



Perceptions Of Fatigue Among Cross Country Athletes During Races And Various Types Of Training Sessions

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ABSTRACT

Collegiate runners undergo varying levels of training stress based on their race, practice, and recovery schedule. Determining an athlete's fatigue can be difficult for coaches and runners and may lead to overtraining when not accounted for correctly. **BACKGROUND:** Collegiate runners undergo varying levels of training stress based on their race, practice, and recovery schedule. Determining an athlete's fatigue can be difficult for coaches and runners and may lead to overtraining when not accounted for correctly.

PURPOSE: This study assessed perceived fatigue in cross country runners before and after various types of sessions to compare the Borg CR-10 Scale (RPE) and the Swedish Occupational Fatigue Inventory (SOFI).

METHODS: 25 male (age 19.4±1.3y) and 18 female (age 19.6±1.2y) collegiate cross-country runners were evaluated during four practice sessions and one race. Sessions were categorized into Race (RC), Recovery (RV), or Practice (P). Fatigue was quantified using RPE and SOFI before and after each session. The SOFI was analyzed as a composite score, then broken down and individually analyzed as five sub-scales: Lack of Energy, Physical Exertion, Physical Discomfort, Lack of Motivation, and Sleepiness. A univariate ANOVA was used to examine the difference in fatigue measures across session categories based off change scores (pre to post) for each measurement.

RESULTS: Significant differences were seen in RPE across categories (RC: 7.4±3.0; RV: 2.0±1.1; P: 5.9±2.3; p<0.01). Composite SOFI scores were significantly different for RV (0.9 ± 0.46) compared to RC and P (0.71±0.86 and 0.92±0.81, respectively; p<0.01). Subgroups of the SOFI were significantly different across most categories (p<0.05) - Lack Energy (RC: 3.64±1.38; RV: 0.51±0.92; P: 2.40±1.53), Physical Exertion RC: 3.83±1.57; RV: 0.93±0.81; P: 2.82±1.34), Lack of Motivation (RC: 0.50±1.18; RV: -0.41±0.94; P: 0.08±1.10), Sleepiness (RC: 0.37±1.27; RV: -0.67±1.16; P: -0.01±1.50). Physical Discomfort showed significant differences (p<0.05) between RC and P (1.23±1.15 and 1.14±1.38, respectively) in relation to RV (0.97±0.59).

CONCLUSION: The type of training session has an observable effect on fatigue, with racing exhibiting the highest reported scores of overall fatigue in collegiate runners. The SOFI sub-scales are more sensitive to different components of fatigue, but RPE adequately and simplistically captures the overall impact of different types of training sessions. These findings are useful for coaches to maximize training potential while ensuring adequate recovery.

PURPOSE

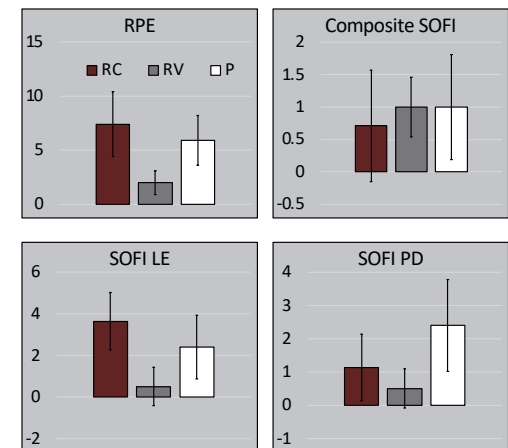
- Assess perceived fatigue in collegiate cross-country athletes after various types of training sessions.
- Examine the utility of two different questionnaires in accurately reporting perceived fatigue.

- Utilizing questionnaires to assess reported fatigue levels can be helpful in evaluating various dimensions of fatigue in athletes.
- RPE scales provide an accurate and simple record of reported fatigue.
- Other scales, such as the SOFI, may provide more pointed and sensitive information regarding specific aspects of reported fatigue in athletes.

METHODS

- 25 male and 18 female collegiate cross-country runners were assessed.
- Height, weight, and body composition were taken before first session.
- Data was collected for two weeks to capture varying types of training and recovery sessions, as well as a single race.
- For evaluation purposes, training sessions are divided into Race (RC), Recovery (RV), and Practice (P).
- Perceived fatigue assessed pre-run and post-run using two different questionnaires:
 - Borg CR-10 RPE Scale
 - Swedish Occupational Fatigue Inventory (SOFI)
 - consists of a composite score and individual scores for 5 sub-scales: Physical Exertion (PE), Lack of Energy (LE), Physical Discomfort (PD), Lack of Motivation (LM), and Sleepiness (S).

RESULTS



CONCLUSIONS

Collegiate distance runners report varying levels of fatigue based on the type of the training performed.

The Borg-CR10 scale provides a reliable general overview of a collegiate runner's perceived exertion from baseline (pre-run) to post-run.

The SOFI provides a more in-depth look into the different facets of a runner's level of perceived fatigue. Out of the 5 sub-categories of the SOFI, Lack of Energy, Physical Exertion, and Physical Discomfort showed the greatest changes from pre-run to post-run. However, the other categories (Lack of Motivation and Sleepiness) provide unique glimpses into the perceptions of collegiate athletes as well.

