

The Use of Wearable Technology in Football and Post 16 education in the UK

Age

Are you aged 18 or over * *Required*

Yes

No

Participant information

LIVERPOOL JOHN MOORES UNIVERSITY

Participant Information Sheet

Title of Study: An investigation into the use of wearable technology in football in higher and further education settings in the United Kingdom

School: Sport and Exercise Sciences

Name and Contact Details of Student:

Mr Peter Tierney

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Name and Contact Details of the Supervisor:

Dr Simon Roberts

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You are being invited to take part in a research study. Before you decide if you want to take part, it is important for you to understand why the study is being done and what participation will involve. Please take time to read the following information carefully and discuss it with others if you wish. Please ask if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part. Thank you for reading this.

1. What is the purpose of the study?

The purpose of this study is to establish what wearable technology is being used in football further education (FE) and higher education (HE) settings in the United Kingdom. In addition, to establish what it is being used for, whether this be for educational, performance use, or a blend of the two. In addition, to help identify who is using it and

what other stakeholders are involved and what are their roles and contact with the use of wearable technology.

This project aim is to examine the use of wearable technology in football in HE and FE settings, and to develop an understanding of its use for performance and education across the football landscape. The importance of this study is further underpinned as in the HE sector more courses include the use of wearable technology and the FE sector the new revamped BTEC set of qualifications and new apprenticeship schemes includes components of wearable technology, this aligned with the increase in demand within the industry to better understand the use of wearable technology in football industry.

This project is led by the student conducting the research

This study hopes to answer the following questions

In terms of the use of wearable technology,

- What settings are using wearable technology
- If any wearable technology is being used, what types are being used
- who is using it,
- how they are using it , is it being used for educational or performance purposes or both
- The extent of use within these settings identified
- Categorise what the technology is being used for, is it for performance, education or both

2. Why have I been invited to participate?

You have been invited because you are over 18 and involved in football, Further Education or Higher Education type setting.

3.Do I have to take part?

No. It is up to you to decide whether or not to take part.If you do decide to take part you will be given this information sheet to keep.You can withdraw at any time by informing the investigators without giving a reason and without it affecting your rights.

4. What will happen to me if I take part?

If you agree to take part then:

- You will be asked to complete an online anonymous questionnaire that should take approximately 15-30 minutes

- The questions will ask you about your exposure to wearable technology and football and about your experiences
- This can be accessed and performed at any time and venue that suits you.

5. What are the possible disadvantages and risks from taking part?

It is not anticipated that there are any risks or cause discomfort for participating in this research as you have the opportunity to perform the research at any time that suits you and in an environment of your choosing

6. What are the possible benefits of taking part?

Whilst there may be no direct benefits to you in taking part in the study, it is hoped that this work will inform/contribute to gaining an understanding of the use of wearable technology in football in FE and HE settings and this will help to scope the landscape in United Kingdom.

7. What will happen to the data provided and how will my taking part in this project be kept confidential?

The information you provide as part of the study is the **research study data**. we do not need to use personal data, so if found it will be deleted or identifiers will be removed. Personal data does not include data that cannot be identified to an individual (e.g. data collected anonymously or where identifiers have been removed).

8. What will happen to the results of the research project?

The investigator intends to *complete a dissertation to satisfy their degree programme and publish the results in a dissertation and this may lead to publication in a peer reviewed journal article*

9. Who has reviewed this study?

This study has been reviewed by, and received ethics clearance through, the School of Education Ethics Committee LJMU Ref: 20/SPS/TBC

10. What if you are concerned about something that is part of the study?

If you have a concern about any aspect of this study, please contact the relevant investigator and their Supervisor, who will do their best to answer your query. The researcher and Supervisor should acknowledge your concern within 10 working days and give you an indication of how they intend to deal with it. If you wish to make a complaint, please contact the chair of the School of Education Ethics Committee (Jo

Frankham j.frankham@ljmu.ac.uk) and your communication may be re-directed to an independent person as appropriate.

11. Data Protection Notice

Liverpool John Moores University is the sponsor for this study based in the United Kingdom. We will be using information from you in order to undertake this study and will act as the data controller for this study. This means that we are responsible for looking after your information and using it properly. Liverpool John Moores University will process your personal data for the purpose of research. Research is a task that we perform in the public interest. Liverpool John Moores University will keep identifiable information about you for a maximum of 5 years after the study has finished. This information will be stored securely.

Your rights to access, change or move your information are limited, as we need to manage your information in specific ways in order for the research to be reliable and accurate. If you withdraw from the study, we will keep the information about you that we have already obtained. To safeguard your rights, we will use the minimum personally-identifiable information possible. You can find out more about how we use your information by contacting secretariat@ljmu.ac.uk.

If you are concerned about how your personal data is being processed, please contact LJMU in the first instance at secretariat@ljmu.ac.uk. If you remain unsatisfied, you may wish to contact the Information Commissioner's Office (ICO). Contact details, and details of data subject rights, are available on the ICO website at: <https://ico.org.uk/for-organisations/data-protection-reform/overview-of-the-gdpr/individuals-rights/>

12. Contact for further information

Name and Contact Details of Student: Mr Peter Tierney

P.J.Tierney@2019.ljmu.ac.uk

Name and Contact Details of the Supervisor: Dr Simon Roberts

S.Roberts2@ljmu.ac.uk

Thank you for reading this information sheet and for considering taking part in this study.

Please read and answer the following statement "I have read the information sheet provided and I am happy to participate. I understand that by completing and returning this questionnaire I am consenting to be part of this study and for my data to be used as described in the information sheet provided" please answer to confirm you have read the statement and agree to it. * Required

Yes

No

About you and your own personal use of wearable technology

GENDER * *Required*

Male Female Other

Prefer not to say

What is your experience of wearable technology for personal use * *Required*

never used

new user less than 1 month

up to 6 months

up to 1 year

1-2 years

more than 2 years

used for a period then stopped

Have you used any wearable technology in the last 2 years * *Required*

Yes

No

Do you currently use any wearable technology * *Required*

Yes

No

What type of wearable technology do you mainly use for your own personal use *
Required

- Fitbit
- Apple watch
- Wrist type device not listed
- Heart rate strap type
- GPS vest type
- Ankle/boot strap type
- Other

If you selected Other, please specify:

What do you use your personal wearable technology for please tick all that apply *
Required

- monitor own exercise/training
- Count steps
- Monitor sleep
- Monitor heart rate
- Just for sport participating in
- Continuous monitoring during the day
- Continuous monitoring day and night
- Monitor all activity 24/7
- Other

If you selected Other, please specify:

How often do you use your own personal wearable technology * *Required*

- Every day
- 2-3 days per week
- 4-7 days per week
- 1-3 times per week
- Only in football calendar pre-in-post season
- Only term time
- All year round
- Other

If you selected Other, please specify:

Do you monitor your progress over time

- Yes
- No

How you monitor your progress

- Weekly historical view
- Monthly historical view

- Occasional summary of progress
- Other

If you selected Other, please specify:

This section is about your place of work

Which best describes the setting you work in * *Required*

- Higher education, University
- Further education, College
- Other Further education provider
- Football Club academy
- Other not listed

If you selected Other, please specify:

What best describes your role in the setting identified in the previous answer (this can be full or part time paid or voluntary) * *Required*

- Lecturer
- Coach
- Performance staff
- Medical staff
- Other

If you selected Other, please specify:

please tick which setting you work in where wearable technology is being used * *Required*

- Football club academy
- Further education College
- Higher education University
- Oher further education provider
- Other

If you selected Other, please specify:

which department uses

Please don't select more than 1 answer(s) per row.

	not used	hardly used	frequently used	always used
football (senior staff)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Performance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
education	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
medical	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
coaching	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
analysis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
sport science other than performance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Which department uses

Please don't select more than 1 answer(s) per row.

	not used	hardly used	frequently used	always used
Performance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
football	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

IT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
sport	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Teaching	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Are there any other departments that you feel could use the technology and or the information it produces

What type of wearable technology device or system is used at your place of work

Heart rate strap type

GPS vest type

Ankle/boot type

Wrist type device

Other

If you selected Other, please specify:

Is it for single or multiple use

Single user

Multiple user

Both

- Team/squad
- Other

If you selected Other, please specify:

What is it primarily used for * *Required*

- Performance
- Education
- Both
- Unsure

please tick which of the following the technology is used for

Please don't select more than 1 answer(s) per row.

	not used	occasionally used	frequently used	always used
monitor tactical performance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
benchmark physical activity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
prescribe training load	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
as a coaching tool	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
to periodise training load	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

please tick what the technology is used for

Please don't select more than 1 answer(s) per row.

	not used	occasionally used	frequently used	used where relevant	always used
develop players/students understanding of physical outputs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
develop players/students understanding of physical requirements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
inform for coach/student understanding of data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
develop math including numeracy, areas, perimeters	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
develop IT skills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
other subjects	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

In terms of use for football performance please tick all that apply

- Team monitoring of training load
- Individual monitoring of training load
- Team monitoring of match load
- Individual monitoring of match load
- Monitoring of positional load
- To inform testing data
- Monitor external load
- Monitor internal load
- Both internal and external load

- Monitor technical load (ball contacts)
- Other

If you selected Other, please specify:

In terms of football education what is it used for

- Numeracy
- Literacy
- Information technology (IT)
- Tactics
- Coach education
- Student learning experience
- Other

If you selected Other, please specify:

About the use of wearable technology in your workplace

Who wears it

- Players
- Students
- Both
- Other

If you selected Other, please specify:

Who collects the data from the technology being used tick all that apply

- Lecturer
- Student
- Coach
- Student placement/intern
- Sport scientist
- Technician
- Medical staff
- Other

If you selected Other, please specify:

How is the data collected

- during activity Live
- after activity downloaded
- both

How is the data collected after activity tick all that apply

- Via a USB for single user
- Via USB for multiple users
- Via docking station single user
- Via docking station multiple users
- Wireless transfer single user
- Wireless transfer multiple users
- Other

If you selected Other, please specify:

How long does it usually take from collection of data to analysis

- Within 5 minutes
- Within 30 minutes
- Within 1 hour
- Same day
- Next day
- Not known
- Other

If you selected Other, please specify:

How long does it take from analysis of data to communication of the data to others

- within 15 minutes
- within 30 minutes
- within 1 hour
- within 2 hours
- same day
- following day
- more than 2 days less than 1 week
- more than 1 week
- Other

If you selected Other, please specify:

How is the data communicated/presented please tick all that apply

- paper form
- computer or large display screen
- mobile device
- tablet/ipad
- Other

If you selected Other, please specify:

Who is the data communicated to

- participants/players
- students
- coaches
- lecturers
- Head of education
- head of performance
- sport science staff
- medical staff
- Other

If you selected Other, please specify:

Why is data communicated to those from previous answer

- feedback on performance
- personal analysis
- performance analysis
- to monitor training load
- for educational purpose
- Other

If you selected Other, please specify:

Is the data displayed openly or private

- open
- private

Where is the data displayed

- inside changing room wall
- outside training room wall
- display screen open area
- on wall by canteen
- display/notice board
- Other

If you selected Other, please specify:

What metrics do you use

- internal (heart rate)
- external (GPS type)
- tactical (boot type)
- Other

For external tick all that apply

- total distance
- Max speed
- various speed zones
- impacts
- accelerations
- decelerations
- High metabolic load distance
- Training load
- heat map
- sprints distance
- number of sprints
- systems own metrics
- other

For internal tick all that apply

- % of max heart rate
- traffic lights zones
- Heart rate variability
- breathing rate
- Other

If you selected Other, please specify:

Why do you use the metrics chosen please tick all that apply

- inform on volume of work done
- inform on intensity of work done
- helps to predict injury
- monitor total work done
- helps to track performance
- used as key performance indicators
- used to inform on acute chronic ratio
- coach dictates what to use
- person in charge of technology selects
- for use in research study
- company supplied installed metrics
- what has always been used at this place
- different departments use different metrics
- Other

If you selected Other, please specify:

Are there any challenges that you experience in the use of please tick what you feel is most important to you a maximum of 3 options

- Please select no more than 3 answer(s).
- reliability/accuracy
 - understanding of analysis
 - relevance of the data/reports produced
 - validity of data
 - difficult to use
 - access to the data

- analysis and software
- multiple reports for different stakeholders
- unable to export to own system/platform
- Other

If you selected Other, please specify:

In an ideal world how would you like to see wearable technology used to improve football education specifically communication and feedback.

Your answer should be no more than 75 characters long.

Thank you

Thank you for your time, you are not over the age of 18 or agreed consent therefore not eligible to participate in this survey.

Final page

Thank you for taking part in this research and completing the questionnaire
