devoicing strategies is consistent with the heterogeneous nature of PD.