Plan Overview

A Data Management Plan created using DMPonline

Title: Moving towards safer Football for men, women, and children

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Project abstract:

Background: This award will allow me to tackle an ambitious programme of research that will improve safety in football. Football is played by 265 million players (FIFA, 2007), of which nearly 12 million are from England (English Football Association, 2025) and while participation supports physical (Andersen et al., 2014; Helge et al., 2014) and mental well-being (Darongkamas et al., 2011; Hargreaves & Pringle, 2019), there is a unique risk in heading the ball. Concerns include the consequences associated with heading the ball such as dementia (Russell et al., 2024) and other neurodegenerative diseases (Nicks et al., 2024). Therefore, this New Investigator award aims to make football safer by translating research excellence to societal impact.

Heading has been lawful within the game since its inception (IFAB, 2025b). However, the USA, Scotland, and England have now introduced heading restrictions in youth footballers at under 7s-U11s. Yet it is unclear why this restriction is withdrawn at under U12s (U12s) given the brain is constantly developing and re-developing between ages 10 and 25 (Arain et al., 2013). Therefore, those over the age of 12 may still be exposed to psychological harm.

Additionally, the restrictions that have been imposed only apply to organised football and therefore the adherence to these restrictions within and outside of organised football is not known and needs to be assessed. I will investigate the attitudes towards heading in football and the understanding of potential harm so that we are best placed to support footballers.

A potential solution to this issue is amending ball pressure. As there is evidence that the higher the ball pressure the worse the immediate cognitive deficit (Ashton et al., 2021), this may be a valid avenue for policy change. Ashton et al.’s (2021) work only included male adult footballers, and therefore, it could be that these deficits are more pronounced in female footballers, and youth footballers, which this project will account for.

I will also assess a potential new symptom of concussion in sport (the Spontaneous Headshake After A Kinematic Event; SHAAKE) where players have been found to shake their head rapidly following a collision (Nowinski et al., 2024). This work will determine whether

this symptom is prevalent when heading the football.

Expected Outcomes: (i) the FA to consider raising the age of restriction for heading the football (ii) amended ball pressure boundaries across the game based on age and sex (iii) other FAs to consider heading restrictions in youth football (iv) improved ability to identify at-risk players by SHAAKE symptom.

Aims and objectives: This New Investigator award intends to inform policy change and practices in men’s, women’s, and youth football and will be achieved through three main objectives.

Objective 1 – Determine the effectiveness of and adherence to heading restrictions in youth football in England.

Objective 2 - Investigate the impact that heading has at U12s-18s level to determine whether age of heading restrictions needs to be increased.

Objective 3 – Assess the prevalence of Spontaneous Headshake After A Kinematic Event (SHAAKE) after heading the football.

Partners: This programme of work will be conducted in association with Coventry City Football Club, FK Austria Wien, Fulham Football Club, Grimsby Town Football Club and the Royal Belgian Football Association who have provided supporting letters for this project.

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Copyright information:

Moving towards safer Football for men, women, and children

Assessment of existing data

Provide an explanation of the existing data sources that will be used by the research project, with references

This project is based on evidence that there are cognitive deficits after heading the football (Di Virgilio et al., 2016), however this work only included adult men. Likewise Ashton et al. (2021) have provided evidence that these cognitive deficits are more pronounced the higher the ball pressure is, but once again, only in adult men. We are going to look at how this may differ in youth footballers and women.

Regarding Spontaneous Headshake After A Kinematic Event (SHAAKE) Nowinski et al. (2024) found that 75% of athletes that perform this movement go on to report concussion. However, this was largely an American Football sample and therefore our study intends to investigate football (soccer) players.

Provide an analysis of the gaps identified between the currently available and required data for the research

As this is a novel project, we will be the first to investigate several aspects of this project. These include assessing the influence of ball pressure across different age groups of the game and across sexes. Previous work has only looked at this in adult men. We will also be looking at the newly derived Spontaneous Headshake After A Kinematic Event symptom which has been found in American Football players, but we are going to look at this in footballers. Therefore, primary data collection is necessary.

Information on new data

Provide information on the data that will be produced or accessed by the research project

Quantitative Data

- We will obtain quantitative data on the prevalence of SHAAKE and the reasons for doing the movement.
- We will also obtain data on the accuracy and reaction times on several cognitive tasks following heading the football, with our analysis investigating the ball pressure group that the participant belonged to, to identify any differences based on sex or age.
- Therefore, data will be uploaded to Open Science Framework in SPSS files on these topics.

Qualitative Data

- This project will be interviewing players, parents, and coaches about their thoughts and feelings towards heading in football and the newly introduced heading restrictions in youth football. Therefore, there will be anonymised interview transcripts made available on Open Science Framework.

- Additionally, we will interview players that make the SHAAKE movement, and therefore there will be interview transcripts uploaded to Open Science Framework regarding this topic too.

Quality assurance of data

Describe the procedures for quality assurance that will be carried out on the data collected at the time of data collection, data entry, digitisation and data checking.

The main point to highlight here is that all procedures will be documented in data collection. This will be reported in academic peer-reviewed journal articles that will allow other researchers the opportunity to replicate the study. They will also have raw data available on Open Science Framework so that we are transparent, and they are able to re-run data analysis should they wish to do so.

In addition, we have factored in funds to make a pilot study available so that we can ensure the researcher is comfortable assessing what we want to assess, as well as the tools used are adept at capturing what we want them to.

Backup and security of data

Describe the data security and backup procedures you will adopt to ensure the data and metadata are securely stored during the lifetime of the project.

The data will be stored safely on the researchers university OneDrive account.

Management and curation of data

Outline your plans for preparing, organising and documenting data.

All data will be made available on Open Science Framework following completion of the project. A glossary of terms will be provided to aid the interpretation of the data when needed, as well as the lead researcher's contact details should anyone wish to contact them with any queries relating to the data or analysis.

Difficulties in data sharing and measures to overcome these

Identify any potential obstacles to sharing your data, explain which and the possible measures you can apply to overcome these.

Firstly, participants have until a month after taking part in the study to request the withdrawal of their data. If they do so, then their data will be deleted immediately without having to give reason for doing so, and therefore their data will not be analysed and in-turn shared on Open Science Framework.

Secondly, it might be that during interviews, participants disclose something we deem too personal, or makes an individual too identifiable. The research team will make all efforts to anonymise the participant, but if we cannot, this data will not be shared either.

Consent, anonymisation and strategies to enable further re-use of data

Make explicit mention of the planned procedures to handle consent for data sharing for data obtained from human participants, and/or how to anonymise data, to make sure that data can be made available and accessible for future scientific research.

In the participant information sheets and consent forms it will be made explicit that data will be anonymised and uploaded on Open Science Framework. The data has the potential to have strong implications for the pressure of the football from grassroots to the elite level, as well as illustrating a new visible symptom of identifying concussion and improving our knowledge of heading restrictions. Therefore, the data should and will be retained and preserved so it is useable in subsequent studies as secondary data. Once uploaded to Open Science Framework, this data will be freely available for other researchers to conduct their own further analysis.

Copyright and intellectual property ownership

State who will own the copyright and IPR of any new data that you will generate.

The data will be the intellectual property of both the researcher and the University of Bradford.

Responsibilities

Outline responsibilities for data management within research teams at all partner institutions

The lead researcher will be responsible for the data that comes from this project.

Preparation of data for sharing and archiving

Are the plans for preparing and documenting data for sharing and archiving with the UK Data Service appropriate?

This data will be available on Open Science Framework, where researchers will have access to it.

Is there evidence that data will be well documented during research to provide highquality contextual information and/or structured metadata for secondary users?

The method of data collection will be reported in academic peer-reviewed journal articles. This will also include origin, circumstances, processing, and analysis of data.