### Introduction

The purpose of this study was to examine the effects of balance training using the NeuroCom Balance Master and Nintendo Wii Fit with independent, community-dwelling adults aged 55 years and older.

1) Is the Nintendo Wii Fit a valid tool for balance training when compared to the NeuroCom Balance Master 6.1?
2) Is there a difference in training effect of the Nintendo Wii Fit and the NeuroCom Balance Master 6.1?

### Methods & Materials

#### SUBJECTS

Volunteers were recruited from Eskaton Village Retirement Community in Carmichael, California. 32 Total Participants (Avg. age: 81.5 yrs ± 6.5 (Range: 69–93 yrs)

- Balance Master Group: 10 (5 female, 5 male)  
  Avg. age: 82.2 yrs ± 5.6
- Wii Group: 18 (12 female, 6 male)  
  Avg. age: 80.3 yrs ± 7

#### Analyses

- Independent Variables: Outcome Variables
  - Treatment Group: BES scores
  - Time of Measure: FRT scores
  - Age: SEBT scores

- Paired t-test used to compare pre-post test scores of subjects within treatment groups
- ANCOVA used to assess differences between treatment groups
- Statistical significance was set at $\alpha < .01$

#### Experimental Design

Pre-test/Post-test repeated measures design

Rhythmic Weight Shifting: Table Tilt (marble game)
Unilateral Stance: Yoga Tree
Lunges (stationary): Step Ups/Step Downs
Aerobic Free Step: Star Grid Positions

### Analysis and Results

#### RESULTS

Age correlated significantly with all outcome variables ($p \leq .001$).

**Star Grid Positions (SEBT)**

- **Balance Master:** Significant improvement reaching forward ($p=0.007$) and backward ($p=0.003$)
- **Wii Fit:** No significant change

**Functional Reach (FR)**

- **Balance Master:** No significant change
- **Wii Fit:** No significant change

### Discussion

In a group of community dwelling older adults, the effects of balance training with the NeuroCom Balance Master and Nintendo Wii Fit are highly dependent on age. There was no significant difference on level of improvement between the two training techniques for any of the outcome variables measured.

Training on the NeuroCom Balance Master produced within group improvement on the SEBT but not on the BES or FRT. Training on the Nintendo Wii Fit did not produce improvement on the SEBT, BES, or FRT.