Sports Playing to Improve Visual Functions

Kelly Ha

Fairmount College of Liberal Arts & Sciences

Abstract: Visual and motor skills are essential for our daily tasks, including driving and playing sports. Previous research (e.g. Paul et al., 2011) has mainly focused on the relationship between visual functions and performance in sports. The current study aims to examine the effect of playing sports in improving eye- hand coordination (EHC) and visual functions by training participants with Ping-Pong playing.

In this study, 11 college students of ages 18-35 were recruited to go through multiple visual tests and training sessions over four nonconsecutive days. Performance on a series of visual tasks were compared between the first and last day, including processing speed, motion-in-depth perception, and divided attention, to examine the improvement as a result from playing Ping-Pong. At the beginning of the first training day and at the end of last training day, participants were also measured on their EHC performance. All participants went through multiple training sessions playing against a Ping-Pong robot.

A four-way repeated-measures ANOVA was conducted to evaluate the effect of training on EHC and visual functions. Although participants didn't improve on their Ping-Pong playing performance over just two days' training, the results showed a significant ($P<0.01$) improvement in their EHC function. More importantly and interestingly, significant improvements were found in visual processing speed and divided attention, suggesting that sports playing can be a useful intervention to improve motor skills and visual functions.

Faculty Sponsor: Rui Ni