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Men and menstruation: Views and perspectives influencing participation in adventurous activities

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Menstruation impacts participation in adventurous activities but there are gaps in reported research on the views and perspectives of men. This study examines the ways in which people who menstruate (inclusive of the LGBTQIA+ community) perceive and report attitudes to menstruation and the menstrual cycle by men, and the ways in which cis-males themselves articulate their knowledge and actions. This research takes a biological, social and cultural approach explored through a survey of those who menstruate ($n=800$) and interviews with cis-males in adventurous activity leadership roles ($n=6$). Rich qualitative data on the lived experiences of all respondents indicate embarrassment as a major emotion by menstruating individuals and in respect of the limited knowledge felt by cis-males. More experienced cis-male leaders were confident in their strategies and engaged openly in discussions about menstruation management with participants, but all felt that they could learn more. The key recommendations from this research are: The provision of suitable toilet and waste disposal facilities where possible with free period products; more education and training around menstruation and its management in the outdoors for men and women with shared discussions of good practice; and the encouragement of open dialogue with participants around menstruation management to promote an inclusive and accessible participatory environment.

Keywords: menstruation; periods; men, participation; outdoor; adventurous activities

Purpose and rationale

As participation in outdoor and adventurous activities has increased, a greater understanding of the issues that people who menstruate face when participating, or considering participation in adventurous activities is needed. It is also important to raise awareness amongst outdoor leaders, educators and instructors, particularly men who are often in these roles, to understand the different ways in which people view, experience and manage menstruation (Prince & Annison, 2022; Watson, 2022). People who menstruate need to feel comfortable in the presence of leaders, who should develop strategies to create a safe and supportive group culture and manage the constraints participants face (Botta & Fitzgerald, 2020). In a time of much focus on the agendas of inclusion and accessibility in the outdoors (Anderson et al., 2021) there should be an emphasis on understanding and, where possible mediating the impact of menstruation

on participation to promote positive experiences of adventurous activities for all.

This research responds to the call for new and different ways of theorising and thinking about the biological and social that have often been viewed as a binary in sport and physical culture (Peranovic & Bentley, 2017; Thorpe, 2012). It acknowledges the need to facilitate understanding between the inner physiological body and outer social body as ‘coterminous, not separable’ (Birke, 1999, p. 174) and to explore the embodied experiences of people who menstruate in addition to biological dimensions (Thorpe, 2012). Our onto-epistemological position relates to the biological as it is embedded in the physical requirements of adventurous activities and the social through structural influences and the social expectations of being a person who menstruates. The biological and social combine with the cultural perspective through the relational interactions of cis¹-males with people who menstruate. Our position is to challenge practice and attitudes through a social, biological and cultural approach by examining lived experiences and to recognise the potential of transdisciplinarity in addressing issues (Thorpe, 2012).

This research reports how menstruation is experienced in the traditionally male dominated and heteronormative² world of outdoor and adventurous activities (Blaine & Akhurst, 2021; Bren & Prince, 2022; Kennedy & Russell, 2021). It focuses on how people who menstruate perceive and report attitudes about menstruation by cis-males as they participate in adventurous activities. Unlike other previous reported research, it also listens directly to cis-men’s voices. It explores: Their knowledge of the menstrual cycle and symptoms of menstruation and how it might affect participants; knowledge of period products, their use and appropriateness for an adventurous activity that they lead;

¹ Cis/Cisgender. Someone whose gender is the same as the gender they were assigned at birth

² Heteronormative – the preferred or ‘normal’ mode of sexual orientation

the source of their knowledge on periods and/or period products; knowledge of the disposal of period products; training received by an employer/organisation; and, the strategies that they employ when leading adventurous activities with women and other participants. The research hopes to encourage further conversation around the topic, and educate those who wish to learn, especially individuals who work in the adventure sector to promote accessible and inclusive experiences.

Key terminology

Menstruation (also referred to as periods or menses) is a topic still considered ‘taboo’ in the 21st century in western and other communities (Gottlieb, 2020; Prince & Annison, 2022; White, 2013). It is the shedding of the uterus lining lasting between two and seven days in a menstrual cycle of between 20 and 45 days in adolescents, decreasing to between 24 and 38 days with increasing maturity (see Gosselin, 2013; Madhusmita, 2015; Prince & Annison, 2022 for more physiological detail). Premenstrual syndrome (PMS) is the time leading up to menstruation when individuals may experience symptoms such as cramps and mood swings. Normal and abnormal menstrual cycles and flow can cause changes in hormone levels affecting performance, pain, discomfort, fatigue, bowel issues and mood swings although some people who menstruate may experience few of these symptoms. Managing menstruation necessitates hygiene, time, privacy and usually expenditure to purchase period products. These factors are influential during adventurous activities and usually are exacerbated or more challenging in outdoor settings, particularly in remote or alpine environments or on extended expeditions.

This research focuses on the experiences and perspectives of those individuals identifying as female but it is recognised that transgender men and people with

masculine gender identities, non-binary or intersex individuals also menstruate and little is known about their experiences with menstruation in any context (Chrisler et al., 2016; Watson, 2022). Furthermore, author positionality as cisgender female and non-binary is recognised and acknowledged.

Relevant past research

There is limited reported research on the ways in which people who menstruate perceive and report attitudes to menstruation and the menstrual cycle by cis-men, and even less on the ways in which cis-men themselves articulate their knowledge and actions.

Men and the manifestations of menstruation in coaching and performance

Much past research has focused on the biological, physiological and psychological manifestations of menstruating individuals in sport and physical activity in the context of coaching and performance. Not unlike adventurous activities, athlete and coach experiences typically occur in contexts that are male dominated (Norman, 2016). The biological has merged with the social in more recent studies to examine how coaches understand and support female athletes (or not) through their menstrual cycle.

Forsyth et al., (2022) reported that the majority of women footballers in their research were concerned about how predominantly male coaches could understand or be part of a discussion about the menstrual cycle. This is reflective of other research in which male basketball coaches ‘...wouldn’t say anything about periods. Never ... it was never a topic of conversation’ (female athlete, p. 8 in Watson, 2022). Some coaches use apps for tracking menstrual cycles to avoid direct communication with menstruating athletes; a minority are happy to discuss it openly although most recognised that the ideal situation would be dialogue between athlete and coach (Forsyth et al.,

2022). Clark et al. (2021) explored what male coaches working with elite female team sport athletes wanted to know about the menstrual cycle to understand related health (medical and dietary) information and improve performance and training. Of five emerging clusters/topics from multidimensional scaling and hierarchical cluster analysis, only one cluster concerned psychological and emotional wellbeing with another about dialogue and communication. It would seem that male coaches' limited understanding of the menstrual cycle and its effects on female athletes only serves to exacerbate the lack of capital, power and agency that athletes experience in male-dominated sports (de Haan & Norman, 2020).

The construction of meaning by people who menstruate

It is only recently that the literature has embraced people who menstruate to include the LGBTQIA+³ community. Their experiences have been little researched although as so termed 'marginal' menstruators, this gap has been recognised (Bobel et al. 2020, p.5). Menstruation is still seen as a 'taboo' subject of conversation and practice in many westernised societies (McHugh, 2020).

Women and girls' construction of the social meaning of menstruation in relation to cis-men is mainly through experience. In elite performance, there has been a tendency for female athletes to hide their menstruation leading to notions of unbalanced power relations and female body deficiency (Dykzeul, 2016). Botta and Fitzgerald (2020) also identify presumptions of male dominance as a major challenge for women through hiking the John Muir Trail (220 miles; $n=565$). Women have negative and emotional responses to 'missing out' on adventurous activities with most having concerns about their performance in socio-cultural contexts including around men

³ LGBTQIA+ - lesbian, gay, bisexual, transgender, queer/questioning, intersex, asexual

related to personal anxieties (Prince & Annison, 2022). Although research into the construction of meaning by people who menstruate in the context of participation in adventurous activities may be sparse, it is clear that attention to menstrual challenges and issues spans broader societal issues and tensions including gender inequality (Bobel et al., 2020).

Boys' and men's construction of meaning

There is limited research on how boys and men construct social meanings of people who menstruate and menstruation. Evidence indicates mainly negative, stereotypical and uninformed views (Marván et al., 2005; Roberts et al. 2002; Wong et al. 2013) created through relational, educational and socio-political contexts (Peranovic & Bentley, 2017).

Relational conduits to knowledge were emphasised by Erchull, (2020) drawing on research in westernised countries focusing on how cisgender men learn about periods, their perceptions and knowledge on it, and possible discomfort around the topic. Most cis-male individuals in this research learnt the most and discussed the topic through intimate relationships with individuals who menstruate. Their perceptions rarely changed with age, and if they did, knowledge and the degree of comfort around discussing menstruation did not alter. Cis-males who gained their knowledge through school would know the very basics of menstrual biology (Koch, 2006; Peranovic & Bentley, 2017) although females also reported feeling unprepared for menarche from advice and information provided in this context (Costos et al., 2002; Cooper & Koch, 2007; White, 2013). Sons rarely learnt about periods through parents, especially fathers. Mothers most often taught their children about periods, but different knowledge was shared between sons and daughters. Peranovic and Bentley (2017) suggested that there could be more effective reproductive health education programmes and better

communication between parents and children to provide a more balanced view of menstruation amongst boys and men. Socio-political framing might have resulted in the information provided to sons being focused more on symptoms of periods such as mood swings, and how to “deal with” menstruating women, rather than support for menstruating individuals. Stereotypes often associated with menstruation include women being overly emotional, and women using premenstrual syndrome symptoms as an excuse to avoid unwanted activities or tasks.

Thus, the influences and conduits to learning about menstruation are known but the amount of knowledge cis-males have or how these attitudes are constructed, their impact in the workplace and how any negative attitudes may be counteracted remains unclear in the context of adventurous activities. This study seeks to address this gap in research.

Research design

This research sought to compare two sets of views and perspectives and then to amalgamate them to provide recommendations for practice. These comprised: Firstly, people who menstruate on their perception and reporting of attitudes to menstruation and the menstrual cycle by cis-men whilst participating or considering participating in adventurous activities, and secondly, cis-males’ articulation of their knowledge and actions in that context. It reflects a post-positivist interpretive framework in which prior experience and current social contexts influence perspectives and shape consciousness, enabling a ‘wide and pluralistic range of inquiries to proceed ... to provide partial understandings of a social world that is contingent, heterogenous and multi-causal’ (Little, 2019). Post-positivism supports a more subjective approach where multiple perspectives are felt by menstruating and non-menstruating individuals and

where cause and effect are difficult to ascertain and subject to probability (Creswell, 2017).

A phenomenological approach guides this inquiry in so far as it seeks to examine, understand and explain the experiences of a phenomenon (menstruation) both through the perspectives and lived experiences of those who identify as men and people who menstruate (Teharani et al, 2015). In following this approach, the intention is to examine the two perspectives as far as is possible towards a deeper understanding of perceptions and views of menstruation (Beck, 2021). Our epistemology concerns how knowledge of menstruation is acquired through conscious experience with the subjective nature of perceptions to shape understandings of that phenomenon in the world focusing on the biological, social and cultural dimensions as identified in the theoretical framework. Ontological assumptions are that reality is complex and context-dependent within these dimensions. Some view phenomenology as a methodology taking an interpretivist stance positioned in a post-positivistic paradigm with perceived proximity to a positivist stance, as problematic. However, many see the logic and similarity of assumptions of the two as similar in that reality exists before our consciousness and is perceived by our consciousness (Merleau Ponty, 1962; Racher & Robinson, 2003).

The perspectives and views of people who menstruate were captured through an anonymous online survey to explore their lived experiences of menstruation around cis-men through qualitative data. It did not discriminate between those who participate in adventurous activities for recreation and personal enjoyment, those who are performance athletes, those who are employed in the sector or a combination of these. Although memory data are particularly suitable for a phenomenological study the

accuracy of recall as well as the time elapsed since the incident or moment was indeterminable.

To enable a deeper and richer exploration of the views of cis-males, semi-structured interviews were conducted. These enabled the ‘voices’ of cis-men to be heard to give information and feelings about the meanings of their experiences of menstruation and allowed the researcher to be active and reflexive during the process (Creswell & Creswell, 2018). A purposeful sample was chosen to reflect those who were employed as outdoor leaders, educators or instructors in adventurous activities. It is accepted that cis-males who agreed to be interviewed were self-selecting and may reflect those who feel that they have knowledge on menstruation and positive support in place and feel relatively comfortable to share it.

Methods

Online survey

This was developed using Jisc Online Surveys platform with the link posted on fourteen different ‘outdoor adventure’ Facebook groups including climbing, wild swimming, camping, canoeing and kayaking. The research was approved via the internal ethical processes of the University of Cumbria.

Responses to the questionnaire were anonymous and targeted individuals who had experienced menstruation at some point in their lives. Question one was a question asking ‘what gender do you identify as?’ with options of female, male, non-binary or other as responses, chosen to include individuals who identified themselves as other than cisgender. The survey collected data on demographics, experiences and management of menstruation and PMS, period products and disposal, and the effects of menstruation/PMS on participation and enjoyment in adventurous activities. As this

research focuses on the views, perception and reporting of attitudes about menstruation by men, only the relevant open text responses to specific questions are reported here. The survey opened in January 2022 and responses were capped at 800 from people who menstruate (99% of whom were women) after 20 days to enable thorough data management and analysis.

Online surveys have a wide global reach and facilitate relatively easy access to geographically dispersed populations. They have the potential to capture a range of voices and sense making, albeit from a stratified sample of those who are able to read and understand the English language, who are digitally enabled and connect on social media with others of similar interests. Qualitative survey responses can provide nuanced and in-depth data, and potential for new understandings of social issues (Braun et al., 2021).

Qualitative responses from the survey relevant to the research question were exported into Excel, categorised manually with an '*in vivo*' (language of participants) term through a semantic approach, coded, and collapsed into broad themes (Braun & Clarke, 2012). Themes reflected similarities in meanings, correspondence and causation (Saldaña, 2009). The data were analysed by two researchers to optimise the intellectual and conceptualisation processes to transform the data and to enhance credibility (Nowell et al., 2017) and followed the six-step process of thematic analysis identified by Braun and Clarke (2012). This analysis provided contextual background to the next stage of the research, although reflects the voices mainly of women about men's knowledge of, and attitudes to menstruation and people who menstruate rather than directly asking men themselves.

Interviews

Semi-structured interviews with cis-males were conducted via the online video conferencing software 'Zoom' in 2022 allowing for international engagement as well as reducing risks of inter-person contact from Covid-19. All participants gave consent to the meetings being recorded, which allowed the creation of transcripts for subsequent analysis. Participants were first sought by contacting local outdoor and adventurous activity centres in the UK through email and telephone. These enquiries elicited one staff member response from one centre so a call for participants was posted on Facebook groups. Twenty individuals (including the staff member above) agreed to be interviewed, of which six were selected due to time constraints, their cis-male identities, their roles as a leader of adventurous activities currently or at some time in the past with at least four years of professional practice and the sample comprised a range of ages. Four were working in the UK and two in the US, which provided an additional international comparator. Interview questions sought responses on demographics, roles and professional experience, knowledge and management of menstruation/PMS and period products, and their possible effects on experiences and participation during adventurous activities.

Interview transcripts were uploaded to NVivo12 software to facilitate working with the data. Themes were developed through thematic analysis (Braun & Clarke, 2012) following a deductive approach conducted independently of the survey data and guided by the interview questions. Initial codes were identified through familiarisation of the data and iterative exposure to the transcripts by both researchers based on the analysis of similarities and differences in the data. Following categorisation of codes, themes were generated, reviewed, agreed and then defined by the researchers.

Results

Qualitative survey data were categorised into three main themes that reflect the lived experiences of people who menstruate and participate in adventurous activities, focusing on the ways in which they perceive and report attitudes about menstruation by men. The interview data comprise four themes that describe cis-male's declared knowledge about menstruation, the menstrual cycle and period products and their strategies for menstruation management with participants of adventurous activities. Both datasets are presented through critical narrative and include the use of participant quotations to underpin the constructivist approach to making meaning of the data.

Survey

Three main themes emerged from the survey: Men's level of awareness and understanding of people who menstruate; experiences of people who menstruate in mixed gender groups; and, recommendations for practice.

Men's level of awareness and understanding of people who menstruate

Some respondents felt that a number of men are just ignorant about menstruation and its symptoms, 'as a woman I don't feel like men know enough', which leads to resentment in people who menstruate about lack of understanding and awareness but also about menstruation itself: 'Feels frustrating that males don't have to deal with any of this!'. Some reported that men, including family members were just not aware of the symptoms but once an open conversation was had, they became more supportive.

Many reported examples of the actions of male leaders and the associated feelings of participants:

I remember being on a training camp in Sweden where we had lunch at a lake in between training sessions and I didn't swim as I was wearing a sanitary towel. One of the coaches lifted me up and carried me into the water. I felt embarrassed and sad.

We did a day trip away ...to somewhere where there was absolutely NO facilities. The male instructor announced this when we arrived and instructed students to "use a bush" if they needed it. Myself and the other female participants debriefed later, and agreed this attitude was deeply insensitive to females who may be menstruating, yet none of us were surprised by the lack of awareness and understanding.

With some unpleasant consequences,

[I] remember coming onto my period during a four-day field exercise [in the military] - all instructors were male and I had to be sent to the medical tent (4 miles away) for sanitary ware - but had to remain in soiled underwear and trousers for the duration.

There were several comments about men viewing people suffering from menstrual symptoms as a problem rather than a reason why it might be more of a challenge for those in that situation to participate. 'I have had a few male friends / colleagues either joke or roll their eyes and yet they've no idea the impact it can have' and 'If there was a thing that made men puke one or more days each month, we'd know all about it'. However, there were also comments about changing attitudes: 'I think it is become less and less taboo as a subject, amongst my friends who are girls it's very easy to talk about, and even amongst some guys who are very keen to help out and understand.'

Experiences in mixed gender groups

Respondents talked about missing out on activities and often, not having the confidence to explain the reasons to male leaders or peers or to expect them to adapt their plans to accommodate them. If the reasons were exposed, these resulted in feelings expressed as, 'I was so embarrassed. I just wanted to shrivel up' particularly at a younger age. Some women recounted examples on when they coped with periods during adventurous activities and their strategies in mixed gender groups:

My worst day ever I was ... on skis pulling a sled up to our next camp, aware than I had blood running down my thighs, soaking my thermal long johns and salopettes, dizzy

with heat. Eventually other team members had to take my sled so that I could get to camp. I was sharing a tent with a man and a woman. I told them both to sit outside in the sun, I had a period mishap to deal with. Stripped, melted snow for water, washed out all the clothing. Pain in the arse. Got extra tampons off the other woman. Luckily by then I was old enough and experienced enough not to be mortified by the experience. It was just one more expedition chore to deal with. Had I been on one of my first expeditions as a young woman I suspect I would have been much more embarrassed by it.

I did my winter ML⁴ assessment. Period came early I have to buy unsuitable towels. I was the only female and dealing with that as well as the assessment wasn't easy. Didn't feel comfortable all the time. Ended up with slightly soiled clothes. Passed the assessment though.

And the reactions of men in the group:

I once had a massive leak of a menstrual cup while multipitch climbing - it's not possible to go home early in that circumstance. It was a bit messy and ruined my harness but wasn't that bad. The men I was climbing with chose to just ignore it - I think they were more embarrassed than I was and as one put it we had more stressful things to worry about. It's no worse than needing to pee on a belay.

Many people who menstruate reported finding their own strategies to cope with periods if they occurred unexpectedly when participating in adventurous activities, thankful that changing by the side of a road after an activity was in darkness to avoid being seen in soiled clothes and using moss on the mountains to soak up the flow. Others would avoid participating in the first place if they felt that their performance would be compromised or judged, or that they would be beyond their comfort threshold. All felt a deep sense that opting out was not going to help the 'perceived sense of masculinity in the

⁴ Winter Mountain Leader (ML) qualification – a national governing body (Mountain Training) award in the UK for leading groups of hillwalkers in winter conditions. The assessment is five days long and may include a two -night expedition.

outdoors'. Many recognised that missing out on activities 'doesn't help on changing opinions' because that may lead to a lack of respect for female-identifying people particularly if they are in the minority in a group.

Recommendations for practice

Many active participants of adventurous activities were keen to see facilities and resources available to support people who menstruate. These include provision of appropriate toilet facilities ('a female-only portaloo⁵' 'with sufficient space for menstruation management') with bins, and period products and places to clean them at events such as fell and ultra-races. A second recommendation concerned an increase in period education in schools and also staff training for providers of adventurous activities, particularly those supporting young people including in award schemes such as the Duke of Edinburgh. Linked to this were comments about having open and everyday conversations about menstruation and the need to develop the confidence to do so.

I feel as a more mature woman I should be open and honest about periods and feel no shame in talking about them so I can empower young women and girls to feel comfortable with their bodies and not feel shame about a very natural process and if men or any of the young men I work with make comments about it I would challenge them and open up a discussion around why they have those feelings about a natural process women go through which meant they were able to be here in the first place.

A shift to a place of open dialogue would support the promotion of inclusiveness in outdoor and adventurous activities as 'Young/teenage girls in particular need to know the outdoors is accessible even when menstruating'. It is not only participants who need encouragement, 'Everyone needs to know about this for it to work especially male

⁵ 'Portaloo' - portable temporary toilet

leaders and coaches - we need to set example with creating briefing phrases that can be used by all.'

Interviews

Interviews lasted between 11 and 45 minutes with cis-males aged 35, 28, 58, 43, 30 and 47 years. Interviewees are referred to in parentheses after quotations. For example, Interviewee 2 would be (2). Interviewees 1, 2, 3 and 6 were based in the UK; 4 and 5 were based in the US. Themes were derived independently of the survey themes and are compared later in the discussion.

Cis-men's knowledge of the menstrual cycle, symptoms of menstruation and PMS, and effect on adventurous activity participation

All respondents expressed basic knowledge about the menstrual cycle and identified a range of physical and emotional symptoms associated with menstruation and PMS with bleeding, reduced energy and mood changes the most cited. There was an emphasis on the recognition of individual difference in the way that it affects people,

It's a monthly occurrence for most females but of course, if they're on the pill they might miss that out completely. So some women and some people don't have them at all. Some have really bad ones, some have no symptoms, some have mood swings. So there's a gazillion different versions of the menstrual cycle. And obviously, if you're over a certain age, then you've gone past it. (3)

Interviewees were aware that menstruation might be a barrier to participation in adventurous activities, particularly for those new to these activities and in the presence of unfamiliar leaders, identifying as male or female. Two respondents had encountered it by the offered retorts of teenagers and others to be 'left alone'. Some respondents talked about 'lived' knowledge obtained through their own relationships and more generalised assumptions such as,

Certainly in society, there's at least in the US, there's definitely like, just justification of like, Oh, she's going through her period, she must be emotionally dysregulated, which is, I mean, like, if I was, if I was bleeding significantly from my body for a number of hours a day like I would be emotionally dysregulated too. (5)

Cis-men's knowledge of period products, their use and disposal

Interviewees were asked what period products they were aware of. All knew of commonly used and established products such as sanitary towels/pads and tampons, with four out of six knowing about menstrual cups with one extolling the advantages of these for use on extended expeditions. Not many knew of reusable period underwear (one assumed this was one-use incontinence underwear) and two interviewees had heard of reusable sanitary towels but could not describe them. Respondents from the US were more likely to know about the range of period products than those in the UK. The interviewees were asked if they would be able to show a participant how to use a period product. Again, most were comfortable with sanitary towels/pads and tampons although one said that they would be reticent to offer advice without any experience themselves and another commented,

[I] wouldn't know enough to recommend how to use it, or what to use it for. I would have a good guess at what they look like in a packet. And that's as far as it goes. And that's going to be the same for all of them {period products}. (6)

All interviewees were keen to learn more about period products and took the opportunity for more information and clarification offered by the interviewer. When asked what they would carry with them on an activity, if they carried anything at all normally it would be sanitary towels/pads for ease of use by a range of participants and 'they're also good for first aid' although 'it was quite daunting when I first started as I didn't know which ones to get' (3). Most interviewees mentioned that they would suggest that students carry their own products, would advise against using towels for

watersports and others defaulted to female leaders for advice if they were unsure or felt unable to speak openly to a participant.

The cis-males in this research were all aware of the importance of the environmentally sensitive means of disposal of used period products and stated that they always asked participants to carry them out. However, the methods for managing this process varied from the leader taking all the litter themselves, to asking participants to carry their own sealed bags or providing them with suitable bags. One interviewee told of how their course trips had a communal waste bin for used period products, so students did not have to carry used products themselves and ‘kids don't have to worry about the, you know, the embarrassment of pulling out a bag of that sort of trash or whatever’ (4). Taking the onus of disposal away from the individual was more apparent in the US based respondents.

Cis-men's sources of knowledge about menstruation and period products

The interviewer asked if respondents had ever done any of their own research into periods or period products. The respondents based in the UK reported minimal training or advice on managing periods in workplace contexts or seeking out information, relying on ‘an osmosis (of knowledge) over the years as to what works best’ with some supporting workshops on inclusion more generically from the Institute for Outdoor Learning (UK national professional body). There were stories of a male manager not knowing what to say, where to look and not wanting to talk about it. ‘So ... it's not talked about enough, which leads to us being embarrassed about it, and not knowing any more about it and it being a vicious circle.’ (6). Cis-males in this study sought advice from partners but did not seek out information of their own volition. In the US, certainly in one school ‘it's discussed perfectly openly here’ and in another, ‘it's a constant part of the conversation anyway’ with support from the National Outdoor

Leadership School and information to obtain knowledge and to be able to give sound advice had been sought out. Again, in many contexts, if there were female leaders, they were relied upon to provide information and advice. However, some interviewees provided a more objective view:

But we should be in a kind of industry where people are willing to say what they don't know, willing to get themselves out of their comfort zone. Because that's what we do to other people for a living... Too much bravado, too much sort of male macho in the industry. (6)

Cis-men's strategies around menstruation management for groups

Interviewees were asked if they had considered how individuals might manage their periods during adventurous activities. Responses varied from those who would be reactive to such a situation such as providing supplies (perhaps with written information as to how to use them) and directing the individual to female staff or offering support that would need to be defined by the individual, not the male leader. Others 'try to think about it' and acknowledge that they 'probably could do more' (2) with strategies including offering a shorter duration for activities, return to base (and toilets) during the day and highlighting the period products they carry. Another encouraged a 'challenge by choice' approach whereby menstruating people could participate if they wished to do so. Two respondents described teaching sessions 'up front'. One involved teaching about managing menstruation in a session about camping and sanitation and talking about the three p's: pee, poo and periods 'so that covers everything – not to single out girls' (3). Another was working with some groups who had not started to menstruate with a strategy of 'talking about it ... , especially with younger people and making them feel comfortable talking about it and managing it and going to people who can help you' (4).

Those teaching about menstruation and its management prior to sessions were working in contexts where they had more than brief contact with their participants and could involve these discussions in a wider framework or curriculum and over a longer timescale. One reflected, 'how successful we are with it I don't really know, we could probably do better with getting feedback' (2). Another had experienced a session in which he had needed to be reactive ten years previously and since then, had changed his approach to more thorough, inclusive and pre-emptive briefings/discussions. This raising of consciousness of needing to be more proactive with such situations had caused him to consider the possible different challenges around a trans student, '[We] have thought about this and recognise it will be a more sensitive conversation and the need to think ahead about this and seek guidance' (3). For the contexts in which continuous interaction was not possible, one built in an extra half hour before all activities to respond to questions although commented that they thought that young people have their own networks and probably would not mention this to someone they did not know very well.

All but one organisation that the interviewees worked for offered free period products in bathrooms but the one where these were not provided was aware of the fact.

Discussion

The themes emerging from the data are compared between the two sets of respondents and situated within a biological-social-cultural theoretical framework. Together, they form the structural and composite descriptors of cis-males' level of awareness and understanding of people who menstruate, strategies for menstruation management and recommendations for practice.

Cis-males' knowledge of the menstrual cycle, symptoms of menstruation and PMS, and their effect on adventurous activity participation was usually elicited as a reaction to situations occurring in practice. This channel of knowledge acquisition bridging the biological and social has similarities with the female athlete – coach situation as described by de Haan and Norman (2020). This contrasted with some survey respondents reporting ignorance and, in some cases denial amongst men and a poor level of awareness and understanding of people who menstruate, confirming previous research in this area (Prince & Annison, 2022). Cis-males recognised that they should not assume that all young people have the knowledge or strategies to manage menstruation themselves, particularly in unfamiliar adventurous situations.

However, there were reports of changing attitudes both amongst people who menstruate and men. All the cis-males interviewed came across as sensitive leaders, not necessarily being proactive in support for managing menstruation but responsive towards the needs of their group members and openly stating that they and the sector could and should do more. Thus, there was some acknowledgement of the cultural (relational) dimension that needs to be in place, which was supported by some survey respondents who reported a shift to more open conversations and actions with and around men and menstruation. Women in leadership positions also reported working to dismantle barriers around menstruation to enhance participation in adventurous activities (Duffy, 2021) and to reduce any social, hierarchical notions of male dominance (Botta & Fitzgerald, 2020)

Generally, leader knowledge, proactivity and confidence were commensurate with experience in their approach to situations. This suggests that knowledge may not only be grounded in the biological dimension (for example, menstrual biology gained in

formal education (Koch, 2006; Peranovic & Bentley, 2017)) but may be influenced more by the social and cultural milieu and interactions in the workplace. Interviewees' knowledge of period products was secure on sanitary towels and tampons but they were less clear on strategies to advise group participants on which products to use. People who menstruate confirmed this limited knowledge in adventurous activity situations, usually implementing self-management solutions. It seems that although cis-males may be aware of the physiology of menstruation, they are less secure in its management and social manifestation (Clark et al., 2021). Cis-males were environmentally aware and usually pre-emptive with groups about disposal on extended trips and voiced some helpful strategies that embraced instructions for participants of all genders, although this could reflect knowledge of the broader issue of waste disposal and the 'leave no trace' ethic in the outdoors. Cis-male leaders did elicit some knowledge from relational interactions (partners) as described by Erchull (2020) but much of it was through the social structures in their professional settings (Peranovic & Bentley, 2017).

Many people who menstruate reported feeling uncomfortable to explain to men their reasons for limited or non-participation in adventurous activities, citing embarrassment. Winkler (2020) comments that such a self-conscious emotion is common in people who menstruate in respect of disclosing their menstrual status or having to request menstrual products. Some women provided examples of situations where they themselves needed to find solutions in the outdoors and/or feeling empowered and comfortable to declare their situation openly in the presence of men – a balance of reactive and proactive strategies in the social dimension. Cis-males reported similar approaches with some solely reactive to situations and others proactive with open discussions, inclusive expedition briefings etc. The latter seemed to be more prevalent in situations where adventurous activity leaders had more prolonged contact

with participants and by inference, perhaps had a more established professional relationship with them suggesting that the cultural dimension influencing practice in this context takes time to become embedded. There seemed to be limited training, particularly in the UK and questions from all leaders about where to obtain guidance and/or default to female instructors for participants seeking information and support during their periods. Most organisations now would seem to have free period products available in toilet facilities (although it was not clear if these are available in non-binary facilities).

Survey respondents and interviewees described positive actions, a visible commitment to inclusivity and recommendations to support menstruating individuals including the LGBTQIA+ community in the outdoors. They encouraged shared discussion of good practice and open dialogue in the workplace for outdoor leaders and educators with a recognition that default to female instructors should not be the norm. In this way, both people who menstruate and cis-male leaders demonstrated recognition of the increasing importance of the agendas for inclusivity and accessibility (Anderson et al., 2021; Watson, 2022).

In this research on the views and perspectives of men on menstruation and their effects on participation in adventurous activities, the biological dimensions merge with the social and are mediated by the cultural. Attempts to disentangle or separate these dimensions are almost impossible and give much credence to the frameworks that seek new theorising and thinking in sport and physical culture (Birke, 1999; Peranovic & Bentley, 2017; Thorpe, 2012).

Conclusion and recommendations

The findings of this research suggest that there is further action, education and training required for men and their knowledge of menstruation, period products and strategies to support individuals to participate in adventurous activities. A socio-biological-cultural approach that bridges biological and social binaries provides a lens that will support active remediation (Thorpe, 2012). These should be at all the levels of action for inclusion identified by Anderson et al. (2021): Awareness, intentional and strategic. Although the focus of this research was on adventurous activities, the scope of application is wider than this.

While it may be impossible to make other than limited inroads into deconstructing the stigma and taboo around menstruation, this research makes the following recommendations: Firstly, that toilet facilities are available where possible near to venues promoting adventurous activities with free period products, realistic space to manage menstruation and waste disposal, with inclusive consideration of the wider LGBTQIA+ community of people who menstruate; Secondly, that more education and training is provided around menstruation and its management in the outdoors for men (and women) with shared discussions of good practice; and, thirdly that all outdoor educators, leaders and instructors are encouraged to promote open dialogue with participants around menstruation management to promote an inclusive and accessible participatory environment.

A key question remains about how and where people obtain more knowledge and guidance for best practice about menstruation and its management outdoors. Certainly, there are blogs that reflect people's lived experiences outdoors and advice for personal management of periods outdoors (for example, NOLS, 2021; UKClimbing, 2022) although most refer to 'women' and place the onus on people who menstruate to manage themselves. There is little written in English for leaders although

the recent publication by Education Outdoors New Zealand (EONZ) (Watson, 2022) with its inclusion of indigenous peoples and rainbow⁶-inclusive practices is moving the discourse into a new space.

The research gives testament to the fact that we are not where we might be in respect of promoting and actioning a culture of inclusion or visible commitment around menstruation for participants of adventurous activities. Although key elements for good practice have been identified that reflect a wider recognition of inclusivity, there must be a 'journey of continual improvement' (Anderson et al.,2021). This research has highlighted the need for further open conversations, dialogue and guidance around the topic, particularly with men for the benefit of all those who work and participate in adventurous activities.

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Data availability statement

Data not available due to ethical restrictions.

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⁶ 'Rainbow' describes the wider spectrums of genders, sexualities and sex characteristics

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