METHODOLOGICAL FOUNDATIONS FOR INDIVIDUALISING TRAINING LOADS FOR YOUNG TRACK AND FIELD ATHLETES IN HOT CLIMATES

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Abstract. This paper presents a methodological approach to individualising training loads for young track and field athletes in hot climates. Published work on youth development, heat exposure and load monitoring provides the basis for a proposed coaching procedure. The procedure connects an individual athlete profile with the session objective, environmental conditions and observed training responses. Adjustments are considered in relation to exercise volume, intensity, recovery, task complexity and scheduling. Event-specific examples illustrate how coaches can retain a learning objective while modifying the dose of practice. The framework is a theoretical proposal and does not claim experimentally verified effectiveness or universal adjustment thresholds.

Introduction. A common session plan does not necessarily provide an appropriate training dose for every young athlete. Differences in experience, maturation, technical proficiency and recent training history influence the selection of tasks. The youth development consensus encourages attention to individual development rather than treating chronological age as a complete description of readiness [1]. In hot climates, coaches must also consider the conditions in which the planned work will be performed. The methodological problem is to preserve the purpose of training while adapting its demands to the athlete. Simply applying the same percentage reduction to everyone gives little explanation of why an adjustment is appropriate. This paper proposes a structured alternative based on the session objective and the individual response. It uses narrative analysis of selected literature to develop practical recommendations; it does not report an intervention or measured performance gains.

Developing an individual training profile. The proposed starting point is a concise profile containing training experience, preferred event group, recent

attendance, technical learning needs and previous responses to comparable sessions. Relevant health information should be handled through appropriate professional supervision. The profile should be updated as training circumstances change, rather than becoming a permanent classification of the athlete. An individual profile also needs contextual information. School demands, travel, recent interruptions and opportunities for recovery may help explain why the planned task is unsuitable on a particular day. A short conversation before training can establish which of these factors deserves attention. This is a proposed planning practice, not a validated prediction tool. External and internal load should be distinguished [2]. External load describes the exercise performed, whereas internal load concerns the athlete's response. In practice, completing the same running distance does not establish that two athletes experienced the same difficulty. Coaches should interpret the completed work alongside perceived effort, observation and relevant physiological information.

Adapting the training dose to hot conditions. Heat guidance identifies acclimatisation, hydration and management of environmental exposure as important considerations [3]. These principles require age-appropriate implementation; adult protocols should not automatically be transferred to children. Youth-specific guidance also emphasises the need to modify activities and monitor participants in hot weather [4]. Within the proposed procedure, the coach first identifies the essential session outcome. If the objective is learning an acceleration pattern, the amount of practice can be reconsidered without abandoning the technical objective. If the objective is sustained aerobic work, duration and pace require joint consideration. Scheduling a session in more favourable conditions may preserve its purpose more effectively than repeatedly reducing its quality. Possible adjustments include fewer repetitions, shorter work periods, longer recovery, a different exercise sequence or a less demanding setting. These options are not interchangeable. Reducing pace changes the task differently from reducing repetitions, while additional recovery changes session density. The record should state which variable was altered and why, allowing the next decision to be based on the observed response.

Event-specific application. For sprint practice, a proposed adjustment is to retain a small number of technically controlled efforts with adequate recovery and discontinue further repetitions when execution becomes inconsistent. The coach should judge the quality of the acceleration task rather than pursuing a predetermined repetition count. This example illustrates a decision process and is not a universal sprint prescription. For distance-running practice, the coach can reconsider pace, duration and the location of recovery opportunities. For jumps and throws, total exposure includes waiting, approach practice and repeated technical attempts as well as the main effort. A proposed session record therefore counts the relevant practice attempts and documents time spent in the training environment. Each event group needs a record that reflects its actual tasks. Individualisation can also be organised within a group. Athletes may share an introductory explanation and then complete different practice doses before receiving common feedback. This arrangement preserves a coherent lesson while allowing different numbers of repetitions or

recovery periods. Group organisation should make these differences understandable, so that a modified task is not interpreted as punishment or failure.

Using feedback to guide subsequent loads. Session-RPE can supplement the record of completed work. The method combines perceived session difficulty with duration and provides a practical index of internal load [5]. For youth application, the coach should ensure that the athlete understands the scale and use a consistent collection procedure. This index does not capture every aspect of mechanical loading or technical complexity. The proposed decision rule is qualitative: consider the planned task, the observed response and the relevant context together. A tolerable session with consistent technique may justify continuing the plan. Unexpected difficulty calls for review before progression. If the athlete becomes unwell, training should stop and appropriate assessment should follow. No numerical training index should be used to overrule symptoms. Progression should be documented through specific changes rather than a vague instruction to work harder. For example, a coach may add practice only after reviewing the previous session and subsequent recovery. Where feasible, changing one main load variable at a time makes the response easier to interpret. This is a methodological proposal whose usefulness should be examined in prospective coaching research.

Conclusion. Individualising training in hot climates requires a clear relationship between the athlete's profile, the learning objective and the dose of practice. The proposed approach makes volume, intensity, recovery, complexity and scheduling explicit coaching choices. Its effectiveness should be evaluated through adherence, technical learning, tolerability and performance under documented conditions. Individualisation is therefore presented as an ongoing decision process rather than a fixed formula applied equally to every athlete.

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