“Organizing for Excellence”: Stress-Recovery States in the Danish National Orienteering Team during a Training Camp and the 2015 World Championship

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**INTRODUCTION**

Elite athletes push themselves physically and psychologically to their limits in order to develop as athletes and to deliver top performances. To succeed, the athletes must manage their energy. This is particularly important in periods of high demand on the athletes’ resources (Kellmann, Altenburg, Lormes, & Steinacker 2001). These periods include training camps and competitions, because such events are generally intense and likely to induce increased stress, and the athletes’ schedules often do not allow sufficient time for recovery (Elbe & Kellmann, 2007; Foster, Snyder, & Walsh, 1999). Under-recovery has important consequences for the athletes, such as underperformance (Kellmann & Kallus, 2001), mental fatigue, increased risk of injury, changes in mood (Gustafsson, Kenttä, & Hassmén, 2011) an even burnout (Elbe & Kellmann, 2002). In this study we have examined: (a) the dynamics of stress-recovery states of the Danish orienteers during a three-week preparatory training camp and the following world championship, and (b) their perceived sources of stress and recovery during the camp and the championship.

**METHOD**

We selected a case study design because this design is suitable for investigating real-life phenomena in their real life context (Hodge & Sharp, 2017). We collected data longitudinally using three connected sources of information, including the questionnaire RESTQ-sport, semi-structured interviews and a head coach’s journal. The sport in focus was orienteering. Using three connected sources of information, including the questionnaire RESTQ-sport, semi-phenomena in their real life context (Hodge & Sharp, 2017). We collected data longitudinally.

**RESULTS**

The results show low scores for stress, and high scores for recovery among all runners. Despite the training load increase and the athletes were physically and psychologically pressed to perform, the findings suggest that the runners experienced well-balanced stress-recovery states during the period of monitoring, which Fig 2 also shows. The runners themselves stated that their well-balanced stress-recovery states positively affected their learning, well-being, and performance.

**CONCLUSION**

The study showed well-balanced stress-recovery states among the Danish national team orienteers during a three-week training camp and the following world championship. The results also showed sources of stress and recovery classified into organizational, social, personal and athletic, with the organizational decisions and strategies playing a major role in the optimization of individual recovery. These results lead us to suggest “organizing for excellence” to be a special task for coaches and managers when preparing training camps and participation in big competitions. The Danish orienteering national team had a successful championship, winning four out of nine gold medals and claiming the title as the best nation. Although we can’t directly link the runners’ stress-recovery states to their results, we still contend that the study provides some support to the general notion that stress-recovery balance affects performance.

**APPLIED PERSPECTIVES**

To organise for excellence and handle stress and recovery during training camps and competitions, we recommend federations and coaches to:

- Include time for recovery in the daily schedule.
- Choose a living space with room for social engagement as well as time alone.
- Help the athletes to solve all practical matters before the event such as school and work obligations.
- Allow the athletes to engage in their preferred recovery activities.
- Prioritise an attending physiotherapist and sports psychologist.
- Talk with the athlete about recovery before, during and after the event.
- Prioritise time to evaluate training sessions and competition performances with the athlete.

**REFERENCES**


**Table 1.** Perceived sources of stress and recovery

<table>
<thead>
<tr>
<th>Organizational</th>
<th>Social</th>
<th>Personal</th>
<th>Athletic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Busy schedule</td>
<td>1. To much social interaction</td>
<td>1. Monotony and boredom</td>
<td>1. Under-performing in training or competition</td>
</tr>
<tr>
<td>2. Long transport to training or competition</td>
<td>2. Teammates’ negative moods</td>
<td>2. Post-performance activities and thoughts</td>
<td>2. Having settled practical matters outside the sport</td>
</tr>
<tr>
<td>5. Clear focus on orienteering</td>
<td>5. Recognition from and interaction</td>
<td>5. Time alone</td>
<td></td>
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</table>

**Figures**

Figure 1. An overview of the span of the data collection.

Figure 2. RESTQ Total Stress and Total Recovery score with standard deviation over the training camp (TC) and the competition (CH).

Table 1 presents major themes representing sources of stress and recovery as described by the runners. As a result of the analysis, we divided the sources of stress and recovery into four categories: organizational, social, personal, and athletic.