

## **Effects of speaking task on bidirectional dual-task interference in individuals with Parkinson disease**

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Prior work suggests that performance of simultaneous motor-oriented tasks such as talking and walking affects speech and non-speech performance in individuals with Parkinson disease (PD). However, the extent to which the nature of the speaking task affects dual-task interference has not been fully clarified. The aim of this study was to examine the extent to which generative demands of the speaking task affected concurrent performance of speech and non-speech motor tasks in individuals with PD compared to neurologically healthy controls. Participants with PD and healthy older adult controls produced reading and extemporaneous speech samples under both single-task, speech only conditions and while simultaneously drawing continuous counterclockwise circles with the dominant hand on a digitizer tablet. Acoustic measures of articulation and kinematic measures of upper extremity movement were examined. Speakers with PD exhibited greater dual-task interference than controls for the extemporaneous speech task. Additionally, individuals with PD experienced bidirectional interference as upper extremity kinematics were also affected by concurrent task performance. These data suggest that the degree of dual-task interference experienced by individuals with PD may be moderated by the demands of the speech task under investigation.