

CardiffMet

cawr

Centre for Health, Activity  
and Wellbeing Research

MetCaerdydd

cyigll

Canolfan Ymchwil ar gyfer  
Iechyd, Gweithgarwch a Lles

# Understanding outdoor sports participants' motivations and connectedness to nature in Northern Ireland - 2022 Update

Paul Sellars, Jack Walklett, & Professor Diane Crone



CardiffMet

cawr

Centre for Health, Activity  
and Wellbeing Research

MetCaerdydd

cyigll

Canolfan Ymchwil ar gyfer  
Iechyd, Gweithgarwch a Lles

# Understanding outdoor sports participants' motivations and connectedness to nature in Northern Ireland - 2022 Update

Paul Sellars, Jack Walklett, & Professor Diane Crone



## CONTENTS

INTRODUCTION .....	3
Context and research aim .....	3
METHOD.....	3
Approach.....	3
Measures.....	3
Participants .....	4
RESULTS.....	4
Demographics .....	4
Outdoor sport participation.....	5
Motivation.....	8
Connectedness to nature.....	11
Wellbeing .....	12
INITIAL COMPARATIVE OBSERVATIONS.....	14
SUMMARY .....	15
NEXT STEPS .....	15
APPENDICES .....	17
Appendix 1: Demographic information .....	17
Appendix 2: Outdoor sport participation information .....	20
Appendix 3: Motivations to participate in outdoor sport .....	22
Appendix 4: Connectedness to nature .....	25
Appendix 5: Wellbeing.....	26
Appendix 6: Access .....	27

Citation: Sellars, P. A., Walklett, J., & Crone, D. (2022). Understanding outdoor sports participants' motivations and connectedness to nature in Northern Ireland: 2022 Update. Centre for Health, Activity and Wellbeing Research, Cardiff Metropolitan University, UK.

Corresponding author: [psellars@cardiffmet.ac.uk](mailto:psellars@cardiffmet.ac.uk)

## INTRODUCTION

### *Context and research aim*

The current research aims to better understand the motivations of current outdoor sport participants, the potential influence of outdoor sport upon both nature connectedness and wellbeing, and the demographics of individuals participating in outdoor sports.

Following an initial one-year pilot phase in 2021, the current project “Understanding outdoor sports participants’ motivations and connectedness to nature in Northern Ireland” was recommissioned to be undertaken annually for another three years (until 2024).

## METHOD

### *Approach*

The project uses a cross-sectional, quantitative approach via an annual anonymised online survey (e-survey). The e-survey aims to capture perspectives of current outdoor sport club participants in Northern Ireland concerning demographics, current outdoor sport participation, motivators for outdoor sport participation, connection to nature, and wellbeing. The e-survey is anonymous and takes approximately 10-15 minutes to complete.

### *Measures*

The e-survey asks participants to respond to questions concerning their:

- Demographics: age, gender, ethnicity, nationality, disability, sexual orientation.
- Outdoor sport participation: main outdoor sport, club membership, time spent participating in outdoor sport, impact of COVID-19 pandemic upon time spent participating in outdoor sport.
- Motivation to take part in outdoor sport: Seven questions concerning participants’ reason for participating in their main outdoor sport.<sup>1</sup>
- Connection to nature: Nature Connectedness Index (Richardson et al., 2019)<sup>2</sup>.
- Wellbeing: World Health Organisation – Five Well-being Index (WHO-5).

A number of minor adjustments were made to the 2022 e-survey following meetings and reviews of the 2021 e-survey, these included:

---

<sup>1</sup> As an appropriate validated questionnaire for reasons for outdoor sport participation was not available, outdoor sport specific questions were created by Sport Northern Ireland and Tollymore National Outdoor Centre.

<sup>2</sup> Richardson, M., Hunt, A., Hinds, J., Bragg, R., Fido, D., Petronzi, D., Barbett, L., Clitherow, T. and White, M., 2019. A measure of nature connectedness for children and adults: Validation, performance, and insights. *Sustainability*, 11(12). doi.org/10.3390/su11123250

- Participants were additionally asked if they completed the 2021 e-survey
- The response to weekly physical activity questions were adjusted using a table response to represent days of activity across a week as well as in minutes
- Participants were additionally asked to rank the reason for taking part in outdoor sport
- The topic of accessing physical activity environments was included

## Participants

Recruitment involved an anonymised e-survey link being sent to outdoor sport governing bodies (via Sport Northern Ireland) for distribution to club members aged 18+ years. For the second iteration of the survey, the survey was opened for approximately 5 months from mid-February 2022. A total of 442 participants took part in the e-survey of which 18% (n=81) stated they previously completed the 2021 version (a total of 640 took part in 2021).

## RESULTS

Following data collection and analysis, the results from the 2022 e-survey have been present below in five topic areas.

1. [Demographics](#)
2. [Outdoor sport participation](#)
3. [Motivation](#)
4. [Connectedness to nature](#)
5. [Wellbeing](#)

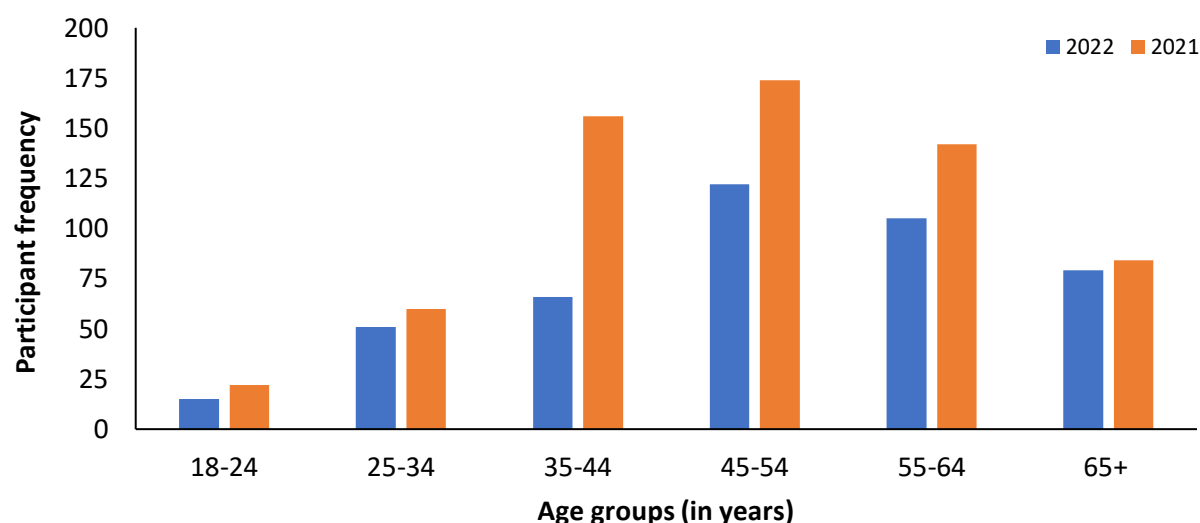
## Demographics

Below is a summary of the demographic details of participants who completed the 2022 e-survey covering: age, gender, nationality, disability, dependent children, and sexual orientation. Further details concerning the breakdown of demographics and comparisons with 2021 scores can be found in [Appendix 1](#).

- Age: mean age 50.97 years (SD=13.99), ranging between 18 and 90 years. Age groups have been demonstrated in the graph below.
- Gender: Male 53%, Female 46%

- Ethnicity: White 98.4%, White & Asian 0.5%, Any other Mixed/Multiple ethnic background<sup>3</sup> 0.5%, Indian 0.2%, Irish Traveller 0.2%<sup>4</sup>
- Nationality: Irish 30.3%, British 27.1%, Both (British & Irish) 16.5%, Northern Irish 21.7%
- Disability: No 93%, Yes 6.1%<sup>5</sup>
- Dependent children: No 62.6%, Yes 36.7%, Prefer not to state 0.7%
- Sexual orientation: Heterosexual 93.7%, Homosexual 2%, Bisexual 1.4%, Prefer not to say 0.2%

*Graph demonstrating participant age via groupings*



## Outdoor sport participation

Information concerning participants' main outdoor sport participation, included: sport type, amount of time spent participating in outdoor sport, and the impact of COVID-19 upon outdoor sport participation. Further details concerning outdoor sport participation and comparisons with 2021 scores can be found in [Appendix 2](#).

### Sport type

Participants were asked to identify their main outdoor sport, which are highlighted in the chart below. The most frequently cited main outdoor sports, were: angling 12.9%, hiking 12.7%,

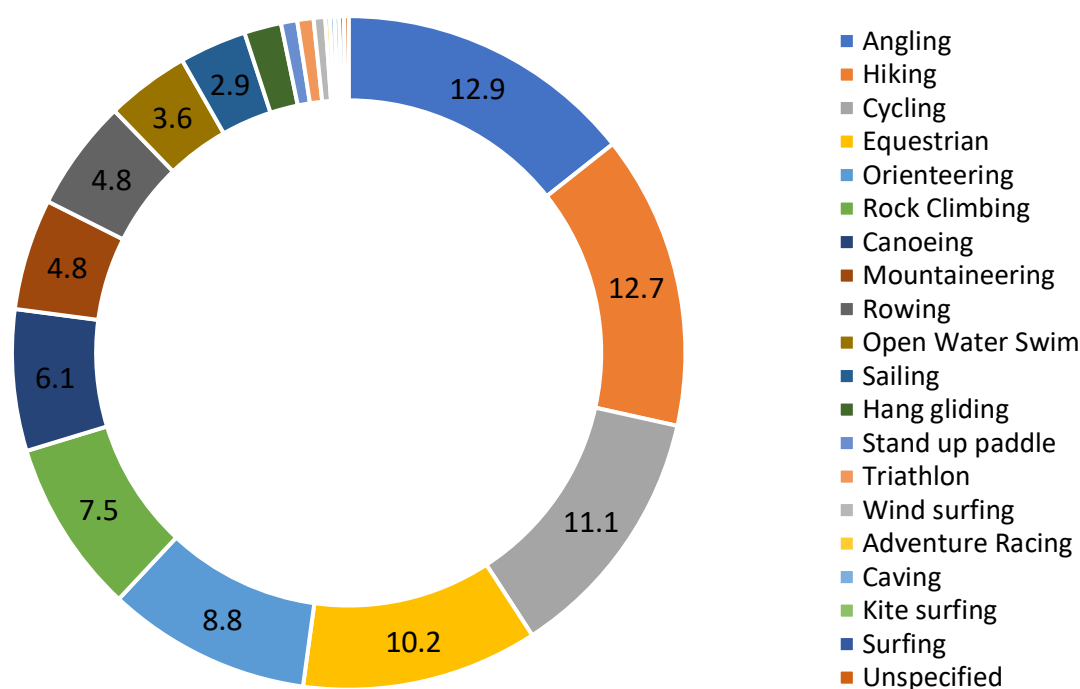
<sup>3</sup> An open text box was provided and participants were asked to please describe

<sup>4</sup> Ethnicity- The questions are informed by the Section 75 of the Northern Ireland Act.

<sup>5</sup> Individuals who identified as living with a disability were additionally asked to identify the disability.

cycling 11.1%, and equestrian 10.2%. Of the total participants approximately 80% stated they were a member of a club.

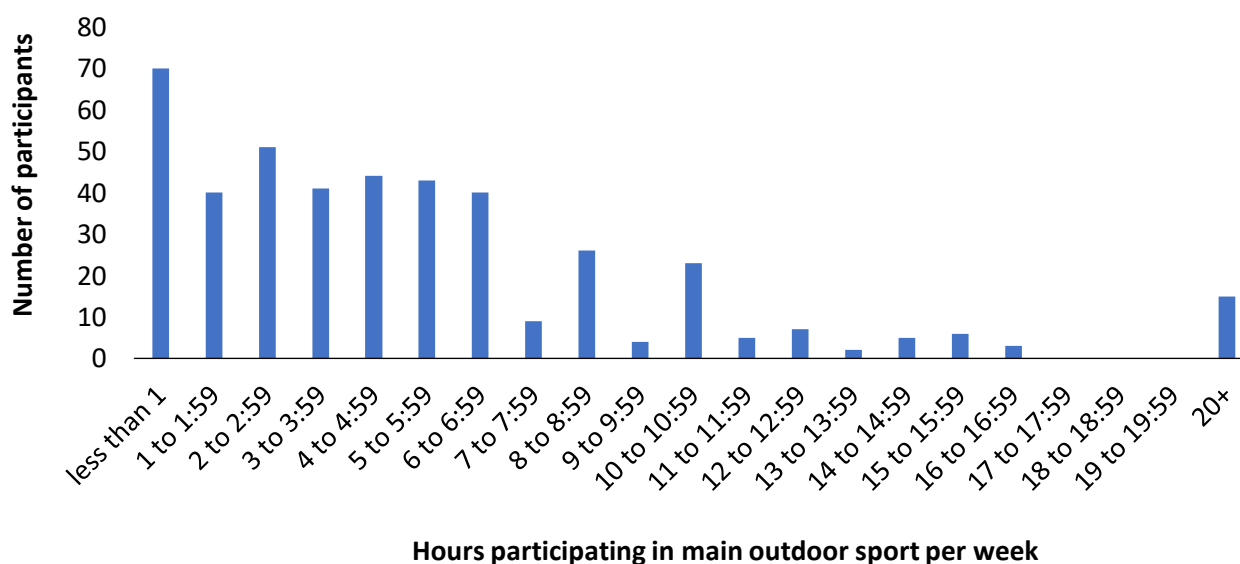
*Chart demonstrating participants' main outdoor sport type (%)*



### Time spent participating in main outdoor sport

Participants were asked to state the number of days a week and amount of time they participated in their main outdoor sport. Across a seven day week the most frequently cited number of days participating in a main sport was one day a week (36%). The mean time per week participants spent participating in their main outdoor sport was 5 hours 26 minutes and ranged between 0 and 72 hours.

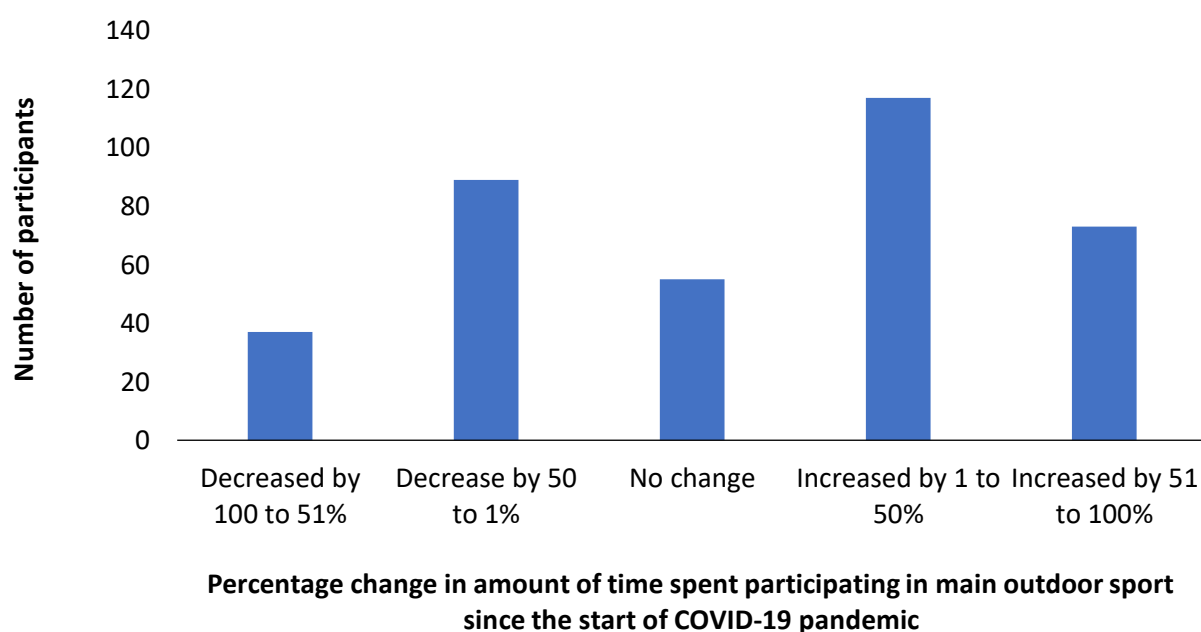
*Graph demonstrating amount of time participating in main outdoor sport*



### Impact of COVID-19 upon time spent participating in main outdoor sport

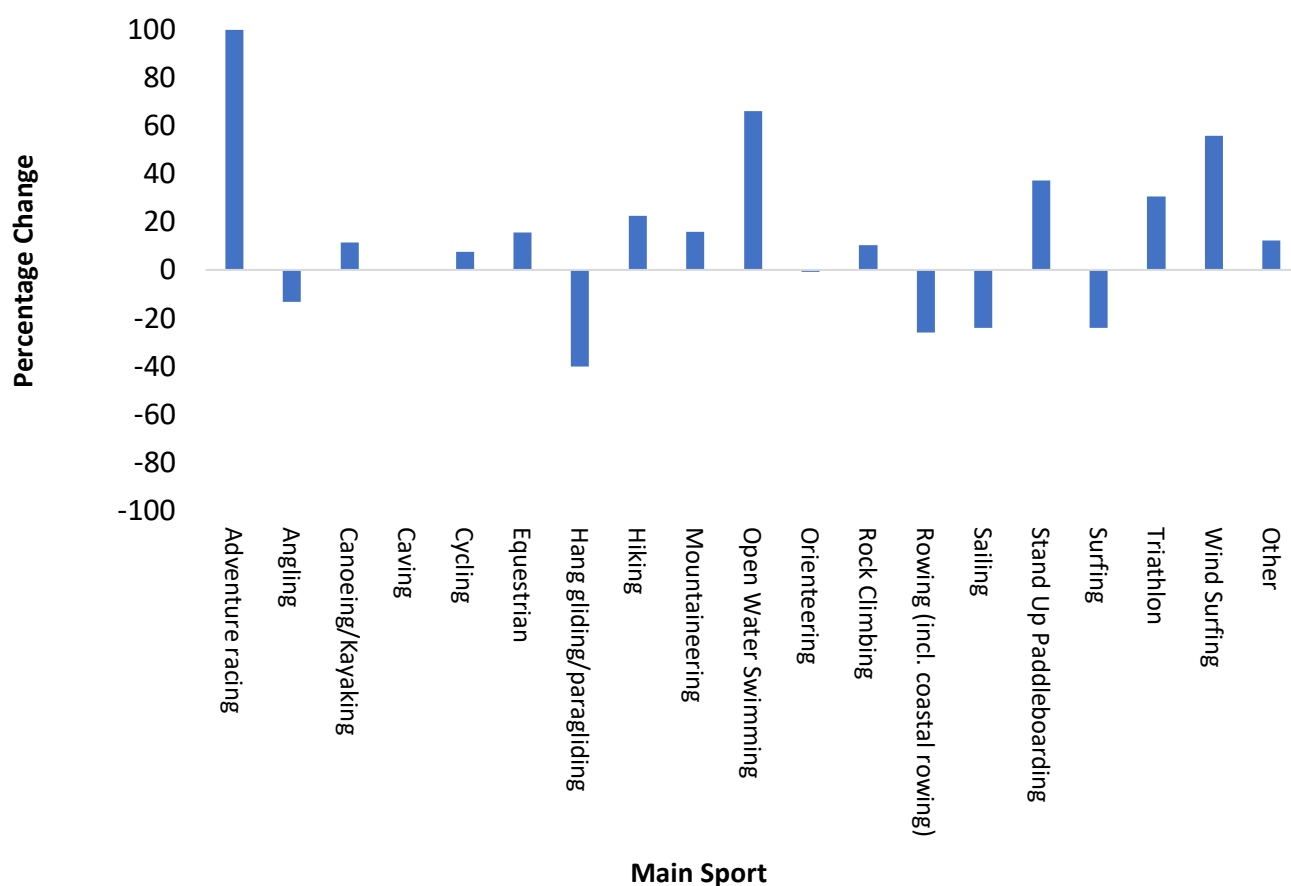
To understand the perceived impact of COVID-19, participants were asked to demonstrate if the amount of time they spent participating in their main outdoor sport had changed since the start of the COVID-19 pandemic. Participants indicated the amount of change via a single sliding scale from 'my participation has decreased by 100%' to 'my participation has increased by 100%'. On average, time participating in main outdoor sport since COVID-19 had increased by 8.3%.

*Graph demonstrating the combined percentage change in time spent participating in their main outdoor sport as a result of COVID-19*





Graph demonstrating the percentage change in time spent participating in main outdoor sport per week



## Motivation

### Reasons for participating in outdoor sport

To understand outdoor sport participants' motivation for taking part in outdoor sport, they were asked to demonstrate their level of agreement to seven statements regarding reasons for participation<sup>6</sup>. Specifically, individuals demonstrated their level of agreement<sup>7</sup> to seven statements concerning reasons for participation. The table below demonstrated that there was large scale agreement for the majority of reasons of participation, while 'To achieve a specific goal' had the lowest level of agreement.

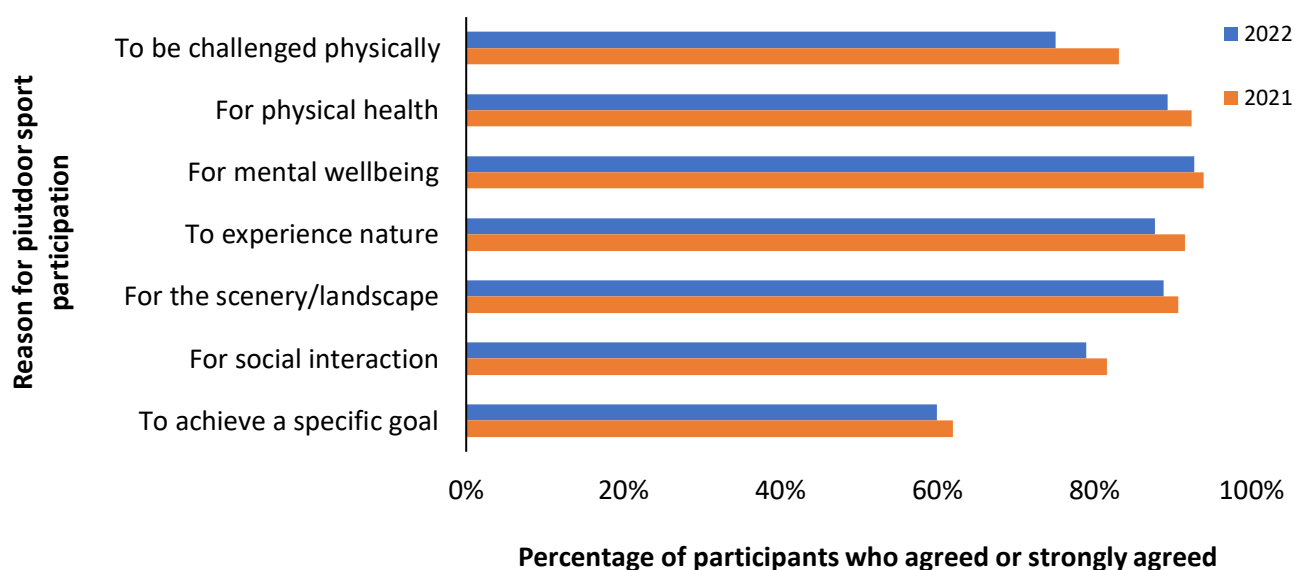
<sup>6</sup> As an appropriate validated questionnaire for reasons for outdoor sport participation was not available, outdoor sport specific questions were created by Sport Northern Ireland and Tollymore National Outdoor Centre.

<sup>7</sup> There were five levels of agreement: Strongly disagree; Disagree; Neither; Agree; and, Strongly Agree.

*Table demonstrating reasons for participating in outdoor sport and participants' levels of agreement with statements*

Reason for participation	Level of participant agreement
To be challenged physically	Approx. 75 agreed or strongly agreed (75.1%)
For physical health	Approx. 90% agreed or strongly agreed (89.4%)
For mental wellbeing	More than 90% agreed or strongly agreed (92.8%)
To experience nature	Approx. 90% agreed or strongly agreed (87.8%)
For the scenery/landscape	Approx. 90% agreed or strongly agreed (88.9%)
For social interaction	Approx 80% agreed or strongly agreed (79%)
To achieve a specific goal	60% agreed or strongly agreed

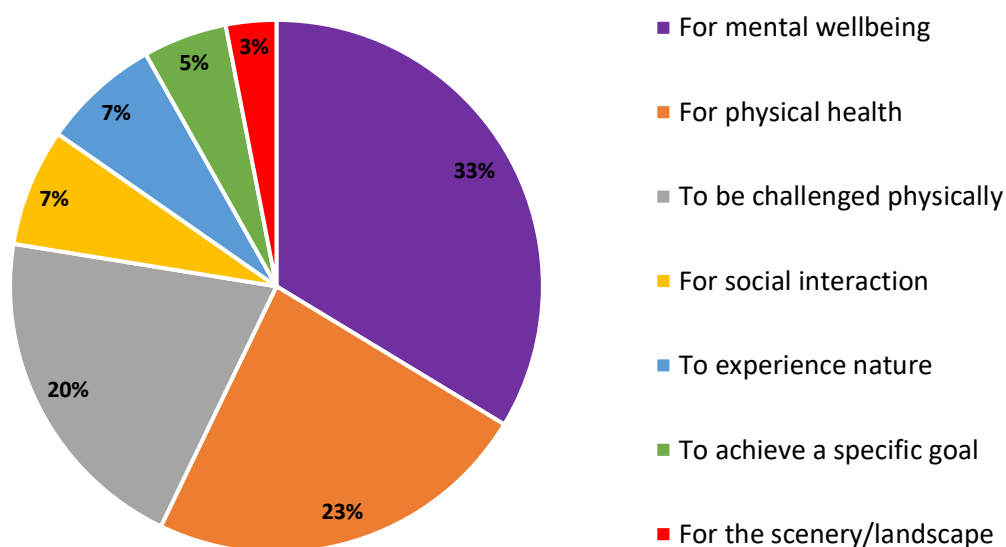
Graph demonstrating the percentage of participants who agreed or strongly agreed with the reason for participation in outdoor sport<sup>8</sup>



Additionally, participants were asked to rank the reasons for participation from most important to least. Participants most frequently ranked 'for mental wellbeing' as the most important reason for their participation in outdoor sport.

<sup>8</sup> Please note, the graphs and charts which include scores from 2021 and 2022 are presented for initial comparison purposes.

*Chart demonstrating the percentage of participants who ranked the reason for participation in outdoor sport as the most important*



### Outdoor sport motivations vs. gender, age, sport participation type, and disability

In addition to investigating the level of agreement to reasons for participating in outdoor sports, statistical analysis was conducted to see if the reasons for participation differed based upon gender, age, sport type, and disability. To investigate these four areas, the levels of agreement were assigned a number<sup>9</sup> and statistical analysis was conducted. As such, scores ranged from 1 to 5 for each of the seven statements, with a higher score indicating a higher level of agreement with the reason for participation. Comparisons between motivation to participate in outdoor sport and gender, age, sport type, and disability are described below (further information and comparisons with 2021 scores can be found in [Appendix 3](#)).

#### Motivation vs. gender

Gender (female n=200, male n=231) demonstrated similar levels of agreement scores across the seven reasons for participation. There were no significant differences between levels of agreement to reasons for sport participation and gender.

#### Motivation vs. age

Age in years was split into 6 groups (18-24 n=15; 25-34 n=51; 35-44 n=66; 45-54 n=118; 55-64 n=104; 65+ n=77). Statistical analysis indicated that there was no significant difference between the age groups.

<sup>9</sup> Strongly disagree = 1; Disagree=2; Neither=3; Agree=4; and, Strongly Agree=5

### *Motivation vs. sport type*

Sport type was split into two categories: land sports (n=292) and water sports (n=140). Statistical analysis indicated that land sports scored significantly higher than water sports for three of the reasons for participation: 'to be challenged physically' (Land M=4.25, SD=.9; Water M=3.68, SD=1.13), 'for physical health' (Land M=4.49, SD=.69; Water M=4.09, SD=.88), and 'achieve a specific goal' (Land M=3.81, SD=1.01; Water M=3.53 SD=1.02).

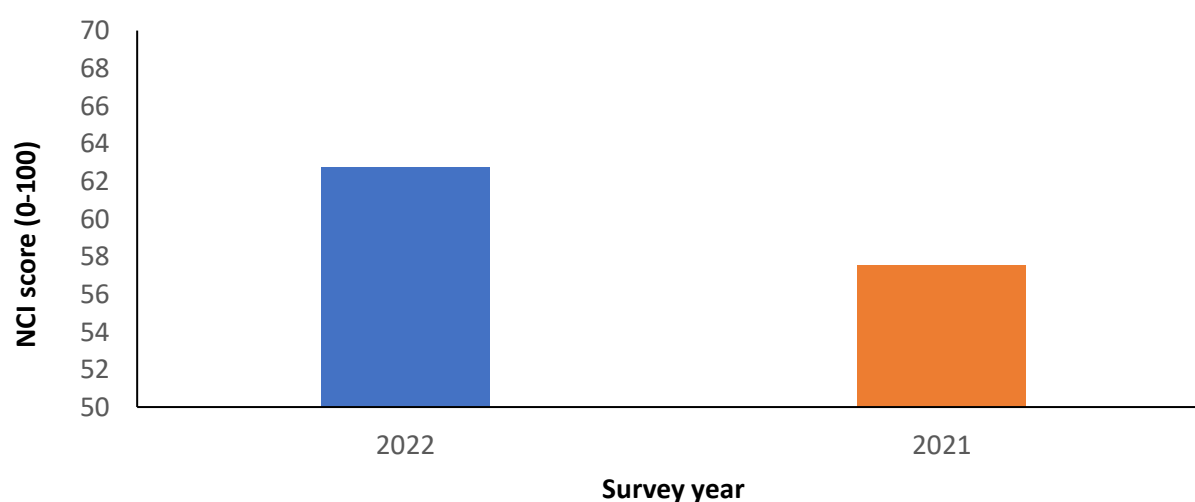
### *Motivation vs. disability*

Participants were split into two groups, those who identified as living with a disability (n=26) and those that did not (n=406). Statistical analysis indicated that those who identified as living with a disability scored significantly lower for 'To be challenged physically' (Disability M=3.73 SD=1.28; No Disability M=4.1, SD=.98) and significantly higher 'for physical health' (Disability M=4.44, SD=.64; No Disability M=4.37, SD=.77).

### *Connectedness to nature*

To understand levels of connection to nature, participants were asked to complete the Nature Connectedness Index (NCI; Richardson et al., 2019). The NCI contains 6 items which use a weighted scoring system with overall scores ranging from 0 to 100 (100 indicating the highest level of connectedness to nature). A mean score of 62.68 (SD=22.1) was found for the current study in 2022.

*Graph demonstrating NCI score*



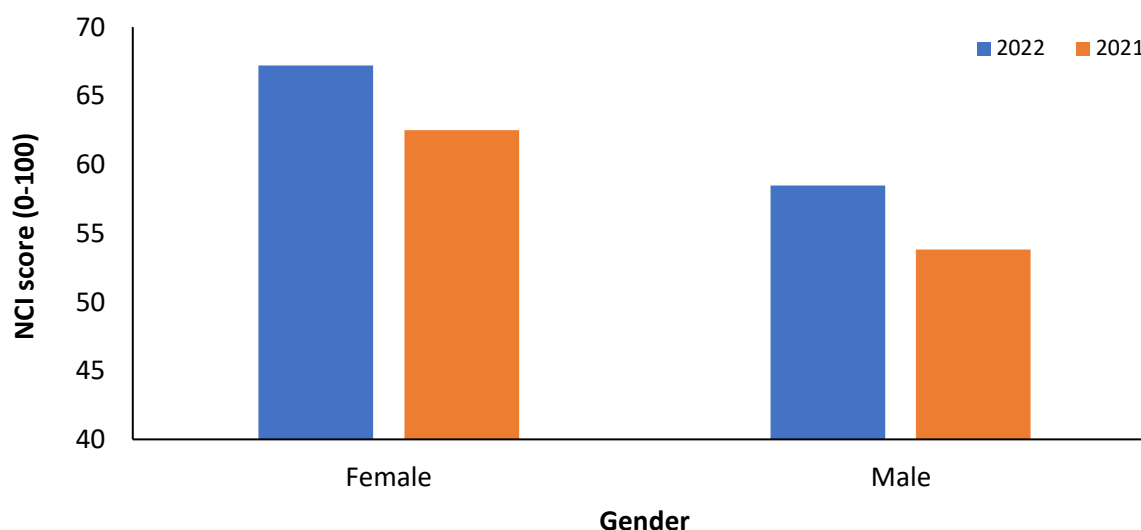
### *Connectedness to nature vs. gender, age, sport participation type, and disability*

In addition to investigating the mean score for connectedness to nature, statistical analysis was conducted to see if connectedness to nature differed between gender, age, sport type, and disability. Comparisons between connectedness to nature and gender, age, sport type, and disability are described below (further information and comparisons with 2021 scores can be found in [Appendix 4](#)).

### *Connectedness to nature vs. gender*

Gender (female n=197, male n=233) demonstrated a significant and visible difference between females (M=66.89, SD=20.73) and males (M=58.74, SD=22.53) with females scoring higher.

*Graph demonstrating NCI score and gender*



### *Connectedness to nature vs. age*

Age in years was split into 6 groups (18-24 n=15; 25-34 n=51; 35-44 n=66; 45-54 n=120; 55-64 n=102; 65+ n=76). There were no significant differences as a function of age.

### *Connectedness to nature vs. sport type*

Sport type was split into two categories land sports (n=292) and water sports (n=139). There was no significant difference between sport type and connectedness to nature. Water sports scored (M=64.46, SD=22.13) and land scored (M=61.77, SD=22.06).

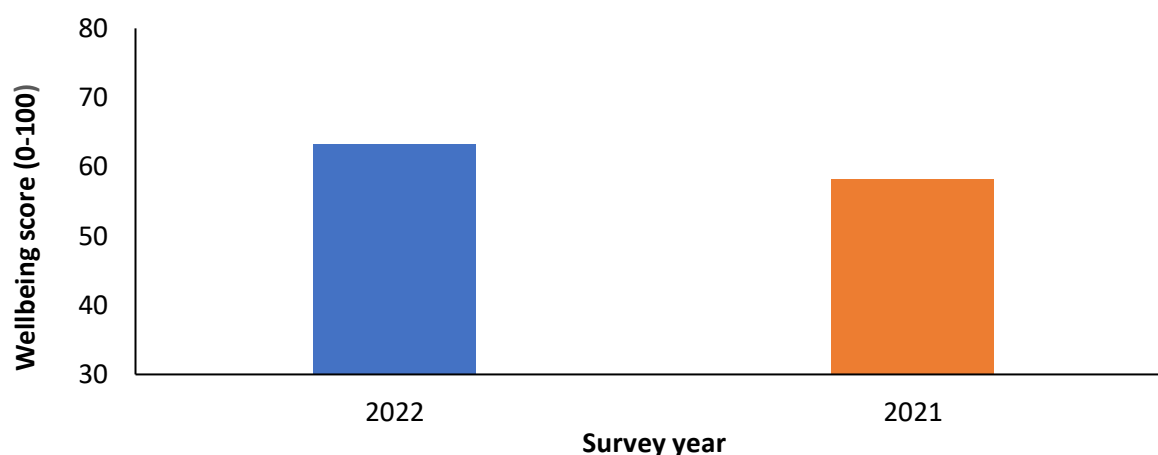
### *Connectedness to nature vs. disability*

Participants were split into two groups, those who identified as living with a disability (n=27) and those that did not (n=404). There was no significant difference between those who identified as living with a disability and those that did not for connectedness to nature.

## **Wellbeing**

To understand wellbeing levels, participants were asked to complete World Health Organisation- Five Well-Being Index (WHO-5). The WHO-5 is a short, 5 item, self-reported measure of current mental wellbeing (specifically referring to subjective psychological wellbeing). Scores range between 0 and 100, 0 represents the worst imaginable wellbeing and 100 representing the best imaginable wellbeing. A mean score of 63.19 (SD=19.21) was found for the current 2022 study.

Graph demonstrating WHO-5 wellbeing score



### Wellbeing vs. gender, age, sport participation type, and disability

Statistical analysis was conducted to see if wellbeing differed between gender, age, sport type, and disability. Comparisons between wellbeing and gender, age, sport type, and disability are described below (further information and comparisons with 2021 scores can be found in [Appendix 5](#)).

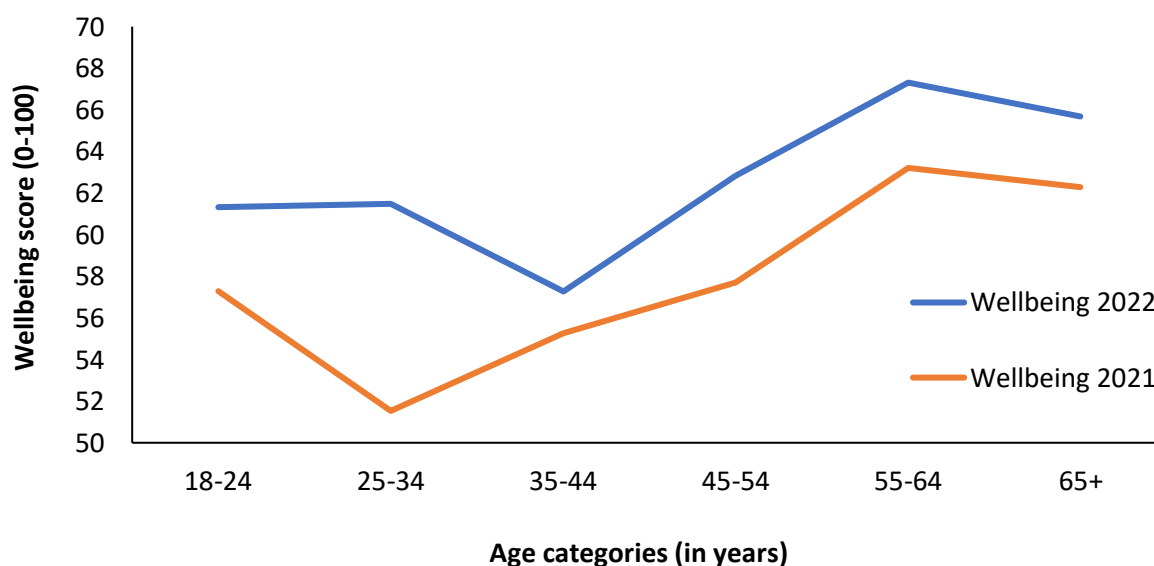
#### Wellbeing vs. gender

There was no significant difference between wellbeing scores as a function of gender (female  $n=203$ ,  $M=61.3$ ,  $SD=19.26$ ; male  $n=235$ ,  $M=64.71$ ,  $SD=18.9$ ).

#### Wellbeing vs. age

Age in years was split into 6 groups (18-24  $n=15$ ; 25-34  $n=51$ ; 35-44  $n=66$ ; 45-54  $n=122$ ; 55-64  $n=105$ ; 65+  $n=79$ ). Participants aged 35-44 ( $M=57.27$ ,  $SD=20.62$ ) scored significantly lower for wellbeing than those aged 55-64 ( $M=67.31$ ,  $SD=14.89$ ).

Graph demonstrating WHO-5 wellbeing score and participant age from 2022 and 2021



*Wellbeing vs. sport type*

Sport type was split into two categories: land sports (n=296) and water sports (n=142). There was no significant difference between sport type and wellbeing. Land sports mean score was 63.4 (SD=18.89) and water sports 63.97 (SD=19.41).

*Wellbeing vs. disability*

Participants were split into two groups, those who identified as living with a disability (n=27) and those that did not (n=411). Statistical analysis indicated no significant differences in wellbeing (Disability M=59.11, SD=26.05; No disability M=63.7, SD=18.49).

## INITIAL COMPARATIVE OBSERVATIONS

Initial observational comparisons between the two cohorts from 2021 and 2022<sup>10</sup> highlight the following:

- A total of 442 participants took part in the 2022 e-survey, while 640 took part in 2021. Of those who completed 2022 survey, 18% (n=81) stated they previously completed the 2021 version.
- The average age of participants in 2022 was 51 years and 49 years in 2021, while 46% of participants identified as female and 53% male in 2022, and 41% female and 58% male in 2021.
- Across both 2021 and 2022 the average time spent participating in main outdoor sport was approximately 5 and a half hours.
- 2021 data demonstrated that the perceived overall amount of time spent participating in outdoor sport since the start of the COVID-19 had decreased, however 2022 results indicate an increase in participation time.
- Reasons for participation in both 2021 and 2022 demonstrated approximately 90% of participants 'agreed' or 'strongly agreed' that they participated in outdoor sport for physical health, mental wellbeing, to experience nature, and for scenery/landscape.
- Wellbeing and connection to nature scores have increased from 2021 to 2022 across all age groups.
- Connectedness to nature demonstrated a significant difference between gender (female and male), with females scoring higher than their male counterparts in 2021 and 2022.

---

<sup>10</sup> Survey data from 2021 and 2022 can be viewed in the appendix

## SUMMARY

The findings, summarised below, represent those from the second “Understanding outdoor sports participants’ motivations and connectedness to nature in Northern Ireland” e-survey undertaken in 2022. Findings highlight:

- Overall, 442 participants took part in the 2022 version, with a mean age of 51 years, and 46% identified as female and 53% male.
- Approximately 60% of outdoor sport participants took part in their main outdoor sport either 1 or 2 times a week. Across a week the average total time spent taking part in main outdoor sport was approximately 5 and half hours, with the majority (approx. 75%) of participants spending between 0 and 7 hours taking part in their main sport.
- Since the start of the COVID-19 pandemic, approximately 50% of participants felt that the time spent participating in outdoor sport had increased, while approx. 35% felt it had decreased, and 15% had experienced no change.
- Approximately 90% of participants ‘agreed’ or ‘strongly agreed’ that they participated in outdoor sport for physical health, mental wellbeing, to experience nature, and for scenery/landscape.
- When split into land and water sports, those who participated in land sports scored significantly higher than water sports for three of the reasons for participation: ‘to be challenged physically’, ‘for physical health’ and ‘achieve a specific goal’.
- Generally, wellbeing across all comparison groups (gender, sport type, age, disability) was relatively consistent, however, individuals aged 35-44 years scored significantly lower for wellbeing than those aged 55-64.
- Connectedness to nature scores demonstrated a significant difference between gender (female and male), with females scoring higher than their male counterparts.

## NEXT STEPS

Following the continuation of the working relationship between Sport Northern Ireland and Cardiff Metropolitan University and consequentially the second iteration of the “Understanding outdoor sports participants’ motivations and connectedness to nature in Northern Ireland” e-survey, six steps are proposed to develop the research.

1. **Longitudinal** – Continue the data collection into 2023 and beyond to enable better understanding of outdoor sport participation, wellbeing, and connectedness to nature.
2. **Trends** – Building upon the initial comparative observations, and develop a comparison report/document to demonstrate trends across 2021, 2022, 2023, and 2024.



3. **Specific** – Identify and explore any specific populations or groups for individual analysis (e.g., women aged 35-44; male cyclists).
4. **Qualitative** – Future qualitative research (e.g., interviews, focus groups) could increase the opportunity to better understand context specific experiences of outdoor sport participation and further exploration into the reasons for/barriers to, outdoor sport participation.
5. **Compare** – Explore the opportunity of working with or using comparative data from other organisations/research groups to compare outdoor sport individual data to general population.
6. **Policy** – Identify opportunities for findings from the current research to be used to help inform policy and practice.

## APPENDICES

### Appendix 1: Demographic information

Tables demonstrating full demographic details

Age (in years)	2021		2022	
	M=49.04 SD=12.89		M=50.97 SD=13.99	
	N	%	N	%
18-24	22	3.4	15	3.4
25-34	60	9.4	51	11.5
35-44	156	24.4	66	14.9
45-54	174	27.2	122	27.6
55-64	142	22.2	105	23.8
65+	84	13.1	79	17.9
Not stated	2	0.3	4	0.9

Gender	2021		2022	
	N	%	N	%
Female	263	41	203	45.9
Male	372	58	235	53.2
Non-binary	3	0.5	2	0.5
Other	0	0	1	0.2
Not stated	2	0.3	1	0.2

Ethnicity	2021		2022	
	N	%	N	%
White	625	97.7	435	98.6
White & Asian	3	0.5	2	0.5
Chinese	3	0.5	0	0
Prefer not to say	2	0.3	0	0
Bangladeshi	1	0.2	0	0
Indian	1	0.2	1	0.2
Pakistani	1	0.2	0	0
Other - Irish	1	0.2	1	0.2
Other - Maori	1	0.2	0	0
Other - South American	1	0.2	0	0
Other - Sri Lankan Tamil	1	0.2	0	0
Irish Traveller	0	0	1	0.2
Other – White & Latin	0	0	1	0.2

Nationality	2021		2022	
	N	%	N	%
British	166	25.9	120	27.1
Irish	141	22	134	30.3
Both (British & Irish)	108	16.9	73	16.5
Northern Irish	189	29.5	96	21.7
Prefer not to say	10	1.6	2	0.4
Other - Scottish	5	0.8	1	0.2
Other - Welsh	3	0.5	2	0.4
Other - Australian	2	0.3	1	0.2
Other - British/Irish/N.Irish	2	0.3	1	0
Other - British/Brazilian	1	0.2	0	0
Other - British/European	1	0.2	0	0
Other - British/French	1	0.2	1	0.2
Other - Chinese	1	0.2	0	0
Other - Dutch	1	0.2	0	0
Other - English	1	0.2	1	0.2
Other - European	1	0.2	0	0
Other - German	1	0.2	0	0
Other - Italian	1	0.2	0	0
Other - Lithuanian	1	0.2	0	0
Other - Portuguese	1	0.2	0	0
Other - South African	1	0.2	2	0.4
Other - Spanish	1	0.2	0	0
Other - USA	1	0.2	0	0
British/Australian	0	0	1	0.2
British / English	0	0	1	0.2
European	0	0	1	0.2
Irish and American	0	0	1	0.2
Singaporean	0	0	1	0.2

Sexual Orientation	2021		2022	
	N	%	N	%
Heterosexual	583	91.1	414	93.7
Bisexual	21	3.3	6	1.4
Gay/ Lesbian/ Homosexual	12	1.9	9	2
Prefer not to say	24	3.8	1	0.2
Other	0	0	10	2.3

Disability	2021		2022	
	N	%	N	%
Yes	48	7.5	27	6.1
No	588	91.9	411	93
Prefer not to say	4	0.6	2	0.5

Disability - Type	2021		2022	
	N	%	N	%
Physical	16	33.3	14	53.8
Mental health	11	22.9	4	15.4
Learning	7	14.6	3	11.5
Other - Long Term Health	2	4.2	0	0
Other - Physical & Mental	2	4.2	0	0
Other - Allergy	1	2.1	0	0
Other - All of the above	1	2.1	0	0
Other - Autism	1	2.1	0	0
Other - Chronic Medical Condition	1	2.1	0	0
Other - Crohn's Disease With Stoma	1	2.1	0	0
Other - Hard of Hearing / Hearing impairment / Deaf	1	2.1	2	7.7
Other - Learning and Physical	1	2.1	0	0
Other - Multiple	1	2.1	1	3.8
Other - Partially Deaf	1	2.1	0	0
Other - Type 1 Diabetes	1	2.1	0	0
Other - PTSD	0	0	1	3.8
Other – Asperger's syndrome	0	0	1	3.8

## Appendix 2: Outdoor sport participation information

Tables demonstrating full outdoor sport participation

Main outdoor sport participated in	2021		2022	
	N	%	N	%
Cycling	177	27.7	49	11.1
Hiking	84	13.1	56	12.7
Open Water Swimming	83	13	16	3.6
Orienteering	58	9.1	38	8.6
Equestrian	38	5.9	45	10.2
Angling	37	5.8	57	12.9
Rowing (incl. Coastal Rowing)	33	5.2	19	4.3
Canoeing/Kayaking	25	3.9	26	5.9
Triathlon	20	3.1	3	0.7
Caving	19	3	1	0.2
Sailing	18	2.8	13	2.9
Hang Gliding/Paragliding	14	2.2	5	1.1
Mountaineering	12	1.9	21	4.8
Rock Climbing	6	0.9	33	7.5
Adventure Racing	4	0.6	1	0.2
Wind Surfing	2	0.3	2	0.5
Sub Aqua/Diving	2	0.3	0	0
Surfing	2	0.3	1	0.2
Stand Up Paddle boarding	1	0.2	3	0.7
Kite Surfing	1	0.2	1	0.2
Snow Sports	0	0	0	0
Unspecified	4	0.6	-	-
Other	-	-		

Member of an outdoor sport club	2021		2022	
	N	%	N	%
Yes	434	67.8	362	81.9
No	198	30.9	73	16.5
Do not Know	8	1.3	6	1.4

Level of physical activity intensity when participating in main outdoor sport	2021		2022	
	N	%	N	%
Easy	97	15	86	19.5
Moderate	329	51	262	59.3
Vigorous	214	33	93	21

Perceived Proficiency (Main)	2021		2022	
	N	%	N	%
Beginner	12	1.9	6	1.4
Novice	17	2.7	20	4.5
Competent (Easy Env)	92	14.4	51	11.5
Competent (Moderate Env)	272	42.5	193	43.7
Competent (Advanced Env)	247	38.6	171	38.7

Number of days per week participating in main outdoor sport (2022)	N	%
1 day	156	36
2 days	106	24.5
3 days	53	12.2
4 days	36	8.3
5 days	40	9.2
6 days	8	1.8
7 days	34	7.9

Impact of COVID – Change in amount of time spent participating in outdoor sport since the start of the COVID-19 pandemic					
Percentage change	Decreased by 100 to 51%	Decrease by 50 to 1%	No change	Increased by 1 to 50%	Increased by 51 to 100%
2021 Approx. % of participants	35%	20%	8%	20%	17%
2022 Approx. % of participants	10%	25%	15%	30%	20%

### Appendix 3: Motivations to participate in outdoor sport

#### Motivation vs. Gender

Reason for participation	2021		2022	
	Female N=261	Male N=371	Female N=200	Male N= 231
To be challenged physically	4.08 (.94)	4.17 (.95)	4.17 (.91)	3.98 (1.09)
For physical health	4.46 (.78)	4.49 (.76)	4.44 (.74)	4.29 (.8)
For mental wellbeing	4.65 (.7)	4.54 (.77)	4.65 (.71)	4.59 (.71)
To experience nature	4.41 (.76)	4.36 (.74)	4.52 (.68)	4.36 (.82)
For the scenery/ landscape	4.31 (.8)	4.33 (.72)	4.44 (.75)	4.34 (.82)
Social interaction	4.2 (.94)	4.13 (.88)	4.19 (.85)	4 (.94)
Achieve a specific goal	3.75 (.97)	3.75 (.96)	3.74 (1.02)	3.7 (1.03)

*Motivation vs. Age*

Reason for participation	2021					
	18-24 N=22	25-34 N=60	35-44 N=156	45-54 N=173	55-64 N=141	65+ N=83
To be challenged physically	4.27 (.77)	4.18 (.99)	4.09 (1.04)	4.14 (.95)	4.11 (.97)	4.17 (.78)
For physical health	4.36 (.66)	4.55 (.57)	4.52 (.75)	4.51 (.77)	4.35 (.9)	4.49 (.69)
For mental wellbeing	4.41 (.8)	4.77 (.46)	4.62 (.72)	4.66 (.68)	4.45 (.91)	4.54 (.69)
To experience nature	4.36 (.79)	4.48 (.81)	4.38 (.79)	4.36 (.72)	4.41 (.64)	4.33 (.81)
For the scenery/ landscape	4.18 (.8)	4.33 (.82)	4.37 (.79)	4.28 (.73)	4.35 (.72)	4.33 (.73)
Social interaction	3.91 (1.02)	4.23 (.93)	4.08 (.93)	4.2 (.86)	4.1 (.96)	4.37 (.73)
Achieve a specific goal	4.18 (.85)	3.92 (.98)	3.87 (.96)	3.68 (1.01)	3.73 (1)	3.49 (.79)

Reason for participation	2022					
	18-24 N=15	25-34 N=51	35-44 N=66	45-54 N=118	55-64 N=104	65+ N=77
To be challenged physically	3.8 (1.15)	3.96 (1.02)	4.17 (.95)	4.14 (.95)	4.09 (1.02)	4.01 (1.09)
For physical health	4.27 (.88)	4.27 (.67)	4.27 (.81)	4.42 (.68)	4.41 (.81)	4.41 (.81)
For mental wellbeing	4.93 (.46)	4.69 (.71)	4.65 (.81)	4.66 (.67)	4.54 (.81)	4.53 (.7)
To experience nature	4.4 (.91)	4.55 (.58)	4.44 (.75)	4.47 (.72)	4.36 (.82)	4.36 (.84)
For the scenery/ landscape	4.4 (1.12)	4.47 (.64)	4.41 (.8)	4.36 (.82)	4.36 (.87)	4.41 (.66)
Social interaction	3.73 (1.16)	4.24 (.71)	3.85 (1.02)	4.11 (.92)	4.13 (.78)	4.2 (.88)
Achieve a specific goal	3.87 (1.25)	3.9 (1.1)	3.7 (1.12)	3.61 (1)	3.77 (.96)	3.78 (.93)



*Motivation vs. Sport participation type*

Reason for participation	2021		2022	
	Land sports N=411	Water sports N=203	Land sports N=292	Water sports N=140
To be challenged physically	4.22 (.86)	3.94 (1.08)	4.25 (.9)	3.68 (1.13)
For physical health	4.53 (.7)	4.34 (.89)	4.49 (.69)	4.09 (.88)
For mental wellbeing	4.6 (.69)	4.56 (.85)	4.61 (.72)	4.61 (.75)
To experience nature	4.36 (.75)	4.47 (.73)	4.39 (.77)	4.54 (.73)
For the scenery/ landscape	4.33 (.75)	4.35 (.77)	4.38 (.81)	4.43 (.76)
Social interaction	4.1 (.89)	4.26 (.93)	4.12 (.9)	4.04 (.89)
Achieve a specific goal	3.7 (.93)	3.77 (1.03)	3.81 (1.01)	3.53 (1.02)

*Motivation vs. Disability Response Yes/No*

Reason for participation	2021		2022	
	Yes N=48	No N=585	Yes N=26	No N=406
To be challenged physically	4.04 (.97)	4.14 (.95)	3.73 (1.28)	4.1 (.98)
For physical health	4.42 (.68)	4.48 (.77)	4.44 (.64)	4.37 (.77)
For mental wellbeing	4.79 (.46)	4.57 (.76)	4.78 (.58)	4.6 (.74)
To experience nature	4.33 (.66)	4.39 (.75)	4.52 (.64)	4.43 (.77)
For the scenery/ landscape	4.22 (.78)	4.33 (.75)	4.37 (.63)	4.4 (.8)
Social interaction	3.98 (1.06)	4.17 (.89)	4.19 (.79)	4.09 (.9)
Achieve a specific goal	3.85 (1.15)	3.76 (.97)	3.96 (1.06)	3.71 (1.02)

## Appendix 4: Connectedness to nature

### Connectedness to nature (Nature Connectedness Index) vs. Gender

Gender	2021	2022
	Connected to nature score M = 57.51 (SD=22.29)	Connected to nature score M = 62.49 (SD=22.04)
Female	62.52 (22.93)	67.2 (20.68)
Male	53.82 (21.06)	58.49 (22.41)

### Connectedness to nature vs. Age

Age in years	2021	2022
	Connected to nature score M = 57.44 (SD = 22.25)	Connected to nature score M = 62.49 (SD = 22.04)
18-24	52.78 (25.31)	65 (17.71)
25-34	55.82 (19.15)	61.92 (20.98)
35-44	59.88 (22)	61.45 (21.74)
45-54	56.35 (22.23)	62.58 (22.8)
55-64	55.85 (22)	62.5 (23.6)
65+	60.2 (24.27)	63.11 (21)

### Connectedness to nature vs. Sport participation type

Sport type	2021	2022
	Connected to nature score M = 57.58 (SD=22.3)	Connected to nature score M = (SD=)
Land sports	57.2 (21.34)	61.75 (22.06)
Water sports	59.11 (24.13)	64.03 (22)

### Connectedness to nature vs. Disabled/Non-disabled

Lives with a disability?	2021	2022
	Connected to nature score M = 57.32 (SD=22.17)	Connected to nature score M = 62.49 (SD=22.04)
Yes	53.62 (19.49)	61.76 (19.47)
No	57.62 (22.36)	62.54 (22.27)

## Appendix 5: Wellbeing

### Wellbeing vs. Gender

Gender	2021	2022
	Wellbeing score M = 58.34 (SD=19.97)	Wellbeing score M = 63.19 (SD=19.21)
Female	57.14 (20.54)	61.3 (19.26)
Male	59.26 (19.53)	64.71 (18.9)

### Wellbeing vs. Age

Age in years	2021	2022
	Wellbeing score M = 58.34 (SD=19.99)	Wellbeing score M = 63.37 (SD=19.01)
18-24	57.27 (19.73)	61.33 (16.19)
25-34	51.53 (18.53)	61.49 (18.12)
35-44	55.28 (20.72)	57.27 (20.63)
45-54	57.7 (19.59)	62.82 (19.67)
55-64	63.21 (19.09)	67.31 (14.89)
65+	62.29 (19.84)	65.67 (21.35)

### Wellbeing vs. Sport participation type

Sport type	2021	2022
	Wellbeing score M = 58.49 (SD=19.87)	Wellbeing score M = 63.34 (SD=18.99)
Land sports	59.47 (19.37)	63.04 (18.88)
Water sports	55.75 (20.98)	63.97 (19.41)

### Wellbeing vs. Disabled/Non-disabled

Lives with a disability?	2021	2022
	Wellbeing score M = 58.31 (SD=20)	Wellbeing score M = 63.36 (SD=19.01)
Yes	44.58 (21.97)	59.11 (26.05)
No	59.44 (19.42)	63.7 (18.49)

## Appendix 6: Access

*Experienced an issue concerning access to natural environment when participating in outdoor sport*

Experienced access issue?	2022
Yes	202 (46.5%)
No	232 (53.5%)

Citation: Sellars, P. A., Walklett, J. & Crone, D. (2021). Understanding outdoor sports participants' motivations and connectedness to nature in Northern Ireland: 2022 Update. Centre for Health, Activity and Wellbeing Research, Cardiff Metropolitan University, UK.



Cardiff  
Metropolitan  
University

Prifysgol  
Metropolitan  
Caerdydd

cawr

Centre for Health, Activity  
and Wellbeing Research

cyigll

Canolfan Ymchwil ar gyfer  
Iechyd, Gweithgarwch a Lles

