

DUAL-TASK ASSESSMENT OF A SPORTING SKILL: INFLUENCE OF TASK COMPLEXITY AND RELATION WITH COMPETITIVE PERFORMANCES

Gabbett, T. 1) & Abernethy, B. 2)

1) School of Exercise Science, Australian Catholic University, Australia

2) Institute of Human Performance, University of Hong Kong, China

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Introduction

It is well documented that with highly demanding skills, a greater proportion of a performer's limited processing capacity is required to maintain an acceptable level of performance. This study investigated the effect of increases in task complexity on the dual-task draw-and-pass performance of professional rugby league players, and determined the relationship between dual-task draw-and-pass proficiency and competitive draw-and-pass performances.

Methods

Highly-skilled professional rugby league players performed a standardised 2-on-1 and 3-on-2 drill under single-task (primary skill in isolation) and dual-task (primary skill while performing a secondary verbal tone recognition task) conditions. Video footage of 77 National Rugby League matches were coded for the number of tries scored, and the activities that led to the try.

Results & Discussion

Significant performance decrements ($p < 0.05$) occurred in 3-on-2 skills in comparison to 2-on-1 skills, under both single-task and dual-task conditions. During matches, a total of 303 tries were scored, with 150 (49.5%) tries scored from a draw-and-pass. The numbers of competition draw-and-pass opportunities decreased and unsuccessful attempts increased with increases in task complexity. Significant relationships ($p < 0.01$) were detected between dual-task draw-and-pass proficiency and competition 2-on-1 ($r = 0.66$), 3-on-2 ($r = 0.53$), and 4-on-3 ($r = 0.48$) draw-and-pass performances.

Conclusion

These findings provide evidence of the greater attentional demands of increasing task complexity on the skill of drawing-and-passing in elite team sport athletes and of the practical utility of off-field dual-task testing in supplying information predictive of skills performance in competition.