THE GRADUATE COLLEGE OF THE
UNIVERSITY OF OKLAHOMA HEALTH SCIENCES CENTER

ANNOUNCES THE FINAL EXAMINATION OF

Eunsun Park

FOR THE DEFENSE OF THE DOCTOR OF PHILOSOPHY DEGREE
GRADUATE COLLEGE
Communication Sciences and Disorders

Monday, July 31, 2017, 4:15 p.m.
Allied Health Building, Room 1047

The effect of lexical stress on eye movement and prosody planning during reading in individuals with Parkinson's disease

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ABSTRACT: Approximately 80-90% of individuals with Parkinson's disease (PD) manifest hypokinetic dysarthria. Some also experience reading difficulties and impaired eye movements. An objective and quantitative approach to evaluate prosody and eye movement characteristics during silent and oral reading in individuals with PD is still lacking. This study investigates the effect of lexical stress on eye movement behavior and prosody as well as prosody planning in individuals with PD when they read a target word in a sentence under immediate oral, immediate silent, and repeated silent and oral reading conditions. Thirteen participants with the diagnosis of mild to moderate PD without dementia and 17 control participants read single sentences and passages. Results showed that participants with PD had significantly longer first fixation, longer average fixation duration, and slower articulation rate as well as a higher raw pairwise variability index (rPVI) on vowels for duration. The number of stressed syllables did not influence eye behaviors within each group. As articulation rate was increased, the average fixation duration was reduced. Longer gaze and first fixation duration were present on low frequency words compared to high frequency words in both groups. These results indicate that the young participants with mild to moderate PD who participated in this study required additional cognitive processing time to encode and decode the words, suggesting they had milder deficits in eye movements and articulation during reading. As compared to that of the healthy controls, the lexical processing performed by these participants for the purposes of recognizing and articulating words with appropriate prosody required more time to make use of the linguistic information that normally informs prosodic planning.