

LEARNING FROM THE VISUAL BEHAVIOUR OF A TRANSCENDENTAL EXPERT

Buszard, T. 1), Farrow, D. 2)3) & Kemp, J. 1)

- 1) School of Exercise Science, Australian Catholic University, Australia.
- 2) School of Sport and Exercise Science/ISEAL, Victoria University, Australia.
- 3) Skill Acquisition, Australian Institute of Sport, Australia

Keywords: decision-making, transcendental expert, visual search

Introduction

The decision making skill and accompanying visual search behaviour of a “transcendental” Australian football expert (Starkes, et al., 2004) was examined relative to his skilled counterparts.

Methods

Participants (n=20) were all members of an elite Australian football team competing in the national competition. They were fitted with an eye movement recorder and watched video simulations of game-specific attacking scenarios in Australian football filmed from the first person perspective. The participant’s task was to assume the role of the ball carrier and verbally indicate their kicking decision.

Results & Discussion

The data analysed were drawn from a larger study examining the influence of instruction on decision-making accuracy (Buszard, 2010). The transcendental expert’s decision making accuracy was 92.31% relative to $M = 83.4\% \pm 0.1$ of his skilled peers. Of greater interest was the stark difference in visual search behaviour of the transcendental expert relative to his peers. In particular, this player fixated on open space for 22.19% of his total fixation duration relative to $M = 3.90\% \pm 4.80\%$ fixation duration of his skilled peers. This finding is consistent with previous research in soccer that has found open space to be informative for expert decision-making performance (Helsen & Starkes, 1999).

Conclusion

While the visual search behaviour differences are stark, the practical utility of such findings are yet to be verified. Gaze behaviour does not permit direct comment on what actual information was extracted by the participant (i.e., looking does not guarantee seeing). Hence, other search solutions may be appropriate for successful decision making. However, it does provide valuable insight into the decision making behaviour of a transcendental expert and offer fruitful applied research directions of relevance to all football codes.

References

1. Buszard, T. (2010). Unpublished honours thesis. Australian Catholic University.
2. Helsen, W. F., & Starkes, J. L. (1999). *Applied Cog Psyc*, 13(1), 1-27.
3. Starkes, J. L., et al. (2004). In A. M. Williams & N. J. Hodges (Eds.), *Skill acquisition in sport: Research, theory and practice* (pp. 259-281). London, England: Routledge.