

## THE EFFECT OF PHYSICAL COMPOSITION ON PHYSICAL EDUCATION GIRLS USING CIRCUIT TRAINING AND PLYOMETRIC PROGRAM

**Moon Soo Park**

Department of Physical Education/Dong-eui  
University, KOREA  
sport8688@deu.ac.kr

**Man Kyu Huh\***

Food Science and Technology Major /Dong-eui  
University, KOREA  
mkhuh@deu.ac.kr

### ABSTRACT

The purpose of this study aimed to analyze the effect of a circuit training and plyometric program, applied for 12 weeks per 120 minutes, during the warm-up phase of practical physical fitness classes, and to verify the resulting effects on the analyzed variables. Twenty-five women students participated in the study. Their results were applied to the analysis before and after the training program. The results indicated that the application of the training program induced positive effects in the skeletal muscle mass (SMM), body fat mass (BFM), percentage of body fat (PBF), and basal metabolic rate (BMR). This study also concluded a viable alternative for warming up in the physical education class. The skeletal muscle mass (SMM) ranged from 21.0 to 30.1 for pre-program and from 21.6 to 31.6 for post-program. SMM was higher after the program ( $M = 21.40 \pm 2.40$ ) than before ( $M = 24.56 \pm 2.05$ ), and there was a statistically significant difference ( $t = -4.447, p < .001$ ). The amount of body fat (BFM) ranged from 8.3 to 26.2 for pre-program and from 8.1 to 24.7 for post-program. BFM was higher after the program ( $M = 16.19 \pm 4.43$ ) than before ( $M = 16.83 \pm 4.17$ ), and there was statistically significant difference ( $p < .001$ ). The body mass index (BMI) ranged from 18.9 to 26.6 for pre-program and from 18.4 to 26.8 for post-program. This study was showed the existence of a positive association between the practice of training circuit and plyometric program.

**Keywords:** body mass index, circuit training, plyometric program, skeletal muscle mass.