TACSM Abstract

Examining the Relationship between Simple and Choice Reaction Time on Team-Sport and Individual-Sport Athletes

DYLAN RIEDESEL and SARA E. MAHONEY

Human Performance Laboratory; Department of Health and Kinesiology; Texas A&M University-Kingsville; Kingsville, TX

Category: Undergraduate

ABSTRACT

Reaction time is an important aspect in athletic performance. Simple reaction time (SRT), a response to a single stimulus, may be important to nearly all types of athletes; however choice reaction time (CRT), a reaction to multiple stimuli, is uniquely required in team sports such as football or basketball. Literature has shown that generally athletes have faster SRT than non-athletes, but there is limited research examining the effect of sport type of either SRT or CRT. The purpose of this experiment is to determine if team sport athletes have faster SRT and CRT compared to individual-sport athletes and non-athletes. Both SRT and CRT were assessed using the Deary-Liewald reaction time test; a computerized simulation in which subjects were to respond to the images on the screen by pressing the appropriate key or keys. Three groups were measured (n = 14/group): team sport athletes (basketball, football, and baseball players), individual sport athletes (track and cross country runners) and non-athletes (no participation in collegiate athletics). Each subject completed both the CRT and SRT assessments in a single laboratory visit, which took approximately 30 minutes. The order in which they completed the tests was randomized. Comparisons between the three groups were made using a one-way ANOVA for SRT and for CRT. For the SRT there was a significant group main effect (p = 0.007). The team sport group (p = 0.016) and the individual sport group (p = 0.018) had significantly faster SRT as compared to the control group. However, there was no significant difference between individual sport athletes and team sport athletes for SRT. There was no main effect for CRT (p > 0.05). Overall, athletes had faster SRT as compared to non-athletes, but there was no effect of sport type. Unexpectedly, this effect did not exist for CRT, as there were no significant differences between the three groups.

TEXAS CHAPTER
american college of sports medicine