Compared to other cardiorespiratory parameters, respiratory frequency (fR) is suggested as one of the most important contributors to self-paced endurance performance. This is based on the strong relationship fR shares with RPE, irrespective of event duration (Niccolò et al., 2016). However, it is yet to be established if fR and RPE interaction differs during multi-modal events (i.e. triathlon). Indeed, the complexity of such exercise may well alter the relationships that are typically seen between perceptual and physiological status during single-mode events (Taylor & Smith, 2013). Furthermore, it is suggested that a number of perceptual factors, including affective status, may be equally (if not more) important than RPE to the pacing of endurance performance. However, the relative influence of perceptual mediators on the regulation of multi-modal (versus single mode) exercise intensity is yet to be fully elucidated.

**Introduction**

This study therefore examined the associations between cardiorespiratory responses, RPE and affect during isolated and triathlon-specific cycling time-trial (CTT) performance.

**Objectives**

This study therefore examined the associations between cardiorespiratory responses, RPE and affect during isolated and triathlon-specific cycling time-trial (CTT) performance.

**Materials & Methods**

Eleven non-elite male triathletes (mean ± SD: age 36.9 ± 8.4 yrs, VO2max 4.1 ± 0.3 L·min-1, Wmax 344 ± 21 W) completed one CTT in isolation (CTTISO) and one as part of a simulated triathlon (CTTTRI) (Figure 1). Cardiorespiratory (fR, VE, VO2, VT, HR) and perceptual (RPE and affect) responses obtained during final 25kJ of each 100 kJ section. Relationships between perceptual and physiological measures examined via within-subject correlation coefficients (Bland & Altman, 1995).

**Results**

The results showed that fR demonstrated the strongest relationship with RPE and affect across both CTT's, relative to other cardiorespiratory measures. Strength of relationships between cardiorespiratory responses and affect generally lower compared to those seen with RPE. Associations between perceptual and cardiorespiratory responses were consistently weaker during CTTTRI. fR and RPE interaction may indeed be one of the most important contributors to pacing during both single and multi-modal events. Unique relationships appear to exist between perceptual and physiological responses during triathlon cycling, and warrant further examination.

**Discussion & Conclusions**

Unique relationships appear to exist between perceptual and physiological responses during triathlon cycling, and warrant further examination.