

ABOVE REAL TIME SIMULATIONS IN AUSTRALIAN FOOTBALL

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Keywords: Decision making, simulations

Introduction

Above real time (ART) simulation training places the subject in an environment that functions faster than normal time. In cognitive skills such as decision making, this allows elite athletes to perform more automatically, a key characteristic of elite performance. This paper explores elite Australian Football (AF) player's decision accuracy and time on video simulations played at various speeds.

Methods

Forty-five male elite AF players completed a video based decision simulation task. Seventy two AF video clips obtained from games were shown in five different speeds (.75, 1.0, 1.25, 1.5, 1.75 and 2.0). Players were seated at an individual laptop and used the computer mouse to select where on the image they would kick/handball to if they were the player in possession of the ball. They were instructed to make their decision as quickly as possible within three seconds. Decision accuracy (% correct) and decision time (s) were measured. For analysis, speeds above 1.0 were collapsed together to make up the ART condition.

Results & Discussion

A one way repeated measures ANOVA found a significant effect for accuracy [Wilks' Lambda = .56, $F(2, 43) = 16.82$, $p < .005$, partial $\eta^2 = .44$]. Post-hoc testing revealed that the athletes performed more accurately on ART clips (M = 68.53%, SD = 10.98%) compared to normal (M = 52.00%, SD = 16.91%) and slow speed clips (M = 55.94%, SD = 19.12), $p < .005$. Main effects for decision time were also found [Wilks' Lambda = .86, $F(2, 43) = 3.59$, $p < .04$, partial $\eta^2 = .14$]. Decision times were significantly slower for ART clips (M = 1.43, SD = .28) than for slow speed clips (M = 1.33, SD = .35, $p = .03$). There were no significant decision time differences between normal (M = 1.42, SD = .36) and slow or ART video clips. These results lend support for previous findings [1] that athletes perform better when they have less time to think about the action or skill, allowing them to perform more automatically. These findings were also apparent in research in AF [2], where elite athletes performed significantly more accurately on ART simulations compared to their lesser skilled counterparts.

Conclusion

Elite AF players were more accurate in decision making when viewing above real time video clips. Future work should examine the use of speeded clips in training interventions.

References

1. Beilock, S., et. al. (2002). *Jnl of Exp Psych*, 8(1), 6-16.
2. Lorains, M., & MacMahon, C., (2009), Proceedings of ISSP, Marrakesh