Head Turn Frequency Can Predict Response Speed When Surrounded By Affordances

Thomas McGuckian[1], Michael Cole[1], Daniel Chalkley[1], Geir Jordet[2] and Gert-Jan Pepping[1]
[1]School of Exercise Science, Australian Catholic University, Brisbane, Australia
[2]Department of Coaching and Psychology, Norwegian School of Sport Sciences, Oslo, Norway

Background. When surrounded by task-relevant information, visual exploration is vital for the discovery of opportunities to act[1,2], as they allow prospective regulation of movement[3,4] Footballers compete in situations where they are surrounded by task-relevant information, however research investigating exploration in these situations is rare[5,6].

Aim. To discover the relationship between visual exploration before receiving a pass and the speed of a subsequent pass.

Method. 12 male footballers aged 16 to 18 years (M = 17.25, SD = 0.75) with 9 to 14 years playing experience (M = 12.42, SD = 1.44). The task required participants to kick the cone that corresponded to the screen which displayed a video of a free teammate, as quickly as possible, after receiving ball possession (signified by a video on the laptop) (Figure 1).

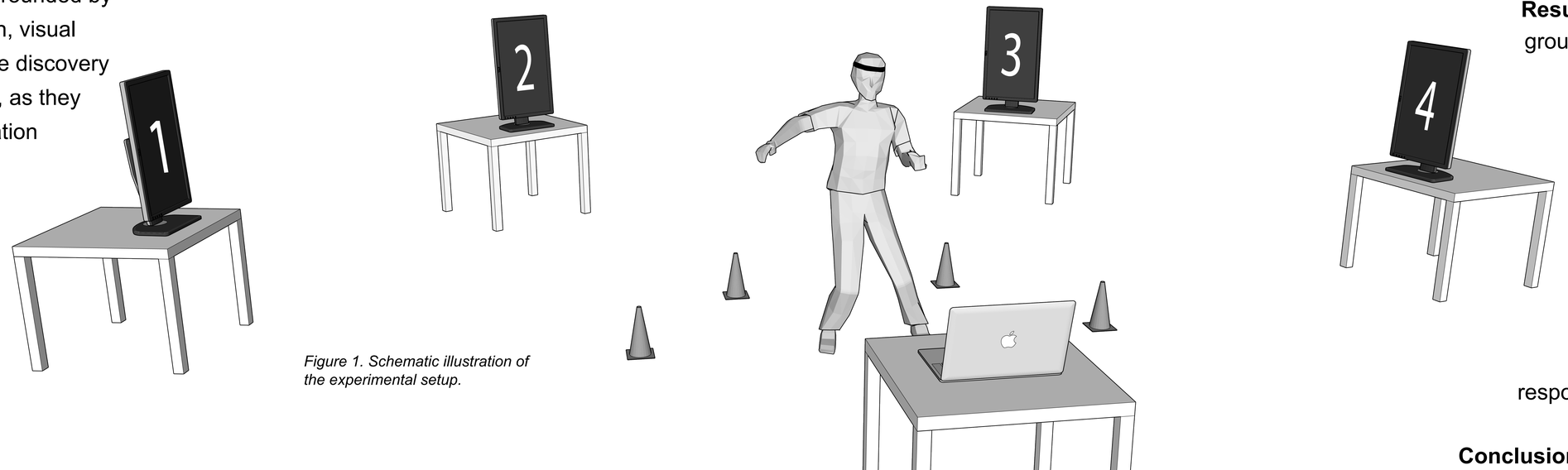

Figure 1. Schematic illustration of the experimental setup.

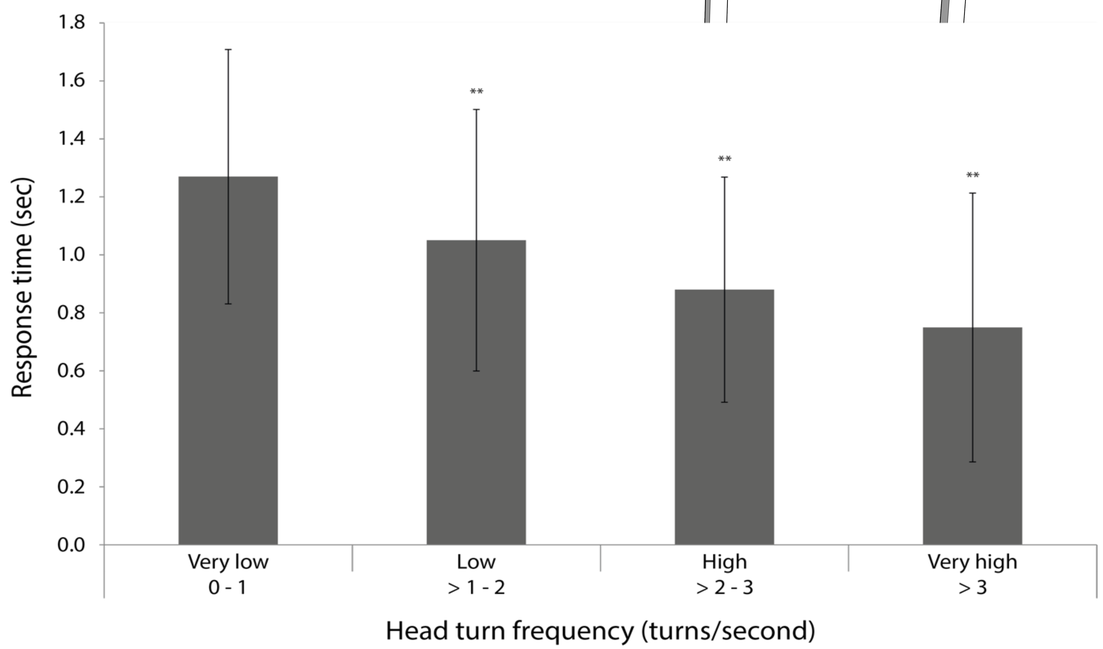

*Figure 2. Mean (SD) response time according to head turn frequency. ** indicates p < 0.01 difference compared to very low group.*

Results. 1,124 trials were grouped by the frequency of head turns before receiving ball possession. Categorical linear regression showed that a higher head turn frequency resulted in faster response times (Figure 2).

Conclusion. In situations where fast responses to surrounding information are critical, such as team sport, visual exploration should be considered vital. Practitioners should consider how players can be trained to effectively explore the field, particularly when not in possession of the ball.

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@TBMcGuckian
Thomas.McGuckian@acu.edu.au

AUSTRALIAN CATHOLIC UNIVERSITY