

## Exploring the Impact of a Walking Intervention on Change in Gait Performance, Cognitive Function, and Vascular Health in low Active Older Adults

Measures of intraindividual variability (IIV) across response latency trials have been previously linked to cognitive function, central nervous system integrity, and other generalized health metrics such as cerebrovascular health. Similarly, step-to-step fluctuations in the spatiotemporal metrics of gait share known associations with cognitive performance and future health status (e.g., dementia risk). However, there is a paucity of research investigating the malleability of these variability metrics (e.g., pursuant to interventions) as well as potential mechanisms underlying these associations. Using data from the Healthy Bodies Healthy Minds (HBHM) study, the present investigation examined whether (i) gait-based variability metrics exhibited change across as many as 5 assessments within a walking intervention study, (ii) a time-varying relationship between gait variability and cognitive function was present over the course of the intervention, and (iii) possible moderating mechanisms (e.g., walking-related improvements in cerebrovascular health) of this time-varying association could be identified. HBHM participants (n=118) were healthy community-dwelling adults (Mage=72.81±5.24 years; female=100). Gait, cognition, and cardiovascular fitness were assessed at baseline, 6, 9, 12 and 16 weeks following onset of the walking intervention. Findings will address the malleability of gait variability as a result of engaging in the 16-week walking intervention, as well as whether intervention-related improvements in vascular health may underlie corresponding reductions in gait variability and its time-varying association with executive function.