WELSH INSTITUTE OF PERFORMANCE SCIENCE
OF PERFORMANCE SCIENCE
SEFYDLIAD GWYDDORAU PERFFORMIO CYMRU

WELSH INSTITUTE OF PERFORMANCE SCIENCE ANNUAL REPORT

2020/2021

THE YEAR IN REVIEW

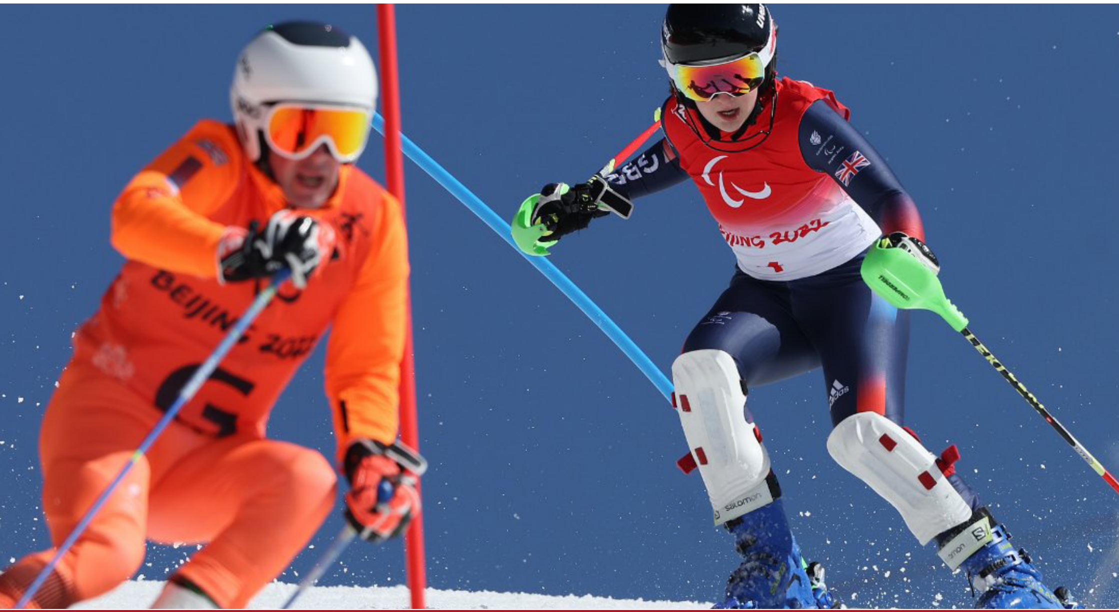
Through 2020 and 2021, the Welsh Institute of Performance Science (WIPS) have been continuing to work collaboratively with practitioners and sports across Wales to identify and address performance driven research questions.

We have also worked closely with the other home nation institutes and expanded our work across a broader range of sports in Wales (e.g., FAW, WRU). With the continued uncertainty of COVID-19, much of this work was conducted remotely but continued to deliver against the Sport Wales High Performance Strategy.

Specifically, during 2020/2021, we have been involved in over 28 projects, ranging from delivering wellbeing interventions to swimmers and coaches, to supporting cultural changes to positively influence athletes' mental health, educating athletes, coaches, and practitioners about strategies to better manage the menstrual cycle and facilitating conversations regarding the revised approach to providing practitioner support and working with athletes.

As well as conducting research and evaluating practice, aligned with the mission of WIPS, research steering group (RSG) members, research associates and PhD students have delivered a range of presentations to coaches, practitioners, and institute staff. For example, Georgia Brown and Katie Uzzell (2 PhD students) delivered a workshop focusing on mental health and wellbeing in development environments to the Sport Wales Institute.

This workshop built on the previous presentation that WIPS RA Dr Hamish Cox delivered to the Institute detailing his thriving



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environments projects completed at Sport Wales. Meanwhile, Dr Natalie Brown has been delivering coach education across multiple sports focussed on the menstrual cycle, which has evolved because of publications we have achieved on this topic. We continue to be extremely grateful for the support and involvement of all the athletes, coaches, practitioners, and institute staff who suggest projects, support data collection, and engage with our knowledge dissemination activities.

We are also indebted to the numerous MSc and PhD students who are often at the forefront of data collection and analysis, and our three WIPS research associates. The amount and quality of research and evaluation that occurs through WIPS is only possible through everyone's continued efforts and engagement, so many thanks!

This year signalled the start of a new cycle of funding, and we are delighted to be at the start of another four-year journey to support athletes, coaches, practitioners, and other academics to positively impact Welsh Sport. We are particularly excited to be supporting Welsh athletes as they are preparing for the Birmingham Commonwealth games in 2022.

Further, we look forward to working with Sport Wales as they adopt a new approach to supporting athletes' development and cannot wait to how we can contribute to broader, more holistic support.

Wishing you all a happy, healthy, and successful year ahead,

Liam, Brian, Camilla
and the members of the RSG & SMB

2020/2021 EXECUTIVE SUMMARY

- Over **28 projects supported**
- Over **40 Presentations and feedback sessions conducted** in a variety of formats e.g face to face, online and recorded screencasts.
- **Expanded NGB's** engaged with and supporting with UK multi-institutional research.
- **Collaborative projects**/presentations with other home nations.
- **Provided support to Sport Wales** regarding prioritising inclusive athlete development.
- **External funding awarded** to expand research

Overview of the Welsh Institute of Performance Science

Statement of Purpose

The purpose of the Welsh Institute of Performance Science is to conduct multi-disciplinary, world-leading applied performance science projects that enhance the performance of Welsh athletes and businesses, improves the performance pathway, and builds capacity in these areas for the future. Additionally, WIPS aims to train future scientists, and increase strategic collaboration between Welsh sport, academia, and business.

FUNCTION AND PROCESS

The Welsh Institute of Performance Science will work to enhance performance in Welsh sport and increase links between sport, academia, and business in the following ways. Priority will be given to the first three approaches:

1. **Performance Driven Questions, Science Driven Answers**
   Following evaluation of Welsh Sport performances and systems, performance issues or areas to improve will be identified; the Research Steering Group and Sport Wales representatives will then discuss and seek out potential strategies, leading to projects being conducted to address the question or issue.

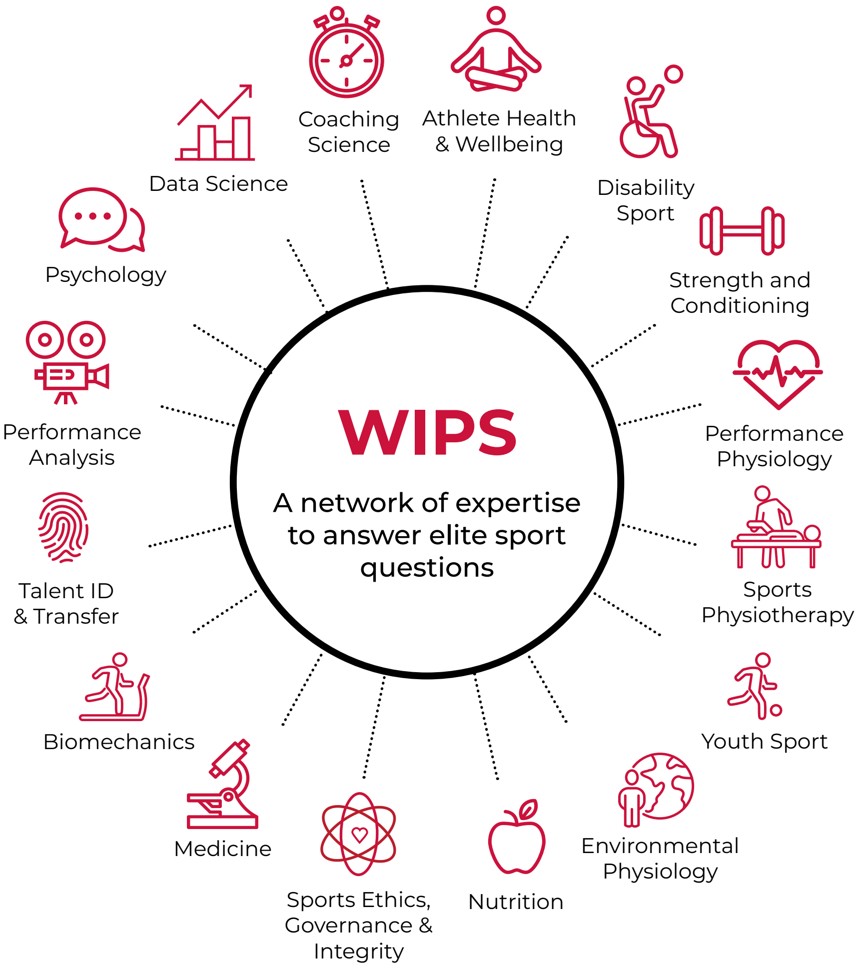
2. **Performance Driven Questions, Industry Driven Answers**
   Following evaluation of Welsh Sport performances and systems, performance issues or areas to improve will be identified; the Research Steering Group will then discuss
   and seek out potential strategies, leading to collaboration with appropriate industry partners to answer the performance question.

3. **Performance Driven Questions, Science and Industry Driven Answers**
   Following evaluation of Welsh Sport performances and systems, performance issues or areas to improve will be identified; the Research Steering Group will discuss and seek out potential strategies, leading to research being conducted in conjunction with industry partners to answer the performance question/issue.

4. **Science Driven Performance Applications to Enhance Performance**
   Based on current research findings, Research Steering Group members can make suggestions to the wider Research Steering Group regarding potential performance enhancing strategies. If the Research Steering Group deem appropriate, research and discussion examining the feasibility and applicability of these strategies to Welsh sport performance will be conducted. If the findings yield positive outcomes these strategies may be implemented within Welsh Sport via Sport Wales Institute.

5. **Industry Driven Performance Applications to Enhance Performance**
   Industrial partners (and other innovation specialists) can approach the Research Steering Group regarding technological or industrial advances that might enhance sporting performance. If deemed appropriate by the Research Steering Group, research and discussion examining the feasibility and applicability of these strategies to Welsh Sport performance will be conducted. If the findings yield positive outcomes these strategies may be implemented within Welsh Sport via Sport Wales Institute.

THE NEW RESEARCH STEERING GROUP COMPOSITION



EXAMPLES OF PROJECTS COMPLETED OR SUPPORTED BY WIPS THIS YEAR

PROJECT TITLE	PROJECT AIMS	SPORTS & DISCIPLINES INVOLVED
Promoting and protecting the wellbeing of performance swimmers	1) Develop, deliver, and evaluate an online wellbeing intervention for coaches, parents, and swimmers.	Swimming, Psychology, Performance Lifestyle
FAW Women and Girls Project – Developing Female Football Players through Integration into Male Competition	1) Assess female players' physical, technical, tactical and psychosocial development as a result of competing in the boy's academy league. 2) Explore the impact of the change in context on the national girls' teams' coaches 3) Examine the role and experience of the female players' parents as a result of their children competing in a boy's league.	Coaching Science Psychology FAW
Start performance optimisation in swimming	1) Validate the nemo analysis system, specifically start to 15m time. 2) Identify the validity and impact of 15m time on swimming performance across males and females and different race distances. 3) Develop pre-competition interventions to optimise start to 15m time.	Swimming, Performance Analysis
Bio-psycho-social framework for understanding of adolescent development through and in sport	1) Review of literature pertaining to biopsychosocial development in and through sport 2) Coach education concerning adolescent biopsychosocial development and how principles associated with this model can be integrated into coaching practice.	Coach Education, Psychology

Nutrition management strategies for the menstrual cycle	1) A systematic review of non-pharmaceutical supplements to manage menstrual symptoms.	All sports Nutrition
Lower limb demands in squash competition and training	1) Identify the external load parameters of matches and different training sessions 2) Share findings with athlete (and coach) in active discussion of competition demands and training session selection	Biomechanics, Physiology, Squash
Determining and assessing knowledge, understanding and confidence relating to the menstrual cycle in rugby coaches	1) Develop a bespoke coach education package on the menstrual cycle to be delivered to rugby coaches across Wales 2) Assess the effectiveness of coach education content to improve knowledge, understanding and confidence relating to the menstrual cycle	Rugby
Impact of the menstrual cycle for female coaches and practitioners	1) Develop an understanding of female coaches' and sport science practitioners experience and support provision in relation to the menstrual cycle 2) Explore the influence that female coaches' and practitioners' own menstrual experiences had on the support they provide to athlete.	Multiple sports and sport science disciplines
Coach education on the menstrual cycle	1) Develop resources including workshops to be delivered for coach education 2) Record the effect of coach education on knowledge about the menstrual cycle and reported impact on coaching and conversations	Multiple sports

Enhancing mental health and wellbeing of athletes	1) Identify and explore the key psychological factors which can protect / enhance the wellbeing and mental health of athletes within the sports of cycling and judo. 2) Develop and implement an intervention, which consists of the production of resources (e.g., podcasts & infographics) and delivery of environmental strategies. 3) Evaluate the impact of the intervention on athletes' wellbeing and mental health is currently being evaluated.	Boxing Judo Cycling Practitioners across institute
Athlete experience insight	1) Gain insight into athlete experience using a variety of quantitative and qualitative methods 2) Pilot an assessment procedure with the sport to ensure they are familiar with monitoring and evaluating their environments 3) Co-create an Athlete Experience Map to outline the potential steps involved in developing and evaluating a thriving environment and positive experience 4) Test usability of Thriving Environments Framework as a tool to support the autonomy of sports considering future insight into athlete experience	Psychology
Mental Health and Occupational Stress in Olympians and Paralympians following the Postponement or Cancellation of Tokyo 2020	1) What is the impact of cancelling or rescheduling the Tokyo 2020 Olympic/Paralympic Games on athletes' and coaches' mental health, specifically their physical, emotional, psychological and social wellbeing? 2) What strategies have athletes and coaches utilised as a way of managing the stressors associated with the cancellation or rescheduling of the Tokyo 2020 Olympic/Paralympic Games?	Psychology Coaching science
Biofeedback for Recovery	1) Understand athlete's motivations and perceptions of recovery 2) Improve recovery strategy engagement 3) Feedback to Sport Wales Institute on potential adaption to the recovery strategies	Psychology

SPOTLIGHT ON PROJECTS:

1. ATHLETE EXPERIENCE PROJECT: THRIVING ENVIRONMENTS

Project Contributors:
Hamish Cox, Catherine Shearer, David Shearer, Louise Jones, Simon Middlemas

Aims

How athletes currently experience their sport environment is critical to them not only developing as a person, but also having the right opportunity to develop from a performance perspective (excel in training and competition). Substantial research within talent development has demonstrated the importance of understanding how to consider an environment that supports individuals to develop the skills and characteristics in order to perform. However, we don't yet know how to assess, develop and evaluate an environment in order to determine its efficacy in enabling athletes to thrive and result in a good experience.

The purpose of this project was to pilot an evaluation process to understand how best to gather insight on athletes' experiences of their sporting environment and what impact this might have on their ability to thrive within and beyond sport.

Working alongside sports the project sought to co-produce a framework that allows sports to assess, develop, monitor and evaluate their environments in order to support the well-being and development of athletes.

Outcomes

With the project still ongoing, initial data analysis suggests a clear difference between male and female experiences of their sport environments. Although their experiences are positive, overall females report lower levels of focus on long-term development and support networks. Similarly, females also reported lower levels of perceived autonomy support from coaches in comparison to males. That said, overall athletes reported good levels of trust and support from coaches and support staff working with them to enable them to thrive.

Impact

As we progress with the project and gain further insight into athletes' experiences of their sport environment, we will be able to support sports to target specific components of their performance programmes to ensure athletes can develop as people and to thrive as athletes. Following the initial pilot phase, we will be working with additional sports to ensure we understand how athletes experience sport and develop healthy behaviours leading to lifelong participation and performance.

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2. UNDERSTANDING FEMALE COACHES' AND PRACTITIONERS' EXPERIENCE AND SUPPORT PROVISION IN RELATION TO THE MENSTRUAL CYCLE

Project Contributors:
Natalie Brown, Camilla Knight (data collection with Sport Wales Institute practitioners and Welsh female coaches).

Aims

As female coaches and sport science practitioners have likely experienced the menstrual cycle and some associated symptoms, it may be assumed they have greater awareness, understanding or empathy for female athletes and that issues around discussing the menstrual cycle are specific to male coaches. However personal experiences relating to the menstrual cycle may influence female coaches and practitioners' understanding and subsequent support provision for athletes due to societal perceptions of the menstrual cycle.

The purpose of this project was to develop an understanding of female coaches' and sport science practitioners' experience and support provision in relation to the menstrual cycle when working with female athletes.

Additionally, this project sought to explore the influences that female coaches' and practitioners' own menstrual experiences had on the support they provide to athletes.

Outcomes

Following individual interviews with female coaches and practitioners in Wales, it appeared that participants varied in their understanding and awareness of the impact of the menstrual cycle on sport performance, somewhat influenced by their own personal experiences. Participants' knowledge and awareness impacted the support they provided to female athletes, especially limited in informational and emotional support provided.

Impact

Findings have highlighted the importance of all coaches and practitioners enhancing their knowledge and understanding regarding the menstrual cycle and proactively providing support to athletes. Education to enhance coaches' and practitioners' knowledge and understanding has been identified as a requirement to create a more open and supportive environment in sport, focussing on providing tangible, informational and emotional support to female athletes.

The findings have been disseminated to Sport Wales institute practitioners and will be shared by UK coaching to provide advice on types of support to provide as coaches, in addition to coach education. This project has also been published in the Journal of Sport Science and Coaching.

3. AFAW WOMEN AND GIRLS PROJECT – DEVELOPING FEMALE FOOTBALL PLAYERS THROUGH INTEGRATION INTO MALE COMPETITION

Project Contributors:
Brendan Cropley (USW), Liam Kilduff, Natalie Brown, Camilla Knight, (Swansea University), Martin Longworth (Hartpury University), Jon Oliver (Cardiff Metropolitan University), Lowri Roberts (FAW), David Adams (FAW Trust).

Aims

The Football Association of Wales (FAW) have initiated a "Women and Girls Project" aimed at improving young female player development. The overall aim is to support the transition of female players in Wales into professional football club academies and into the senior levels of international football – thus it is aimed at the "performance" level of sport.

To do this, the FAW have registered their U14s and U16s national girls' teams (one Northern and one Southern team in each age group due to geographical and logistical issues) into the North and South boys' academy league with the view that playing against boys would increase the amount of competition the female players would experience and thus enhance opportunities for player development across the pillars of performance (e.g., physical, technical, tactical, psychosocial).

The girls' teams have been registered in the U14s (for the U16 girls team) and U13s (for the U14s girls team) boys academy leagues in an attempt to offer an appropriate challenge and to perhaps manage bio-banding issues.

While the project has intrinsic value, the FAW are keen to empirically examine the impact of the project on player development.

The project proposer has agreed to lead the project evaluation, which aims to:

1. Assess female players' physical, technical, tactical and psychosocial development as a result of competing in the boy's academy league.
2. Explore the impact of the change in context on the national girls' teams' coaches
3. Examine the role and experience of the female players' parents as a result of their children competing in a boy's league.

To address these aims, we are conducting a mixed-method, longitudinal study underpinned by a critical realistic perspective. We have, and will continue to collect data from players, parents and coaches and have data collection completed in May. We believe that this evaluation will be the first to empirically consider the potential impact on holistic player development of girls integrating into a boys' league and thus competing against their male counterparts.

The novelty and significance of the research, therefore, comes through the methodological design, the purpose and the potential of the research to create an evidence base to support such female player development initiatives in other countries.

From a WIPS strategic perspective, this project evaluation will help to inform the FAW about how to develop their "Women and Girls Strategy" to ensure that female football players are being provided with the appropriate environment and conditions to participate, learn, develop and perform in the game. The aim of this research evaluation is to provide feedback directly to the FAW to offer insights into the impact of their project (e.g., playing girls' teams in a competitive boys' league) on the female players across the different pillars of performance (e.g., physical, technical, tactical, psychosocial).

Given the inauguration of this project, this initial research will be exploratory and thus be used to design ongoing longitudinal examinations of the long-term impact of the project on continued participation in the game as well as the development of the National teams in Wales.in sport. Although coaches of several sports in Wales have received the opportunity to engage, this is being expanded to UK wide to further impact and reach coaches to inform their practice.

How WIPS Projects work

01 Sports & Practitioners (Stakeholders) identify a performance issue

02 Stakeholders & WIPS plan a method & collaborative team to understand it better

03 Collaborative research team work to reach new understanding

04 Collaborative research team feeback new knowledge

05 Stakeholders implement strategies based upon new knowledge

THANK-YOU TO THE RESEARCH STEERING GROUP MEMBERS FOR THEIR CONTRIBUTIONS

Professor Neil Bezodis (Biomechanics Lead)
Professor of biomechanics,
Swansea University.

Dr Richard Burden (EIS Representative)
Lead for Female Athlete Health & Performance and Bioscience Programmes, English Institute of Sport.

Professor Brendan Cropley (Coaching Science Lead) Professor of Sport Coaching, University of South Wales.

Dr Ryan Chambers (WRU Representative)
Sport Scientist for Welsh Rugby Union.

Dr Ruth Fairchild (Nutrition Co-lead),
Reader in Oral and Public Health Nutrition, Cardiff School of Sport & Health Sciences, Cardiff Metropolitan University.

Dr Malcolm Fairweather (SIS representative) Head of Performance Solutions, Sportscotland Institute of Sport.

Dr Declan Gamble (SNISI Representative)
Head of Performance Science, Sport Northern Ireland Sports Institute.

Dr Vicky Gottwald (Talent ID and Transfer Lead)
Lecturer in Sport and Exercise Sciences (Coaching) Bangor University.

Dr Denise Hill (Athlete Health and Wellbeing Co-lead) Senior Lecturer in Sport and Exercise Psychology, Swansea University.

Brian Hughes (Co-Chair RSG)
Physiologist, Sport Wales.

Professor Liam Kilduff (Lead-chair RSG)
Professor in Performance Science, Swansea University.

Professor Camilla Knight (Youth Sport Lead)
Professor in Sport Psychology and Youth Sport, Swansea University.

David Lasini (SNISI representative),
Head of Strength and Conditioning, Sport Northern Ireland Sports Institute

Dr Thomas Love (Nutrition Co-lead)
Senior Lecturer in Sports Nutrition,
Swansea University.

Professor Kelly Mackintosh (WIPAHS link)
Professor of Physical Activity and Health,
Swansea University.

Dr Rhodri Martin (Medicine Lead) Sport and Exercise Medicine Consultant, Sport Wales.

Professor Jon Oliver (Strength and Conditioning Lead) Professor in Applied Paediatric Exercise Science, Cardiff Metropolitan University.

Dr Sam Oliver (Extreme Physiology Lead)
Reader in Sport & Exercise Science at Bangor University.

Dr Tom Poulson (Disability Sport Lead)
Head of Paralympic Performance Support, English Institute of Sport.

Dr Liba Sheeran (Sports Physiotherapy Lead)
Reader in Physiotherapy, Cardiff University.

Professor Dave Shearer (Psychology Lead),
Professor of Elite Performance Psychology, University of South Wales.

Dr Mark Waldron (Performance Physiology Lead) Associate Professor in Sport and Exercise Sciences, Swansea University.

And the outstanding WIPS Research Associates (who do all the hard work on the projects!):

- **Dr Natalie Brown**
- **Dr Hamish Cox**
- **Dr Dan Cunningham**

If you would be interested in connecting with any of the research steering group members or learning more about their research, please contact us at: **WIPS@swansea.ac.uk** and we will be more than happy to connect you.

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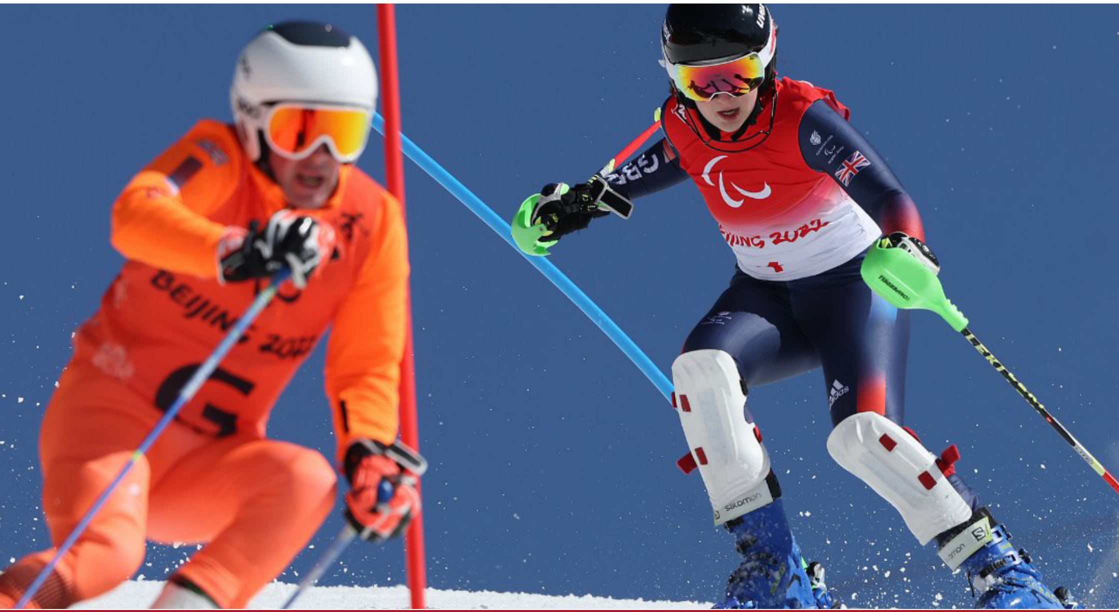
2020/2021

ADOLYGIAD O'R FLWYDDYN

Drwy gydol 2020 a 2021, mae Sefydliad Gwyddorau Perfformio Cymru (WIPS) wedi bod yn parhau i weithio ar y cyd ag ymarferwyr a chwaraeon ledled Cymru i nodi a rhoi sylw i gwestiynau ymchwil sy'n cael eu sbarduno gan berfformiad. Rydym hefyd wedi gweithio'n agos gyda sefydliadau'r gwledydd cartref eraill ac wedi ehangu ein gwaith ar draws ystod ehangach o chwaraeon yng Nghymru (e.e., CBDC, URC). Gydag ansicrwydd parhaus COVID-19, gwnaed llawer o'r gwaith hwn o bell ond parhaodd i gyflawni yn erbyn Strategaeth Perfformiad Uchel Chwaraeon Cymru. Yn benodol, yn ystod 2020 / 2021, rydym wedi bod yn ymwneud â mwy nag 20 o brosiectau, yn amrywio o ddarparu ymyriadau llesiant i nofwyr a hyfforddwyr, i gefnogi newidiadau diwylliannol i ddylanwadu'n gadarnhaol ar iechyd meddwl athletwyr, addysgu athletwyr, hyfforddwyr ac ymarferwyr am strategaethau i reoli cylch y mislif yn well a hwyluso sgyrsiau ynghylch y dull diwygiedig o ddarparu cefnogaeth ymarferwyr a gweithio gydag athletwyr.

Yn ogystal â chynnal ymchwil a gwerthuso ymarfer, sy'n cyd-fynd â chenhadaeth WIPS, mae aelodau'r grŵp llywio ymchwil (RSG), y cysylltiadau ymchwil a myfyrwyr PhD wedi rhoi amrywiaeth o gyflwyniadau i hyfforddwyr, ymarferwyr a staff y sefydliad. Er enghraifft, cyflwynodd Georgia Brown a Katie Uzzell (2 fyfyrwraig PhD) weithdy yn canolbwyntio ar iechyd a lles y meddwl mewn amgylcheddau datblygu i Athrofa Chwaraeon Cymru. Roedd y gweithdy hwn yn adeiladu ar y cyflwyniad blaenorol a roddodd cyswllt ymchwil WIPS, Dr Hamish Cox, i'r Athrofa yn manylu ar ei brosiectau amgylcheddau ffyniannus a gwblhawyd yn Chwaraeon Cymru.



Yn y cyfamser, mae Dr Natalie Brown wedi bod yn darparu addysg hyfforddwyr ar draws chwaraeon niferus sy'n canolbwyntio ar gylch y mislif, sydd wedi esblygu oherwydd cyhoeddiadau rydym wedi'u cyflwyno ar y pwnc hwn.

Rydym yn parhau i fod yn hynod ddiolchgar am gefnogaeth a chyfraniad yr holl athletwyr, hyfforddwyr, ymarferwyr, a staff y sefydliad sy'n awgrymu prosiectau, yn cefnogi casglu data, ac yn ymgysylltu â'n gweithgareddau dosbarthu gwybodaeth. Rydym hefyd yn ddyledus i'r myfyrwyr MSc a PhD niferus sydd yn aml ar flaen y gad o ran casglu a dadansoddi data, a'n tri chyswllt ymchwil yn WIPS. Dim ond drwy ymdrechion ac ymgysylltu parhaus pawb y mae swm ac ansawdd yr ymchwil a'r gwerthuso sy'n digwydd drwy WIPS yn bosibl, felly diolch yn fawr!

Roedd eleni'n ddechrau ar gylch cyllido newydd, ac rydym yn falch iawn o fod ar ddechrau siwrnai pedair blynedd arall i gefnogi athletwyr, hyfforddwyr, ymarferwyr ac academyddion eraill i gael effaith gadarnhaol ar Chwaraeon yng Nghymru. Rydym yn arbennig o gyffrous am gefnogi athletwyr Cymru wrth iddynt baratoi ar gyfer Gemau Cymanwlad Birmingham yn 2022. Ymhellach, rydym yn edrych ymlaen at weithio gyda Chwaraeon Cymru wrth iddo fabwysiadu dull newydd o gefnogi datblygiad athletwyr ac at weld sut gallwn gyfrannu at gefnogaeth ehangach, mwy cyfannol.

Liam, Brian, Camilla
ac aelodau'r RSG a'r SMB

2019/2020 CRYNODEB GWEITHREDOL

- Wedi **cefnogi dros 28 o brosiectau**
- Cynhaliwyd **dros 40 o gyflwyniadau a sesiynau adborth** mewn amrywiaeth o fformatau e.e. wyneb yn wyneb, ar-lein, sgrinlediad wedi'i recordio.
- **Ehangu'r CRhC** sy'n ymwneud ag ymchwil aml-sefydliadol y DU ac yn ei chefnogi.
- **Prosiectau/cyflwyniadau cydweithredol** gyda gwledydd cartref eraill.
- **Rhoi cymorth i Chwaraeon Cymru** ynghylch blaenoriaethu'r broses o ddatblygu athletwyr cynhwysol.
- Dyfarnu **cyllid allanol** i ehangu ymchwil

Trosolwg o Sefydliad Gwyddorau Perfformio Cymru

Datganiad o Ddiben

Diben Sefydliad Gwyddorau Perfformio Cymru yw cynnal prosiectau gwyddorau perfformio cymhwysol amlddisgyblaethol o'r radd flaenaf sy'n gwella perfformiad athletwyr a busnesau Cymru, yn gwella'r llwybr perfformiad, ac yn meithrin gallu yn y meysydd hyn ar gyfer y dyfodol. Yn ogystal, nod WIPS yw hyfforddi gwyddonwyr y dyfodol, a chynyddu cydweithredu strategol rhwng chwaraeon, y byd academaidd a busnes yng Nghymru.

SWYDDOGAETH A PHROSES

Bydd Sefydliad Gwyddorau Perfformio Cymru yn gweithio i wella perfformiad mewn chwaraeon yng Nghymru a chynyddu cysylltiadau rhwng chwaraeon, y byd academaidd a busnes yn y ffyrdd a ganlyn. Rhoddir blaenoriaeth i'r tri dull cyntaf o weithredu:

1. **Cwestiynau a Sbardunir gan Berfformiad, Atebion a Sbardunir gan Wyddoniaeth**
   Yn dilyn gwerthusiad o berfformiadau a systemau Chwaraeon yng Nghymru, bydd problemau perfformiad neu feysydd i'w gwella yn cael eu nodi; wedyn bydd y Grŵp Llywio Ymchwil a chynrychiolwyr Chwaraeon Cymru yn trafod ac yn chwilio am strategaethau posibl, gan arwain at gynnal prosiectau i fynd i'r afael â'r cwestiwn neu'r broblem.

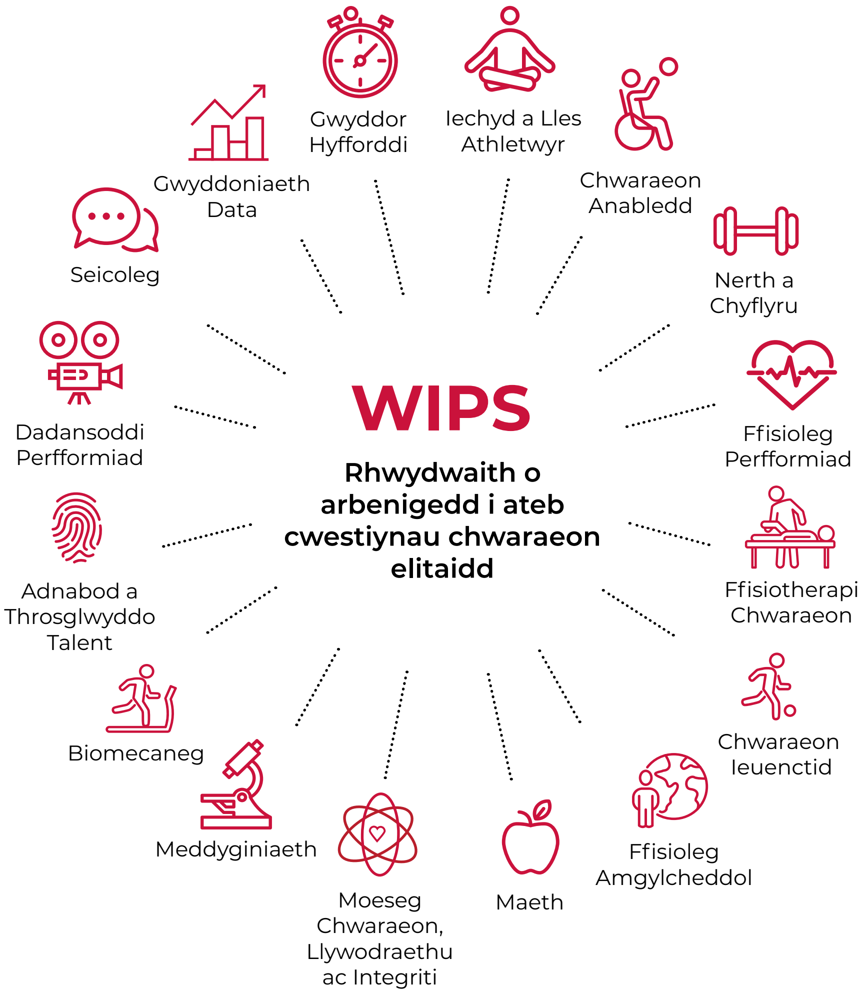
2. **Cwestiynau a Sbardunir gan Berfformiad, Atebion a Sbardunir gan Ddiwydiant**
   Yn dilyn gwerthusiad o berfformiadau a systemau Chwaraeon yng Nghymru, bydd problemau perfformiad neu feysydd i'w gwella yn cael eu nodi; wedyn bydd y Grŵp Llywio Ymchwil yn trafod ac yn chwilio am strategaethau posibl, gan arwain at gydweithredu â phartneriaid priodol yn y diwydiant i ateb y cwestiwn perfformiad.

3. **Cwestiynau a Sbardunir gan Berfformiad, Atebion a Sbardunir gan Wyddoniaeth a Diwydiant**
   Yn dilyn gwerthusiad o berfformiadau a systemau Chwaraeon yng Nghymru, bydd problemau perfformiad neu feysydd i'w gwella yn cael eu nodi; bydd y Grŵp Llywio Ymchwil yn trafod ac yn chwilio am strategaethau posibl, gan arwain at gynnal ymchwil ar y cyd â phartneriaid yn y diwydiant i ateb y cwestiwn/problem perfformiad.

4. **Rhaglenni Perfformiad a Sbardunir gan Wyddoniaeth i Wella Perfformiad**
   Yn seiliedig ar ganfyddiadau ymchwil cyfredol, gall aelodau'r Grŵp Llywio Ymchwil wneud awgrymiadau i'r Grŵp Llywio Ymchwil ehangach ynghylch strategaethau gwella perfformiad posibl. Os bydd y Grŵp Llywio Ymchwil yn ystyried bod hynny'n briodol, cynhelir ymchwil a thrafodaeth yn edrych ar ddichonoldeb a chymhwysedd y strategaethau hyn i berfformiad chwaraeon yng Nghymru. Os bydd y canfyddiadau'n arwain at ganlyniadau cadarnhaol, efallai y bydd y strategaethau hyn yn cael eu gweithredu yn y byd Chwaraeon yng Nghymru drwy Athrofa Chwaraeon Cymru.

5. **Rhaglenni Perfformiad a Sbardunir gan Ddiwydiant i Wella Perfformiad**
   Gall partneriaid diwydiannol (ac arbenigwyr arloesi eraill) fynd at y Grŵp Llywio Ymchwil i drafod datblygiadau technolegol neu ddiwydiannol a allai wella perfformiad chwaraeon. Os bydd y Grŵp Llywio Ymchwil yn ystyried bod hynny'n briodol, cynhelir ymchwil a thrafodaeth yn edrych ar ddichonoldeb a chymhwysedd y strategaethau hyn i berfformiad chwaraeon yng Nghymru. Os bydd y canfyddiadau'n arwain at ganlyniadau cadarnhaol, efallai y bydd y strategaethau hyn yn cael eu gweithredu yn y byd Chwaraeon yng Nghymru drwy Athrofa Chwaraeon Cymru.

CYFANSODDIAD GRŴP LLYWIO YMCHWIL 2020/2021



ESIAMPLAU O BROSIECTAU A GWBLHAWYD NEU A GEFNOGWYD GAN WIPS ELENI

TEITL Y PROSIECT	AMCANION Y PROSIECT	Y CHWARAEON A'R
Hyrwyddo a diogelu lles nofwyr perfformiad	1) Datblygu, darparu a gwerthuso ymyriad llesiant ar-lein ar gyfer hyfforddwyr, rhieni a nofwyr.	Nofio, Seicoleg, Ffordd o Fyw yn Perfformio
Prosiect Merched a Genethod CBDC – Datblygu Chwaraewyr Pêl-droed Benywaidd drwy eu Hintegreiddio i Gystadlaethau Gwrywaidd	1) Asesu datblygiad corfforol, technegol, tactegol a seicogymdeithasol chwaraewyr benywaidd o ganlyniad i gystadlu yng nghynghrair academi'r bechgyn. 2) Edrych ar effaith y newid yn y cyd-destun ar hyfforddwyr y timau merched cenedlaethol 3) Edrych ar rôl a phrofiad rhieni'r chwaraewyr benywaidd o ganlyniad i'w plant yn cystadlu mewn cynghrair bechgyn.	Gwyddor Hyfforddi Seicoleg CBDC
Dechrau optimeiddio perfformiad mewn	1) Dilysu'r system dadansoddiad nemo, yn benodol dechrau i amser 15m. 2) Nodi dilysrwydd ac effaith amser 15m ar berfformiad nofio ar draws gwrywod a benywod a gwahanol bellteroedd rasio. 3) Datblygu ymyriadau cyn cystadlu i optimeiddio'r amser dechrau i 15m.	Nofio, Dadansoddi Perfformiad
Fframwaith bio-seicogymdeithasol ar gyfer deall datblygiad pobl ifanc yn eu harddegau drwy ac mewn chwaraeon	1) Adolygiad o lenyddiaeth yn ymwneud â datblygiad bio-seicogymdeithasol mewn a thrwy chwaraeon. 2) Addysg hyfforddwyr yn ymwneud â datblygiad bio-seicogymdeithasol pobl ifanc yn eu harddegau a sut gellir integreiddio egwyddorion sy'n gysylltiedig â'r model hwn yn yr arfer hyfforddi.	Addysg Hyfforddwyr, Seicoleg

Strategaethau rheoli maeth ar gyfer cylch y mislif	1) Adolygiad systematig o ategolion anfferyllol i reoli symptomau'r mislif.	Pob camp Maeth
Gofynion aelodau is y corff mewn cystadlaethau a hyfforddiant sboncen	1) Nodi paramedrau llwyth allanol gemau a sesiynau hyfforddi gwahanol. 2) Rhannu'r canfyddiadau gyda'r athletwr (a'r hyfforddwr) mewn trafodaeth weithredol am ofynion cystadlu a dewis o sesiynau hyfforddi.	Biomecaneg, Ffisioleg, Sboncen
Pennu ac asesu gwybodaeth, dealltwriaeth a hyder hyfforddwyr rygbi yn ymwneud â chylch y mislif	1) Datblygu pecyn addysgu hyfforddwyr pwrpasol am gylch y mislif i'w gyflwyno i hyfforddwyr rygbi ledled Cymru. 2) Asesu effeithiolrwydd cynnwys addysg hyfforddwyr i wella gwybodaeth, dealltwriaeth a hyder yn ymwneud â chylch y mislif.	Rygbi
Effaith cylch y mislif ar gyfer hyfforddwyr ac ymarferwyr benywaidd	1) Datblygu dealltwriaeth o brofiadau ymarferwyr gwyddor chwaraeon a hyfforddwyr benywaidd a chefnogi darpariaeth mewn perthynas â chylch y mislif. 2) Edrych ar y dylanwad a gafodd profiadau mislif yr hyfforddwyr a'r ymarferwyr benywaidd eu hunain ar y gefnogaeth maent yn ei darparu i'r athletwr.	Chwaraeon niferus a disgyblaethau gwyddor chwaraeon
Addysg hyfforddwyr am gylch y mislif	1) Datblygu adnoddau gan gynnwys gweithdai i'w cyflwyno ar gyfer addysgu hyfforddwyr. 2) Cofnodi effaith addysg hyfforddwyr ar wybodaeth am gylch y mislif a'r effaith ar hyfforddi a sgyrsiau	Chwaraeon niferus

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Gwella iechyd a lles y meddwl i athletwyr	1) Nodi ac archwilio'r ffactorau seicolegol allweddol a all ddiogelu / gwella lles ac iechyd meddwl athletwyr mewn beicio a jiwdo fel campau. 2) Datblygu a gweithredu ymyriad sy'n cynnwys cynhyrchu adnoddau (e.e., podlediadau a graffeg gwybodaeth) a chyflwyno strategaethau amgylcheddol. 3) Effaith yr ymyriad ar les ac iechyd meddwl athletwyr yn cael ei werthuso ar hyn o bryd.	Bocsio Jiwdo Beicio Ymarferwyr ar draws y sefydliad
Dirnadaeth o brofiadau athletwyr	1) Sicrhau dirnadaeth o brofiad athletwyr gan ddefnyddio amrywiaeth o ddulliau meintiol ac ansoddol. 2) Treialu trefn asesu gyda'r gamp i sicrhau eu bod yn gyfarwydd â monitro a gwerthuso eu hamgylcheddau. 3) Cyd-greu Map Profiad Athletwyr i amlinellu'r camau posibl sydd ynghlwm wrth ddatblygu a gwerthuso amgylchedd ffyniannus a phrofiad cadarnhaol. 4) Profi defnyddioldeb y Fframwaith Amgylcheddau Ffyniannus fel adnodd i gefnogi annibyniaeth chwaraeon gan ystyried dirnadaeth o ran profiad athletwyr yn y dyfodol.	Seicoleg
Iechyd Meddwl a Straen Galwedigaethol mewn Olympiaid a Pharalympiaid yn dilyn Gohirio neu Ganslo Tokyo 2020	1) Beth yw effaith canslo neu aildrefnu Gemau Olympaidd / Paralympaidd Tokyo 2020 ar iechyd meddwl athletwyr, yn benodol eu lles corfforol, emosiynol, seicolegol a chymdeithasol? 2) Beth yw effaith canslo neu aildrefnu Gemau Olympaidd / Paralympaidd Tokyo 2020 ar iechyd meddwl hyfforddwyr, yn benodol eu lles corfforol, emosiynol, seicolegol a chymdeithasol? 3) Pa strategaethau mae athletwyr a hyfforddwyr wedi'u defnyddio fel ffordd o reoli'r straen sy'n	Seicoleg Gwyddor hyfforddi
Bioadborth ar gyfer Adfer	1) Deall cymhellion athletwyr a'u canfyddiadau o adferiad. 2) Gwella'r ymgysylltu â strategaeth adfer. 3) Adborth i Athrofa Chwaraeon Cymru ar addasiadau posibl i'r strategaethau adfer. 4) Deall y broses adfer o safbwynt athletwr a hyfforddwr i roi strategaeth ymyriadau adfer ar waith yn effeithiol.	Seicoleg

SYLW I BROSIECTAU:

1. PROSIECT PROFIAD ATHLETWYR: AMGYLCHEDDAU FFYNIANNUS

Cyfranwyr y prosiect:
Hamish Cox, Catherine Shearer, David Shearer, Louise Jones, Simon Middlemas

Amcanion

Mae'r ffordd y mae athletwyr yn profi eu hamgylchedd chwaraeon ar hyn o bryd yn hanfodol iddynt nid yn unig ddatblygu fel person, ond hefyd cael y cyfle iawn i ddatblygu o safbwynt perfformiad (rhagori wrth hyfforddi a chystadlu). Mae ymchwil sylweddol o ran datblygu talent wedi dangos pwysigrwydd deall sut i ystyried amgylchedd sy'n cefnogi unigolion i ddatblygu'r sgiliau a'r nodweddion er mwyn perfformio. Fodd bynnag, nid ydym yn gwybod eto sut i asesu, datblygu a gwerthuso amgylchedd er mwyn pennu ei effeithiolrwydd o ran galluogi athletwyr i ffynnu ac arwain at brofiad da. Pwrpas y prosiect hwn oedd treialu proses werthuso er mwyn deall y ffordd orau o gasglu gwybodaeth am brofiadau athletwyr o'u hamgylchedd chwaraeon a pha effaith y gallai hyn ei chael ar eu gallu i ffynnu mewn chwaraeon a'r tu hwnt i hynny.

Gan weithio ochr yn ochr â chwaraeon, ceisiodd y prosiect greu fframwaith ar y cyd sy'n caniatáu i chwaraeon asesu, datblygu, monitro a gwerthuso eu hamgylcheddau er mwyn cefnogi lles a datblygiad athletwyr.

Canlyniadau

Gyda'r prosiect yn parhau i fynd rhagddo, mae dadansoddiad data cychwynnol yn awgrymu gwahaniaeth clir rhwng profiadau gwrywod a benywod o'u hamgylcheddau chwaraeon. Er bod eu profiadau'n gadarnhaol, mae benywod yn gyffredinol yn adrodd am lefelau is o ffocws ar ddatblygiad hirdymor a rhwydweithiau cefnogi. Yn yr un modd, adroddodd merched hefyd am lefelau is o gefnogaeth ymreolaeth ganfyddedig gan hyfforddwyr o gymharu â gwrywod. Wedi dweud hynny, adroddodd athletwyr yn gyffredinol am lefelau da o ymddiriedaeth a chefnogaeth gan hyfforddwyr a staff cefnogi sy'n gweithio gyda hwy i'w galluogi i ffynnu.

Effaith

Wrth i ni symud ymlaen gyda'r prosiect a chael gwybodaeth bellach am brofiadau athletwyr o'u hamgylchedd chwaraeon, byddwn yn gallu cefnogi chwaraeon i dargedu elfennau penodol o'u rhaglenni perfformiad i sicrhau bod athletwyr yn gallu datblygu fel pobl a ffynnu fel athletwyr. Yn dilyn y cyfnod peilot cychwynnol, byddwn yn gweithio gyda chwaraeon ychwanegol i sicrhau ein bod yn deall sut mae athletwyr yn profi chwaraeon ac yn datblygu ymddygiad iach sy'n arwain at gyfranogiad a pherfformiad gydol oes.

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2. DEALL PROFIAD HYFFORDDWYR AC YMARFERWYR BENYWAIDD A'R DDARPARIAETH O GEFNOGAETH MEWN PERTHYNAS Â CHYLCH Y MISLIF

Cyfranwyr y prosiect:
Natalie Brown, Camilla Knight (casglu data gydag ymarferwyr Athrofa Chwaraeon Cymru a hyfforddwyr benywaidd Cymru).

Amcanion

Gan fod hyfforddwyr ac ymarferwyr gwyddor chwaraeon benywaidd yn debygol o fod wedi profi cylch y mislif a rhai symptomau cysylltiedig, gellir tybio bod ganddynt fwy o ymwybyddiaeth, dealltwriaeth neu empathi tuag at athletwyr benywaidd a bod problemau'n ymwneud â thrafod cylch y mislif yn ymwneud yn benodol â hyfforddwyr gwrywaidd. Fodd bynnag, gall profiadau personol sy'n ymwneud â chylch y mislif ddylanwadu ar ddealltwriaeth hyfforddwyr ac ymarferwyr benywaidd a'r gefnogaeth ddilynol a ddarperir i athletwyr oherwydd canfyddiadau cymdeithasol o gylch y mislif.

Pwrpas y prosiect hwn oedd datblygu dealltwriaeth o brofiad hyfforddwyr ac ymarferwyr gwyddor chwaraeon benywaidd a'r ddarpariaeth gefnogol mewn perthynas â chylch y mislif wrth weithio gydag athletwyr benywaidd.

Yn ogystal, ceisiodd y prosiect hwn edrych ar y dylanwad a gafodd profiadau mislif yr hyfforddwyr a'r ymarferwyr benywaidd eu hunain ar y gefnogaeth maent yn ei darparu i athletwyr.

Canlyniadau

Yn dilyn cyfweliadau unigol gyda hyfforddwyr ac ymarferwyr benywaidd yng Nghymru, roedd yn ymddangos bod y cyfranogwyr yn amrywio yn eu dealltwriaeth a'u hymwybyddiaeth o effaith cylch y mislif ar berfformiad chwaraeon, wedi'u dylanwadu rywfaint gan eu profiadau personol eu hunain. Roedd gwybodaeth ac ymwybyddiaeth y cyfranogwyr yn effeithio ar y gefnogaeth a ddarparwyd ganddynt i athletwyr benywaidd, yn eithriadol gyfyngedig o ran y gefnogaeth wybodaeth ac emosiynol a ddarparwyd.

Effaith

Mae'r canfyddiadau wedi tynnu sylw at bwysigrwydd sicrhau bod pob hyfforddwr ac ymarferwr yn gwella eu gwybodaeth a'u dealltwriaeth o gylch y mislif a darparu cefnogaeth yn rhagweithiol i athletwyr. Mae addysg i wella gwybodaeth a dealltwriaeth hyfforddwyr ac ymarferwyr wedi'i nodi fel gofyniad i greu amgylchedd mwy agored a chefnogol mewn chwaraeon, gan ganolbwyntio ar ddarparu cefnogaeth ddiriaethol, wybodus ac emosiynol i athletwyr benywaidd.

Mae'r canfyddiadau wedi cael eu dosbarthu i ymarferwyr Athrofa Chwaraeon Cymru a byddant yn cael eu rhannu gan UK Coaching i roi cyngor ar fathau o gefnogaeth i'w darparu fel hyfforddwyr, yn ogystal ag addysg hyfforddwyr. Mae'r prosiect hwn wedi'i gyhoeddi yn y Journal of Sport Science and Coaching hefyd.

3. PROSIECT MERCHED A GENETHOD CBDC – DATBLYGU CHWARAEWYR PÊL-DROED BENYWAIDD DRWY INTEGREIDDIO I GYSTADLAETHAU GWRYWAIDD

Cyfranwyr y Prosiect:
Brendan Cropley (PDC), Liam Kilduff, Natalie Brown, Camilla Knight, (Prifysgol Abertawe), Martin Longworth (Prifysgol Hartpury), Jon Oliver (Prifysgol Metropolitan Caerdydd), Lowri Roberts (CBDC), David Adams (Ymddiriedolaeth CBDC).

Amcan

Mae Cymdeithas Bêl-droed Cymru (CBDC) wedi sefydlu "Prosiect Merched a Genethod" gyda'r nod o wella datblygiad chwaraewyr benywaidd ifanc. Y nod cyffredinol yw cefnogi trosglwyddo chwaraewyr benywaidd yng Nghymru i academïau clybiau pêl-droed proffesiynol ac i lefelau uwch pêl-droed rhyngwladol – felly mae wedi'i anelu at lefel "perfformiad" mewn chwaraeon.

I wneud hyn, mae CBDC wedi cofrestru eu timau merched dan 14 a dan 16 cenedlaethol (un tîm yn y Gogledd ac un tîm yn y De ym mhob grŵp oedran oherwydd materion daearyddol a logistaidd) yng nghynghrair academi bechgyn y Gogledd a'r De gyda'r farn y byddai chwarae yn erbyn bechgyn yn cynyddu faint o gystadlaethau y byddai'r chwaraewyr benywaidd yn eu profi ac felly'n gwella'r cyfleoedd i chwaraewyr ddatblygu ar draws y pileri perfformiad (e.e., corfforol, technegol, tactegol, seicogymdeithasol).

Mae'r timau merched wedi eu cofrestru yng nghynghreiriau academi'r bechgyn dan 14 (ar gyfer y tîm merched dan 16) a dan 13 (ar gyfer y tîm merched dan 14) mewn ymgais i gynnig her briodol ac efallai rheoli materion bio-fandio.

Er bod gan y prosiect werth cynhenid, mae CBDC yn awyddus i edrych yn empirig ar effaith y prosiect ar ddatblygiad chwaraewyr.

Mae cynigydd y prosiect wedi cytuno i arwain y gwerthusiad o'r prosiect, sy'n anelu at gyflawni'r canlynol:

1. Asesu datblygiad corfforol, technegol, tactegol a seicogymdeithasol chwaraewyr benywaidd o ganlyniad i gystadlu yng nghynghrair academi'r bechgyn.
2. Edrych ar effaith y newid yn y cyd-destun ar hyfforddwyr y timau merched cenedlaethol
3. Edrych ar rôl a phrofiad rhieni'r chwaraewyr benywaidd o ganlyniad i'w plant yn cystadlu mewn cynghrair bechgyn.

Canlyniadau

Er mwyn rhoi sylw i'r amcanion hyn, rydym yn cynnal astudiaeth hydredol dull cymysg wedi'i hategu gan bersbectif beirniadol a realistig. Rydym wedi casglu data gan chwaraewyr, rhieni a hyfforddwyr, a byddwn yn parhau i wneud hynny, ac rydym wedi cwblhau'r casglu data ym mis Mai. Rydym yn credu mai'r gwerthusiad hwn fydd y cyntaf i ystyried yn empirig yr effaith bosibl ar ddatblygiad cyfannol chwaraewyr wrth i ferched integreiddio i gynghrair bechgyn ac felly cystadlu yn erbyn eu cyfoedion gwrywaidd.

Mae newydd-deb ac arwyddocâd yr ymchwil, felly, yn dod drwy ddyluniad methodolegol, pwrpas a photensial yr ymchwil i greu sylfaen o dystiolaeth i gefnogi mentrau datblygu chwaraewyr benywaidd o'r fath mewn gwledydd eraill.

Effaith

O safbwynt strategol WIPS, bydd y gwerthusiad prosiect hwn yn helpu i hysbysu CBDC ynghylch sut i ddatblygu eu "Strategaeth Merched a Genethod" i sicrhau bod chwaraewyr pêl-droed benywaidd yn cael yr amgylchedd a'r amodau priodol i gymryd rhan, dysgu, datblygu a pherfformio yn y gêm. Amcan y gwerthusiad ymchwil hwn yw rhoi adborth yn uniongyrchol i CBDC i gynnig gwybodaeth am effaith eu prosiect (e.e., chwarae timau merched mewn cynghrair gystadleuol i fechgyn) ar y chwaraewyr benywaidd ar draws y gwahanol bileri perfformiad (e.e., corfforol, technegol, tactegol, seicogymdeithasol).

Gan fod y prosiect hwn wedi'i sefydlu o'r newydd, bydd yr ymchwil cychwynnol hwn yn archwiliadol ac felly'n cael ei ddefnyddio i gynllunio archwiliadau hydredol parhaus o effaith hirdymor y prosiect ar gyfranogiad parhaus yn y gêm yn ogystal â datblygiad timau Cenedlaethol Cymru.

SUT MAE PROSIETAU SGPC YN GWEITHIO

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SEFYDLIAD GWYDDORAU PERFFORMIO CYMRU

01 Chwaraeon ac ymarferyddion (rhanddeiliaid) yn dynodi mater perfformiad

02 Rhanddeiliaid a SGPC yn cynllunio dull a thim cydweithredol i'w ddeall yn well

03 Tim ymchwil cydweithredol i ddod i ddealltwriaeth newydd

04 Tim ymchwil cydweithredol yn bwydo gwybodaeth newydd

05 Rhanddeiliaid yn gweithredu strategaethau yn seiliedig ar wybodaeth newydd

DIOLCH I AELODAU'R GRŴP LLYWIO YMCHWIL AM EU CYFRANIADAU

Dr Neil Bezodis (Arweinydd Biomecaneg) Athro Cyswllt biomecaneg, Prifysgol Abertawe

Dr Rich Burden (cynrychiolydd EIS) Arweinydd ar gyfer Iechyd a Pherfformiad Athletwyr Benywaidd a Rhaglenni Biowyddoniaeth, English Institute of Sport

Yr Athro Brendan Cropley (Arweinydd Gwyddor Hyfforddi) Athro Hyfforddiant Chwaraeon, Prifysgol De Cymru

Dr Ryan Chambers (cynrychiolydd URC) Gwyddonydd Chwaraeon ar gyfer Undeb Rygbi Cymru

Dr Ruth Fairchild (Cydarweinydd Maeth) Darllenydd Maeth y Geg ac Iechyd y Cyhoedd, Ysgol Chwaraeon a Gwyddorau Iechyd Caerdydd, Prifysgol Metropolitan Caerdydd

Dr Malcolm Fairweather (cynrychiolydd SIS) Pennaeth Datrysiadau Perfformiad, Sefydliad Chwaraeon Sportscotland

Dr Declan Gamble (cynrychiolydd SNISI) Pennaeth Gwyddor Perfformiad, Sport Northern Ireland Sports Institute

Dr Vicky Gottwald (Arweinydd Adnabod a Throsglwyddo Talent) Darlithydd mewn dysgu motor ym Mhrifysgol Bangor

Dr Denise Hill (Cydarweinydd Iechyd a Lles Athletwyr) Uwch Ddarlithydd mewn Seicoleg Chwaraeon ac Ymarfer, Prifysgol Abertawe

Brian Hughes (Cydgadeirydd RSG) Ffisiolegydd, Chwaraeon Cymru

Yr Athro Liam Kilduff (Cydgadeirydd RSG) Athro mewn Gwyddor Perfformiad, Prifysgol Abertawe

Yr Athro Camilla Knight (Arweinydd Chwaraeon Ieuenctid) Athro mewn Seicoleg Chwaraeon a Chwaraeon Ieuenctid, Prifysgol Abertawe

David Lasini (cynrychiolydd SNISI) Pennaeth Cryfder a Chyflyru, Sport Northern Ireland Sports Institute

Dr Thomas Love (Cydarweinydd Maeth) Uwch Ddarlithydd mewn Maeth Chwaraeon, Prifysgol Abertawe

Yr Athro Kelly Mackintosh (cyswllt WIPAHS) Athro yn yr Ysgol Gwyddorau Chwaraeon ac Ymarfer, Prifysgol Abertawe

Dr Rhodri Martin (Arweinydd Meddygaeth) Ymgynghorydd Meddygaeth Chwaraeon ac Ymarfer, Chwaraeon Cymru

Yr Athro Jon Oliver (Arweinydd Cryfder a Chyflyru) Athro mewn Gwyddor Ymarfer Pediatrig Cymhwysol, Prifysgol Metropolitan Caerdydd

Dr Sam Oliver (Arweinydd Ffisioleg Eithafol) Darllenydd mewn Gwyddor Chwaraeon ac Ymarfer ym Mhrifysgol Bangor

Dr Tom Poulson (Arweinydd Chwaraeon Anabledd) Pennaeth Cefnogi Perfformiad Paralympaidd, English Institute of Sport

Dr Liba Sheeran (Arweinydd Ffisiotherapi Chwaraeon) Darllenydd mewn Ffisiotherapi, Prifysgol Caerdydd

Yr Athro Dave Shearer (Arweinydd Seicoleg) Athro Seicoleg Perfformiad Elitaidd, Prifysgol De Cymru

Dr Mark Waldron (Arweinydd Ffisioleg Perfformiad) Uwch Ddarlithydd mewn Gwyddorau Chwaraeon ac Ymarfer, Prifysgol Abertawe

A Chysylltiadau Ymchwil rhagorol WIPS (sy'n gwneud yr holl waith caled ar y prosiectau!):

- **Dr Natalie Brown**
- **Dr Hamish Cox**
- **Dr Dan Cunningham**

Os oes gennych chi ddiddordeb mewn cysylltu ag unrhyw un o aelodau'r grŵp llywio ymchwil neu gael gwybod mwy am eu hymchwil, cysylltwch â ni ar **WIPS@swansea.ac.uk** a byddwn yn fwy na pharod i gysylltu â chi.

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