

# EFFICACY OF USING SESSION-RPE TO QUANTIFY TRAINING LOAD IN RUGBY LEAGUE

Coutts, A.J. 1), Lovell, T. 1) Sirotic, A.C. 2) & Impellizzeri, F.M. 3)

- 1) School of Leisure, Sport & Tourism, University of Technology Sydney, Australia
- 2) Parramatta Eels Rugby League Club, Parramatta, Australia

Keywords: monitoring training, session-RPE, rugby league

## Introduction

There is presently evidence supporting the efficacy of using session-RPE (sRPE) for quantifying internal training loads (TLs) in soccer (1). However, it has recently been suggested that sRPE may not be suitable for assessing TLs in collision sports such as rugby union and rugby league (2), as there are some aspects of these games such as tackling and collisions which may not be captured through sRPE. Therefore, since the efficacy of using sRPE for remains controversial, the aim of this study was to examine the relationships between sRPE with both common measures of internal and external TL in rugby league players. We also aimed to examine the factors that contribute to sRPE in rugby league.

## Methods

Twenty professional rugby league players each completed 20 rugby league-specific training sessions from which internal and external TL measures were recorded. Internal TL measures were determined using the sRPE method (Borg's CR-10 scale) and heart rate (HR) sampled every 5 s. External TLs were assessed via a microtechnology device (5-HZ global positioning system and 100-Hz three dimensional accelerometer). Relationships between the various TL measures within each player were examined by correlating sRPE and sRPE-TL with the common TL quantification methods (i.e. Banister's TRIMP, m/min, mean HR, body load and player impacts). A stepwise multiple regression analysis was used to determine a regression equation to estimate sRPE using various internal (HRmean) and external TL parameters (m/min, body load, impacts). Significance was set at  $p < 0.05$ .

## Results and Discussion

The sRPE-TL was best correlated with distance travelled ( $0.69 \pm 0.07$ ; 95%CI 0.63–0.70), high intensity running ( $0.58 \pm 0.08$ ; 95%CI 0.58–0.62) and Bannister's TL ( $0.64 \pm 0.09$ ; 95%CI 0.60–0.69). Within individual correlations between sRPE intensity were strongest with m/min ( $0.62 \pm 0.10$ ; 95%CI 0.58–0.67), impacts ( $0.80 \pm 0.03$ ; 95%CI 0.78–0.81), distance ( $0.68 \pm 0.07$ ; 95%CI 0.66–0.72) and body load/minute ( $0.64 \pm 0.05$ ; 95%CI 0.62–0.66). The multiple regression significantly predicted sRPE ( $R^2 = 0.62$ ,  $F(4,351)=140.56$ ,  $P < 0.001$ ,  $SEE = 1.348$ ) with the predictors to the regression equation being m/min ( $\beta=0.406$ ), HRmean ( $\beta=0.262$ ) and body load ( $\beta=0.222$ ).

## Conclusion

These findings provide evidence supporting the construct validity of sRPE for quantifying TL in rugby league and show that both internal and external TL variables contribute to sRPE in rugby league.

## References

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2. Lambert MI, Borresen, J. (2010) IJSPP; 5 (3): 406-11.