Introduction

- At the elite level of sport there are diminishing returns in training.
- Therefore, athletes should maximize the use performance enhancing strategies during training and competition to improve.
- Strategies identified from the research that are utilized by athletes were classified into four main areas of:
  1. Training strategies including periodization, tapering, altitude training, weather acclimatization, and monitoring of training. While a number of training principles apply, a key component of any training program involves the manipulation of frequency, intensity, duration, and type of training to give an overall training benefit.
  2. Recovery strategies such as massage, compression, cold water immersion, and stretching. Regenerative strategies are designed to reduce muscle damage, inflammation, delayed onset muscle soreness (DOMS), and fatigue following exercise which can impair performance.
  3. Psychological strategies including using routines, relaxation techniques, self-talk, and goal setting. Desired qualities for a well prepared high performance athlete are being confident, optimistic, calm under pressure, mentally focused in the present, and determined. An athlete is able to improve these qualities by using psychological techniques.
  4. Nutrition strategies incorporating supplementation, hydration, and meal timing. Diet and nutritional strategies are important to allow an athlete to peak for their performance, all of these components must function near optimal levels on the day of competition.

Hypotheses

- For an athlete to peak for their performance, all of these components must function near optimal levels on the day of competition.
- The most successful Olympic performances were based on a holistic, well-rounded perspective.
- Whilst a number of training strategies are being utilized, techniques, the sample was based on results.
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- No clear relationship seemed to exist between a higher training load (TL) and better results as the majority of event groups (distance and sprints/jumps/hurdles) who placed first had a lower mean TL impact on athletes in their respective groups.
- Australia appeared to have had the lowest mean placing whereas the Pacific Island Countries had the highest mean placing.
- New Zealand athletes had the highest mean TL, followed by Pacific Island Countries, and lastly Australia.

Methods

Study Design:
- To ascertain strategies used by elite track and field athletes, a questionnaire was designed and distributed to athletes competing in the Oceanics Athletics Championships in Townsville, Australia, from the 25th to the 28th of June 2019.

Data Analysis:
- Firstly, using the Likert scale where 0="never tried", 1="tried and no longer use", 2="use sometimes", 3="use frequently", and 4="use always", the scores for each athlete were summated to give a Total Strategy Score (TSS).
- Secondly, the strategies most utilized by athletes ("use frequently" and "use always") and those least utilized by athletes ("never tried" and "tried and no longer use") were determined.
- Finally, the amount of training by each athlete was quantified to give a Training Load (TL), which was calculated by multiplying the duration of training (in minutes) by the Rating of Perceived Exertion (RPE) and training frequency (number of sessions per week).

Results

- The most event groups (distance and sprints/jumps/hurdles) in which athletes placed first had a higher mean total strategy score (TSS) than all other athletes and placings.
- The results imply Australian athletes integrated the most strategies, followed by New Zealand, and finally the Pacific Island athletes.
- New Zealand athletes had the highest mean TL, followed by Pacific Island Countries, and lastly Australia.
- The sample was based on a convenience method. Hence the subjects were not randomly selected and the sample was biased, with the majority of participants earning a medal.
- All events were evenly represented. Due to the lack of sprinters, the sprints and hurdles athletes were combined with jumps athletes for the purpose of the study.

Discussion

- The strategies that were most utilized by all elite athletes were stretching (n=45/83.5%), tapering (n=45/81.2%), goal setting (n=44/80%), using routine (n=41/74.5%), and active warm down (n=41/74.5%).
- The least frequently used strategies were using a hyperbaric or sleep chamber tent (n=49/115), cryotherapy or ice chamber (n=48 or 12.7%), compression boots for recovery (n=43/21.2%), altitude training (n=39/29.1%), and using supplements to improve performance (n=24/19.3%).

- The strategies identified

- The more training strategies an athlete implements in preparation for and during a

- To identify the strategies

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References