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'I get headspace here… you forget everything when in open water': motives for participation and perceived benefits derived from open water swimming: a rapid ethnographic study

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ABSTRACT

Interest in open water swimming (OWS) has experienced a surge in participation in recent years, with over four million people in the UK reportedly taking to the water in a variety of settings. This study investigated the motives behind engagement in the sport as well as perceived health and wellbeing benefits. A rapid ethnographic methodology was employed, in which a field researcher, who kept a reflective diary, also conducted semi-structured interviews with 17 swimmers ($n=11$ female, $n=6$ male, mean age 52.7 years). Five main themes were identified: motives for engagement/continued participation; the uniqueness of OWS experiences; perceived physical and psychological health benefits; blue and green exercise comparisons; and the utility of social interactions. Core motives focused upon nature connectedness; health outcomes; training for performance; cold-water experience; and self-actualisation. The perceived physical and psycho-social benefits reported by participants appeared to be mediated by numerous influences, including: the restorative and stress reducing natural environments; social interactions; personal challenge; and the 'highs' of cold-water immersion - and moderated by factors including access issues; extent of social support/networks; perceptions of safety; and levels of competency. Participants also highlighted substantive differences in benefits derived from OWS compared to green exercise alternatives. The study provides useful insights for relevant health practitioners that might inform potential social prescribing initiatives. Facility operators, who manage open water venues such as the one featured in this study, and swimming coaches at these venues, can also better understand how they can tailor services more appropriately to meet participants' needs, thus enhancing the overall quality of the OWS 'offer' and infrastructure.

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Introduction

Open water swimming (OWS) refers to the act of swimming in outdoor environments such as rivers, lakes, and sea. OWS has seen substantial growth in recent years with the most recent estimates showing that in the UK alone, between 2021 and 2022 > 4 million

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people participated in the activity (Swim England 2019) including 2.1 million swimming exclusively in 'wild' settings (lakes, lochs, rivers, and sea). The latest figures suggest a 65%/35% split in respect of female to male participation (Outdoor Swimmer 2021). The popularity of this activity is intriguing given the fact that there are very real risks and discomforts associated with OWS (Tipton and Bradford 2014). These include environmental dangers such as underwater obstructions, tidal conditions, wind chill, cold-water shock and potentially drowning (Tipton and Bradford 2014). To date, there have been few attempts to uncover motives for participation in, and the perceived benefits derived from this potentially hazardous activity. This investigation therefore aims to add to the limited corpus of literature on this topic.

OWS can be considered as a form of Blue Exercise (BE); that is, a physical activity performed in Blue Space (BS) areas where water and sky are prominent features e.g. natural surface waters including sea, rivers, lakes (Murray and Fox 2021). It has long been known that mere exposure to such natural environments can have a positive impact on health and well-being (Leavell et al. 2019). Numerous theories have been proposed to explain this relationship (Capaldi et al. 2015). Stress Reduction Theory (Ulrich et al. 1991) posits that exposure to natural environments, particularly those that are void of noise, air pollution and crowds, will automatically elicit a variety of stress reducing psychophysiological responses. It is claimed that such responses are evolutionarily beneficial for wellbeing and survival (Joye and van den Berg 2011). In a similar vein, according to The Biophilia Hypothesis (Kellert and Wilson 1993) in our evolutionary past, wellbeing and survival depended on connecting with nature (e.g. for food, protection, and navigation). As such, humans retain an innate need to 'connect to nature' (CTN). Alternative theories that do not necessarily make assertions about evolutionary ties have also been proposed. The most frequently cited is Attention Restoration Theory (Kaplan 1995). This is the idea that natural environments can provide a break from the more chaotic urban areas, offering pleasant stimuli that divert attention away from life stresses and the need to constantly monitor one's thoughts and behaviours. Similarly, experiences with nature can increase our well-being by providing a stage to satisfy basic psychological needs such as competence, relatedness, and autonomy. This leads to increased eudemonic and hedonic wellbeing and feelings of transcendence (Passmore and Howell 2014; Pritchard et al. 2020).

Despite there being no unified theory to explain the positive reactions associated with nature, many of the tenets described do manifest from discussions about OWS. Murray and Fox (2021) for example, highlight 'immersion in nature', 'shared experience' 'emotional cleansing', 'connection' and 'mental strength' as being common themes amongst open water swimmers. Likewise, Denton and Aranda (2020) interviewed participants as to their perceptions of sea swimming and found themes such as 'transformative' (changes in mind, body, and identity); 'connecting' (a sense of belonging to nature, place, and others; and 're-orientating' (disruption to the sense of time, space, and body). There is little doubt that part of the appeal of OWS relates to its environment. However, there are a myriad of other factors that might make this atypical exercise form particularly beneficial.

It has been shown that being physically active in the natural environment can have an addictive effect in terms of health and well-being (Jenkins et al. 2022; Christie 2022). Indeed, physical activity undertaken in natural settings is positively associated with mood enhancement and emotional well-being – reportedly more so than from undertaking physical

activity indoors (Gladwell et al. 2013; Thompson Coon et al. 2011; Kajosaari and Pasanen 2021). It is such findings that have led to the increased interest in Green Exercise (GE). Given the parallels with BS and BE, it might be assumed that participation in OWS would merely reflect such outcomes. However, there is a growing belief that BE might offer something unique (Foley and Kistemann 2015; Britton et al. 2020; Thompson and Wilkie 2021) and in fact be superior to GE (Haeffner et al. 2017; Grellier et al. 2017; White et al. 2019; Loureiro et al. 2021). For example, Nutsford et al. (2016) have also shown BS to have a greater effect on positive mood states than GS, whilst Thompson and Wilkie (2021) reported BS to provide more positive social interactions, greater challenges, and higher levels of escapism in comparison to GS.

Explaining this potential, BS can provide different sensory experiences to GS (e.g. soundscapes, underwater fauna and flora, sensation of water immersion). In addition, OWS, a form of BE, has been shown to be particularly effective at improving cardiovascular, pulmonary, and muscular health; body composition; and psychological well-being (Tanaka 2009; Moffatt 2017; Stubbs 2017). As regards the latter impact, McDougall et al. (2022) highlighted how resilience is promoted through the challenge of BE in the form of loch swimming, equipping wild swimmers with the emotional strength to cope with life's stressors. The act of being in the water might also have positive consequences. Water immersion as a form of aquatic therapy has a long history and has been found to provoke many positive effects, due to properties such as water density, viscosity, hydrostatic pressure, buoyancy, and thermodynamics. Beneficial impacts include effects upon physical systems (cardiopulmonary, respiratory, musculoskeletal), decreased pain perception, greater relaxation, and enhanced mood states (Becker 2009; Broach and Dattilo 1996). Water temperature has also been found to mediate reactions, with cold water temperatures having a greater influence on the endocrine and immune systems and mental health (Knechtle et al. 2020). In addition, the fact that OWS is often performed in groups can lead to increased social interaction and thus social connectedness (Pouso et al. 2021), which again can have a positive impact upon health and well-being (Leavell et al. 2019).

In summary, exposure to nature in itself can provoke numerous mental and physical benefits (Christie 2022). It also appears that being physically active in natural environments can increase these responses. This has led to an increased awareness of the need to connect with nature. However, to date, the focus of much of the research into this area has been towards GS and GE; this might, in part, be explained by the fact that BS has often been classified as part of GS (Taylor and Hochuli 2017). We have argued that BE and in particular, OWS might provide some unique benefits that are not gleaned from other exercise forms. This investigation will therefore build upon the study of Thompson and Wilkie (2021) by focusing specifically on OWS as a form of BE. Adopting a qualitative approach, the current researchers interviewed open water swimmers with (1) the aim of understanding why they engage in this atypical form of exercise; (2) what the perceived benefits associated with OWS are; and (3) how these might compare to other exercise forms (gym-based activities, GE). It is hoped the results will provide useful insights pertaining to OWS and be of use to a range of relevant practitioners and provide an in-depth understanding of what factors make this mode of BE popular and how it might offer unique benefits.

Location

The lake which formed the base for the study - a former quarry site - offers both OWS and scuba diving opportunities. It is located in the North-West of England. 'Spotters' for swimmers are mandatory, whilst tow floats are strongly recommended. The lake temperature varies between 5 and 10 °C in winter months, to between 11 and 21 °C in spring/summer/autumn (Figure 1).

Method

Given the need to gain deep insight into open water swimmer experiences, this study adopted a rapid ethnographic approach (Vindrola-Padros and Vindrola-Padros 2018; McNall and Foster-Fishman 2007). As befits ethnographic enquiry, the field researcher kept a reflexive diary, logbook and photographs of the site and participants (with appropriate consent) - although participant testimonies are given more prominence in the subsequent commentary. The field researcher (male), a regular OWS participant with a year's experience and membership of the lake, also swam with the participants over the course of four months at least twice a week.

Ethical approval for the study was obtained through the university's ethics committee, and a full on-site risk assessment completed.

Participants

Seventeen swimmers (6 male, 11 female) with a minimum of six months' experience of OWS, aged between 29-68 years (mean age = 52.7yrs, with F = mean age 51.3, and M = mean age 55.3), were recruited to the study (Table 1). Only one (male) was aged under 40 years. The participant male-female ratio was observed to be representative of lake users during field research visits and is consistent with a major survey that found 65% of outdoor swimmers are female (Outdoor Swimmer 2021). Participants were attributed pseudonyms to promote anonymity and were provided with full information about the study prior to giving consent to take part. All had the option to withdraw at any stage, but none chose to do so.

Interviews

Data was recorded by means of digital audio recording devices, later transcribed verbatim by the first author (the swimming 'insider', MC). Although, as Foley (2015) suggests, some

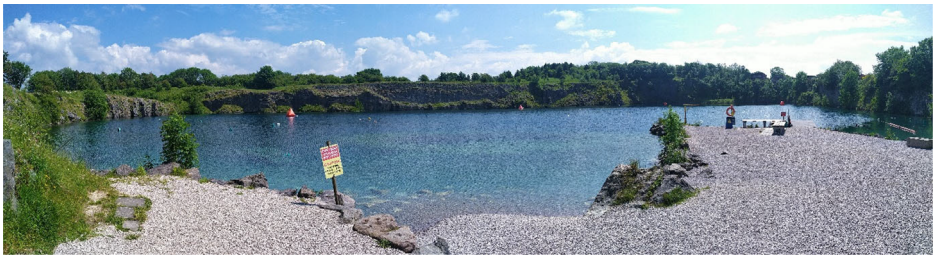

Figure 1. The former quarry 'lake' swimming venue.

Table 1. Swimmer profiles.

Name (pseudonym)	Age	Gender identity	Marital status	Occupation/retired	OWS experience (years)	Proximity to OWS location
Jeff	64	M	Married	Engineer	4+	<2 miles
Kate	48	F	Married	Counselling Psychologist	4+	<2 miles
Sue	47	F	Married	Sports coach	35+	<9 miles
Gary	68	M	Single	University Professor	5+	<5 miles
Jason	29	M	Single	Ecological Scientist	4+	<2 miles
Sylvia	62	F	Married	Nurse	14+	<10 miles
Kirk	60	M	Married	Lecturer	1+	<18 miles
Tina	43	F	Single	Unemployed	4+	<30 miles
John	52	M	Married	Manager	3+	<40 miles
Anja	43	F	Married	Caterer	3+	<40 miles
Simon	59	M	Married	Engineer	20+	<10 miles
Jessica	40	F	Married	Teacher	4+	<12 miles
Sally	69	F	Married	Retired lecturer	50+	<3 miles
Lucy	52	F	Married	Business analyst	6 months	<50 miles
Jackie	47	F	Married	Unemployed	1+	<8 miles
Paula	49	F	Single	Unemployed	6+	<8 miles
Martha	64	F	Married	Retired	3+	<7 miles

swimmer testimony can become 'banal' and fail to 'provide useful evidence', it was the view of both researchers that largely rich and relevant data was obtained through the interviews. The semi-structured interview script (Figure 2) was initially piloted with one participant. All interviews were conducted at the lakeside either before or after participants had swum, with a view to evoking more representative participant narratives *in situ*. Interviews had an average time of 31 min. Participants were encouraged not only to review their experiences at the lake, but also in other OWS contexts, and to reflect upon their personal OWS histories.

Data analysis

Data analysis followed the process devised by Braun and Clarke (2019) for thematic analysis – specifically, data familiarisation, coding, and generating themes; then reviewing themes, defining themes, and finally writing up. This involved both the 'insider' field researcher (MC) and 'outsider' university-based researcher (DE) identifying patterns and themes in the data independently. As such this enabled both an emic and etic perspective on the contextual data obtained. As recommended by Smith and McGannon (2018), having an independent eye on the data throughout the analysis, provides a benevolent, critical eye on the initial interpretations of the field researcher, who is ostensibly more closely identified with both the data collection process and participants. Therefore, initial interpretations by the field researcher were held up to appropriate scrutiny, enabling introspection by the field researcher into his own assumptions as an open water swimmer (albeit relatively inexperienced compared to many of the interviewees).

In the initial stage, both MC and DE read the transcripts (previously recorded and transcribed by MC), to become familiar with the data sets and seek out initial trends. This was undertaken three times across a two-week period for enhanced familiarisation, before both researchers compared notes. The coding stage adopted both a data driven (e.g. 'friendships', 'equipment', 'locations', 'seasonality', 'participation', 'performance'), and theory-driven (e.g. 'restoration', 'stress reduction', 'nature connectedness', 'social capital'), process. As Liamputtong (2009) notes, this typically involves using short codes to capture the salient, evocative, and essentially striking elements of language-based data, including some '*in vivo*'

1. What open water environments do you use (prompt: lakes, lidos, outdoor pools, sea, rivers?) Why? If more than one, which is your preferred environment?
2. Why did you start open water swimming (OWS)?
3. How long have you been doing OWS?
4. Did you have OWS lessons before you started? Why?
5. How often do you swim outdoors?
6. Do you swim all year round (or at what times of year do you do OWS?) Why then?
7. Do you swim indoors too? If so, which do you prefer, and why? Do they both give you the same benefits?
8. Do you OWS alone, or with others? Why?
9. If with others, would you contemplate doing OWS alone? Why/why not?
10. Do you prefer wearing a wetsuit or a swim costume when doing OWS? Why?
11. Did you take up OWS to enhance your health, or for other reasons?
12. If you have a medical condition, does OWS make any difference to managing it?
13. Have you noticed either short term or longer-term impacts upon your health status since starting OWS? (Prompt: physical, mental, social, sleep, weight control, PA levels…)
14. We tend to assume OWS is always likely to elicit a positive experience. Is that the case for you?
15. Does it make you feel better about yourself? In what way?
16. Are there any circumstances where your experience is a negative one or less favourable one? Why? When?
17. How would you describe the OWS experience? Prompt: what specific words (as many as you like) would you use to describe it?
18. How safe do you feel when you do OWS?
19. Has participation in OWS led to you becoming more generally physically active, maintain your PA levels, or even led to a reduction in other modes of PA?
20. Do you also participate in green exercise (e.g., trail running, cycling, hiking, horse riding) in settings such as parks, woodland, countryside? If so, how does GE participation compare to OWS in terms of experience?
21. If you were to persuade someone to try OWS, what would you say to them?

Figure 2. Questions used in the semi-structured interviews.

codes (Charmaz 2006). This began with semantic coding of participant OWS experiences, which recognised the explicit meanings interviewees ascribed to their experiences. Subsequently, a latent focus, informed by existing theoretical concepts such as Attention Restoration Theory (Kaplan 1995), was utilised to assist with the coding of the data sets. Thirdly, codes were grouped into relevant themes. In the fourth and fifth stages, following discussions between MC and DE, core themes were confirmed, which later informed the subsequent, and final stage of developing the analytical narrative, thus promoting both rigour and trustworthiness (Nowell et al. 2017).

Thus, the study embraced an inductive approach, generating meaning through detecting themes and patterns in the data. Whilst this is typically associated with potentially developing new explanations or theory, an inductive approach can still review and explore existing theoretical constructs to help propose both the research emphasis (as in the introduction) and assist with focused data analysis (Saunders, Lewis, and Thornhill 2012). Such a process leads to reaching appropriate conclusions, establishing new theory, or refining existing theory. Therefore, the themes were developed through an active engagement with relevant theory to effectively interpret the findings. Whilst this suggests an approach that simply progressed through various stages, in reality it involved revisiting different stages of the analytical process (Liamputtong 2009) to promote confirmability and dependability, leading not only to evaluating data in respect of existing theories, but also identifying potential new theory or explanations (as in Theme 2: Uniqueness).

Further, the discussions between the insider and outsider researchers facilitated an appreciation of other relevant theory (including self-determination theory) as well as acknowledgement of potential mediating and moderating influences emerging from the data (for example, underpinning perceived beneficial impacts). Thus, knowledge was constructed through a merger of the meaning-making process identified above, but also the reflexive approach consistent with ethnographic methodology.

In addition, transcripts were offered to participants to further promote confirmability and dependability (Lincoln and Guba 1985; Xerri 2018), and a poster of initial themes with examples drawn from the transcripts was also provided. Thus, *via* all the processes identified above, triangulation of data was promoted throughout the research process (Johnson et al. 2017).

Results and discussion

Five core themes were uncovered from the data as noted in Diagram 1 in keeping with an inductive approach to the research study. These map directly to the stated aims of the research noted above – for example, all five themes provide evidence to facilitate an understanding of (Aim 1) why participants engaged with OWS (e.g. hedonism, challenge, health, social interaction, greater nature connectedness, perceived lower risk of injury). Similarly, in terms of identifying (Aim 2) the benefits derived from OWS (e.g. physical/mental health dividends, personal agency enhancements, new social networks, transition from GE due to health issues, cold water immersive properties assisting specific conditions). Finally, each theme (but in particular theme 5), provides useful insight into (Aim 3) the comparisons between OWS as a form of BE, and GE experiences (e.g. new challenges, invigorating effects of OWS, the 'headspace and freedom OWS provides, supportive community of swimmers, calming influence of OWS).

In addition, numerous influences – essentially mediating and moderating factors - were identified as possible mechanisms for the perceived health benefits. Whilst these were not subject to any form of mediation analysis, this could be a useful focus to investigate further in future research.

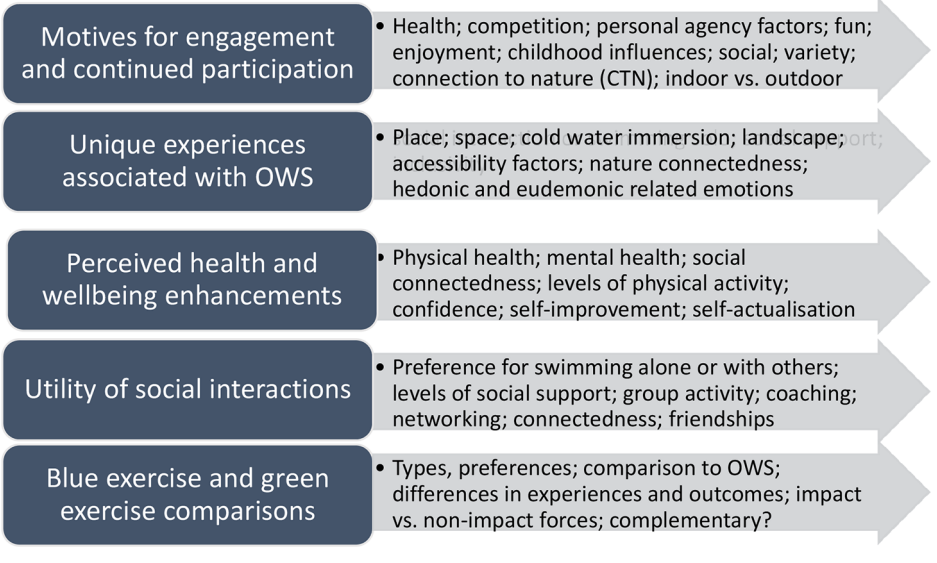

Diagram 1. Core themes with Sub-theme examples.

Theme 1: motives for initial engagement and continued participation

OWS can be a potentially dangerous and uncomfortable activity given that it is performed in 'wild' environments and void of many of the amenities and safety features associated with more traditional forms of exercise (e.g. indoor-based gym activities). We therefore questioned participants as to what made them consider OWS. Many enjoyed swimming as an activity, but found indoor pool swimming to be less attractive: e.g., frustrating, monotonous; too 'busy' or 'crowded'; its artificiality, including chlorination; and anxiety caused by a perception of being 'in other swimmers' way' (whether as a superior or inferior swimmer):

> '…you're just swimming up and down aren't you, it's pure exercise, it's like running on a treadmill compared to running outside…whereas here you can get away from people, I mean even when it's busier, there's no one right next to you, I mean in the pool you get bumped into, you've got to look where you're going, you can't go from A to B without having a diversion (to make)'. (Martha)

This was echoed by Jeff:

> '…there's something about the fresh air, it's not just the scenery, and there's nature, and it's also the cold, and there's no chlorine! Chlorine would irritate my skin, so it's just really nice not to have that worry in the outdoor environment'.

There were also mentions that OWS provided a new challenge and sense of adventure, for example:

> 'I think it was doing something else over what I'd already done, like I'd done it in the pool, and then the (coach) invited us down, and I thought 'yeah why not?' as I'd never done it before, I'm not normally the most adventurous, only now as a 29-year-old, so it was like 'yeah go on, you can be adventurous about this'. (Jason)

> '…when I retired I had so much more time, and I thought there's got to be more to swimming than going up and down a pool, all the up and down, up and down, and I thought 'there's got to be more to swimming than that', so I decided to try OWS'. (Martha)

And Kirk, who suggested in his testimony a competence motivation and self-determination driver behind his engagement:

> 'I was looking for something new, having had to give up my beloved running several years ago due to hip pain, and had a hip replacement, so yeah, I was looking for something new: new and exciting, and so OWS was the option I went for. It just felt instinctively right, outdoors, in nature, that exhilarating feeling of being in the water, but the challenge that comes with it.'

In a similar vein regarding competency, some who had been hitherto dedicated cyclists or runners were now stretching themselves to become all round, competitive triathletes:

> 'I was a non-swimmer until 2015, so, um, we actually met through running, I can't swim and Anja can't ride a bike, so we decided to do triathlon, that's how it all started, so I've had quite a few freaks out in swimming pools and like 'ooh I can't touch the bottom' and such like, but it got easier outside, as I could trust the wetsuit, and because of the coaching bit of like this.' (John)

John referenced how through swimming with two swimming 'buddies' he had now brought his open water swimming standard up to a similar competency compared to his

cycling and running, after much 'hard work'. He was now regularly swimming between one and two miles, which had also provided a significant boost to his confidence levels, leading to his debut in an open water sprint event.

Whilst it is recognised that the value of Maslow's Hierarchy of Needs model (Maslow 1943) has been questioned (Loh, Schapper, and Wrathall 2000, 3), many still recognise its strength in being able to explain human motivations (e.g. Gorman 2010; Aruma and Hanachor 2017). Indeed, the key tenets of this theory did emerge from the discussions. There were numerous references to swimmers' participatory and performance-oriented goals ('self-esteem', 'self-actualisation') – in some cases supported by seeking out qualified coaches for individual or group-based lessons to enhance technique and confidence in open water contexts; social aspects ('love and belonging') and the desire to enhance personal health ('safety needs'). Notable drivers reflected a broader participatory or performance related motive (Tipton and Bradford 2014), including 'scenery', 'non-impact', 'fitness', 'self-improvement', exercise'; and: 'training', 'competition' (Figure 3), influencing preferences for location, clothing, and seasonality of participation (swimming all year round or only in warmer months). Some swimmers were ambitious, entering long distance swims in lakes or sea, whilst others restricted themselves to non-competitive contexts, or indulged in 'entry level' events – or simply valued the social experience (including just 'dipping' in colder months). Those wearing wetsuits were more likely to be involved in events (wetsuits offering up faster times as well as the extra buoyancy) and developed a well-honed preference for front crawl as a stroke. These nuanced differences in respect of factors including clothing choices, favoured stroke, BS preferences, participation/performance orientation and seasonality - suggest different 'tribes' exist within the OWS community, whilst OWS itself acts as the all-encompassing, shared connection, as noted recently by Bates and Moles (2022).

Regarding self-esteem and self-actualisation, the reported 'challenge' of OWS participation extended to the recollection of adventurous experiences, including Kate and Jeff who had 'a really lovely swim one January in Coniston':

Figure 3. Key motives in word cloud format.

> '…it was shockingly cold (4C), and there was quite a strong current we weren't expecting, so it took us about 45 minutes to get there and 25 minutes to get back… but we like doing those sorts of challenges, like it's 'let's see if we can push it quite hard' really, and when you come back from something like that you just feel like 'epic'! (Kate)

As a potential influential factor on present day experiences, Rosa, Profice, and Collado (2018) and Thompson, Aspinall, and Montarzino (2008) suggest there is at least tentative evidence supporting the notion that adult connection to nature, and the development of pro-social behaviours, has its roots in significant levels of positive interactions with nature during childhood. The testimonies from several OWS participants appeared to add weight to this limited evidence, including Sue:

> 'I've swum practically all my life. I've swum since I was seven, so, I don't know, I've swum indoors and outdoors, for as long as I can remember, and now it's my job so… (laughs)… I swam competitively as a kid, to a good level, and when you're on holiday you're always in the water, and now all that's called wild water or open water swimming, whereas to us it was just like going swimming in a river'.

Relating back to childhood experiences might also induce positive, hedonic feelings in the current day, such as excitement, adventure, sense of freedom, and simple pleasure (Suszek, Kofta, and Kopera 2019):

> '…rekindling how they might have felt as a child going into the sea and stuff, so that's nice from that point of view.' (Sylvia)

As such, childhood memories may be a plausible moderating factor influencing contemporary participation and the felt health benefits that are recognised to flow from such engagement.

Theme 2: uniqueness of OWS as an experience

OWS was frequently considered to offer 'fun', 'relaxation', 'self-improvement', 'challenge', 'adventure', 'sense of achievement', 'headspace' and 'connection to nature'. Hedonic and eudemonic terms were also repeatedly used, including 'excitement', 'exhilarating', 'invigorating', 'freedom', 'pleasure', 'amazing' and 'enjoyment'. The perceived health benefits of 'cold water immersion' was a key attraction for some, including offering up regular socialisation opportunities, whilst others regarded it as more of a personal challenge to 'overcome'. By comparison, Wood et al. (2022) found OWS participants highlighted core motives around freedom, fun, physical health, mental health, nature connectedness, love/addiction for OWS, social connectedness and providing memorable experiences. As such, testimonies here not only referenced 'affect' (in terms of a broader sense of feelings and experiences – akin to emotional weather) but also specific emotions (more intense, short-term feelings focused upon a specific source, such as a setting, action, or consequence).

More specifically, there was strong consensus over how OWS nurtured a valued connection to nature (CTN), with references to many features from the more general aesthetics of landscape, different forms of flora and fauna (above and below the water), the elements (wind, sun, currents, mist, rain) and the sensation of the water, enhanced (and enjoyed) when not wearing a wetsuit. Such an innate affinity for nature – as posited by evolutionary theories such as the Biophilia Hypothesis - was expressed in many ways by respondents,

for example Tina evoked several senses and factors in her account of utilising the study location in respect of CTN. The setting held both meaning and a sense of belonging for her, essentially a partnership of swimmer and lake, derived from what Spinney (2006) describes as the 'embodied rhythms and kinaesthetic sensations' (in his study, between cyclists and place):

> 'Swimming at (this lake) especially is very peaceful. There's not a lot of loud noise…as you're swimming you hear the sound of the water lapping, or rhythm of the people swimming front crawl, the birds… it smells natural - as opposed to chlorine and chemicals in pools…you feel the breeze on your face, or the sun. The temperature isn't artificial - I get too hot in swimming pools and afterwards in the changing rooms. I have autism too, so the sensory side is a big deal for me and it's really rare to have a public environment that suits my sensory needs and is peaceful and relaxing.'

Participants had all accessed at least two types of OWS contexts. Typically, these involved the study lake, which Sue regarded as 'a bit like a huge open air swimming pool' and/or similar venues that offered opportunities (mostly payable). Whilst the lake was considered an attractive, accessible OWS venue - for numerous reasons including safety measures, shallow entry, temperature, amenities, on-site coaching - some felt it was a 'less than natural' physical asset because of this, and its status as a former quarry:

> 'I like it, but it's almost too structured, whereas you go to the [Lake District], and you can just go on your back floating, looking up at the sky, and turning around looking at the scenery, and that's when it's really peaceful.' (John)

However, respondents still felt largely connected to aspects of nature whilst swimming, whether these were noticed in the water, or when relaxing post-swim. Despite the apparent 'human' influences upon place, Martha appreciated the safety, access, and amenities the lake afforded:

> '…I prefer the natural environment, but this lake has got its advantages, like the safety aspects, and if you want to go for a lap, like a 500m or 700m, you know exactly what you're doing, and it's handy, and you can get chips!'

More generally, swimmers highlighted how they experienced CTN in other environments they used, particularly 'wilder' locations such as mountain tarns, the bigger expanses of water in the Lake District, rivers, and sea, this perhaps reflected in the assertion that there has been a contemporary resurgence of a desire to 'reconnect' with nature, whether through GE or BE activities (Denton and Aranda 2020; Gould, McLachlan, and McDonald 2021):

Jason differentiated the locations he used - rivers for more of a social, 'chilled out' swim; the lake for training; and the sea for the challenge it offered. Gary, as with others, contrasted his competitive motives for utilising the lake's training features (a set course) with the more relaxed interaction he derived from the natural landscapes and waters of the national park:

> 'I love swimming in the (Lake District), but here is fantastic for training. I'm principally interested in triathlon training, and it's brilliant for that… the course, the water is so clear, it's pretty quiet, there's parking, a café, it's sheltered, the water's never rough, even on a windy day. So… this is a favoured spot.'

Numerous factors in relation to place and related experiences within, both positive and negative – for example accessing BS - were identified across the testimonies. These included

issues pertaining to personal anxieties and confidence/competency and were related in most cases to specific environments. For example, sea swimming provoked a mixed response in terms of participation: some enjoyed the extra 'challenge' provided by 'choppy' conditions; others found such conditions intimidating. Those with a preference also referenced the buoyancy offered by the salt water that negated the need for wetsuits, offering an extra sense of freedom. Kate, meanwhile, unlike her partner, found the sea often offered up unwanted 'surprises', including jellyfish, despite fondly recollecting childhood experiences of swimming in the sea. Tina contrasted the difficulties of accessing other settings such as river swims to the 'perfect' access she experienced at the lake.

Similarly, whilst most had dabbled in river swimming, and enjoyed the different experiences it offered as an OWS context, some were concerned by a range of biophobic factors that could undermine their enjoyment (Haeffner et al. 2017). Wood et al. (2022) identify these as 'ecosystem disservice indicators', including pollutants and sewage in the water source; dangerous currents; difficulties in accessing rivers due to slippery slopes; hidden underwater obstructions; and bites from insects. Whilst swimmers recognised some of these issues when accessing open water, the consensus was the benefits outweighed any negatives, for example, Sue suggested a subject-place rhythm (Spinney 2006) to her experiences of river swimming:

> '…I like the changes you get with the river, the different currents…I like going with the current, and against, it just gives you something different to just plain water…it teaches you to swim properly, to go against you have to be efficient (and) streamlined, you can't fight it, so it's a skill…and then you have the fun of a good ride back down!'

The study setting has the reputation of offering some of the clearest water conditions in the UK, which was viewed as an attractive feature for the majority of those interviewed. Surprisingly, this was not universally seen as a good thing, in that some swimmers including Lucy found it promoted a degree of anxiety, prompted by seeing underwater objects, water fauna/flora, or the bubbles produced by the oxygen cylinders of the divers beneath them:

> 'I brought goggles with me today to see if it would make me feel any better. But I went in and took them straight off because I don't want to see!'

Although Gary was initially perturbed by seeing objects such as the buoy ropes and divers, he had managed to overcome that inhibition after repeat visits to the lake:

> '…when I get to the buoys, I don't like looking down at the rope, so yeah, I don't like the clear water. I prefer not to look too far down, and yeah, I didn't like [divers' air bubbles] at first, but I've got used to it now.'

Although CTN is considered by many researchers as promoting restorative and stress-reducing effects, it can also evoke 'scary' images and thoughts, an issue noted by Mcphie and Clarke (2018) in their critique of defining 'nature'. Whilst some enjoyed seeing fish in the lake, for example, others found this caused anxiety, even if light-heartedly so. Several mentioned (unprompted) the notorious sturgeon that inhabited the lake, reputedly eight feet in length, and nicknamed 'Big Bad Barry', which for Tina was the only thing that held any trepidation:

> '…apart from that blasted sturgeon (laughs) I feel super safe! Honestly, I shit my pants with it!'

Driving up to 80 kilometres to an OWS opportunity, whilst it did not deter people, did nonetheless impact upon participation frequency. Wood et al. (2022) found that of >500 online survey respondents, approximately half travelled from within 20 km of their local OWS venue. In this study, 12 of the 17 interviewees were located within 20 km of their nearest setting, affording regular participation. Whilst cost might mitigate against higher frequency, the benefits outweighed the cost for Paula, despite being unemployed, who, during Covid restrictions, spent £18 a week to attend the lake three days a week, as 'I wasn't spending money on anything else, and it really helped me'. Jackie, Paula's swim partner, also felt that familiarity with the venue gave her the confidence to occasionally attend by herself, and had also benefitted, like others, from regularly swimming with a group. Whilst entry fees, travel distance and cost of OWS apparel such as wetsuits was not notably an issue with the swimmers, Hunter et al. (2022) highlight that people most in need of accessing GS and BS settings - living in deprived areas, at risk of income and relatedly health inequality - are typically disadvantaged due to therapeutic spaces being 'less extensive, poorer quality, and inaccessible' in these communities.

Theme 3: perceived health and wellbeing enhancements

Physical or mental health-related factors, for most, was a key driver for participation, as well as the social element. As Foley (2015) notes, swimming has historically been associated with promoting 'active' health dividends, whether described as healing impacts, or illness recovery. Almost all respondents highlighted the therapeutic influence of BS contexts and OWS in respect of physical health, mental health, or both, including relaxation, stress reduction, enhanced mood states and attention restoration, and some notable effects upon medical conditions including migraines/headaches, fibromyalgia, blood pressure, dyspraxia, and musculo-skeletal pain. Two swimmers referenced how fibromyalgia was eased through OWS whilst Kate suggested OWS had cumulatively improved and/or managed multiple conditions:

> '(It helps my) headaches and migraines, and it's normalised my blood pressure, I think it's just general wellbeing. The headaches – that's the big one. But I think there's complicated reasons as to why I get migraines, there's probably several triggers, OWS doesn't get rid of them, but there's certainly less of them.'

Gary suggested however that health was a more indirect element driving his interest, which was more focused upon improving as a veteran GB triathlete. As with others, Gary spoke of the water offering relaxation, a diversion, and a chance to reset - although the relaxation element took a back seat when he was racing or training hard for specific events. Under these circumstances both the physical and psychological load meant that the experience was 'very hard' but ultimately still very 'positive' and 'satisfying'. John cautioned that taking his swimming too seriously might 'erode' the wellbeing he derived from OWS, thus compromising the 'freedom' and 'relaxation' he associated with the activity. Jeff more critically noted that now his occupation was less strenuous, OWS offered a chance to make up a physical load deficit:

> 'I think if I had a physical job, I might be less interested in the swimming. I used to have a physical job, and I wasn't much good for anything after that! Physical jobs knacker you out…

I used to get my strength from using tools. The physical job meant I didn't put on weight. I don't think swimming would have made much difference to me (then).'

Several spoke of how CTN was a key factor in promoting better mental health, as noted previously in many studies, including Mantler and Logan (2015), and confirmed by a recent survey that showed 70% of swimmers felt OWS was either essential or important to their mental health (Outdoor Swimmer 2021). Further, the mental health dividend appeared heightened through cold water immersion, including the 'high' experienced with cold water swimming (Srámek et al. 2000), and its addictive properties:

'I always sleep better after an OWS…it's very positive for me…I miss it if I can't get for a swim, I like to think when I retire full time, I'll find more time to swim, so that's my aim, to up the distances.' (Sylvia)

Many valued the opportunity to switch off and have some 'me time' whilst swimming: a chance to 'escape', evoke a sense of freedom, reset, and restore themselves, as suggested by Attention Restoration Theory (Kaplan 1995). This process can help individuals mentally refresh themselves before re-engaging with responsibilities and sources of stress in their lives – Sue contrasted how she can do this outdoors far more than indoors:

'I don't get the headspace in a pool that I do out here. I don't get out of the pool and get that feeling of 'ahhh, that was nice' and the headspace. When I'm in open water, and it probably sounds awful, but I don't have a phone, I don't have emails, I'm not a mum, I'm not a wife, I'm not running a business, I'm just on 'time out' - I don't get that in a pool, a lot of people approach me in a pool, because they know what I do, and my daughter might be over there, and my phone's in my locker, buzzing… you forget everything when in open water.' (Sue)

Similarly, as posited by Stress Reduction Theory (Ulrich et al. 1991), there was a strong emphasis upon OWS as offering a chance to relax, unwind, and promote calm. For Jason, he tackled his darker days by channelling his training and competitive ego:

'I've noticed that all the time when these [mental health] conditions have affected me, I've found that actually going out to train…it forces me to get out doing something, keeps me active, because I can withdraw quite easily, so it's [OWS] almost forcing you to meet other people, [and] stops me being a miserable git!'

There was universal support for mental health enhancements, whether felt profoundly or less extensively, although there was some variation in how long lasting the mental boost or 'tonic' of OWS persisted post-swim. For example, Kate and Jeff felt the benefits typically lasted a day 'or so' but more frequent visits kept them 'topped up'. Most referred to a temporary mental health boost of between 6-48 hours. In contrast, for Tina, although the relaxation and stress relief started as soon as she got in the car to drive to the lake, the mental health benefits quickly dissipated when she returned to her 'daily grind' and she wished that 'the buzz would last longer'. Evaluating the longevity of beneficial effects was noted as an issue previously with GE research (Gilbert 2016), and so further research in respect of BE and BS is therefore an important future consideration, particularly where potential investment in social prescribing initiatives will demand such evidence.

As the local swim coach, Sue felt she had a role to play in supporting people going through difficult times. As such, she was often offering 'more counselling than coaching sometimes'. She added that whilst some presenting with mental ill-health were still reliant on medication,

'…some have reduced, or come off completely, and that's amazing, how people feel that good from OWS'. Beneficial impacts on mental health have also hitherto been noted by Denton and Aranda (2020) and Foley (2015, 2017) in studies of sea swimmers, and by McDougall et al. (2022) with loch swimmers.

Numerous plausible mediators and moderators behind self-reported health benefits were identified from participant testimonies (Figure 4). Mediating influences (the 'why') included the perceived restorative qualities of blue contexts; nature connectedness; the perceived boost ('buzz') from cold water immersion; social interactions fostered through shared OWS experiences; and the networks that people access to facilitate opportunities. Personal agency elements relating to self-actualization appear to be important influences. Moderating factors, that either strengthen or weaken potential impacts on health, generally related to access issues, levels of social support and interaction (if desired), levels of training to engage with OWS by qualified coaches, and relatedly, perceptions of safety and personal competency. A recent study by Gould, McLachlan, and McDonald (2021) suggested that the social interactions primarily explain 'deep engagement with local blue space', whilst CTN and self-actualisation are key drivers for participation in the activity itself.

The interviewees were rather split in terms of their tolerance of the cold as an inherent part of the OWS 'experience'. Some sought out those experiences as being integral to their OWS enjoyment, whilst others, despite using a wetsuit, admitted:

> '…there's been times when I've got in and got straight back out again, because it's too cold'. (Gary)

Sue, despite her long experience of OWS, was representative of most of the swimmers who found initial water immersion represented a personal challenge in itself, but such feelings quickly dissipated:

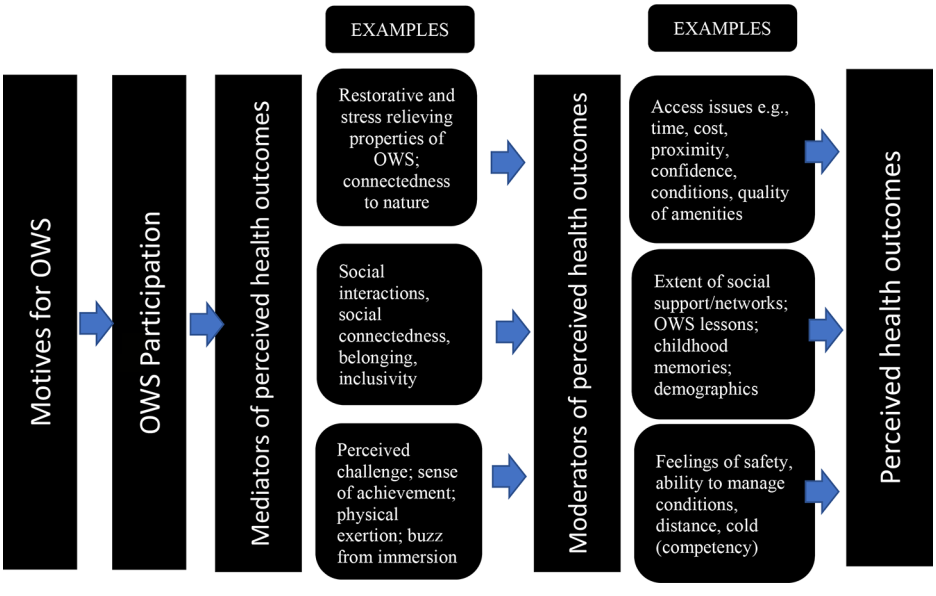

Figure 4. Suggested mediating and moderating influences behind reported health benefits.

> 'I'm rubbish when I enter the water… I always think 'bloody hell it's cold!' but as soon as I start swimming, I'm in my happy place!'

Despite any minor misgivings, many referenced their understanding of cold-water immersion as a potential health enhancer, as another swimmer testified in relation to how OWS alleviated her fibromyalgia symptoms:

> '…I'd heard OWS – and cold water in particular – was good for the pain relief, and that was the main reason I started it. I was in pain a lot of the time and having to take extra medication which I didn't want to, so I thought it's water, it's free, I'll give it a go!' (Jackie)

Seasonality preferences were mixed: some were determined to maintain their participation all-year round, if perhaps less frequently in the cold months, and for less duration. Invariably these were wetsuit swimmers (with the associated expense in terms of kit), but others suggested they were open to the idea of, or had attempted, skin swimming (or merely dipping) in colder months. Those who identified as skin swimmers - typically because they felt wetsuits were restrictive, caused a skin reaction, or were just awkward to get in and out of (or who just preferred the sensation of water on skin) - held a clear preference for swimming in the late spring to early autumn. Therefore, a switch to indoor pools in winter was a consideration for some in that they maximised the warmer weather for OWS and used indoor pools more frequently in the colder months. Thus, as Foley (2015) suggested, the cold can be an 'active deterrent' for some swimmers (in this case, in a seasonal way). Others intentionally embraced it for its purported therapeutic benefits. Wood et al. (2022) found similar results, citing much higher use of OWS contexts between May-September, whilst a significant minority avoided winter swimming altogether.

Theme 4: utility of social interactions

There were mixed views as to preferences regarding swimming alone, or with others, whilst most enjoyed both options. The factors involved in swimming with others generally encompassed feelings of security; a conversation partner whilst swimming, or afterwards on the shore, car park or cafeteria; because they typically swam with a friend or relative; feeling part of a group; or simply having a training partner. Similar social health dividends amongst were highlighted in a study by McDougall et al. (2022), whilst acknowledging that some wild swimmers, who enjoyed socialising through swimming, also preferred being with people who were not 'overly talkative'.

Swimming alone, whilst it may have increased anxiety levels for some (the 'what if…' factor), was seen by those with that preference to promote more CTN; provide 'me time'; offer a personal challenge; or even enhance the wellbeing aspects because of the isolation. Gary felt that interactions whilst swimming were naturally restricted, but his preference for swimming alone had more of a performance driven motive:

> '…you can swim with somebody else but then it becomes a bit competitive, and that's not always a good thing when you're trying to develop your stroke, so it's actually advantageous to swim alone.'

On the other hand, most respondents valued the connections they had made through swimming, and the networks they were now interacting with, whether in person - such as

group swimming sessions at the study lake; at other venues; or with online platforms including Facebook groups (two of which boast >100k subscribers):

> '…that's why we've come today actually because the other lady said she was coming today, so I'd seen it and thought well I keep wanting to come here, people say its brilliant, I'll go then – I don't know her, but we've spoken together about someone else we've swum [with], so I said to [Jackie] 'do you want to come?' and the reason for coming at 10am because I knew if [Jackie] wasn't well enough to come today there would be someone else I could recognise, but now we've been, we can come at any time. Everyone uses it [social media] and people have just got 'I'm going for a swim, turn up at this time' so you can swim everyday somewhere.' (Paula)

The social connections sometimes led to close friendships being forged, or more informal, but nonetheless valued, connections – as similarly noted by Bates and Moles (2022) in their study involving swimmers in an urban lake.

Social connectedness can be an important contributor to enhanced health outcomes, noted as an important element in the effectiveness of social prescribing efforts by Leavell et al. (2019). Paula highlighted how a friend had recommended OWS for mental health and was gifted some apparel (cap and wetsuit) to initiate participation, whilst Sally stressed the 'social element' as being a key factor in now engaging 'with people throughout the year', even if she found the social element was largely confined to before and after swimming. Jessica, meanwhile, was hoping to build her own social OWS network, having begun with group lessons, whilst conscious that it could be difficult to encourage work colleagues to invest in wetsuits and other items to join her at local OWS venues.

These enhancements to social capital were viewed as an important element not just in terms of participants' enjoyment of the sport, but also their education regarding OWS issues, including safety, equipment, and technical aspects. Tina felt that swimming at the study lake offered a very supportive, encouraging, and friendly milieu, however she had received some negativity from 'day trippers' to the Lake District open water settings she also frequented 'where people had been a bit mean' about her body size, affecting her self-confidence:

> 'It happens. It's just morons, out of one hundred people you're going to get a few dickheads, aren't you? So, unfortunately, I've had more than one or two.'

Chiming with Tina's perceptions, the field researcher noted the camaraderie and general 'craic' that was typically present at the lake itself, particularly evident with the female swimmers:

> 'There's often a nice atmosphere around the jetty, with swimmers and divers alike laying out their kit bags, towels and sometimes seating (some attend for a half or full day on good weather days). As is usually the case, it's mostly women I see swimming today, who are particularly expressive compared to their more reserved male counterparts. People appear relaxed about their bodies, whether lean or carrying excess body fat, which suggests they feel comfortable in their surroundings, and that the lake offers something of a supportive place to be. There's plenty of banter prior to entry, conversation typically suggesting some insecurities about the water temperature, supported by nervous laughter. It's clear some are cautious, hugging the shoreline, whilst others are more confident in tackling the full perimeter of the lake or following the designated course. Often remarks on exiting the water relate to hedonic impacts ('wow, fantastic, I feel a million dollars!'), reinforced by non-verbal communication including beaming smiles and positive, animated gestures. There's also much reflection upon the distances covered, combined with comments relating to positive affect (achievement, satisfaction, joy). The swimming and diving communities appear to co-exist in harmony, with

> no obvious conflicts despite the relatively restrictive space around the beaches and jetty. It's not hard to see why – you look out at the lake and see on the surface a handful of swimmers, maybe twenty at busier times, but the divers of course – even if more numerous – are out of sight, if not always out of mind, as the bubbles surfacing from beneath you as you swim remind you of their presence!' (Kirk, Day Nine)

OWS, and sport, more generally, from a (contested) functionalist perspective, has the potential to offer an important opportunity for socialisation, integration, and socio-emotional outcomes (Delaney 2015; Elling, De Knop, and Knoppers 2001), drawing people together on the basis of a shared interest, with the resultant benefits of being more connected, gaining a sense of identity and belonging, creating new friendships and social circles, and, relatedly, enhancing health in the process. To a large degree, the testimonies provided here expressed synergy with such a concept and these specific tenets, although further research in particular to evaluate the integrative function of sports such as OWS would be useful, given the older demographic engaged with here and that only one of the swimmers was a non-white participant.

Theme 5: blue exercise and green exercise comparisons

Participants referenced undertaking a range of GE modes (typically walking/hiking, running/jogging, road cycling/mountain biking). These alternative outdoor activities provided useful insight into how those experiences contrasted or complemented participants' engagement in OWS.

Several highlighted their preference for OWS over GE modes, for example Anja, Sally and Jeff cited the considerably lower injury risk from a 'non-impact' sport. OWS represented for others an opportunity to transition away - either gradually or more suddenly - from prior passions, especially jogging/running. For some, such as Tina, OWS was their main source of exercise, especially if mobility issues mitigated against dry-land exercise options, whilst Jeff expressed an extra concern regarding one GE pursuit by comparison:

> 'Roads scare me with cycling, I would cycle more if there weren't any cars. So, I tend to avoid cycling for that reason, and prefer swimming. You know you've done exercise when you've been swimming. It's not going to damage your joints or anything.'

A contrast was drawn in terms of attention restoration and/or stress reduction through OWS, more so than with GE activities. Anja felt that although running met her needs in terms of being 'a hyper person' who needs the 'pain' of running, OWS helped her to 'calm' down. Jeff highlighted an extra affective dividend he derived from OWS compared to walking as regards CTN:

> '…because it is really nice to watch and see the birds, that's really, really lovely, and the fish, just coming out here, but it's also very much about the feel of the water, that feeling of coolness…I mean you can go for a walk and you're in nature, but when you're in the water, you're even more in nature…it's touching you!'

Simon shared this perspective, delighting in the extra proximity to wildlife he gained from OWS:

> '…in this place here [the lake], you can just pop up in the water and a duck will be in front of your face, you're just so close to the wildlife.'

Whilst Sue felt that 'nothing compares to the feeling you get from OWS…it's exhilarating. You get a feel-good from any exercise, but not the buzz you get from OWS'. From a social health perspective, Martha expressed the view that OWS was more inclusive, and welcoming, compared to her experience of a running club. Such testimony reinforces the 'unique' offerings derived from OWS.

Participants also noted the dangers of OWS as very specific to the sport in respect of problematic rescues if swimmers got into difficulties, and the need therefore to carefully plan and prepare:

> 'I mean you always need to pay attention as you do when you're cycling, or walking…here there's that added element with the water, I mean things could go badly wrong, you know if you fall over (walking) it's not the end of the world, but here if you get cramp, you need help, you really need to pay attention to your environment more'. (Kate)

This extended to the need – especially when starting out as an open water participant - to either access coached swimming sessions (either individually or in groups), or swim with experienced swimmers to gradually build confidence.

Kirk, meanwhile, felt that with each activity, whether BE or GE, provided its own space and rhythm:

> '…like with walking you can take your time, take in the scenery, appreciate nature a bit more, birdwatch, sit down, and have a rest, take photos, have a sandwich. Cycling you can cover much more territory, but you have the reminders of mankind around you with cars, vans and lorries passing you by even on country lanes, so, you see more perhaps, but it's not as relaxing, and you're not stopping so much to admire things. With OWS, one of the special things is looking up at the hills, spotting the fish under you, having the birds fly over, plus you're in the water! So, each activity gives you a different perspective, a different stimulus.'

Conclusion

This study explored the underpinning motives and benefits associated with OWS participation amongst a sample of swimmers. Throughout the authors have made efforts to explain the study's findings through several relevant theories (e.g. Maslow's Hierarchy of Needs; Self-Determination Theory, Attention Restoration Theory and The Stress-Reduction Theory). It is evident from the results that many do find pleasure in nature and this drives participation in OWS; thus, confirming the assertion of researchers in the field. The outcomes also suggest that there are benefits to be derived from BS and BE that are unique, and potentially over and above those typically associated with other forms of nature-based activity, for example that represented by GE modes. Swimmers universally alluded to OWS as promoting positive experiences, including unique aspects, whether these were oriented around health (physical and psycho-social), participatory, or performance factors. As befits self-determination theory (Deci and Ryan 1985), positive experiences will drive motivation to sustain participation, whereas negative experiences may temporarily restrict or even dissuade further engagement. It appeared that where any negativity crept in (e.g. anxiety regarding swimming alone; concerns about cold water immersion; concerns about 'what is in the water'), swimmers identified specific solutions to these issues, whether through being proactive in accessing OWS lessons, buddying up with others, moving indoors during colder months, or managing risk through better preparation. There was a clear desire to develop either new social networks, 'escape' from responsibilities/sources of stress, or engage

with new personal challenges including OWS events and experiences. These diverse, non-homogenous 'travel motivators' were similarly noted in a study by Kruger, Saayman, and Ellis (2011) with performance-oriented open water swimmers.

Given the apparent benefits associated with the activity, future research and practitioner interventions of a social prescribing nature could adopt a focus upon the specific personal, attitudinal, and structural social exclusion factors that mitigate *against* deriving such positive dividends from accessing BS and OWS as an exercise option. Additional research making use of larger samples could also improve understanding of the specific mechanisms through which OWS, and more generally BE and BS, are accumulated, and thus inform policy and practice to benefit those who are most in need of public health interventions.

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