The influence of Body Mass on the 30-15 Intermittent Fitness Test in Rugby Union players

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Introduction

Rugby union is a physically demanding intermittent contact sport, characterised by high-intensity efforts, followed by incomplete recovery. High levels of contact during match-play favour players with increased body mass, whilst momentum is considered an important physical quality for successful performance

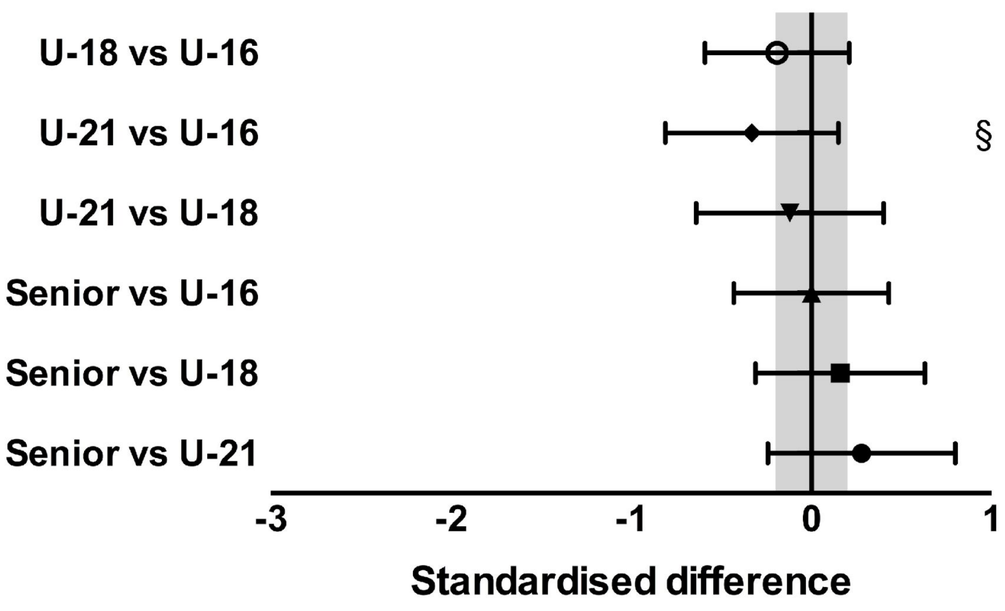
Purpose

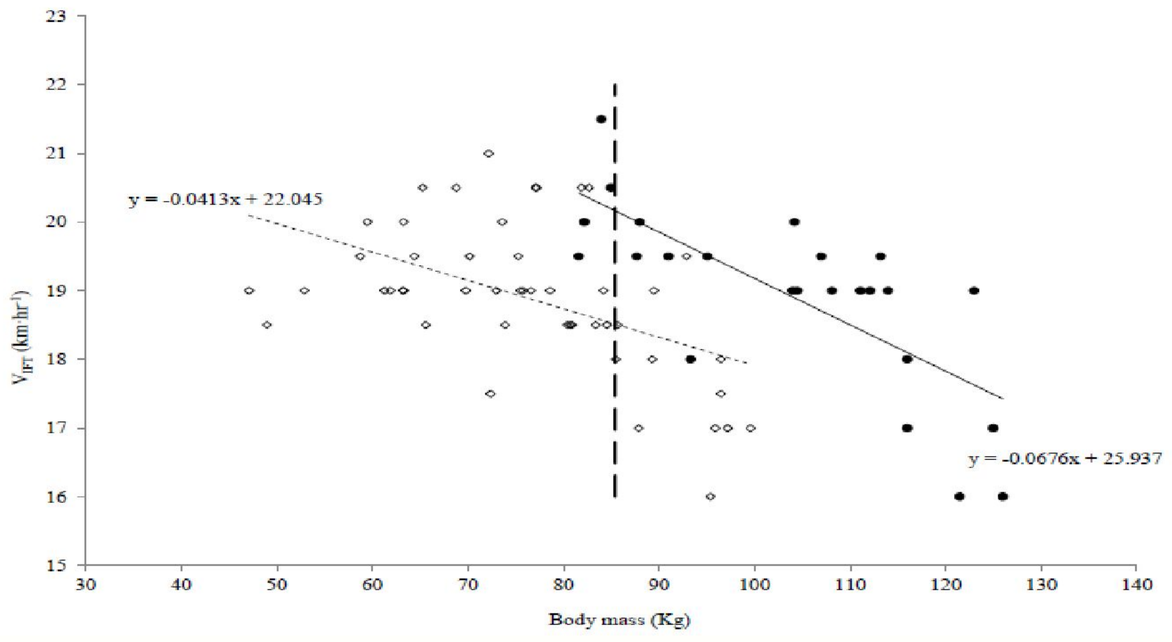
To determine the influence of body mass on the end speed (V_{IFT}) of the 30-15IFT

Method

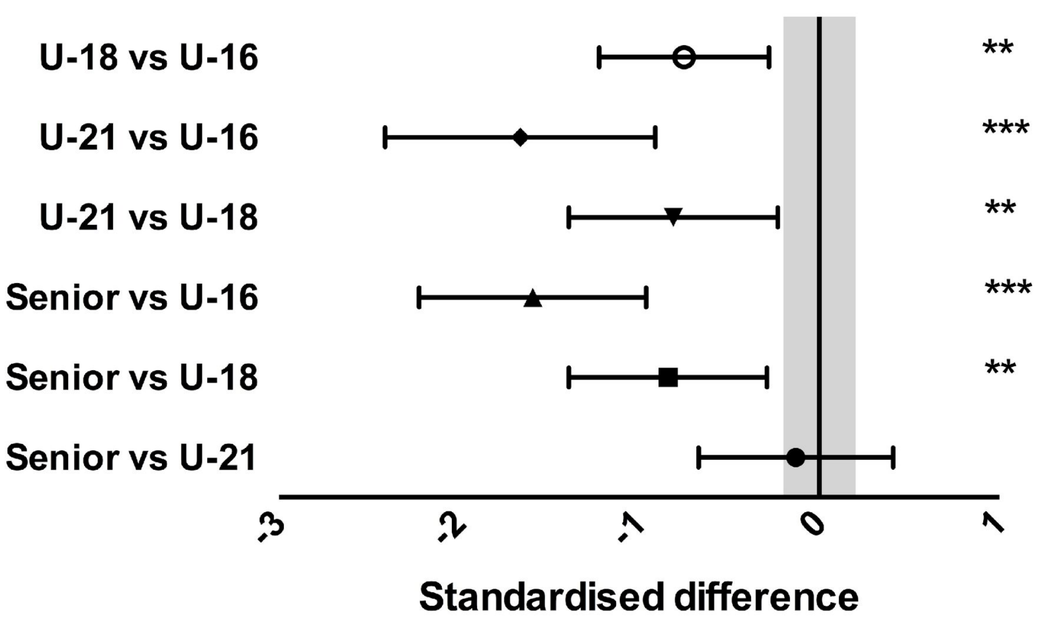
114 male rugby union players from four squads (i.e., U16s, U18s, U21s and Senior's) completed the 30-15_{IFT} mid-season following institutional ethics approval. V_{IFT} ($km \cdot hr^{-1}$) and body mass were collected from all participants. Data were analysed using magnitude based inferences to determine if differences between squads were greater/similar/lower (%/%/%) than the smallest worthwhile change or difference (ES ≥ 0.2) based on Cohen's *d* effect size principle.

Findings





Absolute V_{IFT} differences were possibly (§) lower in U16s vs. U21s. When covariate of body mass was applied differences were very likely (**) and almost certainly (***) greater than the smallest worwthiel difference (ES > 0.2) in squads with lower body mass.



Conclusions

There appears to be a ceiling in absolute V_{IFT} in rugby union players irrespective of age. Despite this, the results suggest that players attaining the same V_{IFT} as body mass increases, improve their ability to perform high-intensity running. The interaction of increased body mass is likely beneficial as this impacts upon momentum which is beneficial during match play.