TACSM Abstract

Explosive Muscular Power Correlation with Reaction Time of D2 Collegiate Runners and the Effects of Reaction Time Intervention

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ABSTRACT

The skill of running involves many biomechanical factors such as explosive muscular power and adequate reaction time. **PURPOSE:** The purpose of this study was: 1) to see if a lower extremity reaction time intervention course would shorten the collegiate runner's reaction time results; and 2) to see if there is a correlation between explosive muscular power and reaction time of collegiate runners. **METHODS:** The volunteers (n=20) were separated into two groups: control group and non-control group. The non control group underwent a 4-week intervention that was composed of three exercises: Scissor line jumps, lateral line jumps, and horizontal line jumps. Both groups were asked to participate in the pre and post testing. Data was collected via Blaze Pods and Kinvent Physio K-Deltas. **RESULTS:** The pre and post testing of the control and non-control groups concluded that there was no significant difference between the two after concluding the 4-week intervention. However, the testing did prove that there was a correlation between the reaction time and the peak force of the two groups. **CONCLUSION:** This study did not result in significant improvement in reaction time for the non-control group. A conclusion that can be made is that reaction time and peak force have a positive correlation. This study requires further testing over a longer intervention period, more effective exercises, and a larger sample to form conclusions on what factors affect reaction time and explosive muscular power.