

**Effects of Greek Traditional Dance on Kinematic Characteristics  
of the Lower Edge during Walking**

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**Abstract**

Main objective of the present study was to examine the joints angles differences during gait, between dancers of Greek traditional dance and non-dancers. Fifteen greek traditional dancers (age:  $25 \pm 10,52$  years), with at least 10 years of dance experience, consists the experimental group and 12 non-dancers (age:  $28,92 \pm 6,32$  years) the control group of the research. Initially, sixteen reflective markers were attached to the skin of each subject's selective anatomical landmarks. Then each participant was instructed to perform 10 successful gait trials, in a 15m walkway, following a stick moving with their predefined mean walking speed. A three-dimensional motion analysis system with 8 infrared cameras was used to capture the motion of hip, knee and ankle joints in every gait trial. The results showed that there was a significant main effect ( $p < 0.05$ ) of Greek traditional dance in the adduction – abduction angle of the right hip, in relation to the control group. While, there were no significant statistical differences between the left and right lower limb kinematic, in both groups. These findings indicate that systematic practice of Greek traditional dance can change gait patterns of Greek traditional dancers.

Keywords: traditional dance, gait analysis, biomechanics