

GAZE BEHAVIOUR DURING A LOCOMOTOR POINTING TASK

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Keywords: goal kicking, gait regulation, vision

Introduction

Locomotor pointing refers to tasks which require individuals to direct their foot towards a spatial target during locomotion. Goal kicking in Australian football is a locomotor pointing task with the nested constraint of kicking for accuracy (i.e., far aiming) at the end of the approach. The purpose of the current research was to examine gaze control strategies during Australian football goal kicking.

Methods

Five (N = 5) male Australian football players were recruited for the study; four (n = 4) players (age: 16.5 ± 0.7 years) were from the Australian Institute of Sport (AIS)/Australian Football League (AFL) Academy. One (n = 1) expert player (31.8 years) also participated; he was regarded as one of the best goal kickers in the history of the AFL. Eye movements were recorded during set shot kicks from 4 kicking points 25 m and 40 m from the goal line, 45° to the right and left. Participants took 16 kicks from each location presented in a counter-balanced fashion

Results & Discussion

There were no significant differences for distance and side therefore eye movement data was collapsed across conditions. Early in the kicking sequence the goals were predominantly fixated with intermittent fixations to the ground and the opponent. As the kicker approached the end mark (and subsequent kick) there were fewer fixations to the opponent and a greater number of fixations directed to the mark. Individual analyses provided a more detailed description of the gaze patterns and allowed similarities and differences to be identified.

Conclusion

Results of this study demonstrate that visual regulation of gait is not restricted to particular time periods during the approach as has been previously suggested.¹ Rather, visual regulation of gait during locomotor pointing occurs throughout the approach and individuals make adjustments as required to reach the target. Frequent sampling between the goals/opponent and ground/mark, as observed in the current study, would be desirable because it would allow an individual to monitor both the locomotor pointing target and kick target.

References

1. Montagne G. et al. (2000). *J Mot Behav*, 32(1):37-43.