

Appendix 3.1 Copy of survey for chapter 3.

Title of Study: "Training load and injury monitoring in high-performance swimming: A survey of current trends".

Thank you for your interest in this survey!

Survey Aim: To gather specific information surrounding the means, methods and effectiveness of training load monitoring within the sport of competitive swimming.

The survey should be completed by the staff member who has primary responsibility for training load monitoring within your swimming programme.

The survey will take no longer than 10 minutes to complete.
Kind regards,

Lorna Barry

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Ethics: This research project has been approved by the University of Limericks Faculty of Education and Health Sciences Research Ethics Committee.

By ticking the 'agree' box below you are adhering to the following points and may participate in this survey.

I have read and understood the participant information sheet.

I understand what the project is about, and what the results will be used for.

I understand that what the researchers find out in this study may be shared with others but that my name will not be given to anyone in any written material developed.

I am fully aware of what I will have to do, and of any risks and benefits of the study.

I know that I am choosing to take part in the study and that I can stop taking part in the study at any stage without giving any reason to the researchers.

Agree (1)

Do Not Agree (2)

Skip To: End of Survey If Ethics: This research project has been approved by the University of Limericks Faculty of Educati... = Do Not Agree

End of Block: Introduction

Start of Block: Demographics

Q3 As the primary staff member responsible for training load monitoring, what is your position within the Integrated Support Team?

High Performance Manager (1)

Swim Coach (2)

Strength and Conditioning Coach (4)

Sport Scientist (6)

Doctor (7)

Physiotherapist (8)

Sports Therapist (Athletic Therapist, Physical Therapist) (11)

Other (Please Specify) (10) _____

Q4 How many years have you worked in competitive swimming?

Definition: Competitive swimming - primary purpose of the sport is competitive performance not participation.

<1 years (1)

1-2 years (2)

3-5 years (3)

6-10 years (4)

>10 years (5)

Q5 Do you hold any professional accreditation?

Yes (1)

No (2)

Skip To: Q7 If Do you hold any professional accreditation? = No

Q6 Please specify the professional accreditation's you hold.

E.g. UKSCA ASCC, NSCA CSCS.

Q7 What is the highest academic qualification you hold?

No formal academic qualification (1)

Diploma (2)

Bachelors Degree (3)

Masters Degree (4)

PhD (5)

Other (Please Specify) (6) _____

Q8 How many athletes are currently training at your swim programme?

Q9 How many athletes fit into each category?

International Swimmer (1) _____

National Swimmer (2) _____

Club Swimmer (3) _____

Other (Please Specify category and number) (5) _____

Q10 Does your swim programme employ training load monitoring practices?

Yes (1)

No (2)

Q11 What barriers are present that prevent you from employing training load monitoring practices?

Limited available time (4)

Not sufficient funding available (5)

Lack of support from coaching team (6)

Lack of compliance from athletes (7)

Other (Please Specify) (8) _____

End of Block: barriers if "no"

Start of Block: Thank You and Follow Up.

Q12

Thank you for your participating in my survey.

Would you be open to participating in a brief follow up interview regarding the information provided?

Yes (1)

No (2)

Skip To: End of Survey If Thank you for your participating in my survey. Would you be open to participating in a brief fol... = No

Q13 Please provide preferred contact details to arrange a follow up interview.
(All details will be kept strictly confidential)

Name (1) _____

Email Address (2) _____

Skip To: End of Survey If Condition: Email Address Is Empty. Skip To: End of Survey.

Skip To: End of Survey If Condition: Email Address Is Not Empty. Skip To: End of Survey.

End of Block: Thank You and Follow Up.

Start of Block: Training Load

Q14 What are the top three goals of your training load monitoring practices?
Please write 1,2 or 3 in order of preference beside each statement.

_____ Aid coaches in planning and training prescription (1)

_____ Improve athlete performance (2)

_____ Reduce injuries (3)

_____ Prevent over-training (4)

_____ Monitor athlete's response to training (5)

_____ To enhance training adaptations (6)

_____ Research purposes (7)

_____ Other (Please specify) (8)

Q15 Do you monitor internal (Heart Rate, RPE) or external (Distance,Speed) training load markers?

Definition:

Internal training loads are the physiological or psychological stresses experienced by athletes and can be measured through physiological variables such as RPE, heart rate and lactate concentrations.

External training loads are objective measures of the work performed by the athlete and are assessed independently of internal workloads. - measures such as distance, power output and speed.

Internal Training Load (1)

External Training Load (2)

Both (3)

Q16 How is your training load data collected?

Using specific software (E.G. Kitman Labs, Sports Office) (1)

Using a generic web based tool modified for your needs (google docs etc.) (2)

Entered into excel or similar software (3)

Using pen and paper (4)

Other (Please specify) (5) _____

Skip To: Q18 If How is your training load data collected? != Using specific software (E.G. Kitman Labs, Sports Office)

Q17 If using a specific software, please highlight the name of the software used.

Q18 Who primarily records the data for your load monitoring?

Self-reported by the athlete (1)

Doctor (2)

Physiotherapist (6)

Sports Therapist (Physical Therapist, Athletic Therapist) (12)

Swim Coach (3)

Strength & Conditioning Coach (4)

Sport Science Support (9)

Other (Please specify) (11) _____

Q19 At what point is the training load information typically recorded?

Immediately post session (1)

<1 hour (10)

1-24 hours (2)

24-48 hours (3)

3-5 days (4)

Once a week (5)

Other (Please Specify) (8) _____

End of Block: Training Load

Start of Block: Variables

Q20 What data variables do you collect?

Heart rate (1)

Heart rate variability (2)

Biomarkers – salivary or blood biomarkers (3)

Session Intensity (RPE) (4)

Volume (Mileage) (5)

Total load quantification (RPE X Duration) (6)

Fatigue monitoring - CMJ, Hand Grip Strength, RESTQ, Swim specific assessment. (7)

Athlete lifestyle self-reported questionnaire (sleep quality, sleep duration, POMs,) (9)

Other (Please specify) (10) _____

End of Block: Variables

Start of Block: Wellness

Q21 What wellness scores do you collect?

Sleep (Duration and Quality) (1)

Psychological Questionnaires (POM's, DALDA, RESTQ-S, MTDS) (2)

Other (Please Specify) (3) _____

End of Block: Wellness

Start of Block: Fatigue

Q22 What fatigue scores do you collect?

CMJ (Height, velocity, peak power) (1)

Handgrip Strength (2)

Swim specific Set (3)

Self-reported questionnaires (E.g. REST-Q) (4)

Other (Please Specify) (5) _____

End of Block: Fatigue

Start of Block: Biomarkers

Q23 What biomarkers do you collect?

Metabolic Health Status (E.g. Glucose, Lipids, HbA1C,) (1)

Hydration Status (E.g. Urine Specific Gravity, Osmolality) (2)

Muscle Status (E.g. IGF-1, Cortisol, Creatine Kinase) (3)

Cardiovascular Status (E.g. Serum Ferritin, Haemoglobin) (4)

Other (Please Specify) (5) _____

Q24 How do you sub-categorise training load data during analysis?

All training load (not categorised) (1)

Swim Session load only (2)

Gym session load only (3)

Both swim and gym load categorised separately (4)

Swim sessions categorised by session target (speed, aerobic, race pace) (6)

Cross-training (7)

Other (Please specify) (5) _____

Q25 What methods do you use to report the data?

Daily distance (m or km) (1)

Weekly distance (m or km) (8)

RPE x Duration (total load) (2)

Training Stress (3)

Training Strain (9)

Training Monotony (10)

TRIMP (Training Impulse) (4)

Acute/Chronic Workload Ratio (5)

Internal/External load Ratio (6)

Other (Please specify) (7) _____

Q26 Is the data acted upon once reported?

Yes (1)

No (2)

Yes, in certain circumstances. (3)

Skip To: Q28 If Is the data acted upon once reported? = Yes

Skip To: Q28 If Is the data acted upon once reported? = No

Q27 Please specify the circumstances where the data is acted upon.

Q28 Who is the key decision-maker based on the reported data?

Head Coach (1)

Doctor (2)

Physiotherapist (6)

Sports Therapist (Physical Therapist, Athletic Therapist) (12)

Swim Coach (3)

Strength and Conditioning Coach (4)

Sport Science Support (9)

Other (Please Specify) (13)

Q29 Do you provide training load information to the athlete after analysis?

Yes, always. (1)

Yes, in certain circumstances (2)

No, never. (3)

Skip To: Q30 If Do you provide training load information to the athlete after analysis? = Yes, in certain circumstances

Skip To: End of Block If Do you provide training load information to the athlete after analysis? = No, never.

Skip To: End of Block If Do you provide training load information to the athlete after analysis? = Yes, always.

Q30 Please specify the circumstances you feedback training load information back to the athlete.

Q31 How do you typically provide the information back to the athlete?

One on one verbally (1)

Through the monitoring tool/application (2)

Posted on a team board (3)

Email (4)

Text (SMS) (6)

Other (Please specify) (5) _____

Q32 How to you account for missing data during analysis?

Use a squad average (1)

Use an athlete average of previous similar sessions (2)

Use an athlete average of the previous weeks sessions (3)

Other (Please Specify) (4) _____

Q33 Do you collect/calculate competition load differently to training load.

Yes (1)

No (2)

Skip To: End of Block If Do you collect/calculate competition load differently to training load. = No

Q34 What is different about how you collect competition load versus training load.

End of Block: Block 11

Start of Block: Feedback

Q35 Please select the most appropriate index to fill in the blank in each statement.

E.g. Our training load monitoring practices are __Moderately Effective__ in improving performance.

1) Our training load monitoring practices are _____ in improving performance. (1)	▼ Not at all effective (1) ... Extremely effective (5)
2) Our training load monitoring practices are _____ in preventing injury. (2)	▼ Not at all effective (1) ... Extremely effective (5)
3) Our training load monitoring practices are _____ in informing training prescription practices. (3)	▼ Not at all effective (1) ... Extremely effective (5)
4) Our training load monitoring practices are _____ in enhancing training adaptations. (4)	▼ Not at all effective (1) ... Extremely effective (5)

Q36 What training load variable or metric is most effective in helping you prevent injury?

Q37 Have you found any associations or links between training load data you collect which warrants further investigation? Please provide detail.

Q38 Do you experience any barriers in conducting effective training load monitoring?

Yes (1)

No (2)

Skip To: Q41 If Do you experience any barriers in conducting effective training load monitoring? = No

Q39 What barriers do you experience with regards to accurate training load monitoring? Please provide detail.

Q40 How could training load monitoring be made easier in your swim programme if no barriers were present. Please provide detail.

Q41 Please detail any further information you feel may be important in relation to effectively monitoring and recording training load in swimming at an international level?
