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Research Proposal - What is the Nutritional Understanding of Recreational Runners

Context and Rationale

The current recommendations for endurance runners show that runners need to match their nutritional intake to their training needs, often following a periodised format to match training (Thomas et al., 2016).

Recreational runners have been identified as being at risk of low energy availability, although a complex topic that can have many causes, a lack of understanding of nutritional and energy requirements has been noted as a potential cause (Buch et al., 2024; Devish et al., 2022).

A 2025 study by Jimenez-Alfageme *et al.* used the Nutritional Intake for Endurance Competitions Questionnaire to assess recreational runners' intake during a marathon. The study concluded that those who followed accepted nutritional advice finished faster than those who did not. This supported the findings of an earlier study using a matched pairs design to pair runners who followed a freely chosen nutritional strategy and those following a scientifically backed approach, which concluded that those who followed the scientific fuelling approach finished faster than the freely chosen fuelling strategy group (Hansen et al., 2014). Hansen et al. (2014) theorised that a lack of nutritional knowledge could account for this difference.

Recreational runners are not engaging with qualified nutrition professionals for advice and guidance around nutrition and are relying on run coaches and the internet for their advice (Flynn, 2014; Jimenez-Alfageme *et al.*, 2025). A 2025 study showed that 45% of runners surveyed had received no nutrition advice before partaking in a marathon (Jimenez-Alfageme *et al.*, 2025). Coaches are considered to be the main source of nutritional information for athletes; however, a 2015 questionnaire-based study of American College Coaches found that the level of knowledge was inadequate (Botsis & Holden, 2015). If athletes are relying on nutritional information from non-qualified professionals, this could contribute to poor nutritional information amongst recreational athletes.

Although some research exists around the nutritional knowledge and understanding of athletes, this is generally focused on mixed recreational athlete groups (Boucherville Pereira et al. 2025) or elite athlete groups (Spronk et al., 2015). A systematic review published in 2022 noted that research on the topic of nutritional knowledge of athletes largely used unvalidated tools and was done on small groups of participants, meaning the results could not be generalised to a wider athletic population. With new tools having been validated during the search timeframe, it meant these tools were not widely used, and the researcher concluded further research was required (Janiczak et al., 2022)

To fully understand the gaps in recreational runners' nutrition knowledge, this first needs to be measured. Along with considering where nutritional information and advice is currently obtained from, and any barriers present in accessing that advice.

The aim of this study is to understand the general and sports nutrition knowledge of adult recreational runners

The research hypothesis (H1) and null hypothesis (H0) can be stated as follows
 H1: General and sport nutrition knowledge is poor within the recreational runner population
 H0: General and sport nutrition knowledge is good within the recreational runner population

Methodology

The study will use a scientific method in the form of quantitative research to objectively measure participants' nutrition knowledge. This sits within a realist ontological approach with the belief that nutrition knowledge can be measured and is independent of someone's opinion (Cohen *et al.*, 2018). As the study is testing a concept where empirical data can be collected and then analysed using logical reasoning as opposed to a theoretical basis, it sits within the positivist paradigm branch of epistemology (Drummond, 2022). There are criticisms of using objective knowledge as a measure, as it does not account for the subjectivity of someone's view (Cohen *et al.*, 2018). However, it is beyond the scope of this project to analyse why runners hold certain views regarding nutrition or how these views affect their daily nutrition choices. Further research may be needed in the future to develop these areas of understanding.

Study Design

A cross-sectional study design will be adopted, using a validated general and sports nutrition questionnaire will be used to collect data from recreational runners over the

age of 18. The questionnaire will be disseminated through social media and also via email to running groups. The results will then be collated and analysed using SPSS software.

Rationale for Study Design

The abridged version of the Nutrition for Sports Knowledge Questionnaire (A-NSKQ) will be used in this study. The abridged version contains 35 questions compared to 89 in the non-abridged version, making it faster to complete (12 vs 25 minutes) (Trakman *et al.*, 2018; 2022). As a result, the abridged version sees higher completion rates while still being an accurate and validated tool (Trakman *et al.*, 2018). The questionnaire is broken into two main sections: general (11 questions) and sports nutrition (24 questions) (Trakman *et al.*, 2018; 2022). The results will be graded as either poor (0-49%), average (50-64%), good (64-75%) or exceptional (75%+) (Trakman *et al.*, 2017).

The questionnaire will be disseminated online through social media and emails to running clubs. Using an online format enhances accessibility and widens the potential reach and participant inclusion than using a paper format (Ward *et al.*, 2014). The questionnaire will be built on Microsoft Forms, and then a URL will be shared so it can be accessed by participants. Participation will be anonymous; however, at the end participants will be asked if they would be happy to be contacted if opportunities to take part in further research arise. If they answer yes they would then be asked to provide their name and email address. It will be reiterated that they can withdraw at any time, and adding their details does not mean they are obliged to take part in any further research opportunities. By using a validated questionnaire and delivery through an online method, researcher bias is limited as the questions have been through a testing process, and contact with the participants is minimised.

Participants

Convenience sampling will be used to obtain participants for the study. Due to the limited timeframe for this piece of research, participants are needed quickly, and social media can aid in this. The participants will be recreational runners over the age of 18 who have provided informed consent for the study.

Recreational will be defined as anyone who has not run an elite qualifying time or makes their money through competitive running. There is no definitive classification of an elite runner; as per guidance offered by Williams *et al.* (2017), quantitative data such as personal bests should be used to define this term. With 5km being an accessible distance to which a lot of people run weekly, this distance will be used as a measure, along with the automatic qualifying standard for the UK Athletics 5km championships

(14:10 for men and 16:10 for women) (British Athletics, 2024). Participants will be asked to confirm that their 5km personal best is not faster than the times provided.

Sample size has been determined by doing a priori power calculation using a G*Power calculator, effect size 0.3, alpha to 0.05 and power to 0.8. The suggested sample size was 64 participants. As such, the aim will be to recruit a minimum of 64 participants. The URL will remain live for 2 weeks, with a possible extension to 4 weeks if required.

The 2025 London Marathon Ballot saw a close to 50/50 split for male and female participation; with this in mind, an equal split between genders would be ideal; however, it cannot be guaranteed with the distribution method selected (Tinbergen, 2025). Gender comparison will be considered in the analysis; however, it may not be possible to draw any statistically significant comparisons depending on the gender split of the respondents. Further research, therefore, may be needed to determine whether gender has an impact on nutritional knowledge.

Exclusion Criteria

To keep the study focused on recreational runners any runners who have met the elite qualifying time as stipulated above will be excluded from the study. Along with this, anyone holding an undergraduate or postgraduate qualification in nutrition, dietetics or sports science will also be excluded. This is to keep the study focused on your everyday runner who may lack access to nutrition and sports nutrition information. As this study is being distributed via social media and email, runners under the age of 18 will also be excluded, as this would require parental consent which is not feasible for this study. Further research may be required to analyse the nutrition knowledge of athletes under the age of 18.

Procedures

The questionnaire will be published using Microsoft Forms and a URL will be produced so it can be shared. The URL will be shared on social media sites, including Facebook and Instagram. Email will also be utilised to email the link to running clubs, who can then forward it to their members. The first page will be an informed consent form along with inclusion and exclusion criteria, asking the potential participant about their previous 5km personal best and any formal nutrition qualifications. Once the participant has provided informed consent and confirmed whether they meet the criteria, they will then be able to complete the rest of the questionnaire.

Once the participant has completed the questionnaire, they will be provided with a unique code. If they wish for their data to be removed from the study, they will need to provide the code. Once they have completed the questionnaire, they will also be asked

if they would like to be contacted regarding any further research opportunities, and if they would like to be, then contact information, including name and email address, will be collected.

Data Analysis

Data will be analysed using SPSS software and analysed using standard deviation and mean. Cohen's D effect size can then be used to measure any difference between groups where data allows, such as gender.

Ethical considerations

Ethical approval has been sought from UWTSD as per the PC2 ethics form (see appendix). The research will be conducted in line with the codes of conduct from UWTSD Research and Ethics Code of Conduct, British Sports and Exercise Science Code of Conduct (BASES) (2021) and The Sport and Exercise Nutrition Register (SENR) Code of Conduct (2021). This will ensure the study complies with all ethical and professional guidelines, including professional conduct, data protection, informed consent, confidentiality and competence.

Word count: 1615

References

- Botsis, A.E. and Holden, S.L., 2015. Nutritional knowledge of college coaches. *Sport Sci.Rev*, [e-journal] 24, pp.193–200. Available through: Google Scholar.
- Boucherville Pereira, I.S.d., Lima, K.R., Teodoro da Silva, R.C., Pereira, R.C., Fernandes da Silva, S., Gomes de Moura, A. and César de Abreu, W., 2025. Evaluation of general and sports nutritional knowledge of recreational athletes. *Nutrition and Health*, [e-journal] 31 (1), pp.273–280. Available through: Google Scholar.
- British Athletics, 2026. *UK Athletics 5k Road Running Championships returns for 2024*. [on-line] [Accessed: 10/03/2026].
- Buch, T., Beck, K.L., Tam, R., Gifford, J. and Badenhorst, C., 2024. Risk of low energy availability and level of nutrition knowledge in recreational trail runners in Aotearoa/New Zealand. *Proceedings of the Nutrition Society*, [e-journal] 83 10.1017/S0029665124000600..
- Cohen, L., Manion, L. and Morrison, K., 2018. *Research methods in education*. [e-book] London ;; Routledge. Available through: .
- Dervish, R.A., Wilson, L.J. and Curtis, C., 2023. Investigating the prevalence of low energy availability, disordered eating and eating disorders in competitive and recreational female endurance runners. *European Journal of Sport Science*, [e-journal] 23 (5), pp.869–876. Available through: Google Scholar.
- Drummond, K.E., 2022. *Nutrition research : concepts and applications*. [e-book] 2nd ed. Bulington, New York: Jones & Bartlett Learning. Available through: .
- Flynn, L., 2014. Marathon runners and their nutrition views, practices and sources of nutrition information. [e-journal] Available through: Google Scholar
<<https://surface.syr.edu/cgi/viewcontent.cgi?article=1048&context=thesis>>.
- Hansen, E.A., Emanuelsen, A., Gertsen, R.M. and Sørensen, S.S.R., 2014. Improved marathon performance by in-race nutritional strategy intervention. *International Journal of Sport Nutrition and Exercise Metabolism*, [e-journal] 24 (6), pp.645–655. Available through: Google Scholar.
- Janiczak, A., Devlin, B.L., Forsyth, A. and Trakman, G.L., 2022. A systematic review update of athletes' nutrition knowledge and association with dietary intake. *British Journal of Nutrition*, [e-journal] 128 (6), pp.1156–1169. Available through: Google Scholar.
- Jiménez-Alfageme, R., Garrone, F.P., Rodriguez-Sanchez, N., Romero-García, D., Sospedra, I., Giménez-Monzó, D., Ayala-Guzmán, C.I. and Martínez-Sanz, J.M., 2025. Nutritional Intake and Timing of Marathon Runners: Influence of Athlete's Characteristics and Fueling Practices on Finishing Time. *Sports Medicine - Open*, [e-journal] 11 (1), pp.26. 10.1186/s40798-024-00801-w.
<<https://doi.org/10.1186/s40798-024-00801-w>>.
- Rosie Tinbergen, 2025. *Trailblazing towards a gender-equal landscape: Mass participation running and the London Marathon*. [on-line] [Accessed: 10/03/2026].
- SEN, 2021. *Code of Professional Conduct*. Birmingham: BDA. Available through:
<<https://www.bda.uk.com/static/ca0cce9e-17d1-4e65-8bd01e74897295fa/SEN-Code-of-Professional-Conduct-2023.pdf>> [Accessed 10/03/2026].

Spronk, I., Heaney, S.E., Prvan, T. and O'Connor, H.T., 2015. Relationship between general nutrition knowledge and dietary quality in elite athletes. *International Journal of Sport Nutrition and Exercise Metabolism*, [e-journal] 25 (3), pp.243–251. Available through: Google Scholar.

The British Association of Sport and Exercise Sciences, 2021. *Code of Conduct*. [on-line] [Accessed: 10/03/2026].

Thomas, D.T., Erdman, K.A. and Burke, L.M., 2016. Position of the Academy of Nutrition and Dietetics, Dietitians of Canada, and the American College of Sports Medicine: Nutrition and Athletic Performance. *Journal of the Academy of Nutrition and Dietetics*, [e-journal] 116 (3), pp.501–528. 10.1016/j.jand.2015.12.006.

<<https://www.sciencedirect.com/science/article/pii/S221226721501802X>>.

Trakman, G.L., Brown, F., Forsyth, A. and Belski, R., 2019. Modifications to the nutrition for sport knowledge questionnaire (NSQK) and abridged nutrition for sport knowledge questionnaire (ANSQK). *Journal of the International Society of Sports Nutrition*, [e-journal] 16 (1), pp.26. 10.1186/s12970-019-0293-8. <<https://doi.org/10.1186/s12970-019-0293-8>>.

Trakman, G.L., Forsyth, A., Hoyer, R. and Belski, R., 2017. The nutrition for sport knowledge questionnaire (NSQK): development and validation using classical test theory and Rasch analysis. *Journal of the International Society of Sports Nutrition*, [e-journal] 14, pp.26–y. eCollection 2017. 10.1186/s12970-017-0182-y..

Trakman, G.L., Forsyth, A., Hoyer, R. and Belski, R., 2018. Development and validation of a brief general and sports nutrition knowledge questionnaire and assessment of athletes' nutrition knowledge. *Journal of the International Society of Sports Nutrition*, [e-journal] 15 (1), pp.17. 10.1186/s12970-018-0223-1. <<https://doi.org/10.1186/s12970-018-0223-1>>.

Ward, P., Clark, T., Zabriskie, R. and Morris, T., 2014. Paper/pencil versus online data collection: An exploratory study. *Journal of Leisure Research*, [e-journal] 46 (1), pp.84–105. Available through: Google Scholar.

Williams, A., Day, S., Stebbings, G. and Erskine, R., 2017. What does 'elite' mean in sport and why does it matter. *The Sport and Exercise Scientist*, [e-journal] 51 (6) Available through: Google Scholar.

Appendix 1 - Research Project Timeline

Week	Dates (w/c)	Tasks
1	9th March	• Submit the ethics form and research proposal • Create a consent form and participant information • Start creating a questionnaire in MS Forms
2	16th March	• Finalise questionnaire, participant information and informed consent • Prepare emails and social media posts ready for when ethics is approved
3	23rd March	• Data Collection
4	30th March	• Data Collection
5	6th April	• Data Collection Contingency • Input data into SPSS
6	13th April	• Data Collection Contingency • Input Data into SPSS • Data Analysis
7	20th April	• Data Analysis • Compare data to existing research • Draw conclusions where appropriate
8	27th April	• Draft Poster
9	4th May	• Finalise poster and submit

Appendix 2 - Ethics Form

APPLICATION FOR ETHICAL APPROVAL

In order for research to result in benefit and minimise risk of harm, it must be conducted ethically.

The University follows the OECD Frascati manual definition of **research activity**: “creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications”. As such this covers activities undertaken by

members of staff, postgraduate research students, and both taught postgraduate and undergraduate students working on dissertations/projects.

The individual undertaking the research activity is known as the “principal researcher”.

This form must be completed and approved prior to undertaking any research activity.

SECTION A: About You (Principal Researcher)

1	Full Name:	Rachel Turner
2	Student Number:	2417687
3	Email address:	2417687@student.uwtsd.ac.uk
4	Programme of Study:	MSc Sport & Exercise Nutrition
5	Supervisor:	Nalda Wainwright

SECTION B: Internal and External Ethical Guidance Materials

	Please list the core ethical guidance documents that have been referred to during the completion of this form (including any discipline-specific codes of research ethics, location-specific codes of research ethics, and also any specific ethical guidance relating to the proposed methodology). Please tick to confirm that your research proposal adheres to these codes and guidelines. You may add rows to this table if needed.	
1	UWTSD Research Ethics & Integrity Code of Practice	X
2	UWTSD Research Data Management Policy	X
3	British Association for Sport and Exercise Science	X
4	<i>Sport and Exercise Nutrition Register</i>	X

SECTION C: Details of Research Activity

1	Indicative title:	Understanding the nutritional knowledge of Recreational Runners		
2	Proposed start date:	16/03/2026	Proposed end date:	08/05/2026

	Introduction to the Research (maximum 300 words in each section) Ensure that you write for a <u>Non-Specialist Audience</u> when outlining your response to the three points below: • <i>Purpose of Research Activity</i> • <i>Proposed Research Question</i> • <i>Aims of Research Activity</i> • <i>Objectives of Research Activity</i> Demonstrate, briefly, how <u>Existing Research</u> has informed the proposed activity and explain • <i>What the research activity will add to the body of knowledge</i> • <i>How it addresses an area of importance.</i>
3	Purpose of Research Activity To understand the nutritional knowledge of recreational runners and the factors that impact their nutritional knowledge. (this box should expand as you type)
4	Research Question What is the nutritional knowledge of recreational runners, and the factors that impact their knowledge? (this box should expand as you type)
5	Aims of Research Activity 1 - To understand the nutritional knowledge of adult recreational runners 2 - To determine factors that may impact recreational runners' nutrition knowledge 3 - To understand where recreational runners get their nutritional knowledge from (this box should expand as you type)
6	Objectives of Research Activity 1 - To measure recreational runners' nutritional knowledge through a recognised and validated nutritional knowledge survey 2 - To analyse the answers from the questionnaire to determine the standard of nutritional knowledge and where any potential gaps in that knowledge fall 3 - To gain an understanding of where recreational runners get their nutritional knowledge from, through a question set added to the questionnaire (this box should expand as you type)

	Proposed data collection methods (maximum 600 words) Provide a brief summary of all the methods that may be used in the research activity to collect data, making it clear what specific techniques may be used. If methods other than those listed in this section are deemed appropriate later, additional ethical approval for those methods will be needed. You do not need to justify the methods here, but should instead describe how you intend to collect the data necessary for you to complete your project.
7	The data for this research will be collected through a validated sports and nutrition knowledge questionnaire. This questionnaire will be delivered online through MS Forms. Additional questions will be asked in addition to the validated questionnaire questions, including age, gender, running experience and speed. (this box should expand as you type)

SECTION D: Scope of Research Activity

	Will the research activity include:	YES	NO
1	Use of a questionnaire or similar research instrument?	X	☐
2	Use of interviews?	☐	X
3	Use of focus groups?	☐	X
4	Use of participant diaries?	☐	X
5	Use of video or audio recording?	☐	X
6	Use of computer-generated log files?	☐	X
7	Participant observation with their knowledge?	☐	X
8	Participant observation without their knowledge?	☐	X
9	Access to personal or confidential information without the participants' specific consent?	☐	X
10	Administration of any questions, test stimuli, presentation that may be experienced as physically, mentally or emotionally harmful / offensive?	☐	X
11	Performance of any acts which may cause embarrassment or affect self-esteem?	☐	X
12	Investigation of participants involved in illegal activities?	☐	X
13	Use of procedures that involve deception?	☐	X
14	Administration of any substance, agent or placebo?	☐	X

15	Working with live vertebrate animals?	☐	X
16	Procedures that may have a negative impact on the environment?	☐	X
17	Other primary data collection methods. Please indicate the type of data collection method(s) below.	☐	X
	Details of any other primary data collection method: (this box should expand as you type)		

If you have ticked NO to every question, then the research activity is (ethically) low risk, and you may skip section E and continue to section F.

If YES to any question, then no research activity should be undertaken until full ethical approval has been obtained.

SECTION E: Intended Participants

	Who are the intended participants:	YES	NO
1	Students or staff at the University?	☐	X
2	Adults (over the age of 18 and competent to give consent)?	X	☐
3	Vulnerable adults?	☐	X
4	Children and Young People under the age of 18? (Consent from Parent, Carer or Guardian will be required)	☐	X
5	Prisoners?	☐	X
6	Young offenders?	☐	X
7	Those who could be considered to have a particularly dependent relationship with the investigator or a gatekeeper?	☐	X
8	People engaged in illegal activities?	☐	X
9	Others. Please indicate the participants below, and specifically any group who may be unable to give consent.	☐	X
	Details of any other participant groups: Complete this only if your participants cannot give consent. This includes animals		

	(this box should expand as you type)		
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	Participant numbers and source Provide an estimate of the expected number of participants. How will you identify participants and how will they be recruited?	
10	How many participants are expected?	The aim is to recruit 64 participants through social media and emails to running clubs. Social media sites will include Facebook and Instagram Ballpark figures are fine, but make sure that you explain how you will identify and contact your participants. <i>(this box should expand as you type)</i>
11	Who will the participants be?	The participants will be recreational runners over the age of 18 <i>(this box should expand as you type)</i>
12	How will you identify the participants?	The URL to the questionnaire will be posted on relevant Facebook groups and also on Instagram. Participants will then be able to access this link and will be able to determine whether they wish to participate in the study. The first page on the URL will be an information page containing relevant details of the study. Participants will largely self-identify as to whether they wish to take part. <i>(this box should expand as you type)</i>

	Information for participants:	YES	NO	N/A
13	Will you describe the main research procedures to participants in advance, so that they are informed about what to expect?	X	☐	☐
14	Will you tell participants that their participation is voluntary?	X	☐	☐
15	Will you obtain written consent for participation?	X	☐	☐
16	Will you explain to participants that refusal to participate in the research will not affect their treatment or education (if relevant)?	X	☐	☐
17	If the research is observational, will you ask participants for their consent to being observed?	☐	☐	X

18	Will you tell participants that they may withdraw from the research at any time and for any reason?	X	☐	☐
19	With questionnaires, will you give participants the option of omitting questions they do not want to answer?	X	☐	☐
20	Will you tell participants that their data will be treated with full confidentiality and that, if published, it will not be identifiable as theirs?	X	☐	☐
21	Will you debrief participants at the end of their participation, in a way appropriate to the type of research undertaken?	X	☐	☐
22	If NO to any of above questions, please give an explanation			
	You should be able to tick YES for all of these questions. If not, then explain why not in this box. <i>(this box should expand as you type)</i>			

	Information for participants:	YES	NO	N/A
24	Will participants be paid?	☐	X	☐
25	Is specialist electrical or other equipment to be used with participants?	☐	X	☐
26	Are there any financial or other interests to the investigator or University arising from this study?	X	☐	☐
27	Will the research activity involve deliberately misleading participants in any way, or the partial or full concealment of the specific study aims?	☐	X	☐
28	If YES to any question, please provide full details			
	I work as a nutrition coach with runners to improve their nutrition, so the results from this study could have the additional impact of forming further work I do with paid clients. Although I am not seeking to include anyone who works with me in the study, they could come across the link and complete the survey. I am also a run coach with my local run club, and so this could inform conversations I have with runners within the club. The coach role is a voluntary position within the club. The participation is anonymous, and so I would be unaware whether people I work with in either capacity would complete the questionnaire. I have made it			

	clear in the information participation information that professional relationships will not be impacted by someone's inclusion or exclusion in the study. <i>(this box should expand as you type)</i>
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SECTION F: Anticipated Risks

	Outline any anticipated risks that may adversely affect any of the participants, the researchers and/or the University, and the steps that will be taken to address them.	
1	Risks to participants For example: sector-specific health & safety, emotional distress, financial disclosure, physical harm, transfer of personal data, sensitive organisational information. If you have identified in section D that there are no participants then enter N/A and go skip to question 3.	
	Risk to participants: 1 - Questions asked in the survey would include topics surrounding the calories of food and the nutritional value of food. Some individuals may find this triggering. 2 - Fatigue, boredom or frustration at the time commitment to answering the questionnaire 3 - Breach of confidentiality 4 - Coercion - participants may feel obligated to complete the survey, especially if they are in the same running club for which I am a coach <i>(this box should expand as you type)</i>	How you will mitigate the risk to participants: 1 - Participants will be provided with an information sheet clearly explaining the research and that it is surrounding food. Alice will provide before starting that anyone who finds such topics triggering should not participate in the research. At the end, links will be provided to the BEAT charity and also to where individuals can find support should they find any of the topics covered distressing and wish to get support. 2 - A time estimation of how long the questionnaire takes to complete will be included in the information sheet, so participants are fully informed of the time commitment prior to starting. 3 - The research is anonymous, and so identifiable information will not be collected. Any personal data that is collected will be stored in a password-protected document on the university's office suite. Participants will be asked if they would be happy to be contacted to take part in any further research, and for those who opt in to this, their information will be stored in a password protected document on the university office suite.

		4 - Clearly state that participation in the study is voluntary and state that any professional or coach/athlete relationships will not be impacted or conditional on completing the survey. As the survey is anonymous unless participants agree at the end to provide contact details for further research opportunities as the researcher I would be unaware of who has and has not completed the questionnaire. <i>(this box should expand as you type)</i>
2	If research activity may include sensitive, embarrassing or upsetting topics (e.g. sexual activity, drug use) or issues likely to disclose information requiring further action (e.g. criminal activity), give details of the procedures to deal with these issues, including any support/advice (e.g. helpline numbers) to be offered to participants. Note that where applicable, consent procedures should make it clear that if something potentially or actually illegal is discovered in the course of a project, it may need to be disclosed to the proper authorities	
	The questionnaire being used makes reference to body weight, weight loss/gain, body fat and alcohol which participants could find triggering. A not sure option will be provided for all questions allowing participants to easily not answers questions. In the debrief links will be provided to BEAT eating disorder charity, the Dietetics register, the SENR register and alcohol charities. So if participants have found any topics distressing they will be able to seek help. <i>(this box should expand as you type)</i>	
3	Risks to the investigator For example: personal health & safety, physical harm, emotional distress, risk of accusation of harm/impropriety, conflict of interest	

	Risk to the investigator: 1 - receiving abusive, inappropriate or aggressive responses to questions or through an email contact provided 2 - A participant could contact me or provide information of a distressing nature in the form of a disclosure regarding topics such as eating disorders. 3 - Research could be criticised or misinterpreted by others on the internet 4 - GDPR breach with loss or unauthorised access to participant data 5 - Stress from trying to gain a large sample size within a short period of time. <i>(this box should expand as you type)</i>	<i>How you will mitigate the risk to the investigator:</i> 1 - with the exception of boxes at the end for participants to include contact information, should they wish, open-ended boxes will not be included with the questionnaire. My university email address will be provided for contact, allowing for any contact to be managed through the university system and reported in line with university policies. 2 - Have clearly defined expectations within the participant information sheet and debrief, including where participants can seek additional support. Have an escalation process in place that is in line with the university's safeguarding policies. Should any disclosure be made, contact my supervisor immediately for additional support and guidance on the matter. 3 - Have a clearly defined information sheet for participants or anyone interested that outlines the study. Ensure all posts are professional and do not engage in arguments or disputes in the comments section of any posts, referring people to the information sheet provided. 4 - I will only use the university Microsoft Suite systems for the research study and for any data that is held. Two-factor authentication is set up on my account, and any data will be held on the university cloud system. 5 - Have a strict cutoff for data collection and then continue with the study based on the information that has been collected. Build into the timetable of work a contingency for overrunning on parts of the study. <i>(this box should expand as you type)</i>
4	University/institutional risks	

	For example: adverse publicity, financial loss, data protection	
	Risk to the University: 1 - Data breach and GDPR non-compliance 2 - Reputational harm through social media posts linked to the study 3 - Professional negligence through a participant misinterpreting the study as professional advice <i>(this box should expand as you type)</i>	<i>How you will mitigate the risk to the University:</i> 1 - All data relevant to this study will be collected through my student university Microsoft suite accounts. The data will then be stored on the universities one drive. 2 - By using a validated questionnaire that has gone through a rigorous testing process, the study has been designed to be non-biased and centred within current academic literature. 3 - Clearly state that this is a study/research and does not constitute nutritional advice. Should participants wish to seek professional advice, then links will be provided to where they can find this information. <i>(this box should expand as you type)</i>
5	Environmental risks For example: accidental spillage of pollutants, damage to local ecosystems	
	Risk to the environment: The environment of this study is the digital space, and as such, the following have been considered 1 - Accessibility through different devices 2 - Sending out the questionnaire through social media could exclude groups of runners who do not use social media 3 - Distractions in their environment while completing the survey 4 - Sustainability <i>(this box should expand as you type)</i>	<i>How you will mitigate the risk to environment:</i> 1 - The link will be tested through different devices, including a mobile phone and a desktop, to ensure it is accessible 2 - Using email as an option for contacting running clubs opens up the questionnaire to runners who may not have access to social media 3 - Instructions provided with the study will suggest that the participants complete the questionnaire in a quiet environment with minimal distractions 4 - This study is using a digital questionnaire as opposed to paper to minimise the impact on the environment <i>(this box should expand as you type)</i>

SECTION G: Feedback, Consent and Confidentiality

If you have identified in section D that there are no participants then enter skip this section and continue to section H.

1	Feedback What de-briefing and feedback will be provided to participants, how will this be done and when?
	Participants will be given a result from the questionnaire after they have submitted their response. This will be graded according to scoring system and then details will be provided giving information of where they can seek further advice. Links to the SENR website will be provided for anyone seeking professional help. An email address will also be provided so if participants want any further information they can contact me for it. <i>(this box should expand as you type)</i>
2	Informed consent Describe the arrangements to inform potential participants, before providing consent, of what is involved in participating. Describe the arrangements for participants to provide full consent before data collection begins. If gaining consent in this way is inappropriate, explain how consent will be obtained and recorded in accordance with prevailing data protection legislation.
	The questionnaire will be set up to with a box that participants must check before continuing to confirm they are providing informed consent and are happy to continue. The study will be explaining and details provided before the check the box to continue. <i>(this box should expand as you type)</i>
3	Confidentiality / Anonymity Set out how anonymity of participants and confidentiality will be ensured in any outputs. If anonymity is not being offered, explain why this is the case.
	Anonymity in this study will presumed. As it is online a physical signed consent form with their name on is not required. There will be a box at the end for the participant to provide contact details so they wish to where they can be contacted about any further research. It will be made clear that this box is voluntary and that not completing it does not impact their participation in the current study. Should a participant choose to provide their details these will be kept securely inline with university policy. <i>(this box should expand as you type)</i>

SECTION H: Data Protection and Storage

	Does the research activity involve personal data (as defined by the General Data Protection Regulation 2016 “GDPR” and the Data Protection Act 2018 “DPA”)?	YES	NO
1	“Personal data” means any information relating to an identified or identifiable natural person (‘data subject’). An identifiable natural person is one who can be identified, directly or indirectly, in particular by reference to an identifier such as a name, an identification number, location data, an online identifier or to one or more factors specific to the physical, physiological, genetic, mental, economic, cultural or social identity of that natural person. Any video or audio recordings of participants is considered to be personal data.	X	☐
	If YES, provide a description of the data and explain why this data needs to be collected:		
2	A name and email address will be collected should participants want to be contacted regarding further research opportunities. This information is provided voluntarily, should the participant wish to provide it. This will then be stored securely in a password-protected document on the university on drive system. (this box should expand as you type)		
	Does it involve special category data (as defined by the GDPR)?	YES	NO
3	“Special category data” means sensitive personal data consisting of information as to the data subjects’ – (a) racial or ethnic origin, (b) political opinions, (c) religious beliefs or other beliefs of a similar nature, (d) membership of a trade union (within the meaning of the Trade Union and Labour Relations (Consolidation) Act 1992), (e) physical or mental health or condition, (f) sexual life, (g) genetics,	☐	X

	(h) biometric data (as used for ID purposes),		
	If YES, provide a description of the special category data and explain why this data needs to be collected:		
4	What counts as 'sensitive' will differ between cultures. Any information on behaviour that is not in accordance with cultural norms would count as sensitive personal data. <i>(this box should expand as you type)</i>		

	Will data from the research activity (collected data, drafts of the thesis, or materials for publication) be stored in any of the following ways?	YES	NO
5	Manual files (i.e. in paper form)?	☐	X
6	University computers?	☐	X
7	Private company computers?	☐	X
8	Home or other personal computers?	☐	X
9	Laptop computers/ CDs/ Portable disk-drives/ memory sticks?	☐	X
10	"Cloud" storage or websites?	X	☐
11	Other – specify:	☐	☐
12	For all stored data, explain the measures in place to ensure the security of the data collected, data confidentiality, including details of backup procedures, password protection, encryption, anonymisation and pseudonymisation:		
	All data will be kept in a password-protected cloud storage on the University Office 365 system, which will not be shared. All participants will be given a unique identifier to ensure confidentiality, and this list will be kept securely in a password-protected file. <i>(this box should expand as you type)</i>		

Data Protection			
	Will the research activity involve any of the following activities:	YES	NO
13	Electronic transfer of data in any form?	X	☐

14	Sharing of data with others at the University outside of the immediate research team?	☐	X
15	Sharing of data with other organisations?	☐	X
16	Export of data outside the UK or importing of data from outside the UK?	☐	X
17	Use of personal addresses, postcodes, faxes, emails or telephone numbers?	X	☐
18	Publication of data that might allow identification of individuals?	☐	X
19	If YES to any question, please provide full details, explaining how this will be conducted in accordance with the GDPR and Data Protection Act (2018) (and/or any international equivalent):		
	All data will be encrypted and kept in password protected cloud storage on the University Office 365 system which will not be shared. All data transfers will be encrypted and password protected. All participants will be given a unique identifier to ensure confidentiality and this list will be kept securely in the password protected folder. The data will be stored until the completion of the project and then deleted. In accordance with the DPA2018, participants will have the right to ask to see what data is held relating to them, and this data will be deleted immediately if the participant requests this, in which case the data will not be used in the project. <i>(this box should expand as you type)</i>		
20	List all who will have access to the data generated by the research activity:		
	Nobody other myself will have access to the data generated by the study. <i>(this box should expand as you type)</i>		
21	List who will have control of, and act as custodian(s) for, data generated by the research activity:		
	Rachel Turner - Researcher <i>(this box should expand as you type)</i>		
22	Give details of data storage arrangements, including security measures in place to protect the data, where data will be stored, how long for, and in what form.		
	All data will be encrypted and kept in password protected cloud storage on the University Office 365 system which will not be shared. The data will be stored until the completion of the project and then deleted.		

	<i>(this box should expand as you type)</i>	
22	Confirm that you have read the UWTSD guidance on data management (see https://www.uwtسد.ac.uk/library/research-data-management/)	X
23	Confirm that you are aware that you need to keep all data until after your research has completed or the end of your funding	X

SECTION I: Use of AI tools

Use of generative AI and other AI-based tools		YES	NO	N/A
There are a number of ethical issues relating to the use of generative AI and other AI-based tools, including data security, output bias, and output errors. In general you should assume that any generative AI or other AI-based tool that you pay to use is more secure and accurate than one which is free to use.				
Will the research use AI tools to do any of the following:				
1	Capture data?		X	☐
2	Generate and/or edit text?	☐	X	☐
3	Generate graphics?	☐	X	☐
4	Generate video?	☐	X	☐
5	Generate sound/music?	☐	X	☐
6	Generate code?	☐	X	☐
7	Generate synthetic data?	☐	X	☐
8	Analyse data?	☐	X	☐
9	Analyse personal or sensitive data?	☐	X	☐
10	Classify data?	☐	X	☐
11	Do you intend to use the free version of any AI tools?	☐	X	☐
If you have answered YES to any of questions O1-O11, please provide justification detailing why this is necessary for the research.				
12	No AI use is planned for this piece of research. <i>(this box should expand as you type)</i>			

SECTION J: Declaration

	The information which I have provided is correct and complete to the best of my knowledge. I have attempted to identify any risks and issues related to the research activity and acknowledge my obligations and the rights of the participants. In submitting this application I hereby confirm that I undertake to ensure that the above named research activity will meet the University's Research Ethics and Integrity Code of Practice which is published on the website: https://www.uwtsd.ac.uk/research/research-ethics/		
1	Signature of applicant:	R. Turner	Date: 11/03/2026
2	Supervisor:		Date:
3	Signature:		

Appendix 3 - Participant Information

Participant Information Sheet

Study Title: Understanding the Nutritional Knowledge of Recreational Runners

Dear Participant,

Thank you for showing an interest in my study. It is important that you understand the study and what is being asked of you as a participant so you can provide informed consent. My contact details will be provided, so should you have any questions, please feel free to contact me at any point.

Location of the study

This study is being completed online using Microsoft Forms. It can be conducted on devices such as a laptop, smartphone or tablet device.

Investigator

The lead investigator is Rachel Turner

Who is funding the research?

This research has no funding and is being conducted by a postgraduate student at the University of Wales Trinity St David's

Can I take part in this study?

I am looking for individuals who meet the following criteria

- Male or Female
- Over the age of 18
- Would class themselves as a recreational runner
- Have never a 5 kilometre personal best of 14:10 for men and 16:10 for women or faster
- Have never been classed as an elite athlete in any sport
- Are not paid to partake in any running or sporting events
- Do not have an undergraduate or postgraduate qualification in nutrition, dietetics or sports science
- Willing to answer questions about your nutritional knowledge
- Willing to voluntarily complete the questionnaire and provide informed consent

What is the study about?

The study aims to understand the nutritional knowledge of recreational runners. It will also consider how factors such as gender impact nutritional knowledge and where recreational runners are getting their nutritional knowledge from. The findings from this research would allow nutritional education resources and programs to be created targeted at recreational runners. Research acknowledges that recreational runners performance can be improved through following recommended nutrition guidelines however these are not being followed by recreational runners. There is a suggestion from research that this could be to a lack of knowledge on behalf of recreational runners.

The aim of the study is to understand the nutritional knowledge of recreational runners.

How will I be involved?

You will be asked to complete a questionnaire which will take approximately 15 minutes. It will include questions on general nutritional knowledge along with sports nutrition knowledge. There will be a small number of questions relating to gender, running experience and running pace. You are asked not to consult with anyone else while answering the questions and to refrain from using a search engine or generative AI model when answering the questions. You ensure you have sufficient time to complete the questionnaire before starting and ensure you have minimal distractions to allow you to focus on the study.

Are there any risks involved?

Although risks are minimal due to the study design risk can never be completely avoided. The questionnaire discusses nutrition, body weight, weight loss and weight

gain along with nutritional requirements. Some individuals may find these topics distressing and triggering. Especially if they have a history of disordered eating. Therefore, participants should consider the impact of these topics before agreeing to take part in the study.

Can I change my mind?

Yes, at anytime should you wish to withdraw, you can contact the lead researcher and provide your unique identifier and your information will be removed from the study and deleted. You can withdraw your participation in the study until 20th April 2026. Your participation or any subsequent withdrawal impacts any professional relationship with the researcher.

What happens to my information?

Your information and participation in this research project are anonymous; there is a question at the end asking if you wish to be contacted for any further research opportunities. This is voluntary, and providing your contact details does not constitute consent to participate in any further research. All data collected will be stored on the universities onedrive through Microsoft Office 365. All data will be held in a password-protected document, and on completion of the research projected it will be deleted. In accordance with the Data Protection Act 2018, you have the right to see any data that is held that relates to you. Any data held in relation to you will be immediately deleted should you request this.

What if I have any questions?

If you have any questions in relation to the study, then please feel free to email me at 2417687@student.uwtsd.ac.uk

What if I have any concerns or wish to make a complaint?

Please feel free to contact me should you wish to raise any issues or concerns. If you wish to speak to someone other than me, then please contact my module leader, Nalda Wainwright, at n.wainwright@uwtsd.ac.uk

What are the next steps?

If you wish to participate in the study, you can provide informed consent by reading the information below and then clicking to provide consent before proceeding to the questionnaire.

Appendix 4 - Informed Consent Form

Research Study Informed Consent Form

Study Title: Understanding the Nutritional Knowledge of Recreational Runners

The information in this study is being collected by Rachel Turner as part of a study at the University of Wales Trinity St David. The information you provide as part of this study will be stored on university systems until the completion of the study, where it will then be deleted. The information will be held securely and accessed only by authorised personnel. The information provided will be retained by the University and only used as part of research. The information will be statistically analysed and audited as part of the study. By signing this consent form and answering the questionnaire, you are agreeing to any information provided being used as part of research as stated in this form and the participant information sheet. The data provided will be managed and processed in accordance with the Data Protection Act 2018 and General Data Protection Regulations. No information that could be used to identify you as an individual will be published.

Statements of understanding/consent

- I confirm I have read and understood the participant information sheet provided and have had the opportunity to ask any questions I have regarding the research and my participation.
- I understand that my participation in this study is voluntary and that I am free to withdraw at any point up until the 20th April 2026. I understand that should I withdraw, my information will be deleted and not included within the study.
- I understand that my personal data will be processed and managed in line with the Data Protection Act 2018 and the General Data Protection Regulations

By checking this box and pressing next, you are confirming the above and agreeing to take part in this study.