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Periods, Pains, Pills, and Performance—Fighting Blood, Bodies and Biology

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ABSTRACT

This paper draws on various data from long-term immersion in combat sports to explore the period experiences of cis women fighters. We blend theoretical ideas from the social scientific literature on menstruation and the sociology of medicalization, pain and injury. Based on rich empirical data and theoretical tools, we argue that the "ontological pervasiveness" of periods resulted in women "fighting" parts of their own biology within traditional male-dominated spaces—by mitigating, managing and minimizing their periods through various strategies. There were specific and potentially damaging consequences that flowed from this. While we center women's bodies, we argue that a key problem is not the bleeding body per se, but rather the way female biology is hidden and ignored. This is particularly evident in how period blood is marked out as symbolically different—rendered shameful and in need of concealment—in contrast to the routinized, accepted and even valorized forms of bleeding that occur through participation in such sports. By "suffering in silence," the tensions between their roles as fighters—as constructed following latent masculinized norms that still frame most sports—and women remained largely unacknowledged.

Women's growing presence in organized sport has challenged long-standing gender hierarchies. Yet their participation continues to unfold within institutional structures and cultural norms historically shaped by "male" experiences (Allen 2014; Channon and Matthews 2015; Hargreaves 1997; Matthews 2016; Theberge 1985). This influences the ways sportswomen train and compete, and how their bodies are perceived, understood and valued—often rendering certain aspects of their physiology as "problems" to be managed. *Periods*[1] *are one such problem*. Goorevich and Zipp (2024) argue that period experiences are rarely considered in sporting contexts, and when they are, they are usually framed as medical issues or performance barriers. Even then, it is often individual athletes who are expected to manage their symptoms discretely, without disrupting the performance-first ethos of their respective sport (Brown et al. 2021; Maclean 2025).

Combat sports, such as boxing, mixed martial arts (MMA) and Muay Thai offer a clear example of this dynamic. Within gyms that specialize in such activities, bleeding is a relatively common occurrence. But not all forms of blood are accepted and accommodated for in a similar fashion. This paper explores the experiences of 46 cis[2] sportswomen who, alongside fighting their opponents, had to minimize, hide and otherwise "fight" their own biology. In what follows, we draw together various theoretical contributions to help contextualize the "male preserve" of sport, pain and injury, and women's sporting performance. We then outline our methodological strategies before turning to our findings. First, we briefly consider women's bodies, periods and their relationship to sport.

1 | Women's Bodies, Periods and Performance Sports

The significance of sociocultural perceptions of women's periods as stigmatized, taboo, humiliating and unsanitary has long been addressed and documented by scholars from various academic

backgrounds (Bobel 2006; Johnston-Robledo and Chrisler 2020; Laws 1991). In seeking to understand the social construction of menstruation, Laws (1991) outlines how, in patriarchal societies, periods and period problems are seen as markers of "femaleness" that are often used to convey beliefs about women's natural physical inferiority. This is, in large part, due to the social meanings of menstruation, including those held by women and "society" more broadly, mostly being developed by, and derived from, men.

Laws (1991) illustrates both these points via the notion of "menstrual etiquette," which comprises social practices that proceed from the idea that women must not make men (and to a lesser extent other women) aware of their periods. Oinas (1998) later demonstrated how this "rule of silence" perpetuates social discourses surrounding menstruation by examining the ways medical experts respond to young women seeking advice about their periods in a magazine advisory column. She stated that "in many of these letters the actual question is how to live as if not menstruating" (56)—that is, how to avoid breaking "menstrual etiquette." While the women's questions were not particularly medical in nature, the answers they were provided tended to reinforce this etiquette by encouraging them to seek medical assistance to gain "normality" and "control" over their bodies.

Persdotter (2020) argues that such "menstrunormativity"—the aggregate of menstrual discourses, etiquette, stigma and shame—sets various and often conflicting standards involving sociocultural and medical ideas that shape how periods should be approached, understood and experienced. And that women's embodiment and acceptance of these norms further fuels their self-surveillance and concealment practices. Linked to this, Wood (2020) proposes the "menstrual concealment imperative" as a conceptual tool to help explain women's vigilance about hiding their periods. She suggests that the influence of medical and neoliberal perspectives on women's health not only results in women internalizing negative perceptions about their periods as dirty, pathologized and stigmatized, but also in them willingly conforming to a self-perpetuating cycle of self-surveillance and management. In this way, Wood (2020) argues that the menstrual concealment imperative acts as a form of social control and oppression that can "disconnect" women who bleed—as a natural result of biological processes connected to human reproduction—from their bodies.

This disconnection is especially pronounced when it comes to the visibility of period blood. Although periods are broadly framed as something to be hidden, it is period blood specifically that occupies a uniquely precarious position. It is not only treated as something to be kept out of sight, but is culturally marked as especially dirty and shameful, more so than blood from other parts of the body (Bramwell 2001; Johnston-Robledo and Chrisler 2020). MacDonald (2007) describes period blood as "liminal"—a fluid that, when visible, threatens the bodily boundaries that differentiate clean from unclean, order from disorder. As such, the act of showing or "leaking" period blood is not simply inconvenient; it is socially transgressive in ways that call into question the containment and control expected of "feminine" bodies.

From such crucial starting points, medical sociologists argue that the process of medicalization—wherein medical knowledge has gained increasing prominence as a frame of reference for social life—has (re)defined natural reproductive functions in women's lives as pathological events that require medical labeling, surveillance and intervention (Conrad and Barker 2010). Wood (2020) bridges these preceding arguments via the notion of (bio)medicalization. This idea captures the ways in which women's bodies, and their periods specifically, are controlled "based on epistemologically flawed biomedical ideologies" that more or less motivate women to transform their bleeding bodies into symbolically non-bleeding ones (324).

This is especially evident in how the "hygiene industry" regulates women's bodies by marketing sanitary products or "technologies of passing" that facilitate period concealment and surveillance under the guise of "health" (Vostral 2008). By enabling them to gain control over their "unspeakable bodies," women are more likely to interpret such management strategies positively as a form of "freedom" (Ussher 2006). This is an example of how (bio)medicalization contributes to "menstrunormativity"—by positioning the medical, technological and pharmaceutical industries as the "experts" on periods in a way that necessitates women be relegated to the role of "patients."

Another dimension of this process can be considered in relation to sport and the "problem" of periods and sports performance. In this regard, evidence suggests that by taking part in such activities, women increase the likelihood of developing menstrual issues and irregularities due to intense and sometimes excessive training (Warren and Perlroth 2001). And within such a context, periods are often portrayed using ideas from the biomedical sciences as a "barrier" to both participation and the development and reaching of sporting potential (Bennell et al. 1999). As a result, the preponderance of research about periods in sports commences from a biomedical starting point that tends to examine the effects of the menstrual cycle and its "disorders" in athletes as physiological (Williams et al. 2015), psychological (Modena et al. 2022) and nutritional variables (Areta and Elliott-Sale 2022). While such work clearly has utility, Johnston-Robledo and Stubbs (2013) are critical of these medicalized and scientized approaches and argue that "when menstruation is stripped of its social, cultural, and political meanings, the diversity of women's experiences with, and perspectives on menstruation, are neglected" (1). And when this happens, such biomedical ways of approaching social life influence what is considered to be a normal period experience.

Some important recent research breaks this biomedical mold by exploring sportswomen's understandings and experiences of their periods during training and competition (Brown et al. 2021; Findlay et al. 2020; Read et al. 2022). A common descriptive focus across all this work was directed towards athletes' thoughts about how their period affected sporting performance. This included a range of overlapping physiological (e.g., cramps, headaches, heavy bleeding) and psychological (e.g., distraction, reduced motivation, fears of leaking) outcomes at different stages of the menstrual cycle, which were accompanied by different management strategies such as self-medication (e.g., analgesics) and the use of various contraceptive interventions.

While these contributions are valuable, we consider Thorpe's (2016) work on amenorrhea and the production of "biomedical subjectivities" to provide greater theoretical utility—interestingly, none of the more recent work cites Thorpe, which is a major oversight. In particular, she placed the women she spoke to within a world where new technologies and knowledge from biomedicine increasingly render the "internal" functioning of women's bodies "visible" and thus more easily surveilled, controlled and governed. She also empirically captured the ways that women frequently sacrificed their health in the name of performance, although her theoretical focus was not directed so squarely at understanding this dimension of women's experiences.

In this paper, we develop Thorpe's (2016) work by more thoroughly situating the period experiences of cis women in performance-sports contexts. And in drawing on the previously discussed contributions from menstruation studies around the silences and medicalized nature of women's bleeding bodies, we add theoretical and empirical detail to this important body of literature. As a means of gaining further analytic purchase on this topic, we consider contributions from the gendered analysis of sport, especially in relation to the "male preserve" thesis and pain and injury.

2 | The Male Preserve, Women, Performance, Pain and Injury

In *The Rugby Club as a Type of "Male Preserve"*, Sheard and Dunning (1973) argue that certain sports became important social spaces for the preservation and expression of traditional masculine values, behaviors and ideologies. In later work, Dunning (1986) extended this argument, suggesting that increasing levels of interdependence within and across various modern societies generally, and between men and women specifically, had resulted in a shift in the balance of power between the sexes, which contributed to the formation of "spheres of symbolic expressions of machismo" (83). For Dunning, and those who developed this thesis (Theberge 1985; Willis 1982), certain sporting enclaves serve as spaces with important sociological consequences that shape the lives of men, women, boys and girls—patterning broad social interactions around what it means to be male and female (see Matthews 2016). And highlighting the social significance of sport as a male preserve has demonstrated the important place that such "dramatic symbolic proof" (Messner 1990, 204) occupies in maintaining, and sometimes re-establishing, the championed physicality of (usually heterosexual) male dominance in the face of obvious countervailing social developments in the workplace, family life and more broadly within popular culture (Matthews and Channon 2019).

Women's increasing participation in various sports complicates this process (Hargreaves 1997; Thing 2001). Thing's (2001) work exploring women's experiences in soccer, ice hockey and basketball provides some useful empirical observations. Key in this analysis is that participation in sport enables certain women to test and extend their physical capacities through performances of "symbolic aggressive play" (Thing 2001, 277). Such experiences were understood to be empowering in that they gave certain women a sense of liberation and freedom from normative constraints as to what was considered appropriate gendered performances. This "momentary breakdown of ordinary social control" (285) was, however, framed by notions about what constitutes appropriate ways of being an athlete. Therefore, sportswomen, despite challenging elements of men's domination of such social spaces via their very presence, largely reproduce the values that are central to the cultures of, especially performance-focused, sports.

On the face of it, recent increases in women's involvement in certain sports mark out broadly positive and progressive shifts in gendered social relations and reflect changes in the balance of power between the sexes (Bowes and Culvin 2021). Yet, in parallel, research has also demonstrated that sportswomen are often embedded in sports' "culture of risk" and conform to the same performance-orientated and health-compromising ideas as sportsmen (Branchu 2023; Forbes et al. 2024; Waldron and Krane 2005). An important organizational focus, then, of many sporting subcultures, whether largely dominated by men or women, is a recreation of an approach to competition, performance, and the body that is coded in an often-implicit manner by traditional renditions of manhood. That is to say, strength, power and speed are valorized, alongside the inculcation of a stoic and "heroic" approach to sacrificing oneself for the greater good (the team or "sport").

This social process, we argue, is an essential component of any attempts to critically understand why athletes often prioritize performance over health, well-being and future mobility (AlHashmi and Matthews 2022a, 2022b). And, therefore, a central feature of literature within the social scientific analysis of sport has focused on the persistent acceptance of pain and injury as "part of the game" (Hughes and Coakley 1991; Messner 1990; Nixon 1992; Safai 2003). This research indicates that, through the increases in participation and progression of performance demands, sportswomen are having similar deleterious physical experiences as sportsmen (for a recent argument illustrating this point, please see Hardwicke et al. 2024).

It is important to note that experiential similarities should not be confused with sameness. As Charlesworth and Young (2005) emphasize, women's sporting experiences are not only different from men's but also vary significantly amongst women themselves. We argue that one of the central places where these important differences are felt is within the ontological pervasiveness of human biological reproduction, wherein female bodies, at least at the time of writing, occupy a specific role in this process and, in both broad and specific ways, produce fundamentally different experiences of being-in-the-world. Given this, we are drawn to consider how sportswomen—who bleed as a part of the biological process of reproduction—experience performance, pain and injury in ways that foreground their bodies as similar to, but importantly different from, sportspersons who do not bleed in similar ways.

Given the preceding arguments, we turned our attention to how women fighters experience, interpret and negotiate their period experiences. Theoretical tools drawn from social scientific conceptualizations of pain and injury, integrated with broad sociocultural literature on periods, as introduced above, were of utility to help us frame and analyze our data. We accept that

periods do not fit simply within the definition of "injury," especially when considering how injuries are classically understood within the scientific literature on sport as a temporary breakdown in normal bodily function—periods are of course "normal." But there are two important issues at hand here: firstly, the traditional focus on musculoskeletal and impact-related injuries as a specific target of scholarship might well reflect the historical focus on men in both research and sport, and therefore the lack of focus on specific female health. And secondly, while Thorpe (2016) provides important theoretical contributions to understanding women's experiences of pain, discomfort, detriments to health, well-being and performance that appear to be associated with periods, the rather descriptive nature of other work on this topic means more theoretical development is needed to expand upon Thorpe's important starting point.

Of course, when work proceeds "atheoretically," what this actually means is that assumptions and taken-for-granted "common sense" can lay thinly veiled beneath an apparently "neutral" scientific analysis. To avoid this, we draw explicitly on well-developed empirical and theoretical contributions made across decades of critical social scientific scholarship on menstruation generally, and pain and injury in sport specifically, as a means of approaching and interpreting women's experiences. To that end, within this paper, we consider the ways that cis women involved in fight sports understood, mitigated and managed issues connected to their periods. In particular, how they often described the pain that was associated with their training, their (mis)use of contraceptive pills, and how this was largely done in line with maintaining and enhancing their athletic performance. We turn to these issues and others after a discussion of our methodological strategies.

3 | Methodology

In this paper, we focus on a study that followed from AlHashmi's PhD thesis. After speaking with male fighters about their experience of (ill) health and medical care in fight sports, she turned her attention to women fighters and the specifics of their lives. Given that AlHashmi was deeply immersed in the Muay Thai scene as a spectator, participant and coach for over 8 years, it is worth describing elements of how she began to critically "see" these experiences as in need of study. This offers some useful points about her positionality, the origins of our analysis and the often taken-for-granted way that female-specific health issues were not discussed in the combat sport spaces she spent time within. The following fieldnote is a useful start point:

> We had a steady session today as it's fight week, coach asked to come to the front desk so he could weigh me, I wasn't particularly bothered as I was on weight last night and I'm yet to have breakfast so I'm good. I stepped onto the scales and I was a 2.7 kilos over! he snapped "come on fess up! what have you done?!" I suddenly had this big lump in my throat, I couldn't speak or breathe. I had no explanation, I don't know what happened, I was stumped. I've already spread myself too thin. I was practically starving at this point. He continued "yanno you can wipe your tears and fess up at the same time". Shit, I didn't realize I was crying. I shrugged and went to the loo to wash my face and get changed. I then quickly ran out and yelled "it's my period! I got my period!" Everybody laughed. I could see the relief instantly leave coach's body as he hugged me "close call duck! Was proper shittin' mi'sen! Don't you worry alright? You'll be back and strong as bull come weigh-ins! Good'un, least you didn't get it on fight day!"
>
> (Winter 2021)

AlHashmi was drawn back to these fieldnotes after she spent some time reading around critical sociological approaches to women's bodies outlined in the literature review. This rereading helped her "see" the ways she was embedded, and in some ways complicit, in a subculture where "women's issues" were seldom discussed. At this point, the following "fieldnote about the fieldnote" was taken:

> It is encounters like the one above that make me realize that I don't speak about my period, maybe because I hardly ever had it—especially as an "active" fighter. I'm very aware that my period irregularities stemmed from excessive training and weight-cutting. So in a way I experienced such things as "normal," which is why I "conveniently" ignored them. I worried a little, but not so much about how my lack of periods would affect my life more broadly, but mainly when my indifference about them would eventually catch up on me and begin to really impinge on my ability to train and compete. But those fleeting thoughts were always short-lived and passed with the period.
>
> (Spring 2023)

AlHashmi's relative closeness to the experiences that are the focus of this study was one of the key elements in the production of the data we present.

It is important to note that accepting and enduring health-compromising practices was certainly not a designated principle of our methodology; rather, AlHashmi took part in fight sports as part of her leisure time. But those experiences provided opportunities to understand and interrogate the lives of sportswomen in combat sports that we think would be challenging from a relatively detached position. For example, in all the years that Matthews has been involved in researching combat sports, he has never once taken a fieldnote, or asked a participant, about periods. This is not to say that a man could not do such work, but it is to highlight something of the specific positionality that accompanies living in sexed bodies, especially while participating in a social world that is dominated by men. In other words, we believe that AlHashmi's situated knowledge as a cis woman and a fighter has given her a particular "epistemic advantage" that allowed her to access and engage in conversations about experiences that often remain unspoken (Harding 2004). And, as such, we think she was well placed to develop a contingent

but useful intersubjective understanding with the women in this study. This was especially the case in relation to the normalized acceptance of period pain, period irregularities and insight into the general lack of "period talk" within those spaces.

Despite some initial awkwardness, reluctance and superficial answers, AlHashmi was able to prompt, and on occasion push, the participants to speak about their periods in a context where they had never previously been discussed. Her place as a relative "insider" combined with trusting relationships that she developed via sharing "immersive moments" with the participants, ensured these conversations were productive (e.g., helping them reflect and sometimes reconsider their initial thoughts) rather than provocative (e.g., undermining their accounts in problematic and potentially mean ways). She adopted a method which built on her long-term immersion, and continued presence in the field, which employed repeated observations, formal interviews, supplementary interviews and frequent opportunities for informal chats (see AlHashmi and Matthews 2022b for a broad discussion). The result of these numerous data collection points captured glimpses of the processual nature of life and provided epistemological space for shifts in participants' experiences, thoughts and behaviors to become knowable. This is then a recursive methodology which relied on similarities in subculturally normative experiences between the researcher and participants, the development of some degree of trust and the opportunity to revisit initial thoughts after time had passed.

322 h were spent conducting observational research across 18 combat sport events (296 h, 21 Muay Thai/kickboxing, 1 MMA, 4 boxing, and 5 shows that showcased multiple combat sports) and regular sparring sessions (26 h, across 4 gyms, 1 MMA/boxing and 2 kickboxing/boxing, 1 Muay Thai). Alongside this, AlHashmi trained in a combat sport gym as an active fighter 5–6 times a week for around 2–3 h each day over the course of 18 months. After withdrawing from active competition, she coached and trained 3–4 times a week for around 4–6 h each day over the course of 12 months. Observational data were initially recorded as fieldnotes typed on AlHashmi's phone and then expanded upon at home. All participants (of recorded observations, interviews and chats) provided written and verbal consent and were given pseudonyms to maintain their anonymity. Although we do not provide examples of observational data in this particular paper, these experiences were invaluable in informing the discussions in interviews and chats which we do present.

The interview sample consisted of premenopausal female fighters from different combat sport disciplines ($n = 46$) including Muay Thai ($n = 28$, 10 supplementary), kickboxing ($n = 3$; 2 supplementary), MMA ($n = 2$), boxing ($n = 2$), Brazilian Jiu-Jitsu (BJJ; $n = 8$; 1 supplementary), Taekwondo ($n = 2$), and Karate ($n = 1$). This study was conducted in the United Kingdom, and most of the participants were based in the Midlands, where AlHashmi lived and trained. All the participants identified as women and were assigned as female at birth. The interviews lasted around 30 min to 2 h and took place in various locations such as private areas in cafés, backstage at events, quiet corners in gyms and venue lobbies. 10 interviews were conducted using online video conferencing applications. It is worth noting that alongside the formal supplementary interviews, the relationships that AlHashmi developed resulted in participants contacting her informally to continue discussions. Such opportunities, we believe, were a product of some of the forthright but considered ways she sought to encourage and "push" the fighters to reflect upon their relation to sport cultures, period issues and taken-for-granted assumptions about both performance and health.

This data were analyzed through a process informed by Blumer's (1969) discussion of "sensitizing concepts". Prus (1996, 132) neatly captures our use of these ideas:

> Blumer uses the term sensitizing concepts to refer to these tentative, analytical notions. Sensitizing concepts suggest subsequent lines of inquiry and assessment, but in each case the researcher has the obligation of making the concept match up with the circumstances at hand rather than making the data fit the concept.

In this regard, Blumer (1969) encourages scholars to ensure a relentless interaction between their academic ideas and data. In practice, the specifics of this process were worked out over the course of a long-term advisory relationship. It followed an emergent and shifting, yet systematic, disciplined and coherent path (see Matthews 2025, for a broad discussion), which we capture important parts of above and below.

Drawing upon extant literature on performance cultures in sport, (bio)medicalization of women's bodies and the experiences of sportswomen in the "male preserve," AlHashmi considered the ideas embedded in this work in relation to the experiences and understandings of her participants, while also reflecting on the potential effects of her own positionality within the field. Thinking through this key literature helped us understand why the sportswomen she spoke with appeared to normalize, accept, embody and reaffirm elements of the "male preserve," specifically, health-compromising behaviors, as being part of their normal sporting practice. Matthews acted to encourage clarification over the use of concepts and data; this often took the course of lengthy discussions wherein the limitations of both data and extant literature were considered.

Following the broad process outlined recently in Matthews (2026), the data was read, re-read and reflected on in a cyclical fashion to help explore its relation to key literature on sportswomen and performance and the medicalization of women's bodies and menstruation in sports. Opportunities for conceptual refinement and useful empirical descriptions became increasingly apparent. Based upon this, we began the final stage of analysis by sketching out this paper. Specifically, we were drawn to tell the story of women's periods for two main reasons: firstly, because hiding and not discussing natural biological dimensions of human reproduction can lead to suffering and hinder some women's abilities to flourish. And secondly, because this work offers important developmental opportunities for the study of pain, injury and periods in sport, both in terms of highlighting interesting empirical worlds and the theoretical refinement which should be associated with that. Following the initial period of analysis, and over the course of several subsequent months, AlHashmi and Matthews refined the arguments

presented in this paper by rereading key literature and editing this work into its current theoretical framing. The outcome of that process follows.

4 | "Training on Your Period can be a Right Pain in the Bollocks"—Performance, Pain and Periods

Women have a long and varied history of being involved in fight sports (Hargreaves 1997). And the recent growth in women's participation at various levels of various sports has been well documented. But the cultural history of such sports as largely the preserve of certain men means that studying how women navigate their roles in such spaces is still of social scientific importance (Branchu 2023; Maclean 2019; Martinez 2014). Channon and Matthews (2015) provide a discussion around this in the introduction to an anthology exploring such *Women Warriors*. In this regard, there are many ways that women engage in combat sports. Of particular interest in this study, are those involved in competitive fighting, as opposed to say self-defense, "combat workouts" and performative martial arts.

Westernized competitive fight sports have long-standing historical roots across diverse cultures, often emerging as forms of ritualized violence, military training, or working-class entertainment (Channon and Jennings 2014). While these sports have traditionally been associated with men from lower-income or marginalized communities (Wacquant 2004), this has shifted in recent years. The rise of MMA and the inclusion of women in high-profile platforms—such as the Ultimate Fighting Championship (UFC) and Olympic boxing (introduced in 2012)—has contributed to a broader participant base, including many who are middle-class and university-educated (Channon et al. 2018; also see Spencer 2013).

Competitive fighting involves taking part in structured training in a particular combat sport. Fights, tournaments and competitions are usually organized by governing bodies or promotions, with participants typically matched according to weight class, experience and/or skill level. Such contests usually occur as one-on-one bouts with time-limited rounds, which primarily serve to test and develop the contestants' fighting techniques and abilities. The primary goal here is to compete against opponents in a relatively controlled environment to determine the winner through points, submissions, or knockouts. The "aggressive"[3] and combative nature of these contests has not traditionally been understood as "female-appropriate" (see Jennings 2014). And, as such, women's involvement, as Channon and Matthews (2015) argue, "constitutes a direct appropriation of an otherwise quintessentially masculine cultural space" (12).

Of course, the encoding of stories of manhood into social spaces is a contingent process (Matthews 2016), which need not result in stereotypical and "traditional" performances of gender playing out in simplistic ways. But with that said, the women in this study trained and competed in gyms and sporting events that were definitively dominated by men in both symbolism and number. The main cultural "players"—the coaches, the best or most famous fighters, the promoters—and the "run-of-the-mill" participants were almost always men. Life inside the combat sport spaces that AlHashmi frequented, while not overtly sexist or demeaning to women, offered little space for woman fighters to emphasize their status as women rather than, or as well as, fighters. In this sense, as long as they largely appeared to be, in Aisha's[4] words, "just like the lads" in terms of how they trained, the topics they discussed and their general bodily comportment, sex and gender tended to remain largely unacknowledged.

Such apparent "gender blindness" is an advancement on the sexist sports worlds described as "male preserves" in the early literature on the topic, but there were important consequences to this. For example, it might be of little surprise that chats about female-specific health issues were not commonplace. This was evident in initial conversations during interviews about periods, which were often stilted, perfunctory and brief, as the women tended to offer very general, simplistic accounts of their experiences. Indeed, talk of periods seldom happened "organically" and the participants seemed to be caught off guard whenever they were asked to speak about them. There is an alignment here between broad issues around silences produced because of the "menstrual concealment imperative" (Wood 2020) and specific subcultural codes associated with combat sport spaces that, despite the presence of some women, might still reasonably be understood as, symbolically at least, the preserve of certain men (Matthews 2016).

While Thorpe's (2016) participants were specifically recruited to discuss their experiences with ammenorrhea, AlHashmi's relationship with the participants in this study was built around shared participation and performance in sport. So, while many of the fighters did have period irregularities, which we discuss below, this was not a feature of their recruitment into our work. Rather, AlHashmi spoke with the women about their periods alongside other discussions about how their sport affected their health and well-being. When discussing such issues, the women's accounts tended to focus on periods through the lens of how they impacted athletic performance. As such, they often associated a "normal" or "good" period as one that did not undermine their ability to engage in their sport. Take Ellie's[5] statement, "I always know I've had a good one [period] when I'm able to train alright. Like everything is smooth sailing. Or as smooth as it can be". This is an example of how menstrunormativity marks certain ways of experiencing periods as ideal, correct, healthy and normal, and by association marks other ways as wrong, unhealthy and abnormal.

But, for most of the sportswomen, these experiences were rarely "smooth sailing." In this regard, Sarah[6] captured the matter-of-factness of dealing with period pains and discomfort while training and competing:

> To me personally I became seasoned to [my period] as something else to add to the repertoire of things I have to deal with when I'm training—as like a female fighter. Like I don't overthink it. Like I genuinely do not allow myself to overthink it. Don't get me wrong, it sucks. Cramps suck, headaches suck, everything sucks [laughs]. Like the way I can explain it is it's like when you get a shiner [black eye] or a dead leg, you

> shed a few tears, maybe moan about it to your friends but then sort of bow to fate and show up the next day.

Interestingly, like Sarah, most of the fighters discussed negative symptomologies associated with period pain, yet promptly dismissed their experiences by adamantly asserting how they were unencumbered by them. Wood (2020) argues that women tend to reproduce such disembodied understandings of their periods because it makes them appear more competent in (the neoliberal) management of their bodies. Here, then, menstrual concealment is not only a self-disciplinary and disembodying practice but is also a potentially insidious part of the sportswomen's lives (Ussher 2006).

There are compelling parallels here with classic academic contributions in the sociology of sport wherein many athletes have been shown to normalize, ignore, disrespect and hide pain. Of course, Hughes and Coakley (1991) and others (Messner 1990; Young et al. 1994) were highlighting how male athletes overcome pain and otherwise sacrifice themselves to continue training and participating, but it is a testament to the pervasiveness of such culturally learned behaviors that the women discussed similar ideas in how they approached period pain.

Similar to the prevailing narratives in the descriptive literature on sportswomen's experiences of periods (Brown et al. 2021; Findlay et al. 2020; Read et al. 2022), all of the participants discussed various challenges associated with training or competing whilst being on their period or experiencing premenstrual syndrome (PMS) symptoms. And in line with classic sociological accounts of pain and injury (Hughes and Coakley 1991; Nixon 1992), they were often irreverent or indifferent towards, and tended to brush aside, some of the difficulties associated with such experiences. The following examples are illustrative:

Ellen[7]**:** And on some days I take 800 mg of ibuprofen and cross my fingers, bite my gumshield and wish for the best [laughing] it is what it is, if you wanna stay in it [training, fighting] you quickly learn to suck it up and move on. You know what I mean like [pause]. Uhm, it's like say your shins are bruised, what do you do? You ice them and move on, yeah? They still hurt but you've done something at least. So it's the same principle—you just know what to do.

Lois[8]**:** Training on your period can be a right pain in the bollocks like [laughs] I fuckin' genuinely despise her [my period] existence sometimes [laughs]. But c'est. la vie innit? Can't do nothing about that now can ya? She's part of the female fighter package.

So, while periods, and other female-specific health issues, were not topics of general discussion within combat sport spaces, when the women were drawn to speak about them, there was an alignment between both the concealment imperative *and* the subculturally dominant ways of talking about non-sex-specific pain and injury as framed by a traditionally masculine-coded understanding of the sporting body. In this regard, when the women did speak about their sport-specific period experiences, they did so as mundane and "normal" happenings to be worked around in the pursuit of participation and performance. This was also evident in the ways in which they tended to compare periods to some of the "run-of-the-mill" injuries that commonly occur in their sport. Ignoring, minimizing and "fighting through" their period experiences was, then, largely accepted as a normal part of being a female fighter.

5 | "No One Wants to See That"—Fighting With Blood and Pills

While these preceding similarities highlight how sportswomen aligned with the normative ways in which pain and injury are experienced, mitigated and managed within sports settings, there were distinctive elements to this process. Two of the main ways this can be evidenced are by focusing on female-specific physiology in relation to the intertwining of menstrual bleeding and the contraceptive pill. We'll consider these in turn. In relation to bleeding, take the following example from Emily[9]:

AlHashmi: Just thinking you know … I expect it would've been different if you got cut or some shit now wouldn't it?

Emily: Tell me about it, totally different actually. It's hilarious really. See this [points at a scar on her temple] when I got this cut it was all over my Facebook at the time, I proudly paraded it, like "look at how tough I am," like showing off my battle wounds [laughs] I properly milked it. But it's not only me. People will post anything to show how dead hard they are, even if it's a little baby nosebleed.

AlHashmi: But not their bloody shorts [both laughing].

Emily: Not their period blood shorts [laughing] God no! No one wants to see that.

Bleeding is a relatively common occurrence within combat sport settings and is often something that participants are nonchalant about and, in some cases, even revel in (de Garis 2010; Matthews 2014; Wacquant 2004). However, *period blood is different*.

Emily's reflection highlights how period blood is socially disruptive. Her embarrassment at the thought of leaking stands in stark contrast to how fighters often celebrate other kinds of bleeding as marks of toughness. This is an example of what MacDonald (2007) conceptualizes as the liminal status of period blood—a matter that unsettles social and bodily boundaries when it moves "out of place." This is also evident in Maclean's (2025) work on women in karate, wherein participants described their heightened vigilance around leaking period blood—particularly in the presence of men. This reflected a shared sense from sportswomen in her study that this specific form of bleeding carries greater stigma and demands greater concealment than others. So, while *some* blood is expected, "normal" and even welcomed in combat sports settings, period blood was most certainly *not* included in such normative patterns.

In his historically focused work on boxing, Sheard (1997) discusses how cross-cultural "civilizing processes" lowered the "threshold of repugnance" in terms of the tolerance of blood within society, and the sport specifically. One of the results was the use of "mufflers'"—proto-boxing gloves—that reduced the volume and severity of cuts that came from bare knuckles

striking the head and face. Despite such a process, blood was, and is, still a regular part of competing in boxing and, as such, there is a relative acceptance of bleeding in many combat sports and contact sport more broadly. Indeed, over time, this kind of bleeding became integrated into the sport's spectacle, even valorized as a marker of toughness and authenticity. Yet such a relative acceptance was definitively not the case when our participants spoke about period blood, which was often discussed instead using fearful and stigmatizing language.

Here, we see a divergence in the "civilizing process": while gloves helped manage and sanitize the spectacle of bleeding in boxing without diminishing its masculine symbolic power, sanitary products in the hygiene industry similarly function to "civilize" female bleeding through concealment—yet without rendering it culturally acceptable in the same way. So, despite fighters, both male and female, sometimes celebrating their bleeding bodies as a sign of their "fighterness"—something echoed recently in Branchu's (2023) focus on bruises (which we note is a form of internal bleeding) in women's rugby—the need to conceal this specific form of bleeding as something out of place, embarrassing and in need of hiding was clear.

The often painful, sometimes disabling, and powerful stigmatizing potential of periods led the women to seek various ways of mitigating and managing them. This included wearing extra sanitary pads, taking painkillers, skipping sessions, avoiding blows to the body, wearing dark clothes and more. All these approaches are of interest, but most of the women in this study tended to speak about (mis)using "the pill" to control their periods. Variations of Nadia's[10] story were common:

> I didn't wanna deal with PMS and period weight gain before weigh-ins and all that crap. So I resorted in like taking like a medication to like stop my period for a while. I can't remember exactly but like you take it for a certain number of days and then you stop whenever you want it back. But that ended up doing more damage than good. I had such a hard time cause it messes with your moods and stuff and it also like gives you like a little bit of bloating cause it's all hormones after all. It actually made it worse for me.

Nadia's comments, and many of the other women fighters' experiences, align with findings by Brown et al. (2021) in which athletes reported the convenience of using contraceptive pills to control their period so that they did not have to deal with the painful experiences associated with it. Indeed, the use of contraceptive pills by sportswomen to help alleviate debilitating pain and symptoms associated with dysmenorrhea, and to strategically manipulate when they get their periods by omitting them during competitions, has been reported by several scholars (Coutinho et al. 2021; Larsen et al. 2020).

In a similar way, the sportswomen in this study seemed to be motivated to take contraceptive pills because they believed that their ability to predict and time their periods in and around competitions would have a positive impact on their performance. Here, the menstrual concealment imperative may feel empowering to these women, especially when contraceptive intervention offers the "freedom" to choose when to bleed (Wood 2020). Such forms of "individualism" and "choice" are characteristic of (bio)medicalization. And can be understood as both a way that women might be alienated from their bodies and as evidence of their conformity to cultural narratives largely shaped by a masculine understanding of what bodies do, and therefore do not do, in such social spaces.

There was a focus here on performance, as opposed to long-term health, which led some women to further manipulate their periods by tampering with the pill's recommended and prescribed usage. Take the following examples:

Lilly[11]**:** I just came up with my own bright idea that I'll just keep taking it [the pill]. I never told anyone I did that so you're the first person that knows [laughs].

***AlHashmi*:** Sorry, I don't understand. What do you mean by you kept taking it all the time?

***Lilly*:** So the pills I take need to take a seven-day break every twenty-one days but I never took a break from it which is really unhealthy. So I just consistently went through contraceptive pills all the time so that I just wouldn't have to deal with any periods when I'm competing.

Olivia[12]**:** Pfft, I don't clearly remember how all this started. Erm … I'm a bit embarrassed to tell you actually … I believe it was this one time I timed it [the pill] wrong which meant that I was gonna get my period during fight week. I was upcoming my first area title so I panicked and so I continued taking the pill to avoid, you know, the bleeding an' that. And I think since then I kept on taking them continuously like back-to-back and never stopped really. I haven't had one for like three years I think. I know it's terrible of me actually. I stopped doing that now but still.

Similarly, Oxfeldt et al. (2020) argue that sportswomen who take contraceptive pills (similar to the ones described by Lilly and Olivia) are more likely to continue taking them during the "pill-free" break (which is when bleeding is expected) because not having a period was convenient for their performance-orientated goals. While most of the sportswomen discussed the potentially harmful side effects of tampering with their prescriptions, we can find no clear or specific evidence to support such assumptions. Indeed, in outlining the social history of oral contraceptives, Watkins (1998) stated that this "pill-free" period was introduced by pharmaceutical executives to promote the "naturalness" of contraceptives and to increase their acceptability amongst users and religious figures (also see Hasson 2016).

Yet Clancy (2023) argues that while many women who are on contraceptives discontinue them because they cannot tolerate their unwelcome side effects (e.g., weight gain, dizziness), some still choose to endure them as an acceptable cost for period suppression or to avoid getting pregnant. We tentatively suggest that assumptions around the need to follow prescriptions for "the pill" are connected to powerful narratives around

following medical regulation and advice. Therefore, in breaking the (bio)medicalized "rules," which conceptualize periods as pathological, these women felt they must be doing something "bad for their health." This shows how menstrual discourse and (bio)medicalization create limits around what women think they can/should do when they have their periods. Notwithstanding our caution here, the sportswomen wilfully engaged in what they thought were health-compromising behaviors for the sake of "their sport," and, in this regard, they were fighting against biological processes that did not align with the dominant codes of life inside and around their gyms.

The women who had been training and competing for extended periods of time—usually more than 5 years—often described several physical and psychological consequences that they believed followed from their participation. One of the most common conditions that they spoke about was period irregularities that came as a result of excessive training and weight-cutting. Take the following examples:

***Daisy*[13]:** I stopped getting my period after several bouts of weight-cutting. But right now I just get it whenever. [laughs].

***AlHashmi*:** Did that worry you at all?

***Daisy*:** Sometimes but not anymore cause she always comes eventually … it's very normal, you get used to not having one all the time.

***AlHashmi*:** Do you think that not getting periods is normal?

***Daisy*:** No, but female athletes maybe, yes? I dunno much of the science behind that but when I went to the GP he said to me it's normal, like it's a thing for female athletes to like not have regular periods cause they train so much.

***Robin*[14]:** As women we are like wired to know that we should have a period every month. It's like a health gauge for women you know? So like for me at least when I missed my period for like eight months it was a warning to my body that something was wrong

***AlHashmi*:** Yeah but … why then did it take you eight months to acknowledge this warning? [both laughing].

***Robin*:** Cause sometimes it's normal to miss periods as a fighter so I had a reason to justify the cause. And in all honesty, I never really acknowledge it like you just said, I just woke up one day and there she [my period] was [laughs] and I was just like "cool".

***AlHashmi*:** Who told you that it's normal?

***Robin*:** My GP told me that it's normal for athletes to have chronic period loss when they train at extreme levels and the only way to basically treat it is to go on the pill or stop training.

Echoing Curry's (1993) classic symbolic interactionist work about the normalization of pain and injury, there was a consensus amongst the sportswomen that period irregularities were just another "part of the game." And some of the women supported such ideas by recalling similar statements that apparently came from their general practitioners. So, while all the women thought that monthly periods were "normal," they also considered that as fighters it was "normal" for this not to be the case—the tension between being female and a fighter *writ large*.

6 | Concluding Remarks—Minimizing, Hiding and "Fighting" Biology

This paper offers both empirical and theoretical contributions by integrating classic sociological scholarship on sport, performance, pain and injury with critical social scientific literature on menstrual discourse, concealment and the (bio)medicalization of women's bodies to explore the period experiences of sportswomen. As such, we have developed an element of Thorpe's (2016) work by showing how female fighters approached their painful, stigmatized and uncomfortable bleeding bodies, which is largely aligned with the way that theorizing produced in relation to men's sport has framed the subculturally normative focus on performance over health.

As Heywood argues, when women damage their bodies in various ways while training and competing, they can avoid "social sanction and stigmatizations because they are using their bodies in functional, seemingly adaptive ways that enacted the heroic narrative of sport" (2011, 127, cited in Thorpe 2016). Within this process there were clear similarities with research on men's sport, but also important differences brought about in part by the ontological pervasiveness of the female body, which shaped how the cultural focus on performance played out. We have shown, then, how this produced the need for these sportswomen to "fight" their own bodies. This involved mitigating, managing and symbolically and materially minimizing the effects of their periods through various strategies.

The result of this process played out in several ways. Of particular concern for us are three outcomes: (1) Irrespective of their experiences, the sportswomen's perceptions of their periods were predominantly negative because they were seen as an event that got in the way of their "fighterness." (2) The uncritical normalization of period irregularities, the extended periods of amenorrhoea, and the acceptance of what was understood by the women as long-term health risks in the pursuit of athletic performance. (3) And that by ignoring and seeking to minimize their bleeding bodies, the women contributed to a culture of silence wherein the realities of their periods were not openly discussed. This silence was especially pronounced when it came to period blood, which was marked as uniquely disruptive and stigmatized—unlike blood from sporting injuries, which was largely accepted and sometimes celebrated.

Whereas other painful and injurious consequences of being involved in performance-orientated sport were openly discussed (see AlHashmi and Matthews 2022a, 2022b and Matthews 2020)—allowing fighters to share experiences, consult with their coaches and at times comfort and console each other—these women bore the female-specific outcomes of their alignment with the cultural codes of their sport largely on their own. In this respect, their "suffering in silence" meant that the tensions between their roles as fighters—as constructed following latent masculinized norms that still frame most sports—and women, remained largely unacknowledged.

So, while the sportswomen were accepted and often welcomed into the gyms they called home, they did so in ways that aligned with a social coding of biological processes that at times did not match how their bodies worked. This contributed to them

being alienated from a central feature of their self—their bleeding bodies. In this regard, Wood's "concealment imperative" is not only evident but also reaffirmed and reified by the women's ceaseless self-surveillance and wilful "disconnection" from their biology. Our analysis, then, also speaks to the perpetuation of gender inequity in fight sports. We tentatively argue that *similar* processes are likely in other sporting spaces that share *similar* cultural framing of performance, pain and injury, and women's bodies.

We have drawn attention to similarities and important differences between how women and men might understand, and behave in relation to, their bodies. So, while evidence points to women and men sharing some of the logical consequences of risking their bodies in pursuit of sporting performance (see AlHashmi and Matthews 2022a, 2022b), such as concussion, chronic injuries and disability, we have also highlighted consequences for certain women in this study that flowed from the ontologically pervasive nature of their bleeding bodies. In this regard, sports worlds with their normalized risks and dangers present generalized and specific problems to cis women, and we argue that a key feature of this is not female bodies per se, but the ways in which an element of female reproductive biology is minimized, ignored and hidden. If this were to change, our participants, and women and girls like them, would be able to focus more intently on fighting their opponents rather than "fighting" their menstruating bodies and seeking to hide, minimize and surveil quite natural biological processes.

Focusing on any one body of scholarship, be it ideologies of sport performance, medical sociology, or social scientific work on periods, only reveals part of the picture. By bringing these strands of scholarship together, we were able to better grasp how women's bleeding bodies are negotiated, concealed, and made sense of within combat sport. We welcome further work taking up our focus in this direction, but argue that alongside rich accounts of women's experiences, we also need rich theoretical accounts that draw on the well-developed sociocultural theories of women's health, ill health and pain and injury in sport. Doing so will enhance our understanding of sportswomen's experiences and move us closer to tackling the problem of periods, pains, pills and performance.

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We have been through a torrid process with this paper. Across several review processes, it was repeatedly misunderstood and mischaracterized, often on the basis of readings that did not accurately engage with its arguments. Reviewer and editorial comments at times imposed constraints that were unnecessary and misplaced, reflecting misunderstandings of both the paper's aims and its substantive contributions. While under review at one leading journal in gender studies, the manuscript was effectively lost within the journal's review system, and communication with the editorial team broke down for reasons entirely beyond the authors' control. Such issues can have distinctly negative consequences for early career scholars. We feel compelled to highlight this situation, as it reflects how editorial and peer review processes (particularly for work that seeks to cross disciplinary boundaries) can be inconsistent, unconsidered and deeply uncaring. Against this negative background, we express our sincere appreciation to the editors and reviewers at *Sociological Forum* for their collegiality, professionalism and constructive approach to critique. Their engagement was careful, substantive and grounded in a willingness to understand the paper on its own terms. This marked a decisive shift in the paper's trajectory. More personally, we owe particular thanks to Professor Robert Dingwall for his sustained commitment to our development. Specifically, on this paper he provided strategic guidance, consistent advocacy and moral support throughout a process in which the paper was repeatedly misread and eventually misplaced. At critical moments, his insistence that the work continue was central to its eventual publication. We also thank Chloe Maclean, Cathy van Ingen, Katie Taylor and Jack Hardwicke for reading and responding to earlier versions of the manuscript. Ultimately, our work exists because of sustained, good-faith engagement with colleagues who took it seriously when some within the formal review processes did not. Acknowledging the ways in which editorial and peer review systems can fail—becoming obstructive rather than generative—is therefore not separate from this work, but part of the conditions under which it was produced.

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Ethics Statement

This study was approved by The School of Science and Technology, Non-Invasive Human Ethics Committee, Nottingham Trent University (18/19-14) prior to data collection and analysis for the current article. Written informed consent was obtained from all individual participants in this study prior to participation.

Consent

As part of completing the informed consent form, all participants provided consent for anonymized data to be included in research publications.

Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

Data are not available for sharing due to their sensitive nature and the risk for identification.

Endnotes

[1] We opt to use the term period wherever possible within this paper, not only because this was the term that all our participants used throughout the research process but also because we are wary of the ways in which terms such as menstruation, menstrual cycle, and menses *might* mean falling foul of problems associated with (overly) medicalized accounts of women's bodies.

[2] The women in our study told AlHashmi that they were born as biological females and identified as women. Given this, we use the term women or woman throughout to refer to them. In some places we use the term "female"; this usually happens when we are discussing something connected to their bodies as material and biological—specifically, that they all had experienced regular or sometimes infrequent periods.

[3] It is quite normal for combat sport enthusiasts and participants to reject aggression and "real violence" by highlighting the mimetic and ritualistic nature of their sporting "'violence". In this regard, they may point to involvement in such sports as contributing to anti-violence initiatives and ways of approaching life. For more around these points, please see Matthews and Channon (2017).

[4] South Asian British hairdresser and professional Muay Thai fighter in her 20s. Competed internationally and holds several titles.

[5] 20-year-old white British student and professional Muay Thai fighter. Holds several junior titles and started her professional journey 2 years ago.

[6] White American screenwriter and BJJ blue belt in her late 20s. Competes nationally and internationally and holds several titles.

[7] Central European professional Muay Thai fighter in her mid-30s. Has been training and competing on and off for over a decade. Works as a personal trainer at a local gym.

[8] White British paramedic and professional Muay Thai fighter in her late 20s.

[9] White British retired kickboxer in her 30s. Competed internationally and holds several titles.

[10] Middle Eastern primary school teacher and professional Muay Thai fighter in her late 20s.

[11] Eastern European professional Muay Thai fighter in her late 20s. Works as a manager at her family business.

[12] White British Muay Thai fighter and coach in her 20s. Holds several area titles.

[13] Black British professional Muay Thai fighter in her late 20s. Has been fighting for over 7 years and holds several titles.

[14] White South African graphic designer and amateur kickboxer in her late 20s. Picked up the sport at university and has been training and competing for 4 years.

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