

THE RELATIONSHIP BETWEEN PHYSICAL CAPACITY AND MATCH PERFORMANCE IN ELITE AUSTRALIAN FOOTBALL: A MEDIATION APPROACH

Mooney, M. 1)2), O'Brien, B. 1), Cormack, S. 2), Coutts, A. 2)3), Berry, J. 1)2) & Young, W. 1)

1) School of Human Movement & Sports Sciences, University of Ballarat, Australia

2) Essendon Football Club, Essendon, Australia

3) School of Leisure, Sport & Tourism, University of Technology, Australia

Keywords: global positioning system, yo-yo intermittent recovery test, match exercise intensity

Introduction

Conceptually valid physical capacity tests such as yo-yo IR2 should be linked to performance [1]. The aim of this study was to verify if yo-yo intermittent recovery test (level 2) (yo-yo IR2) score is linked to Australian Football (AF) performance through match exercise intensity.

Method

Twenty-one samples from nine different players completed the yo-yo IR2, and played an Australian Football League match in the first five rounds of the season wearing a global positioning system (GPS) unit. Simple mediation modeling was used to analyze the inter-relationship between yo-yo IR2 score, match exercise intensity and AF performance. Playing position and experience were also incorporated into the model to identify conditional effects.

Results & Discussion

The results indicate a significant direct relationship between yo-yo IR2 and number of ball disposals ($p < 0.1$). Furthermore, a significant indirect relationship between yo-yo IR2 and number of ball disposals through distance travelled at high intensity (d_{HI} min) ($p < 0.1$) was found. The results also indicate that playing position impacts the relationship between yo-yo IR2 and d_{HI} min ($p < 0.1$) and d_{HI} min and total ball disposals ($p < 0.1$). Moreover, playing experience significantly impacted the relationship between d_{HI} min and total ball disposals.

Independent Variable (X)	Mediator (M)	Dependent Variable (Y)	Bootstrap sample	Indirect Effect	R ² (%)	P value
Yo-yo IR2	d_{HI} min	Total Disposals	3000	0.02±0.01	15.4	0.06

Conclusions

This study is the first to model the relationship between yo-yo IR2 and number of ball disposals caused by d_{HI} min in AF incorporating conditional variables, and would be useful to evaluate the effect of a training intervention on performance.

References

1. Impellizzeri FM, Marcora SM. Int J Sports Physiol Perform. 2009;4:269-77.