

1 **Presentation of self, impression management and the period: A**  
2 **qualitative investigation of physically active women's experiences in**  
3 **sport and exercise**

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16 **Presentation of self, impression management and the period: A**  
17 **qualitative investigation of physically active women's experiences in**  
18 **sport and exercise**

19 The menstrual cycle is an important biological process that can have implications  
20 for women's participation in activities of daily life. The purpose of this qualitative  
21 study was to understand women's experiences, interactions, and perceptions of  
22 sport and exercise participation throughout the menstrual cycle. Five focus groups  
23 with 25 physically active women were conducted to investigate women's  
24 perceptions of their menstrual cycle, their thoughts, feelings, and actions in sport  
25 and exercise environments throughout the menstrual cycle. The dramaturgical  
26 writings of Goffman (1956, 1959, 1967) were used to understand women's self-  
27 presentation and experiences of interactional dynamics in sport and exercise  
28 environments. The findings highlight that the period was the most impactful aspect  
29 of the menstrual cycle on physically active women's experiences of sport and  
30 exercise participation. The results explore strategies that the women adopted to  
31 manage their appearance, concerns that informed women's decision-making  
32 processes, and the women's purposeful impression management when undertaking  
33 sport and exercise during their period, particularly in interactions with male sport  
34 coaches. The findings emphasise the importance of unpacking the often-implicit  
35 norms and expectations associated with the period in order to normalise dialogues  
36 with practitioners (e.g., coaches) and support women's continued participation in  
37 sport and exercise throughout the menstrual cycle.

38 Keywords: Menstrual cycle; menstruation; Goffman; focus group; sport and  
39 exercise; physical activity

40

41 Lay summary: Following five focus groups with 25 physically active women, we found  
42 that concerns over what others might think if they found out that women were on their  
43 period led our participants to choose clothes selectively and suppress their discomfort in  
44 many interactions when participating in sport and exercise situations.

45

46 Implications for practice:

- 47       • Fear of leak of menstrual blood and concerns over subsequent reactions of others  
48       (e.g., coaches, other gym members) makes the period particularly impactful on  
49       how women feel and act in sport and exercise situations.
- 50       • Knowledge of what it means to women to be on their period (e.g., selective choice  
51       of clothing, suppressing of any signs of discomfort) is important for practitioners  
52       in the field to create open and relaxed conversational atmospheres that allow  
53       opportunity for women to open up about their feelings and experiences if they  
54       choose to do so.

55 **Introduction**

56 The period, also known as menstruation, is a biological process that marks the start of  
57 every menstrual cycle and, although on average can last 3-7 days, the duration and  
58 symptoms are unique to the individual (Brantelid et al., 2014). Women's experiences of  
59 menstrual symptoms, such as heavy menstrual flow, fatigue, mood changes, pain, and  
60 discomfort, can affect how women feel and think about themselves (Chrisler et al., 2015;  
61 Fernández-Martínez et al., 2020; Schoep et al., 2019; Spadaro et al., 2018). Menstrual  
62 symptoms, as well as women's fear of heavy menstrual flow and bleeding through clothes  
63 often lead to negative connotations of the period as being messy, dirty, or disgusting  
64 (Fahs, 2020). Such views are reinforced by how the period is presented in societal  
65 narratives (e.g., upbringing – Jackson, 2019; education – Serret-Montoya et al., 2020;  
66 advertising – Wootton & Morison, 2020) that contribute to a sense of silence and stigma  
67 surrounding the menstrual cycle (Johnston-Robledo & Chrisler, 2013; Kowalski &  
68 Chapple, 2000). Previous research has highlighted that the period represents a time in the  
69 menstrual cycle that can be particularly impactful on women's participation in everyday  
70 life. For instance, it has been shown that women did not discuss with others how they feel  
71 during their period (Jackson & Joffe Falmagne, 2013), they hid menstrual products on the  
72 way to and in public restrooms (Moffat & Pickering, 2019), and they wore clothes that  
73 ensure others in the workplace could not see menstrual products (O'Flynn, 2006). Other  
74 strategies that women employ to minimise the risk of others seeing signs of their period  
75 include the reduction in social activities to manage the period in private (Santer et al.,  
76 2008) and use of hormonal contraceptives to avoid the period altogether (Wootton &  
77 Morison, 2020).

78         Beyond activities of daily life, women's sport and exercise participation  
79 throughout the menstrual cycle has so far received limited attention, with research in this

80 field largely focusing on physical performance (e.g., Ross et al., 2017) and injury (e.g.,  
81 Beynnon et al., 2006). A small number of studies that have investigated women's  
82 narratives of sport and exercise throughout the menstrual cycle described the period as  
83 highly individual and indicated a predominantly negative impact on sport performance  
84 and physical activity (Brown et al., 2021; Bruinvels et al., 2021; Findlay et al., 2020;  
85 Kolić et al., 2021; Moreno-Black & Vallianatos, 2005). It has been reported that elite  
86 athletes experienced physical symptoms, mood changes, and reduced motivation to train  
87 on days of their period, which led some women to control the menstrual cycle (e.g.,  
88 through contraception) in order to avoid negative performance effects and period-related  
89 anxiety during competition (Brown et al., 2021). Although elite athletes are prepared to  
90 talk to other women about their menstrual cycle, they perceived a "gender barrier"  
91 (Findlay et al., 2020, p. 1112) when considering period-related conversations with male  
92 coaches. Young women were particularly concerned about the visibility of their period  
93 (e.g., through leakage) and subsequent negative public attention, which was perpetuated  
94 by comments from parents, teammates, and coaches and led women to disguise signs of  
95 the period (e.g., menstrual product) (Moreno-Black & Vallianatos, 2005). Women  
96 therefore generally accepted their menstrual symptoms (Findlay et al., 2020) and  
97 selectively avoided and/or adapted their physical activity routines on days of their period  
98 (Kolić et al., 2021). Kolić et al. (2021) highlighted that avoidance and adaptation of  
99 physical activity routines occurred especially when physically active women participated  
100 in sport and exercise in the presence of others (cf. Brantelid et al., 2014; Slade et al.,  
101 2009), such as other gym goers or coaches. However, physically active women's thoughts  
102 and behaviours in these social situations have yet to be studied in any real depth.

103         Within the context of limited qualitative studies in elite athletic populations  
104 (Brown et al., 2021; Findlay et al., 2020), there remains a paucity of in-depth research

105 into the experiences and strategies adopted throughout the menstrual cycle by physically  
106 active women in the general population (e.g., Kolić et al., 2021; Moreno-Black &  
107 Vallianatos, 2005). Previous research has usefully identified the effect of the menstrual  
108 cycle on women's psychological wellbeing, including interpersonal sensitivity,  
109 depression, and anxiety (Nillni et al., 2015), depressed mood and cognitive symptoms  
110 (e.g., concentration) which could in turn affect their participation in everyday life (Van  
111 Iersel et al., 2016). However, we have yet to support women's voices by highlighting  
112 their unique thoughts, feelings, and behaviours, particularly in interpersonal situations  
113 where the menstrual cycle often continues to be treated as a taboo topic (Johnston-  
114 Robledo & Chrisler, 2013). It is imperative to understand in greater depth "the complex  
115 and varied role" of the menstrual cycle "as well as the profound impact of social factors  
116 on women's lived menstrual experiences" (Johnston-Robledo & Stubbs 2013, p. 6) to  
117 support sport and exercise participation throughout the menstrual cycle. One approach  
118 that is particularly valuable to studying personal experiences in interpersonal situations  
119 is the focus group. Focus groups encourage participants to take control of the  
120 conversation, "develop their views from hearing the perspectives of others" (Moffat &  
121 Pickering, 2019, p. 772), and they provide opportunities for participants to support one  
122 another in unpacking sensitive perspectives, vulnerable moments, and normative  
123 experiences (Kitzinger, 2006). The data generated in such collective conversations can  
124 allow insight into "relational aspects of self, [and] processes by which meanings and  
125 knowledges are constructed through interaction with others" (Wilkinson, 1998, p. 123).  
126 The aim of the present research was therefore to investigate women's experiences,  
127 interactions, and associated meanings of sport and exercise situations throughout the  
128 menstrual cycle. Focus groups were conducted to respond to the following research  
129 questions:

- 130       • What phase(s) of the menstrual cycle do physically active women perceive to be  
131       impactful on their sport and exercise participation? Why do physically active  
132       women think this way?
- 133       • What strategies do physically active women put in place to manage their sport and  
134       exercise participation throughout their menstrual cycle? Why do physically active  
135       women act in certain ways?

136       At the heart of this investigation is the desire to develop an in-depth understanding  
137       of the menstrual cycle as a “socially constructed” experience through the interplay of  
138       biological (i.e. menstrual symptoms) and socio-cultural factors (i.e. social interactions)  
139       (Koutroulis, 2001, p. 188) that is relevant to women’s sport and exercise experiences. To  
140       explore how physically active women present themselves and manage their behaviours  
141       in sport and exercise on days of their period, we turn to Goffman’s (1956, 1959, 1967)  
142       dramaturgical work on the presentation of self in everyday life, which provides an  
143       insightful framework “for examining body management in social interaction” (Koutrolis,  
144       2001, p. 189). The insights gained from this study are hoped to help normalise  
145       conversations about the menstrual cycle and its impact on women’s sport and exercise  
146       participation and inform the understanding of not only the academic community, but also  
147       practitioners in sport, exercise, and women’s (menstrual) health.

148

### 149   **Theoretical framework**

150   Most people are concerned with how they present themselves and the impressions they  
151   make on others around them (Dimmock et al., 2020). In applied sport and exercise  
152   settings, athletes have particular interest in portraying desirable versions of themselves,

153 for instance, to manage competitive anxiety (McGowan et al., 2008), body image  
154 concerns (Thørgersen-Ntoumani & Ntoumanis, 2007), and promote team efficacy and  
155 team performance (Myers et al., 2004). Physically active, menstruating women have to  
156 take into consideration an array of factors (e.g., menstrual blood, bloating, fatigue), which  
157 inform how they position and reposition themselves in sport and exercise environments  
158 throughout their menstrual cycle (Koutroulis, 2001). We turned to Goffman's  
159 dramaturgical analysis of everyday life to understand how physically active women acted  
160 in sport and exercise situations throughout the menstrual cycle, why they acted in certain  
161 ways, and how social forces shaped their perspectives (Shulman, 2017). The  
162 dramaturgical lens offers conceptual tools to examine face-to-face interactions, to  
163 investigate behaviours that people convey and, sometimes more importantly, choose not  
164 to convey in social encounters (Shulman, 2017). Goffman's ideas regarding the  
165 presentation of self and impression management were particularly fruitful to interpret  
166 how physically active women sought to manage their appearances and interactions when  
167 participating in sport and exercise situations.

168         When participating in social life, Goffman (1959) theorised that people deliver  
169 performances in so-called regions of performance. The front stage region comprises of  
170 social situations where people expect others to judge their behaviours. On the front stage,  
171 people therefore seek to deliver performances that are credible and authentic (Shulman,  
172 2017). Preparation for front stage performances occurs in the back stage region that  
173 allows people to rehearse behaviours, reflect upon past performances, and plan for future  
174 interactions (Goffman, 1959). Sometimes the back stage is a space we have to ourselves  
175 and other times we invite other people into this space if we feel we can trust them in  
176 helping us enact desired performances. Front and back stage regions are therefore in flux  
177 depending on people's distinct interpretations of their surroundings (Goffman, 1959). As

178 people participate in different social environments, they demonstrate a range of  
179 performances that aid the development and upholding of a social persona (Shulman,  
180 2017). Goffman considered such routine behaviours ‘institutionalised’ if stereotypical  
181 expectations exist to help people make sense of them (e.g., hide menstrual products in  
182 social situations because the period is something that must be managed in private). People  
183 align their actions with institutionalised behaviours when they desire to build a social  
184 persona that fits with established norms in those social settings that they wish to belong  
185 to (Goffman, 1959). To maintain expressive control of their persona, people use  
186 expressive equipment that can include habits, characteristics, or items (e.g., clothing;  
187 Goffman, 1959).

188         With the help of expressive equipment, a person (the performer) seeks to control  
189 their behaviours in ways that lead others in the social situation (the audience) to recognise  
190 their keeping of a particular status (Goffman, 1956). By controlling behaviours and  
191 enacting performances in ways that give the audience an impression of an authentic social  
192 persona, performers engage in so-called impression management. It is important for  
193 performers to play their roles credibly to maintain or elevate their social status (Shulman,  
194 2017). Lack of control in a social situation could lead the audience to doubt the performer  
195 and the social persona they were hoping to enact (Goffman, 1959). People therefore seek  
196 the approval of others and avoid communicating out of character, because of concerns  
197 over negative comments from their audience and a desire to avoid the embarrassment that  
198 would arise from portraying “incompatible definitions” (Goffman, 1956, p. 264) of a  
199 social persona. When somebody or something, however, does spoil a person’s  
200 performance and puts at risk the impression given to the audience, restorative steps are  
201 taken to save face (Goffman, 1967). Here, the performer can adopt defensive practices to  
202 protect their social persona (e.g., attend football practice in spite of menstrual discomfort

203 without mentioning this to the coach; Goffman, 1959). Usually, it is in the interest of the  
204 performer and the audience to stage predictable behaviours as they render a sense of order  
205 and certainty (Shulman, 2017). This is so, based on people's desired to maintain "social  
206 systems that organize all of that interactional traffic" (Shulman, 2017, p. 7).

207

## 208 **Methodology**

### 209 *Paradigm*

210 This study was embedded within the interpretivist research tradition to facilitate an in-  
211 depth understanding of how women view, interpret, and adapt to individual and social  
212 experiences with sport and exercise throughout the menstrual cycle. To position our  
213 research, we will now outline the ontological, epistemological, and methodological  
214 assumptions that guided this study.

215 Interpretivist ontology, which is concerned with "the structure of reality" (Crotty  
216 1998, p. 10), recognises multiple social realities which individuals inform through  
217 interactions (Hammersley, 2012). Realities are therefore dynamic and dependent upon  
218 the perceptions of those who participate in them (Schwartz-Shea & Yanow, 2012).  
219 Throughout the present study, we recognised that physically active women's experiences  
220 evolved in interaction with their surroundings and were dependent upon situational  
221 characteristics of the sport and exercise situations in which they participated on days of  
222 their period (e.g., experiences of menstrual symptoms, relationships to peers and coaches,  
223 physical environment – gym or training ground).

224 Interpretivist epistemology, which concerns itself with the knowledge that we  
225 develop in social realities, recognises knowledge as individually and socially constructed  
226 (Crotty, 1998). Emphasis is on exploring the subjective knowledge of those, who are at

227 the centre of qualitative inquiry (Flyvbjerg, 2001). In the present study, we therefore  
228 recognised both the researcher and participants as active agents, who contributed to  
229 context-specific and interpersonal processes of meaning creation (Schwartz-Shea &  
230 Yanow, 2012). Together, the researcher and participants created knowledge in the form  
231 of physically active women’s recollections of sport and exercise experiences on days of  
232 their period and reflections upon the diverse perspectives of different participants.

233 To this end, we drew on idiographic methodology that focused on “contingent,  
234 unique, and often subjective phenomena” (Mallett & Tinning, 2014, p. 17). The  
235 overarching aim of idiographic methodology is to provide elaborate accounts of selected  
236 cases, such as one or more persons, organisations or occasions, which facilitate in-depth  
237 study of the diverse perspectives of those who are at the centre of the inquiry (Markula &  
238 Silk, 2011). We therefore drew on qualitative methodology to provide opportunity for the  
239 participants to share their diverse experiences in interaction with the researcher and other  
240 focus group members.

241 Our alignment with interpretivist ontology, epistemology, and methodology  
242 prompted us to act in a transparent and reflexive manner throughout the present study,  
243 considerate of the diverse understandings, meanings, and experiences that we as  
244 researchers brought to the research process as well as those that the study participants  
245 defined in sport and exercise situations throughout the menstrual cycle.

246

### 247 ***Participants***

248 Following ethical approval from the Institution Review Board of the principal author, the  
249 research team distributed recruitment leaflets among university staff and students,  
250 through public and university sport clubs, and fitness centres. Participant recruitment was

251 purposeful and participants had to meet the following criteria: (i) women aged 18 years  
252 or older with regular menstrual cycles (i.e. cycle length of 21 to 35 days [Fraser et al.,  
253 2011]) and (ii) be physically active, engaging in sport, exercise, or physical activity three  
254 times per week. Typical activities could include some or all of the following: sport  
255 participation (training and matches), resistance training, cardio-vascular training (e.g.,  
256 walking or running), Cross Fit, and exercise classes (e.g., fitness, swimming, Pilates).

257 Twenty-five participants, aged 20 to 35 years, took part in five focus groups,  
258 which were led by the principal author and arranged at mutually agreed times and  
259 locations with all participants.

260

### 261 *Data collection*

262 Five focus groups with 25 participants (five participants per group) lasted an average of  
263 75 minutes and ranged from 61 to 90 minutes. Focus groups with participants, who knew  
264 others within focus groups privately, promoted relaxed atmospheres and encouraged the  
265 development of elaborate accounts (Sparkes & Smith, 2014; Wilkinson, 1998). While the  
266 suitability of focus groups to study sensitive topics has been questioned (Madriz, 2000),  
267 it has also been considered whether the menstrual cycle was in fact a sensitive topic or  
268 whether the aforementioned questioning was as an example of “the social pressures to  
269 disappear menstruation from social view (including discourse)” (Moffat & Pickering,  
270 2019, p. 772). Throughout focus groups, the principal author therefore reminded herself  
271 that the participants’ openness and detail of accounts would vary depending on how  
272 comfortable they felt to talk about their menstrual experiences. She shared her own  
273 experiences to help ‘break the ice’ (Moffat & Pickering, 2019) and to reassure participants  
274 that focus groups represented opportunities for women to “empower themselves by

275 making sense of their experiences of vulnerability” (Madriz, 2000, p. 843).

276           When determining the size of focus groups, the authors sought a balance between  
277 groups small enough to allow participants many opportunities to contribute, while  
278 ensuring the groups were big enough to facilitate interactional dynamics (Sparkes &  
279 Smith, 2014). A similar balance was sought when considering the number of focus groups  
280 conducted for the purpose of this study. Following recent recommendations by Braun and  
281 Clarke (2021), ongoing reflection regarding the richness and diversity of the focus group  
282 data in addition to pragmatic constraints (e.g., the principal author was due to take a  
283 period of extended leave) led the authors to the in-situ decision to halt data collection  
284 after five focus groups.

285           A focus group guide was utilised that outlined topics of interest and example  
286 questions. Each focus group started with a brief summary of the research and questions,  
287 following which the principal author explored women’s experiences with the menstrual  
288 cycle and sport and exercise situations. Focus groups began with questions about how the  
289 participants felt throughout the menstrual cycle; how the participants managed their sport  
290 and exercise participation throughout the menstrual cycle; which phases(s) of the  
291 menstrual cycle affected the participants’ sport and exercise participation; and why  
292 participants thought, felt, and acted in certain ways. Although focus groups were designed  
293 to discuss women’s sport and exercise participation throughout the menstrual cycle,  
294 within all focus groups, the period dominated the participant responses. In response to  
295 participants’ “high degree of control over the direction and content of the discussions”  
296 (Sparkes & Smith 2014, p. 87), focus groups also explored what attitudes and opinions  
297 about periods the participants believed to be inherent in sport and exercise environments  
298 and how these attitudes and opinions made the participants think, feel, and act.  
299 Participants were invited to prompt one another, to pose questions, to share experiences,

300 and to comment on the perspectives of other participants (Kitzinger, 2006). The principal  
301 author acted as a moderator, who moved the conversation from one topic to another and  
302 guided the participants with open-ended questions, comments, and summaries (Sparkes  
303 & Smith, 2014). Focus groups were audio- and video-recorded with participant consent  
304 and transcribed for further interpretation.

305

### 306 *Data analysis*

307 Reflexive thematic analysis was used to identify patterns of meaning across focus groups  
308 (Braun et al., 2016). It represented an active and generative process during which the  
309 researchers' subjectivity served as "an analytic resource" in "their reflexive engagement"  
310 with focus group data (Braun & Clarke, 2021, p. 330). Reflexive thematic analysis offered  
311 the researchers flexibility to act in a recursive manner by moving back and forth between  
312 different phases of the research process (Morgan & Nica, 2020). This allowed the  
313 researchers to draw on relevant concepts in Goffman's theoretical contributions to inform  
314 their evolving interpretations (Braun & Clarke, 2019).

315 For the purpose of this study, we followed the analytic process outlined by Braun  
316 et al. (2016) beginning with data familiarisation, which involved the principal author  
317 reading and re-reading focus group transcripts to immerse herself in the data. Secondly,  
318 the principal author generated succinct codes that identified important passages in the  
319 data, which were considered relevant to respond to the research questions. Here, the  
320 analysis centred on emic readings of the data, which focused on context-specific  
321 interpretations of participant experiences (Tracy, 2020). Analytical questions included  
322 "What are the participants' experiences of sport and exercise participation throughout the  
323 menstrual cycle?", "How do the participants conduct themselves in sport and exercise

324 throughout the menstrual cycle? Why do they act in certain ways?”, “What phases of the  
325 menstrual cycle affect the participants’ sport and exercise participation? Why do the  
326 participants think this way?”, “What opinions about periods do the participants believe to  
327 be inherent in the perspectives of others in sport and exercise? Why do the participants  
328 think this way?” Analytical questions helped generate codes that identified, for example,  
329 the period as a phase that impacted sport and exercise participation, menstrual symptoms,  
330 clothing (e.g., dark colour, long sleeves), decisions regarding types of exercise, silence  
331 and hiding of the period, tracking and planning, conversations among women,  
332 conversations in sport and exercise. Then, the principal investigator began to generate  
333 initial themes for the purpose of which she examined codes and collated the data into  
334 wider patterns of meaning (i.e., potential themes). The main two themes generated  
335 throughout this process related to the participants’ self-management (including menstrual  
336 symptoms and behaviours in sport and exercise) and the participants’ perceptions and  
337 management of interactions in sport and exercise. The whole research team came together  
338 to review, name, and agree themes as “patterns of shared meaning underpinned by a  
339 central organising concept” (Braun & Clarke, 2019, p. 589). To accomplish this, the  
340 research team looked over the data extracts allocated to different codes and themes and  
341 relocated them, if this was felt appropriate. Finally, led by the principal author, the  
342 analysis moved to the writing up phase, which interweaved the data with an “analytic  
343 narrative”, that provided a detailed and in-depth “interpretative commentary” (Braun et  
344 al., 2016; p. 203). Following the initial data familiarisation and coding, when refining  
345 themes and developing a written narrative, etic interpretations that considered how  
346 Goffman’s dramaturgical ideas could inform in-depth interpretations became  
347 increasingly important (Tracy, 2020). Questions that guided the theoretical interpretations  
348 included, “What performances do the participants aim to deliver on the front stage of

349 sport and exercise?”, “Why do the participants enact these performances?”, “What  
350 strategies do the participants use to deliver these performances?”, “What impressions do  
351 the participants want to give?”, and “Why do the participants want to give these  
352 impressions?” and helped generate theoretically informed themes relating to the  
353 participants’ presentations of self and to their impressions of self in sport and exercise  
354 (see Findings and discussion).

355         When considering the rigor of this study, we aligned our thinking with a relativist  
356 approach, moving away from universal quality criteria toward considerations that were  
357 crucial to our inquiry (Smith & McGannon, 2018). Specifically, we ensured that the  
358 execution of the study, including the data collection, analysis, and interpretation, aligned  
359 with the ontological and epistemological positioning of interpretivism (Smith &  
360 McGannon, 2018). Secondly, we worked towards thick descriptions of participant voices  
361 (Ponterotto, 2006). The rich data extracts presented in the findings and discussion section  
362 and their theory-informed interpretations aim to be of value in other research contexts  
363 (Smith & McGannon, 2018), for instance to those studying athletes’ experiences across  
364 sports and sporting levels or those interested in utilising Goffman’s dramaturgical texts  
365 to make sense of menstrual experiences within and outside of sport and exercise contexts.  
366 Finally, the research team acted as critical friends, who supported reflection and offered  
367 alternative interpretive possibilities (Smith, 2018; Smith & McGannon, 2018).

368

## 369 **Findings and discussion**

370 Following the recursive analysis of focus group data, two areas were explored for the  
371 purpose of this paper. Although focus groups explored the physically active women’s  
372 sport and exercise participation throughout the menstrual cycle, the participants

373 highlighted the period as most impactful on their sport and exercise participation and their  
374 enjoyment of being physically active. The first theme therefore unpacked how the  
375 participants managed sport and exercise participation during their period with particular  
376 attention on the strategies employed to hide signs of their period. The second theme was  
377 concerned with the ways in which the participants managed the impressions given to  
378 others when interacting with coaches and training partners on days of their period.  
379 Throughout this section, pseudonyms are used to ensure anonymity of participants.

380

381 ***Presentations of self on days of the period***

382 The participants in the present study agreed that the period represented a particularly  
383 important time of the month that required “regulation of their bodies” (Chrisler, 2008, p.  
384 7) and led them to reconsider their sport and exercise participation. Sport and exercise  
385 situations represented the front stage of social life (Goffman, 1959), where the  
386 participants performed on days of their period to convince their audience (i.e. others in  
387 sport and exercise settings) of the social persona they portrayed when they were not on  
388 their period (i.e. well and fit to play sport; Fischer et al., 2007; Shulman, 2017). The  
389 period therefore prompted participants to prioritise activities that they could perform, as  
390 they would normally do at other times of the menstrual cycle. For example, Fiona, Lisa,  
391 and Evelyn said:

392       Fiona:     If you’re doing a HIIT class, you don’t feel great doing the squats or the  
393                   burpees when you’re on a period if you’re wearing a sanitary towel,  
394                   because you can feel it coming out. So they’re ones to avoid.

395       Lisa:       If I was on my period, I’d do something like cycling where I’m sat down.  
396                   It’s safer. You can still do your gym as you’d normally do but kind of  
397                   ... without having to worry about the period.

## Sport, exercise, and the period in physically active women

398 Evelyn: I'm the same, like I wouldn't go to a Pilates or a Yoga class or anything  
399 like that if I was on period and instead, I'd opt to do some resistance  
400 training or something. **(Group 2)**

401 Similarly, Emma described:

402 Emma: I think if I go to the gym on my first day, I won't do legs or bum, I  
403 would do like upper body and I won't go to the swimming pool that  
404 week to be fair. I don't tend to go on my period.

405 Researcher: Why is that?

406 Emma: I don't know, I am just like, "I can't do it". I just don't feel comfortable  
407 in a swimming costume while I am on my period... or squatting and  
408 things like that when I'm bleeding. It's being around other people... I  
409 wouldn't want to seem off or anything. Upper body is a safer choice.  
410 **(Group 4)**

411 One of the primary reasons why their period was such a crucial time of the menstrual  
412 cycle were concerns of leakage and the embarrassment that would arise if others saw  
413 menstrual blood (Brown et al., 2021). The participants' perspectives pointed towards  
414 internalised views of the period as a matter of silence that had led them to treat the period  
415 as something that must remain private in public spaces (Jackson, 2019; Jackson &  
416 Falmagne, 2013; Wootton & Morrison, 2020). For instance, Tess, Vera, and Emma  
417 described their experiences in the following way:

418 Tess: My periods were always heavy. I get worried thinking, "Have I  
419 leaked?"

420 Vera: I know what you mean.

421 Tess: That's my worry.

422 Emma: Especially when you're in tight leggings in the gym and you're like,  
423 "Oh no, what if like I leaked and the whole gym is going to see?"

424 Tess: As soon as your session's done, back to the toilet, so it's like a military  
425 operation.

426 Emma: It is, isn't it?

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427 Tess: Yes, checking, making sure I have not leaked. Sometimes I feel on edge  
428 as well, like when I sit down. Have I had an accident?

429 Vera: I was playing football and we had a white kit. It was my worst  
430 nightmare being on my period and leaking on the pitch. I had nowhere  
431 to go. I was in the middle of a field playing football. I always have to  
432 wear undershorts and I wore black undershorts, but there was a time  
433 where I had leaked through my pants, my undershorts. Then it had just  
434 started to go onto the shorts as we finished. It didn't go all the way  
435 through, so it wasn't visible, but you could just see it on the line and it  
436 was awful, really awful.

437 Researcher: Oh no... when did you notice?

438 Vera: When I got home. It wasn't a straightaway instinct to look, but when I  
439 got home I was like, "Oh my god if I stayed longer it could have got so  
440 much worse". I have had these situations and I am just like, "If I had  
441 stayed longer somewhere it would have been visible". **(Group 4)**

442 The participants worried what others might think if they found out that they were  
443 menstruating and therefore adhered to "menstrual etiquette" (Sommer et al., 2015, p.  
444 1303) by demonstrating institutionalised behaviours (Goffman, 1959) that fit with  
445 established expectations of how physically active women 'should' act in sport and  
446 exercise environments (cf. Kowalski & Chapple, 2000). This was important for the  
447 women to avoid delivering a performance that did not fit the social persona that helped  
448 them maintain the social status they had secured as non-menstruating women in sport and  
449 exercise situations (Goffman, 1956; Shulman, 2017).

450 It was therefore important to prevent leakage. To achieve this, the participants  
451 implemented self-management strategies (cf. Armour et al., 2019; Chen et al., 2016). The  
452 strategies commonly included the use of big menstrual products and underwear as Emma,  
453 Tess, and Vera explained:

454 Emma: Normally, I would wear a thong. When I am on my period, I am, "Right  
455 let's get the granny pants out." [Laugh]

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- 456 Tess: Yes, high ones. Not low ones or little ones.  
457 Vera: If you leak there's more...  
458 Emma: More material to soak it up.  
459 Tess: I can put a bigger pad in. It sticks on better instead of little ones. If I am  
460 out and about, so it doesn't rub. And I need the big one because my  
461 periods are quite strong at the start. The little ones are of no use for that,  
462 I need the bigger pads to soak up all the blood.  
463 Vera: Yes, definitely the bigger ones give more material to soak up the leak.  
464 **(Group 4)**

465 It was of further importance to the participants to be mindful of their physical appearance  
466 in front of others. The participants planned which clothes they would wear on days of  
467 their period to minimise the risk of leakage. As the following grouped quotations  
468 exemplified, the colour and fit of clothes as well as having spare clothes available were  
469 most important:

- 470 Lisa: I change what outfit I wear. I do always wear leggings or shorts but like  
471 adapt which pair depending on their fit. I need to know they fit when  
472 I've got a pad in, if that makes sense.  
473 Nina: Yes, definitely change your clothes.  
474 Beth: And colour, always black, dark colours. Just in case. You never know...  
475 Lisa: I carry spare pants with me. Because I leaked through my skirt. I had to  
476 go to the toilet and wash it off so I always keep spare pants – just to be  
477 prepared for those situations. **(Group 3)**  
478  
479 Olivia: I quite often pack leggings and shorts so if I am on and it's one of the  
480 first two days I will probably never wear leggings.  
481 Paula: I will wear shorts and t-shirts.  
482 Rebecca: My gym wear changes completely and I just got the same lot that I wear  
483 each period. **(Group 5)**  
484  
485 Kate: I'd wear probably just dark leggings and a baggy top whereas today  
486 I've got a crop top underneath this but I would never dream of wearing  
487 that if I was on my period.

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488 Megan: I think I would also; most of my sports gear is black anyway. I think I  
489 would go for tights than shorts.

490 Kate: Yes, I wouldn't wear shorts. Way too loose, I'd constantly think about  
491 my pad. **(Group 1)**

492 Although individual clothing choices for sport and exercise participation varied on days  
493 of the period, the participants shared preferences of dark colours and styles that enabled  
494 easy use of menstrual products. The participants utilised clothes and menstrual products  
495 as expressive equipment (Goffman, 1959) that helped them maintain expressive control  
496 over the social persona they portrayed in sport and exercise situations. The thoughtful  
497 planning reflected in the data presented so far, demonstrated that the participants were  
498 self-surveillant and hyper-vigilant to ensure they were prepared when their period started  
499 and implemented effective concealment strategies that would allow them to be seen to  
500 behave as non-menstruating women do (Wootton & Morison, 2020).

501

### 502 *Impressions of self in sport and exercise*

503 Having identified that the participants sought to manage their appearance in sport and  
504 exercise, it was of further interest to unpack considerations relevant to interactions with  
505 others. The women spoke in depth about their interactions with coaches, agreeing that  
506 they did not discuss anything period related (e.g., pain or fatigue) with coaches, as they  
507 did not want to be seen in any way other than their fit self. The participants wanted to  
508 demonstrate to coaches a willingness to play sport at all times and did not want the period  
509 to be used 'against them'. The following grouped data extracts exemplified how the  
510 participants acted and why they did so in certain ways:

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511 Megan: If you train regularly and all of a sudden, your muscles ache a bit or  
512 you're uncomfortable within your own body you won't be able to push  
513 it 100% during training. And then, you sometimes get a comment like,  
514 "Oh what's going on with you?" from your coach in front of your group  
515 and you have to go like, "Well, ummm, hmmm". If it's a good  
516 environment, then people usually understand but in male dominated  
517 sports it's just not fun to say.

518 Anna: Yeah I think that's particularly hard. That's why all the conversations  
519 go on in the changing rooms. They very much stop by the time you sort  
520 of get out and you're with the coach. **(Group 1)**

521  
522 Olivia: If you tell the coach, "I have stomachache or cramps", they will be like,  
523 "Well can you at least try?" At least if they see that you have tried and  
524 have not put in the usual shift, they can then take you off.

525 Rebecca: I think they see it as an excuse. And it's not something that you  
526 broadcast or feel can broadcast. Especially towards coaches, like  
527 amongst yourselves it's not too bad.

528 Researcher: So what makes you feel as though you can't say something to the coach  
529 about your period?

530 Sophie: They might say, "What do you want me to do about it" or "Man up a  
531 bit". They don't understand.

532 Paula: I want to play at weekends. I have to go to training, otherwise there are  
533 implications.

534 Rebecca: Even though you might not be feeling great in training, you just go. You  
535 just turn up and do the session however you can.

536 Olivia: It's a sign of weakness. If you don't go training you don't get played. If  
537 you turn up and you are like, "I am really feeling terrible", it's almost  
538 better to play below your standard and get subbed at seventy minutes.  
539 Or just bench at the start, get twenty minutes because then at least you  
540 are there, you are showing willingness to play. **(Group 5)**

541 The participants were mindful of how they acted on the front stage of sport and exercise  
542 and sought to give the "impression of a well-functioning self" (Fischer et al., 2007, p.  
543 1308). This impression management (Goffman, 1959) was particularly important when  
544 the women attended training sessions led by male coaches. The participants did not speak

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545 to these male coaches about pain, discomfort, or heavy menstrual flow because they  
546 worried about men's reactions (Brown et al., 2021). The participants expected a lack of  
547 understanding from male coaches, who did not know what it felt like to menstruate. The  
548 period and associated signs (e.g., blood or fatigue) threatened the reality that the  
549 participants aimed to portray in sport (Shulman, 2017). They worried about the  
550 consequences if they were to show coaches how they really felt "behind the mask" they  
551 wore on days of their period (Goffman, 1959, p. 206). Endeavouring to act in a competent  
552 manner, the participants therefore regulated behaviours (Fahs, 2020) to avoid potential  
553 awkwardness or judgement from male coaches, which previous research has shown to  
554 occur if men perceived women's openness and information about the period as too  
555 graphic (Peranovic & Bentley, 2017). For instance, Megan, Danielle, Anna, and Kate  
556 suggested:

557 Megan: It's so awkward especially for men.

558 Danielle: But why is it awkward for men?

559 Megan: I don't know, because they don't know it and it's not talked about.

560 Anna: Yes I guess if you were to ring up your coach, who was a man and say  
561 these are my problems, he couldn't really gauge in his head whether  
562 that was a real problem or not. It's difficult really because I guess  
563 women would naturally gravitate to other women to talk about it.

564 Megan: I think for men, it's sometimes just as awkward or even more awkward  
565 to have the discussion if you're a coach.

566 Kate: If you don't understand it as well.

567 Anna: Or is it literally just, "I've never been through it, I don't understand".

568 **(Group 1)**

569 Heather, Fiona, Chloe, and Isabelle expanded on the idea that men's lack of understanding  
570 could stem from a lack of personal experience with the period coupled with limited public  
571 discourses addressing the period:

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- 572 Heather: I think it's just still a little bit like, not taboo, but like just actually not  
573 spoken about. It's ignored by most people as a subject. I guess, is it  
574 because it doesn't affect men or... or they don't feel like they could talk  
575 about it. I still think it's just a subject that's kind of, it's something that  
576 affects, well most women but you just crack on and get on with it.
- 577 Chloe: Well it's the sort of thing that... in my experience, men just don't want  
578 anything to do with it. It just makes them uncomfortable. I don't think,  
579 it's not spoken about in my circle unless it's a group of girls.
- 580 Fiona: I'd say it's a taboo subject... when I'm reflecting on it, I realise it's not  
581 really been brought up, so I guess we only, at our own level, talk about  
582 it if we want to...
- 583 Isabelle: Yeah but it's not spoken about publicly. So, I don't think you ever think  
584 about it as a man. **(Group 2)**

585 Our study participants believed that disclosure of their menstrual status represented a  
586 vulnerability that could be used against them (Brantelid et al., 2014; Koutroulis, 2001)  
587 and they therefore showed a willingness to play sport even when they did not feel well  
588 because of their period. In line with previous research, which has shown that men  
589 considered a woman less competent after they had witnessed signs of the period (e.g., a  
590 woman accidentally dropping a menstrual product – Roberts et al., 2002), our participants  
591 feared negative consequences for their contribution to sport. They endeavoured to “save  
592 face” and adopted “defensive practices” (Goffman 1959, p. 1967) by attending training  
593 sessions and investing as much effort as possible without ever communicating to coaches  
594 if they were in discomfort because of their period.

595 Contrary to a reluctance to open up to men, the participants did not feel the need  
596 to use impression management in the same way when they were with female training  
597 partners. They felt that they could openly speak to women about how they felt on days of  
598 their period and found support in knowing that other women could relate to what it felt  
599 like to menstruate. As an example, Heather, Isabelle, and Chloe believed that periods  
600 united women:

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- 601 Heather: I'd preferably want to tell a female.
- 602 Isabelle: Another female.
- 603 Heather: I think there can be solidarity sometimes.
- 604 Chloe: Definitely.
- 605 Heather: Like if I'm with one of my mates and it just happened to me and I'm on  
606 my period, I don't know sometimes there's that little like we're both  
607 women and we have periods. I wouldn't say that's particularly nice, but  
608 I do think there can be that solidarity side to it. You're both going  
609 through the same thing and one will be like, "Yes I feel so bloated  
610 today" and you'll be like, "Me too".
- 611 Fiona: It does bring you together and you feel like you've got each other's back  
612 more, I think. **(Group 2)**

613 The view that women could lean on each other extended beyond talking about the period  
614 into helping each other maintain expressive control (Goffman, 1959) over the period  
615 during training sessions. The participants believed that women shared a frame of  
616 reference when it came to menstrual experiences (Brantelid et al., 2014). They therefore  
617 disclosed their menstrual status and vulnerabilities they associated with the period and  
618 invited trusted women onto the back stage as supporters of the social persona that they  
619 were hoping to convey in sport and exercise situations (Goffman, 1959). Vera, Emma,  
620 Tess, and Laura discussed in this context:

- 621 Vera: I have been in a situation where like I have asked somebody to look out  
622 to see if there's like a tampon string or anything for me?
- 623 Emma: Or if I am squatting, I am like there is nothing there is there?
- 624 Tess: Yes, I have done that before.
- 625 Vera: Because I don't want to be embarrassed in front of other people.
- 626 Tess: Especially when you are hot and sweaty.
- 627 Laura: And you just say to a friend, "I am on my period, I hope I have not  
628 leaked" and they say, "No you are alright".
- 629 Researcher: What's the worry here?
- 630 Vera: I don't actually know because you shouldn't actually care because they  
631 are nobody to you.

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632 Emma: I don't know maybe I think they think I am unhygienic and not looking  
633 after myself. You know, how boys or girls might be like, "Oh, she's got  
634 dead greasy hair like she doesn't shower". They might think the same  
635 like, "Oh, she's not taking care of herself, like going to the toilet when  
636 she needs to go". So maybe that's why.

637 Tess: It's that embarrassment. My friend knows me, I can trust them to look  
638 out for me. I might not know the other people at the gym, but I wouldn't  
639 want anyone to know I'm on the period because it's not really  
640 something you'd kind of address in that setting. I'd be mortified to go  
641 back to the gym if anyone knew. **(Group 4)**

642

### 643 **Applied implications**

644 Our study supports initiatives, such as Free Periods and #MenstruationMatters, that work  
645 to break menstrual stigma, encourage people to speak openly about the period, and  
646 facilitate access to menstrual products (Brighter Communities Worldwide, 2020; Free  
647 Periods, 2021). Indeed, our participants highlighted that availability of menstrual  
648 products was essential for sport and exercise participation on days of their period. This  
649 knowledge is relevant to sport clubs and gym facilities, as their provision of free  
650 menstrual products would facilitate easy access to menstrual products in sport and  
651 exercise, which could in turn help ease women's fears around leakage of menstrual blood  
652 on days of their period.

653 Our study participants suggested that they sought to continue their sport and  
654 exercise participation on days of their period with some adaptations that catered for  
655 physical wellbeing, energy levels, and expected consequences that complete sport and  
656 exercise avoidance might have (e.g., a missed training session sometimes meant that the  
657 next match could not be played). An understanding of the period as a process that is  
658 subjectively perceived and therefore managed by women in different ways is of relevance

659 to sport and exercise practitioners (e.g., coaches, fitness instructors and personal trainers)  
660 as part of their continuous professional development around women's health (Clarke et  
661 al., 2021). Of particular importance are our participants' descriptions of an awkwardness  
662 that they usually perceived around men. Sport and exercise practitioners might therefore  
663 want to reflect upon their own understandings and assumptions of the period. Although  
664 not all women might wish to disclose their menstrual status, practitioners can break the  
665 silence surrounding the period by embedding the menstrual cycle as a topic of discussion  
666 when planning for training and performance. Such efforts to normalise conversations  
667 about the period could go a long way to reduce its status as an awkward, silenced topic.

668

#### 669 **Limitations and research directions for qualitative inquiry**

670 While the present study set out to explore physically active women's experiences of sport  
671 participation across the menstrual cycle, the findings and discussion focused on the  
672 participants' experiences of their period. Participants steered focus group conversations  
673 towards the period, as it was most impactful on their sport and exercise participation  
674 (requiring planning, preparation, and behaviour change). A limitation of the present study  
675 might therefore be that it did not explore other phases of the menstrual cycle. Of particular  
676 interest to future qualitative inquiry could be the luteal phase, which has been associated  
677 with symptoms of fatigue, bloating, appetite changes, poor concentration, etc. (known as  
678 premenstrual syndrome [PMS] or premenstrual dysphoric disorder [a severe presentation  
679 of PMS]) that can affect women's participation in everyday life (Johnson, 2004; Rapkin  
680 & Winer, 2009).

681 In the present study, focus groups with physically active women, who knew each  
682 other privately, prompted free flowing dialogues as the participants discussed aspects that

683 were important to them. However, focus groups might prevent some participants from  
684 expressing their thoughts freely, particularly when discussing topics, such as the  
685 menstrual cycle, that could lead to memories of discomfort, vulnerability, or  
686 embarrassment. Future qualitative research investigating women's sport and exercise  
687 experiences throughout the menstrual cycle might therefore seek to employ in-depth one-  
688 to-one interviews to allow participants to elaborate on "norms, decision making,  
689 interpretations, motivations, expectations, hopes, and fears" in an intimate setting (Guest  
690 et al., 2013, p. 116). Particularly cyclical interviewing (e.g., two interviews per  
691 participant) with a female researcher could give participants with different personality  
692 characteristics (e.g., introvert) and menstrual experiences the opportunity to take a slower  
693 pace at opening up about their menstrual experiences (Read, 2018).

694

## 695 **Conclusion**

696 The present qualitative study demonstrated that although the period represented an  
697 impactful time of the menstrual cycle that affected how physically active women felt and  
698 acted, our study participants sought to continue their involvement in sport and exercise  
699 on days of their period. To increase their comfort and confidence to participate in sport  
700 and exercise, the participants implemented strategies to manage their period, including  
701 the use of menstrual products that catered for heavy menstrual flow, underwear that  
702 rendered feelings of control over menstrual flow, and dark coloured or loosely fitted  
703 clothes that would cover leakage of menstrual blood (in case this was to happen). In  
704 addition to period management, our participants managed the impressions they gave to  
705 others in sport and exercise situations, making clear distinctions between male coaches  
706 to whom they endeavoured to demonstrate a fit self and female training partners to whom

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707 they opened up about the period. Our study emphasised that physically active women's  
708 ultimate aim was to hide their status as menstruating women from others in order to  
709 conform to norms and expectations associated with women not on their period.

710

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