

## TACSM Abstract

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### Physical and functional fitness changes in older adults in response to a traditional training program and a Wii enhanced training program

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#### ABSTRACT

The Wii Fit Plus Balance program has been recommended as an alternative training tool for older adults to improve physical and functional fitness. However, the effectiveness of the Wii Fit Plus in combination with traditional training approaches in older adults is unclear. **PURPOSE:** To compare changes in physical fitness measures in older adults (OA) engaging in two different training programs: 1) traditional exercises performed by the control group (CG) and 2) traditional exercises complemented by Wii balance games performed by the experimental group (EG). **METHODS:** 35 untrained OA (mean  $\pm$  SD Age: 68.86  $\pm$  6.13; BMI: 28.89  $\pm$  5.32) with no exercise history were recruited and randomly assigned to either the CG or EG group. CG and EG programs both included cardio, strength, flexibility, and balance training exercises. However, subjects in the EG group performed additional balance exercises using Wii fit plus program. Both CG and EG subjects exercised twice per week for twelve weeks. Fitness assessments were based on standard procedures including the chair stand, gallon jug transfer, 8 foot up-and-go tests, as well as a long ramp walk and medicine ball throw tests. Data were collected at weeks 1, 6, and 12. Data analysis was conducted using the general linear mixed model with alpha level set at  $p < 0.05$ . **RESULTS:** A significant time effect was found for all fitness measures in both groups from week 1 to 6 ( $p < 0.001$ ) and week 1 to 12 ( $p < 0.001$ ). In general CG and EG subjects made 5.5% to 31.7% improvement from Week 1 to 6 and 8.1% to 52.5% improvement from Week 1 to 12. No significant group effects were observed between the CG and EG groups ( $p > 0.370$ ). Also, no significant group by time interactions were observed for any of the fitness measures ( $p > 0.290$ ). **CONCLUSION:** It appears that the use of the Wii Fit Plus Balance in conjunction with a traditional exercise program does not provide added significant fitness benefits for older adults. While additional fitness benefits are not evident, it appears that both a traditional exercise program alone and a traditional exercise program combined with the Wii Fit Plus Balance training may elicit significant fitness improvements.