

## YO-YO INTERMITTENT RECOVERY LEVEL 2 TEST IN YOUNG SOCCER PLAYERS FROM U-13 TO U-18

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### Introduction

The Yo-Yo intermittent recovery level 2 test (YYIR2) is widely utilized to evaluate high-intensity intermittent endurance of high-level soccer players. However, the information on physiological relation with the YYIR2 in young soccer players is limited. The purpose of the study was to examine the relationship between incremental progress of YYIR2 result and physiological factors in young soccer players relating with anaerobic and aerobic fitness development.

### Methods

Eighty-six male field players aged from 12.2 to 18.2 yrs (U-13 to U-18) participated. The participants performed YYIR2 on a grassed field. They were also evaluated for thigh muscle volume by magnetic resonance imaging. Anaerobic and aerobic fitness were evaluated by the Wingate and  $\dot{V}O_2\text{max}$  test, respectively. A linear regression analysis and structure equation modeling were performed to analyze the relationships. SPSS 12.0J and Amos 5.0 were used for all statistical analysis. Significance level was set at  $p < 0.05$ .

### Results & Discussion

The YYIR2 results (mean (SD)) from the age of 13 to 18 were 420(86), 683(120), 733(168), 814(184), 953(230) and 1172(171) m, respectively. In the pooled data, the YYIR2 result was significantly correlated with either of Wingate and  $\dot{V}O_2\text{max}$  test results ( $r=0.56$  and  $0.42$ ). However, the different perspective was immersed when the age factor was considered. The age affected significantly YYIR2 and Wingate test results, but did not  $\dot{V}O_2\text{max}$ . On the other hand,  $\dot{V}O_2\text{max}$  affected significantly YYIR2 result while Wingate test did not (**Figure 1**). From these results, it was suggested that anaerobic fitness associates with YYIR2 more than aerobic fitness in general young soccer players. However, within each age category, aerobic fitness is more important to determine YYIR2 result.

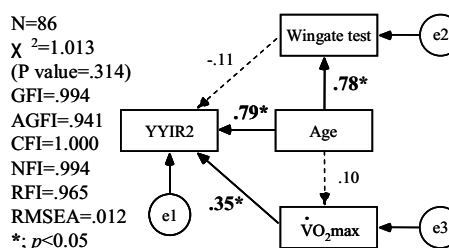


Figure 1. The influence of anaerobic and aerobic fitness on YYIR2 in young players.

### Conclusion

In young soccer players, YYIR2 result is affected greatly by the development of anaerobic fitness with the increment of age.