Official Study Title:

Acute Exercise Effects on Word Learning in Aging and Stroke-induced Aphasia

NCT# 03370471

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<u>Statistical Analysis Plan</u>

The following analyses apply to data from healthy adult participants who completed the study:

Primary Outcome

Aim 1. We will use a mixed effects model approach to fit repeated measures ANOVAs to word recall scores obtained at three time points: 1) after learning (acquisition), 2) immediately before exercise or stretching on two days (consolidation), and one week after the final learning session (long-term recall).

Secondary Outcome

Aim 2. We will use a mixed effects model approach to fit repeated measures ANOVA to serum BDNF concentration levels (pg/mL) obtained at four time points: 1) before exercise or stretching, 2) immediately after exercise or stretching, 3) immediately after learning, and 4) 15 minutes after learning.

Post-hoc Analysis:

We will use a mixed effects model approach to fit repeated measures ANOVAs to word recognition scores obtained at three time points: 1) after learning (acquisition), 2) immediately before exercise or stretching on two days (consolidation), and one week after the final learning session (long-term recall).

The following analyses apply to data from participants with aphasia who completed the study:

Primary Outcome

Aim 1. We will calculate gains for word recall at three time points: 1) after learning (acquisition), 2) immediately before exercise or stretching on two days (consolidation), and one week after the final learning session (long-term recall).

Secondary Outcome

Aim 2. We calculate means of serum BDNF concentration level (pg/mL) obtained at four time points: 1) before exercise or stretching, 2) immediately after exercise or stretching, 3) immediately after learning, and 4) 15 minutes after learning.

Post-hoc Analysis:

We will calculate gain scores at three time points: 1) after learning (acquisition), 2) immediately before exercise or stretching on two days (consolidation), and one week after the final learning session (long-term recall).