

SUPPLEMENTARY MATERIAL

Individuals were eligible if they were between the ages of 50 and 80 and fluent in English. Other eligibility criteria included being ambulatory without significant pain, recent bone fusions, or any other reason that would prohibit independent walking or cycling. Participants were required to have a diagnosis of idiopathic Parkinson's disease (PD) with at least two cardinal signs (i.e., bradykinesia, tremor, rigidity, postural instability), a Hoehn & Yahr score of 1–2 (Hoehn and Yahr¹) which is indicative of mild-to-moderate PD, and a stable medication regime for at least one month.

To limit confounds, exclusion criteria included: co-morbid neurological condition (other than PD) such as dementia or multiple sclerosis; major psychiatric illness requiring hospitalization within the past five years; and current self-reported alcohol or substance abuse (measured both by self-reported functional problems associated with alcohol use, as well as amount of alcohol regularly ingested). We also excluded participants currently participating in another study on physical activity, metabolic neurogenetic disorders, encephalitis, or cerebrovascular or degenerative disease. For participant safety, exclusion criteria also included physical activity limiting conditions including current congestive heart failure, angina, uncontrolled arrhythmia and symptoms indicative of increased acute risk for a cardiovascular event. This also included recent (i.e., within the previous 12 months) myocardial infarction, coronary artery bypass grafting, or angioplasty; conditions requiring chronic anticoagulation; exercise-limiting neuromuscular, joint/bone, cardiovascular, peripheral vascular cerebrovascular or pulmonary disease; uncontrolled hypertension (i.e., resting systolic blood pressure of > 160 mmHg or resting diastolic blood pressure of > 90 mmHg); unmedicated diabetes or endocrinopathy; and other poorly controlled or unstable cardiovascular problem precluding participation in physical activity because of serious health risk. The original dataset included magnetic resonance imaging (MRI) assessments, therefore all participants had no MR contraindications to ensure their safety and the quality of the MRI data. Finally, individuals with Montreal Cognitive Assessment (MoCA)¹³ score < 22 were deemed ineligible for enrollment due to probable dementia.