

Laura Speed – Abstract

### **Impaired Comprehension of Speed Verbs in Parkinson's Disease**

A wealth of studies provides evidence for action simulation during language comprehension. Recent research suggests such action simulations might be sensitive to fine-grained information, such as speed. Here we present a crucial test for action simulation of speed in language by assessing speed comprehension in patients with Parkinson's disease (PD). Based on the patients' motor deficits, we predict that they would have more difficulty processing language about fast speed than language about slow speed. We conducted a semantic similarity judgment task on fast and slow action verbs in patients with PD and age-matched healthy controls. Participants had to decide which of two verbs most closely matched a target word. Compared to controls, PD patients were slower making judgments about fast action verbs, but not for judgments about slow action verbs, suggesting impairment in processing language about fast action. Moreover, this impairment was specific to verbs describing fast action performed with the hand. Thus, problems moving quickly lead to difficulties comprehending language about moving quickly. This study provides evidence that simulation of action speed is a crucial component in understanding language about speeded action.