



## Comparing Athletes' Audio-Visual Reaction Perception And Rhythmic Perception

Naciye HARDALAC *Gazi University, Department of Music, Gazi University Rectorship, Ankara, TURKEY,*

Berkan URAL *Gazi University, Electrical Electronics Engineering, Eti District, Yukselis Street, Gazi University Engineering Faculty Ankara, TURKEY*

### Abstract

*This study was performed in the silent environment and the aim was analyzing athletes' right-left hand audio and visual reaction scores/responses and understanding the relationship between audio and visual perception and rhythmic perception which was tested with a specific rhythm pattern. Totally, 24 students who were in Gazi University Physical Education and Sports School joined to this study. Test subjects' audio and visual reaction time measurements were obtained with NEWTEST 1000 in the silent environment. Data obtained from the study were analyzed with SPSS 25.0 (Statistical Package for Social Sciences). According to the obtained data, in the rhythm perception phase, results which were closer to the original rhythm pattern were evaluated from the participants whose audio reaction times were shorter than visual reaction times. Indeed, the success rate in rhythm perception was calculated as 89%. Indeed, a significant correlation was found between audio reaction times and rhythm perception.*

**Keywords:** *Audio and Visual Reaction Times, Athletes' Performance, Rhythm Perception*

### Introduction

Music is a subset of sounds which are reproduced with a specific purpose by using feelings and impressions[1]. Generally, musical memory of the brain is consisted from audio, visual, tactile or muscular for the special parameters of the perceived sensations[2].

A unique thought for athletes is using musical memory to improve the

performance parameter[3]. Present researches show that music has a lot of advantages for exercise and relaxation[4]. According to the studies, exercise with music has different effects on the whole system of human body[5]. Also, it is a factor that music is used to improve the skills of visualization in sport[6].

As a result of the similarity between music rhythm and human movement, a harmony is found between music