

THE EFFECTS OF COMPLEX TRAINING ON FUNCTIONAL FITNESS PERFORMANCE IN MIDDLE-AGED AND ELDERLY ADULTS

Chun Wei Lu⁽¹⁾; Tsz Ching Ng⁽¹⁾



Introduction: The rapid aging of populations globally has become a pressing issue, with Taiwan experiencing an especially fast rate of aging. Enhancing the physical function and quality of life for middle-aged and elderly adults is therefore critical. Combined training, which integrates high-intensity resistance training with plyometric exercises, emphasizes neuromuscular stimulation and muscular adaptation. This training approach has been shown to improve physical function and overall quality of life in older adults. This study aims to investigate the impact of an 8-week combined training program on the functional fitness performance of middle-aged and elderly individuals in Taiwan.

Methods: A total of 25 middle-aged and elderly adults from Changhua City, Taiwan (mean age 64.88 ± 6.42 years) participated in this study. The participants engaged in an 8-week combined training program, with sessions held twice a week, each lasting 50 minutes. Functional fitness assessments were conducted

before and after the intervention. Statistical analyses included descriptive statistics and paired-sample t-tests.

Results: The results showed that the participants exhibited significant improvements in waist circumference ($p < .001$), hip circumference ($p < .002$), upper body strength ($p < .041$), and upper body flexibility ($p < .014$).

Conclusion: The findings indicate that combined training significantly improves functional fitness performance and enhances the quality of life in middle-aged and elderly adults. This training method may serve as a recommended approach for promoting functional fitness in older adults and can provide a valuable reference for public health policies targeting the elderly population.

Keywords: Health promotion, physical activity, healthy aging.

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Main responsible: Chun Wei Lu
Email: jimmy132457@gmail.com)

⁽¹⁾PhD student, Graduate Institute of Sport Coaching Science, Chinese Culture University, Taiwan