

# Effectiveness of Lee Silverman's Voice Treatment (LSVT) Big and Strength Training on Balance, Physical Activity and Risk of Fall in Elderly Population: A Quasi-Experimental Study

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## Abstract

**Background:** Balance impairment is a common issue in older adults, impacting quality of life and increasing the risk of falls and injuries. Traditional exercise programs may not be effective in improving balance. The LSVT BIG program, designed for Parkinson's disease, has shown benefits, but its effectiveness in older adults with balance impairments is unclear. Objective: To assess the effectiveness of LSVT BIG and strength training on balance, physical activity, and fall risk in an elderly population.

**Methodology:** 35 participants underwent assessments using the Mini-Mental State Examination and Berg Balance Test. Pre-tests included BBS, TUG, PASE, and POMA Tinetti tests, and received 4 weeks of LSVT BIG and strength training, followed by post-test assessments using the same outcome measures.

**Result:** The study found no age difference between males and females ( $p > 0.05$ ). Paired t-tests showed significant improvements in BBS, POMA, TUG test, and PASE from pre- to post-protocol evaluations ( $p < 0.05$ ). Independent t-tests found no differences between sexes at pre-protocol assessment, but significant differences in BBS at post-protocol assessment ( $p < 0.05$ ).

**Conclusion:** This study shows that a 4-week LSVT BIG with strength training protocol effectively improves balance, and physical activity, and reduces fall risk in older adults. This protocol can be a valuable addition to traditional balance and strength training for falls prevention in older adults.

**Keywords:** Balance; Elderly Population; LSVT BIG; Physical Activity; Risk of Fall; Strength Training