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Ultra-followers “Tracking physiological and psychological variables during an ultra-trail race ”

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HAL Authorization

Ultra-followers

«Tracking physiological and psychological variables during an ultra-trail race »

Clément Baud, Clément Ginoux, Stéphane Doutreleau

Background

- Trail Running is a sport in great expansion, with more than 1 million of practitioners in France and 2500 at 3000 races per year
- Trail Running is a great model to explore fatigue, engagement in sport context, since the last decade the literature on the subject has expended in different field of research
- However, few studies have looked at the interactions between physiological and psychological variables in ecological context (e.g., before, during and after a race).

Objectives

- Examining change of glycemia and sleep before, during and after the race
- Examine whether changes in glycemia predict changes in rated perceived exertion (RPE) and affective valence during the race
- Testing whether the glycemia and psychological variables measure during the race can predict race "performance" (e.g., race ranking and completion of the race)

1 Call for volunteers

- For the competitors of the 180 XTREM and 100 Km Master of Ut4M
- 18 to 55 years
- No physiological and psychological pathology
- No selection in function of the level

2 Enrollment visit and maximal effort test

- Check inclusion criteria, signing of informed consent
- Completion of a questionnaire on psychological variables (i.e., motivation, type of passion)
- Maximal effort test, measure of V02 max, maximal heart rate, ventilatory threshold

3 Pre-race follow-up

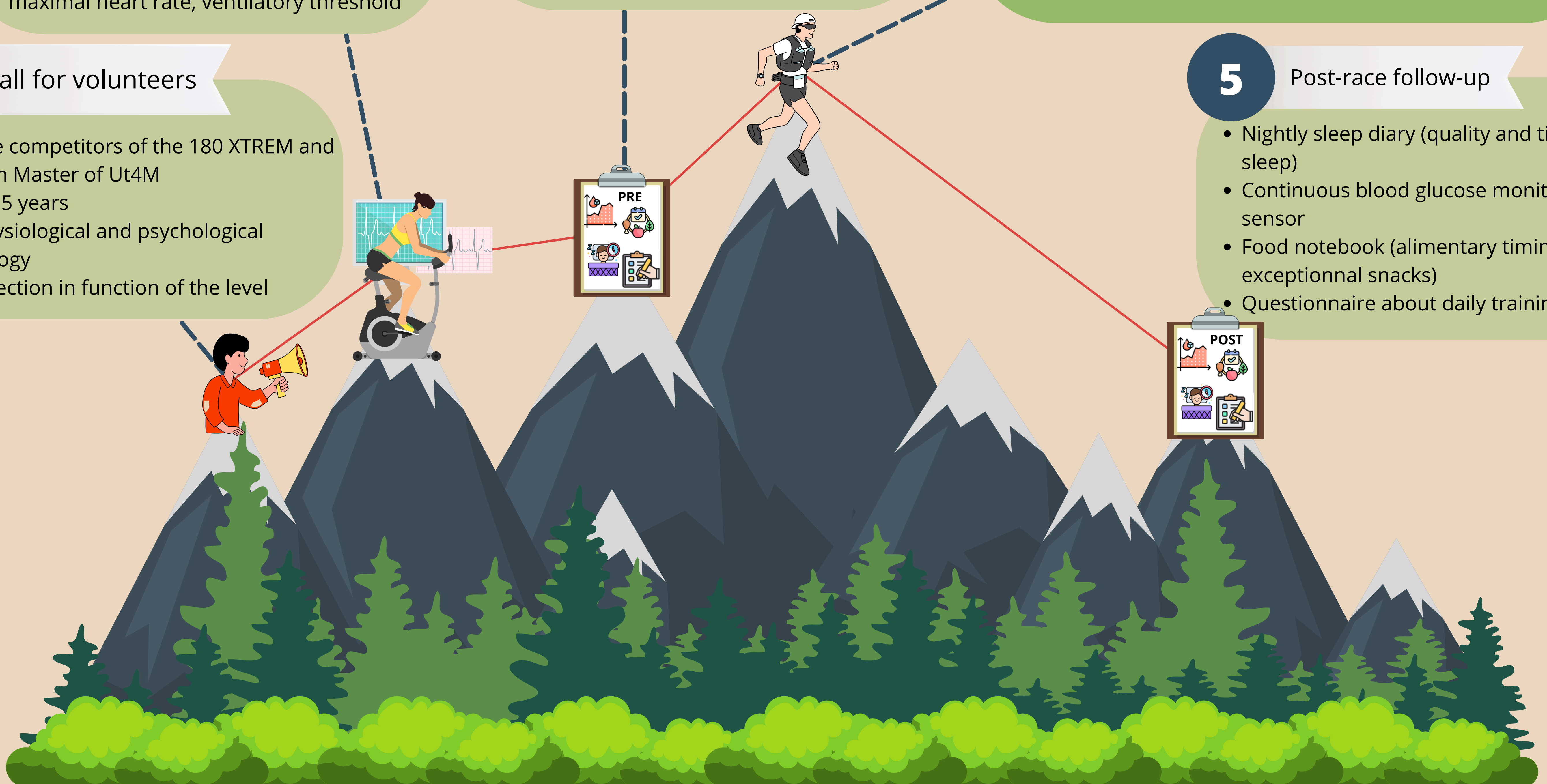
- Nightly sleep diary (quality and timing of sleep)
- Continuous blood glucose monitoring with sensor
- Food notebook (alimentary timing, exceptional snacks)
- Questionnaire about daily training

4 Race tracking

- Blood glucose measured continuously during the race
- At 8 times during the 180 km and 4 times during the 100 km, participants were asked to answer at survey about psychological variables (e.g., rated perceived exertion, affective valence, muscular incomfort, utilization of self-talk) as well as food and hydration consumption

5 Post-race follow-up

- Nightly sleep diary (quality and timing of sleep)
- Continuous blood glucose monitoring with sensor
- Food notebook (alimentary timing, exceptional snacks)
- Questionnaire about daily training



Study protocol - Ut4M (Ultra-trail des 4 Massifs)

Status update

36 runners have been recruited for the 2023 edition, and the database is currently being finalized.
Don't hesitate to ask me about the preliminary results.

Scan me for more information

