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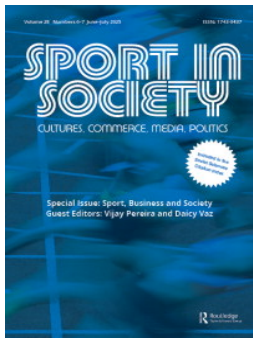
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'I can have a baby, I can come back': high-performing dancers and athletes perceptions of motherhood compatibility and how to support the preconception to pregnancy announcement journey

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ABSTRACT

This study aimed to explore high-performing dancers' and athletes' perceptions of motherhood compatibility and provide recommendations, based on pregnancy experiences, to support the journey from preconception to pregnancy disclosure. A multi-methods design included an online survey with 51 high-performance dancers and athletes from 10 countries, followed by semi-structured interviews with 2 high-performance dancers and 6 athletes from the UK who had experienced pregnancy. Thematic analysis was applied to data before exploring findings through a bioecological lens. Microsystem role models were found to positively influence perceptions of motherhood compatibility. While UK exosystem policies for pregnant athletes supported this view, broader support remains lacking. Factors such as limited evidence, personal goals, age, and inadequate support contributed to perceptions of incompatibility. Support recommendations include better microsystem education and psychological support, clearer and flexible exosystem and microsystem policies and funding, and macrosystem cultural acceptance to help athletes navigate pregnancy and motherhood in high-performance environments.

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Conception; pregnancy; elite athletes; professional dancers; bioecological model

Introduction

Historical views deemed the elite or professional status improbable for high-performing mothers in dance or sport, as motherhood was often associated with career termination (Palmer and Leberman 2009; Vincent and Laws 2009). Factors such as feeling guilty due to not being present for the child and the negotiation of training or rehearsal scheduling has previously evoked negative experiences during the return to high-performance (Palmer and Leberman 2009; Vincent and Laws 2009). Additionally, childcare challenges (Vincent and Laws 2009), lack of autonomy, flexibility, organizational support, and organizational resistance prove problematic (Palmer and Leberman 2009). Recent qualitative studies demonstrate an ongoing notion of the incompatibility of motherhood for high-performance

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connected to unequitable or non-existent parental policies (Duffy 2023; Pullen et al. 2023), and logistical, performance, and identity challenges for high-performance mothers (Massey and Whitehead 2022; Phan and Pham 2023). Lack of knowledge on supporting the perinatal journey, financial concerns (Culvin and Bowes 2021; Pickard and Ehnold-Danailov 2023), loss of identity, and the requirement to balance mother and performer roles prove particularly difficult (Phan and Pham 2023).

Further financial barriers arise for unfunded athletes and project-based dancers as they do not have access to funding or contractual support (Massey, Cronin, and Whitehead 2024; Pickard and Ehnold-Danailov 2023). Funded athletes, particularly those supported through National Governing Bodies (NGBs) or schemes such as the World Class Programme (WCP), may benefit from access to multidisciplinary support teams, effective channels of communication, relative financial stability and structured maternity policies which offer a holistic approach to athlete support (Massey, Cronin, and Whitehead 2024; UK Sport n.d.-a). In contrast, non-funded athletes and many dancers who often work freelance or in short-term contracts face heightened precarity during the postpartum period, with limited or no access to maternity leave, childcare support, or income and employment protection (Duffy 2023; Massey, Cronin, and Whitehead 2024; Pickard and Ehnold-Danailov 2023). These disparities are amplified by cultural differences within high-performance dance and sport environments. Ballet continues its strong adherence to its traditional roots which encourage unrealistic body ideals, performing through injury and authoritarian teaching practices which may lead to experiences of abuse (Cumming et al. 2024; Milne et al. 2025; Wulff 1998). These experiences are evident in sport through body image and eating disorders particularly within sport associated with leanness and thinness, competitive cultures conflicting with safe practice and promote performance through pain, and normalizing verbal, physical, and emotional abuse (Chen, Buggy, and Kelly 2019; Li et al. 2024; Park, Sam, and Jackson 2025). Historical authoritarian practices, narratives, and cultures within dance and sport hindered progression and reenforced a power imbalance that limits dancer autonomy (Cumming et al. 2024; Park, Sam, and Jackson 2025; Rowe and Xiong 2020). Yet, a holistic culture of care to support athletes on and off the field of play is being developed within high-performance sport through UK Sport initiatives such as Performance Decompression following the Olympic and Paralympic Games, the presence of a Performance Lifestyle team, informed holistic athlete developed (UK Sport Institute 2023) and organizations such as The True Athlete Project and Switch the Play (Switch the Play n.d.; The True Athlete Project n.d.).

Findings from a recent qualitative feminist inquiry (Smith, Giles, and Darroch 2023), and meta-analysis of media representations of elite athlete mothers (Kulkarni, McGannon, and Pegoraro 2024) highlight that elite athlete mothers are actively challenging narrow feminist ideals, empowering others, and renegotiating society norms to increase awareness and acceptance of motherhood in sport. Despite the potential for adapted choreography and roles to promote cultural acceptance, the visibility of pregnant women in dance remains limited (Duffy 2023). Recent sporting policy changes demonstrate a progressive cultural shift in supporting high-performing athlete mothers. This includes, but is not limited to, the introduction of maternity pay within English football Super League player contracts (BBC 2022), UK Sport's continuation of funding for pregnant athletes on the WCP (UK Sport 2023), and statutory and non-statutory policy in dance which facilitates breastfeeding, considers fatigue, and funds the child and partner to join the dancer on tour (Pickard and

Ehnold-Danailov 2023). However, there are conflicting views on the value and impact of these changes. Despite positivity surrounding changes to the WCP, many NGBs and Athlete Support Personnel (ASP) lack knowledge of how to best support pregnant and postpartum elite athletes, with unfunded elite athletes experiencing additional negative experiences (Massey, Cronin, and Whitehead 2024). Moreover, athletes within the WCP highlight a lack of education and understanding of pregnancy policy and guidance (Pullen, Miller, and Plateau 2021). While professional ballet companies have the financial and structural potential to support motherhood, the cultural norms centred on and body aesthetics appear to enhance notions of the incompatibility of pregnancy and motherhood s a high-performing dancer (Duffy 2023). The body of work highlighting the challenges and facilitators for high-performance mothers across the pregnancy and postpartum journey continues to grow. Yet, little work explores experiences across preconception to pregnancy announcement phase, despite the potential challenges surrounding the disclosure of pregnancy by high-performers to those in positions of power i.e. Performance Directors or Dance Company Directors.

High-performers have expressed apprehension in communicating their pregnancies resulting from cultures of silence relating to pregnancy and parenthood (Pickard and Ehnold-Danailov 2023) and short-term contracts (Culvin and Bowes 2021). Scott et al. (2022) demonstrate a disparity in views depicted within media between elite athlete mothers and influential others, such as corporate contractors. Sponsors were shown to present themselves as paving the way for equality and empowering female elite athlete mothers *via* contractual changes. Yet, female elite athlete mothers felt exploited, pressured, and discriminated against, believing actions were reactive and the absence of apology for discrimination and acknowledgement for those who had spoken up demonstrated changes were to benefit the organization not the athlete. This suggests the need for greater collaborative approaches between influential others and high-performing females to inform and drive change. Despite the professionalization of dance, research on pregnancy and postpartum experiences for dancers is in its infancy, often dated or excludes the dancers' voice (Sanders 2008). This lack of research combined with limited attention on statutory policy in dance and associated lack of guidance and support contributes to attrition of talent within dance (Pickard and Ehnold-Danailov 2023).

Previous dancer and dance practitioner informed recommendations for change include compliance with statutory maternity requirements, development of policy, employer responsibilities and support processes, engagement with specialist advice, and advanced notice of working hours which are flexible and provide opportunity for recovery (Vincent and Laws 2009). The results of qualitative work with elite athletes who have experienced or intend to experience motherhood has identified several recommendations, including effective athlete and NGB communication, adequate support from ASP (Pullen, Miller, and Plateau 2021), support for identity transition, and the need to address gender inequality (Smith, Giles, and Darroch 2023). Additional recommendation include extending the expected time to return to sport, creating return-to-sport plans, providing childcare funding (Davenport, Khurana, et al. 2023), and for global policies to include aspects such as general and sport-specific principles for exercising, warning signs, and mental health information (Fallon et al. 2024). Although Davenport et al. (2024) propose the inclusion of early education on menstrual and reproductive health along with family planning for athletes, current research predominantly focuses on the period from pregnancy disclosure through to postpartum, with

limited attention given to the preconception journey and the time prior to public announcement of pregnancy.

Research purpose

Despite progression predominantly in sport, work is still required to make pregnancy and motherhood accepted within the high-performance environment (Scott et al. 2022) and improve the knowledge and provisions for these females (Davenport, Khurana, et al. 2023), particularly during the preconception journey and early pregnancy where communication of pregnancy or motherhood desires are constrained. Although cultural similarities with sport are evidence, equitable policy, research and recommendations connected to pregnancy and motherhood within dance are remiss. Therefore, a contemporary insight to the complexity of seeking and experiencing motherhood is needed (Phan and Pham 2023). Thus, the first aim of this study is to identify the perceptions of high-performing dancers and athletes on motherhood compatibility. The second aim is to develop informed recommendations based on the experiences of high-performing dancers and athletes who have been pregnant, to support the journey from preconception through to the public disclosure of pregnancy. By exploring this transitional journey within high-performance dance and sport this study hopes to supplement the current body of work within the area by enhancing the understanding of preconception and pregnancy announcement experiences and recommendations to inform policy, practice, and provision. Thus, improving positive transitions and retention of high-performing dancers and athletes without compromising motherhood goals.

Theoretical model

The socioecological model demonstrates that human development is influenced by environmental structures which include the individual, microsystem, mesosystem, exosystem, and macrosystem level (Bronfenbrenner 1977). These interconnected levels can be used to make sense of how the environment can influence an individual's development through their specific roles and activities, interactions with others in their immediate environment, wider social structures, and overarching culture and subcultures (e.g. policy, law, and economics) (Bronfenbrenner 1977). The advanced bioecological model of human development emphasizes the dynamic interaction between four key components of environment characteristics (e.g. social norms), proximal processes (e.g. routines, athlete care), personal characteristics (e.g. skills, attitudes), and time (e.g. historical development, athletes' career and life journey) (Bronfenbrenner and Morris 2006).

The earlier socioecological model has been used to explore the provision of dance education within Singapore schools (Chua 2018) and to systematically review barriers and enablers for athlete motherhood at an organizational, interpersonal, and individual level (Tighe et al. 2023). While the more comprehensive bioecological model has been used to explore the transitions of athletics into retirement (Küettel et al. 2018) and the shared and different experiences of elite athlete mothers in and out of funding programmes (Massey, Cronin, and Whitehead 2024). These studies have demonstrated the value of ecological models in identifying how systemic structures, institutional support, and interpersonal

relationships shape personal experience and identify opportunity for environmental development in policy, provisions and practice.

Therefore, the bioecological model is a useful model to facilitate a holistic understanding of motherhood within high-performance dance and sport as a socially situated process. This provides an opportunity to advance the application of the model by extending it to the transitional journey into motherhood, thereby highlighting how multi-level environmental factors interact with individuals and temporal factors to influence the perception, compatibility and lived experience of motherhood in high-performance environment.

Methodology

Positionality and research design

A social constructivist paradigm was adopted, consisting of a relativist ontology and subjectivist epistemology. Accepting multifaceted and socially constructed reality and assuming participants and researchers are inter-dependant, this positionality complements the analysis of multiple human experiences through qualitative inquiry which requires the interpretation of individual experience (Sparkes and Smith 2014). Therefore, in the context of high-performing dance and sport it is recognized that pregnancy is viewed and experienced differently by each individual (i.e. participant and researcher), shaped by their social environment and life events including participating within the following research process. A multi-methods approach *via* an online open-ended survey to capture broader views, feelings, and experiences, followed by online semi-structured interviews to explore current and retrospective experiences and develop more meaningful and specific detail (Smith 2018b). To encourage reflexivity and highlight the beliefs and assumptions of the researchers which may influence decision-making processes the research team is introduced. The principal researcher accepts individual realities and adopts an insider approach as a former sprinter, classified as ‘successful elite’ (Swann, Moran, and Piggott 2015). Additionally, she is a researcher focussing on transitions of elite athletes into motherhood. The second author conducts research on various women’s health topics with a particular focus on pregnant and postnatal populations, and she adopts an interpretivist, outsider approach in this work. The third author is a sport and exercise psychology practitioner and researcher and has previously published research on elite athlete mothers.

Participants

Following ethical approval from the principal researcher’s institution (UREC Number: 21/SPS/061), participants were invited *via* social media to participate in an online survey. Inclusion criteria involved former or current elite or professional athletes or dancers, who were biologically female and over the age of 18 years. The definition of elite or professional athlete included those who had competed in senior national or international level non-friendly competition and categorized as ‘semi-elite’ to ‘successful elite’ (Swann, Moran, Piggott 2015). An elite or professional dancer included those who competed in dance internationally or whose primary income comes from dance. There was no exclusion of sport, categorization, classification (para or able bodied), or motherhood status. A total of 51 individuals (46 non-para-athletes, 5 para-athletes) from 10 countries (United Kingdom, 32;

Canada, 6; Ireland, 5; United States of America, 2; Netherlands, 1; Sweden, 1; Slovenia, 1; Norway, 1; Croatia, 1; Malta, 1) and representing 19 sports/dance (Table 1) completed the survey. Thirty-two were current high-performers and 19 were retired, and 13 were mothers and four were currently pregnant with achievements ranging from national champion to Paralympic champion. Following the data analysis of the survey to inform a subsequent interview guide a second invite *via* social media along with a targeted approach *via* personal connections were used to recruit participants for a semi-structured interview. The selection criteria remained consistent except for the exclusion of individuals who had not experienced the perinatal journey. A total of 8 UK, non-para individuals representing 5 sports/dance took part in the interviews (Table 2).

Data collection

The survey was informed by previous bodies of work within the area (Culvin and Bowes 2021; Pullen, Miller, and Plateau 2021) and the research questions. Firstly, to identify the

Table 1. Elite/professional sport representation within online survey.

Sport	No. of participants
Athletics	24
Bobsleigh	1
Mountain Running	1
Paracycling	2
Orienteering	3
Sailing	1
Para Alpine Skiing	1
Squash	3
Kayaking	1
Triathlon	1
Dance	2
Camogie	1
Netball	3
Rugby	2
Football	2
Curling	4
Natural Body Building	1
Gaelic Football	1
Freestyle Skiing	1

NOTE: 1 participant - athletics & bobsleigh, 1 participant - athletics & kayaking, 1 participant - curling & natural body binding, 1 participant - rugby & Gaelic football.

Table 2. Elite/professional sport representation within interview.

Participant ID	Sport	Career status	Motherhood status
D1	Professional Ballet Dancer	Current	Postpartum
A1	Elite Athletics	Retired	Postpartum
A2	Elite Hockey	Current	Postpartum
A3	Elite Athletics	Retired	Postpartum
A4	Elite Athletics	Current	Postpartum
A5	Professional Netball	Retired	Postpartum
D2	Professional Ballet Dancer	Current	Pregnant
A6	Elite Judo	Current	Postpartum

Note: Dancers include 1 principal dancer and 1 first soloist. Elite athletes include medalists from European and World Championships and Commonwealth and Olympic games.

perceptions of high-performing dancers and athletes on motherhood compatibility. Secondly to develop informed recommendations based on the experiences of high-performing dancers or athletes who have been pregnant, to support the journey from pre-conception through to the public disclosure of pregnancy. The first section of the survey contained questions in relation to participant demographic, thoughts, and decisions on motherhood. The second section asked open-ended questions on a range of topics, including missing support and provided the opportunity to add information of subjective importance. Additional open-ended questions for participants who had experienced the perinatal journey included what/who supported your decision to become an athlete mother and the request to explain answers in more detail. The findings of the survey in relation to recommendations for improvements informed and were explored more deeply through the semi-structured interviews. The key areas of medical and training guidance and education, financial support and security, cultural acceptance, supporting the change in personal identity, along with the opportunity to provide any additional information of importance to the participants were explored.

Data analysis

To identify the perceptions of high-performing dancers and athletes on motherhood compatibility and to develop informed recommendations to support the journey from preconception through to the public disclosure of pregnancy a descriptive approach was adopted to present findings from the survey. Fourteen open-ended questions from the survey were analyzed thematically using an inductive approach proposed by Braun and Clarke (2006). To begin, both authors familiarized themselves with the survey data and made notes and discussed their initial interpretations to challenge each other's interpretation and explore other possible areas of interest to the research question. Next the second author completed the initial coding (43 codes) before refining codes through the engagement with the first author as a critical friend to encourage reflections and provide alternative interpretations (Sparkes and Smith 2014). Peer debriefing took place to develop five themes before refining to focus on aspects of the participants' views on motherhood compatibility, and recommendations to support the preconception to public disclosure of pregnancy journey. Key recommendations identified were used to develop the interview guide which asked the participants what recommendations or changes they would like to see in medical and training guidance and education, financial support and security, cultural acceptance, and supporting the change in personal identity. Interview data underwent the same inductive thematic analysis process with the researchers switching roles. Although welcoming subjectivity, this deliberate switching of roles was employed to promote critical reflexivity rather than consensual agreement (Braun and Clarke 2019; Smith and McGannon 2018). Following data familiarization, 20 initial codes were created by the first author containing data of interest to the second research question. During peer debriefing with the second researcher, the codes were refined by removing those that did not align to the research purpose and by merging codes of a similar nature. Following this, the remaining five codes were grouped into a total of three themes of *the opportunity to get back*, *the narrative should be changed*, and *dealing with the feelings* to provide informed recommendations for support during the preconception to pregnancy announcement. These themes will be presented using direct quotes from the participants and the bioecological model utilized to discuss and make sense of these results.

Quality

In alignment with a relativist view on a flexible approach to research quality the role of reflexivity, credibility, and transferability in the development of trustworthiness were considered. The researchers identified their perspectives, aligned methodological processes to research positionality, and demonstrated disciplined subjectivity with the use of a critical friend (Sparkes and Smith 2014). The engagement of multiple researchers within the analysis process and within peer debriefing, along with providing rich descriptions of participant experiences enhanced credibility (Sparkes and Smith 2014). To support resonance and increase the usefulness of the findings for a variety of high-performing mothers in dance and sport, policy makers, sports organizations, and ASP, naturalistic generalisability and transferability were considered (Smith 2018a). This was achieved by excluding participant delimitations, except for the research question and ethics requirements along with the opportunity to provide additional information of subjective importance to allow for detailed quotes from a large and varied participant base to inform the findings.

Results

The findings are separated according to the study aims to identify the perceptions of high-performing dancers and athletes on motherhood compatibility, and develop informed recommendations based on their experiences, to support the journey from preconception to the public disclosure of pregnancy. Part one explores influential factors on the perception of motherhood compatibility according to the survey data from participants based within 10 different countries containing five themes; *compatibility and impact of pregnancy on performance, window of opportunity, availability of support, quality of evidence base and nature and demands of discipline*. Part two represents recommendations from the interviews with the UK based participants which are presented across three themes; *the opportunity to get back, the narrative should be changed and dealing with the feelings*.

Part one: perceptions of high-performing dancers and athletes on motherhood compatibility

Thirty-six of the 51 participants reported that motherhood was compatible with being an elite performer within their specific dance or sport discipline. Support and success stories were viewed as a positive compatibility factor as participant 29, a current, non-para-athlete highlighted 'There have been many success stories, and with the right team and support, it's possible'. However, others expressed a lack of support, time away from training, and postpartum return as reasons for incompatibility as participant 6 a current, non-para-athlete felt 'Both [sport and motherhood] require significant time and dedication' meaning they 'couldn't compete and train at the highest level'.

Forty-two participants reported that their career had influenced their thoughts and decisions on them becoming a mother. Five themes were identified to explain the factors that influenced motherhood compatibility among high-performing dancers and athletes; *compatibility and impact of pregnancy on performance, window of opportunity, availability of support, quality of evidence base, and nature and demands of discipline*.

Compatibility and impact of pregnancy on performance

Additional logistical considerations required to be a high-performance mother, and concerns related to the ability to return to pre-pregnancy performance levels meant that some participants delayed starting a family. Participant 41, a current para-athlete noted 'While we would like to have kids, we have decided to wait until I retire for a myriad of reasons [time, ability to compete at high levels, travel schedule]'. Some perceived changes to policy and more role models and 'success stories' had created greater compatibility between pregnancy and high-performance. However, doubts remained regarding the likelihood of making a successful postpartum return as participant 24, a retired non-para-athlete thinks 'it is better now because there is more support and evidence that you can have a family and still do well in your sport. But it's not common'. Furthermore, participant 42, a retired non-para dancer described she 'put off starting a family until I no longer broke down in tears at the idea of taking time off dancing. It wasn't until I was ready to scale back my dancing that I even considered it'. Highlighting perceived incompatibility of performance and motherhood goals as influencing their decision on motherhood, where often they prioritized performance goals which put them behind their age-matched peers in terms of being ready to start a family.

Window of opportunity

In many instances, participants described the need to identify an optimal window of opportunity to embark on pregnancy, especially if they were to increase their chances of a successful postpartum return. For some, age impacted on participant's views on their ideal window of opportunity, for example participant 26, current non-para-athlete suggested 'You start to think of age and retiring mainly due to wanting a family, so trying to decide when that is the best time as there is a clock on both things of a career and a family'. Often, this window is around major competitions in the sporting calendar, as participant 51, current non-para-athlete explained they 'Waited until the end of an Olympic cycle to try for my first and attempted to time pregnancies around my season'.

Availability of support

The availability of support and its impact on compatibility received mixed views. Individuals who believed that sport or dance were incompatible with motherhood cite support challenges. Particularly, a lack of financial security making it difficult to juggle life as a working, high-performance mother, as participant 42, a retired non-para dancer explained:

dancing while caring for an infant was possible but very challenging. I was not earning enough from dancing to pay for childcare, and at times was not allowed to bring my child to rehearsal. It was only through the financial contributions of my husband that I could continue dancing.

Others, such as participant 39, a retired non-para-athlete believed it was possible to make a successful postpartum, but only with the backing of a supportive team, noting 'If there is support around the athlete to return to normal training and childcare and financial support then it is possible to return'.

Quality of evidence base

The quality of the evidence base was cited as influencing compatibility with some participants describing a positive shift in compatibility because of increasing evidence. For example, participant 49, a retired non-para-athlete notes ‘since 2022 the science is way better and sport/motherhood clearly exist very easily’. Yet, others cited a ‘Lack of information if it’s possible’ at the elite level and the common assumption that you ‘can’t get back’ as suggested by participant 5, a current non-para-athlete. Additionally, access to evidence was challenging as participant 42, a retired non-para dancer stated, ‘Dancers often don’t have a strong medical support team, but it would be helpful to have access to professionals who understand the medical implications of this life change’.

Nature and demands of discipline

The nature and demands of different sports and dance disciplines had a strong influence on motherhood compatibility. For example, the demands of and culture within rugby meant participant 1, a current non-para-athlete believed it to be incompatible as ‘Rugby is a full contact sport so would not mix too well with pregnancy. Competing takes all day with a lot of travel and male-dominated facilities, organizations, ways of doing things mean motherhood probably wouldn’t be easily compatible’. Additionally, participant 42, a retired non-para dancer ‘limited my activity for safety. For instance, I elected to avoid partnering types of choreography to avoid potential abdominal trauma’. Whereas the nature of curling meant it was possible to continue training and competing through pregnancy and as a new mother as participant 48, a current non-para-athlete stated:

You are physically capable as a curler to compete when you are pregnant, as well as when you become a mother. Game time, complete with warm up/cool downs are about 2.5-4 hours depending on the competition, which allows for nursing mothers to feed before and after games.

Part two: recommendations support the journey from preconception through to the public disclosure of pregnancy

Survey participants were asked to comment on aspects of support they thought were missing during the preconception to pregnancy announcement phase. The participants reported concerns relating to a lack of financial support and security, and the need for improved medical and training guidance and education, cultural change and acceptance, and improved support for psychological and identity change. These four principal areas were further explored through semi-structured interviews with eight high-performers and recommendations for enhancing the preconception to pregnancy announcement journey. Findings are presented in three themes; *the opportunity to get back*, *the narrative should be changed*, and *dealing with the feelings*.

Theme 1: the opportunity to get back

The opportunity to get back refers to useful provisions available to or required by the high-performing participants (see Table 2). This theme supports the experiences of the survey participants such as Participant 42, retired non-para dancer who suggested the absence of ‘a strong medical support team, but it would be helpful to have access to professionals who understand the medical implications. Also, dancers need institutional

support'. This theme encompasses three subthemes: *there needs to be some rules* highlighting the principles guiding provisions and practice; *the right people around the table* discussing the development of a support team and the roles and requirements of its members; and *I hadn't even thought about it* highlighting areas for knowledge enhancement and dissemination.

Subtheme: *there needs to be some rules*. Whilst participants touched on aspects such as childcare, this subtheme highlights the novel experiences that have not been previously explored in depth within wider research. D1 noted their contractual postpartum return was a 'grey area' as 'you're off the three months you're still paid and then they start to dock until you're ready to come back', however the definition of coming back was unclear. Funded athletes valued the current UK Sport maternity policy as it allowed athletes such as A1 to think 'I can have a baby, I can come back'. However, A3 explains 'to stay on funding I would have to make a World or Olympic final coz that's what I'd already done'. She added 'it's dependent on what month you have your baby. If you'd had it in summer, you'd have 12 months and a bit until the next funding review'. A6 proposed 'a 6, 9, and 12 month [postpartum review] but you're on funding for that whole year' as 'funding based off results 9 months postpartum isn't realistic'. She experienced misalignment between the UK Sport's current maternity guidelines on pregnancy disclosure and the process of her pregnancy announcement which resulted in feeling 'pressured to have to tell people'. Suggesting 'confidentiality needs to be a huge priority. It should be on the terms of the person carrying the child when people find out... if we need to tell medical that's fine'. Additionally, Anti-doping policy and practice was perceived to be a challenge as A1 'got induced so it meant I could update my whereabouts. Where that's gonna be the last thing you're going to be thinking about if you go into labour. "I'll be at the hospital, don't drug test me"'. Additionally, A6 recalled at '7 months pregnant they drug test me and I felt weird. It was a vulnerable time, your body's changing, and you're being asked to pee in a cup' suggesting the adaptation of policy and practice as 'maybe there needs to be some rules around that [being tested when pregnant]'.

Subtheme: *the right people around the table*. Participants' support teams varied yet, most consisted of physiotherapists, pelvic floor specialists, physiologists, doctors, and coaches. D2 expressed a desire to engage with individuals outside the high-performance environment as she 'wouldn't feel comfortable with my physios standing underneath me with their figures inside me checking my pelvic floor'. The pelvic floor specialist, also known as a 'pelvic floor health consultant', 'woman's health physio', and 'female health physio' was mentioned by nearly all participants. D1 said 'every single female in sport should see a pelvic floor specialist'. A2 used this 'imperative' team member for 'pelvic floor assessment'. A3 also found a physiologist helped her understand 'what was actually happening in your body'. A4 used them to 'sort concerns' and build 'confidence' by asking questions such as 'is this sort of training okay?' and 'are there any exercises that I need to do?'

To further support physical considerations and changes in pregnancy, A6 discussed needing 'the right people around the table who understand what it's like, help foresee challenges and problem solve', in addition to 'one-to-one meetings with staff members'. A2 recommended having this engagement 'mapped out... when you're gonna see the doctor, be referred to the private health physio, you're going to have this talk... and this person

makes sure this gets done'. She valued her team 'getting in the room and having a chat' to avoid 'communication breakdown'. However, she required balance between 'so much support it's wasting time verses really useful conversations'. Furthermore, informal meetings and emails with key team members who could respond in a timely manner were useful as A4 emailed her 'pregnancy point of contact if I needed anything' and her physiologist 'with questions'.

Subtheme: *I hadn't even thought about it.* D1 portrayed dance as behind sport, 'there are so many things from sports science to implement but it's like, "oh that's nice, we'll just carry on doing what we're doing"'. She required 'more scientific and physio help around guidelines of how you adapt training'. D2 requested education around 'the conceiving stage' and A3 called for 'more research backed guidance for things you could do to help a healthy birth' and 'information on definite don'ts'. A4 acknowledges challenge in creating this information 'because every journey is different', and understood 'it would be very basic, but it gives you a little bit of guidance, reassurance, and pathway' suggesting this could be 'in trimesters'. A6 notes athletes are 'planners', and recommended each sport creates 'a generic, I don't know, from 12 weeks to 18 weeks this is what it would maybe look like' and requested more 'information about pregnancy nutrition. I came out of pregnancy with like dairy intolerance'. The topic of cross-contamination of supplements was raised by three participants, demonstrating various levels of awareness and concern. A4 acknowledge the challenge of avoiding 'the cross contamination of supplements, but trying to get batch tested folic acid, it's difficult'. Conversely, A5 took pregnancy supplements admitted she 'had a look in terms of what was in it but that [contamination] wasn't at the forefront of my mind'. Similarly, A6 'hadn't even thought about it until I got drugs tested'. These responses suggest a lack of consistent understanding and awareness potentially indicating a need for education in this area.

A5 suggested that fertility education should start in 'the junior ranks through to seniors... challenges that might come, the impact training as an elite athlete can have on your body'. She highlighted 'we sit every year through WADA [anti-doping education]' therefore 'educational sessions once a year, or webinars that can spread information and it's people's choice to login'. She suggested these sessions could be facilitated by 'shining examples... examples of struggle too because that makes each female athlete really identify... and from an independent scientific person'. A6 suggested online resources such as 'videos of someone doing alternative exercises, if you can't do the normal back squats maybe you can do this squat'. A3 highlighted 'things like this are only available to people on funding. There're so many people just below that level that could benefit from this', suggesting, 'it would be hard for people to feel that could say "I'm two weeks pregnant, can you help?" It would be better if information was somewhere that it could be accessed rather than having to ask for it'.

Theme 2: the narrative should be changed

This theme relates to the cultural acceptance and prevalence of motherhood in high-performance environments and to the survey participant's such as participant 7 a current non-para-athlete suggestion that the 'view of mothers in the sport needs to change. Mothers are not taken seriously and viewed as past it'. Additionally, Participant 2, a current non-para-athlete stated the need for 'Open conversations, so motherhood is a normal thing to

talk about'. This theme comprises of two subthemes: *don't get any ideas girls* connected to the belief of whether motherhood belongs within the high-performance environment; and *I can get there* which discusses using high-performing mothers as role models, a support source and example of what is possible.

Subtheme: *don't get any ideas girls*. Acceptance of motherhood within high-performance settings varied between participants. D2 explained how dance culture does not make space for 'parenthood... from a young age you train so specifically and encouraged to give up everything. It's rewarded even'. A5 highlighted the 'perception that you wait until you retire, then have a baby'. A6 perceived her NGB 'don't wanna be seen as encouraging it. Even now there's comments to other girls "don't get any ideas girls"'. However, A1 thought 'we're getting to that point where we're accepting people have babies and come back' recommending 'there needs to be an allowance to plan for it'. A3 discussed how outside of the high-performance environment 'as soon as an athlete says they're pregnant most people will be like "you're done, that's you retired" and I feel like that's a very British mentality', and suggested the narrative should be changed to 'that's gonna be so cool when they come back'.

Communication was perceived as key to enhancing cultural acceptance. A3 did not think 'many athletes would go to the governing body and say, "oh I'm thinking about starting a family", people would feel they would be judged or, get taken off funding'. A6 suggested the retirement narrative was 'because it was never spoken about'. Noting the need to 'feel like at least the conversation's allowed to be on the table'. Additionally, A1 noted the need for 'acceptance' of 'people wanting 3 or 4 kids', as:

rather than kind of waiting until the latter part of your career to then maybe come back, if you want to go away when you're 22 to have a baby and then come back and carry on which is probably easier.

A1 stated the need to reframe the perinatal journey as 'it shouldn't be seen as "oh this is gonna be really hard" and it is hard but it shouldn't be seen as this real challenging thing, it should be seen as something to celebrate'. A3 suggested changing the narrative through 'the more it's in the media, whatever sport, people are celebrating when people have success after having a child'.

Subtheme: *I can get there*. Role models were considered integral in supporting the possibility of motherhood as a high-performer. D2 pointed out 'more people have gone on this journey, come back, and carried on their careers'. For A5 seeing these 'examples of athletes who had done it really helped me knowing that I can get there'. D1 suggested 'by having more dancers doing it then the generation gap will stop, it doesn't have to be for the ones which are nearing the end of their career'. D2 highlighted her new position as a role model as 'people are looking up to you and you making these decisions impacts whether they might want to make these kind of decisions and when'.

Not only did those experiencing the perinatal journey within high-performance act as role models, but they were a source of comfort and advice as A4 noted the benefit of a WhatsApp group below:

across all different sports for women who are either pregnant, have had babies, who can talk to each other about their experiences was good because it's great to talk to your mum friends from NCT but she's generally not trying to juggle being an elite athlete as well as having a baby.

Whilst this was valuable for funded athletes already experiencing the perinatal journey, A2 found 'so many people who want to do it, it's just how on earth do you join them altogether', indicating a desire to connect with role models in the preconception period.

Theme 3: dealing with the feelings

Dealing with the feelings relates to supporting the transition of identity encompassing areas of psychological concern raised by the participants. This was explored further in response to survey participants such as Participant 9 a retired non-para-athlete suggesting the need for 'Psychological help for the transition of how you've changed and your body'. It highlights considerations for practitioners and ASP, and provides recommendations for support processes in two subthemes of *it went through my mind* connected to these experiences pre-conception and *suddenly you have this precious little thing inside you* connected to experiences before pregnancy announcement.

Subtheme: *it went through my mind*. Preconception A2 was 'stressed' as her 'body clock was playing on my mind... as athletes we're so in control with everything, this is one thing where you don't know'. Connected to this, D2 recommended supporting individuals who 'don't have partners and are thinking how to navigate this', believing 'everyone could do with their own psychologist, or life coach'. A1 discussed challenges in 'motivating myself to go training was the hardest bit', as she would 'turn up to training and think "what's the point in be doing this because I don't really want to"'. A4 shared her distress related to plyometric training 'because I might dislodge the egg that might have implanted. Looking back that's never gonna happen, but it went through my mind, I was so desperate that I was paranoid'. D2 suggested the need for psychological support around 'dealing with the feelings that I don't know are coming. That could be, I don't want to do it anymore, you just can't know', whilst A5 highlighted the 'worry of potentially being replaced'.

Subtheme: *suddenly you have this precious little thing inside you*. During early pregnancy D2 demonstrated the feeling 'of being replaced' remained, recalling a 'downwards spiral, I couldn't even be a normal person... when your whole identity is around exercising and being physical and suddenly you have this precious little thing inside you, sucking the life out of you'. A1 stressed 'the big thing that athletes probably struggle with is that change to their body because that's their machine'. A5 shared her distress related to her changing body shape; 'boobs next level huge, hips getting wider, your stomach. You're so much softer. When you've been an athlete for 13–14 years, it is a big shock'. D2 shared similar views and noted that 'is a difficult thing to deal with because you have absolutely no control' and recommended 'someone professional to help you in place, to not feel like you have to ask. Like it would just be there'.

D1 had difficulty due to being used to 'training and performance plans, schedules, and goals, then that's suddenly scrapped and just go with how you feel. I just wanna be told'. A1 'wasn't really prepared for' changes from training that is 'structured, these are your sessions

to we can kind of do this but that might change'. Causing her motivation to be 'very up and down'. She felt 'my husband and my coach' were 'too close' to support this and recommended 'having a psychologist to say, "this is what I'm feeling" and for them to sort of reassure you'. A4 found the 'shift to a mindset to just training for general fitness the biggest challenge. I'd be on the bike and be like "I need to push this" and go crazy'. A3 'missed pushing myself and hurting myself', finding 'that really hard coz you're used to, as the weeks go on, getting faster and getting stronger, and I was getting slower'. D1 recommended support through a 'loose timetable or schedule'. D2 highlighted challenges for those who continued to perform due to 'psychological and mental stress doing a performance even if you know it's just normal you get nervous' as 'you can't unknow that you're pregnant'. Additionally, considerations were made for what the high-performers do not want to engage in as A3 noted she 'didn't want to push my body that hard anymore'.

Discussion

This study aimed to identify the perceptions of high-performing dancers and athletes on motherhood compatibility and to develop informed recommendations based on the experiences of high-performing dancers and athletes who have been pregnant, to support the journey from preconception through to the public disclosure of pregnancy. Thus, advancing current research by incorporating dancers alongside athletes in exploring perceptions of the compatibility of motherhood within high-performance careers. Bringing new insight into the underexplored journey from preconception to public pregnancy disclosure. The bioecological model will be used to make sense of the perceptions of compatibility and recommendations for future policy, provisions, and practices across the high-performance environment, with 17 key recommendations presented in [Figure 1](#). Interconnection between the individual and environmental characteristics of the microsystem, mesosystem, exosystem, and macrosystem demonstrated within the results will be discussed, with further contextualization according to proximal processes, person, and time.

Part one: perception of compatibility

This current study demonstrates that, at this time, at the microsystem level, influence of role models who have successfully navigated a postpartum return, contribute to the perception of motherhood compatibility within high-performance environments. Additionally, exosystem level policy developments for pregnant athletes, intern influence microsystem level policy, thus supporting compatible from within the immediate environment within the UK (i.e. NGB, professional dance company or club). This development of supportive policy appears remis within high-performance environment from across the wider macrosystem (see Davenport et al. (2024)). Across the bioecological system the limited evidence base, training and performance processes, personal goals, and doubts of a successful return often result in a perceived lack of compatibility at an individual level internationally (Bergström et al. 2023; Culvin and Bowes 2021; Davenport et al. 2024). With female athlete and dancer's career stage and achievements impacting personal prioritization and determining the appropriate time to seek pregnancy on an individual basis. Furthermore, the individual factor of age and exosystem processes such as competition season or the individual's perception of the importance of a competition, influence this timing. The physical

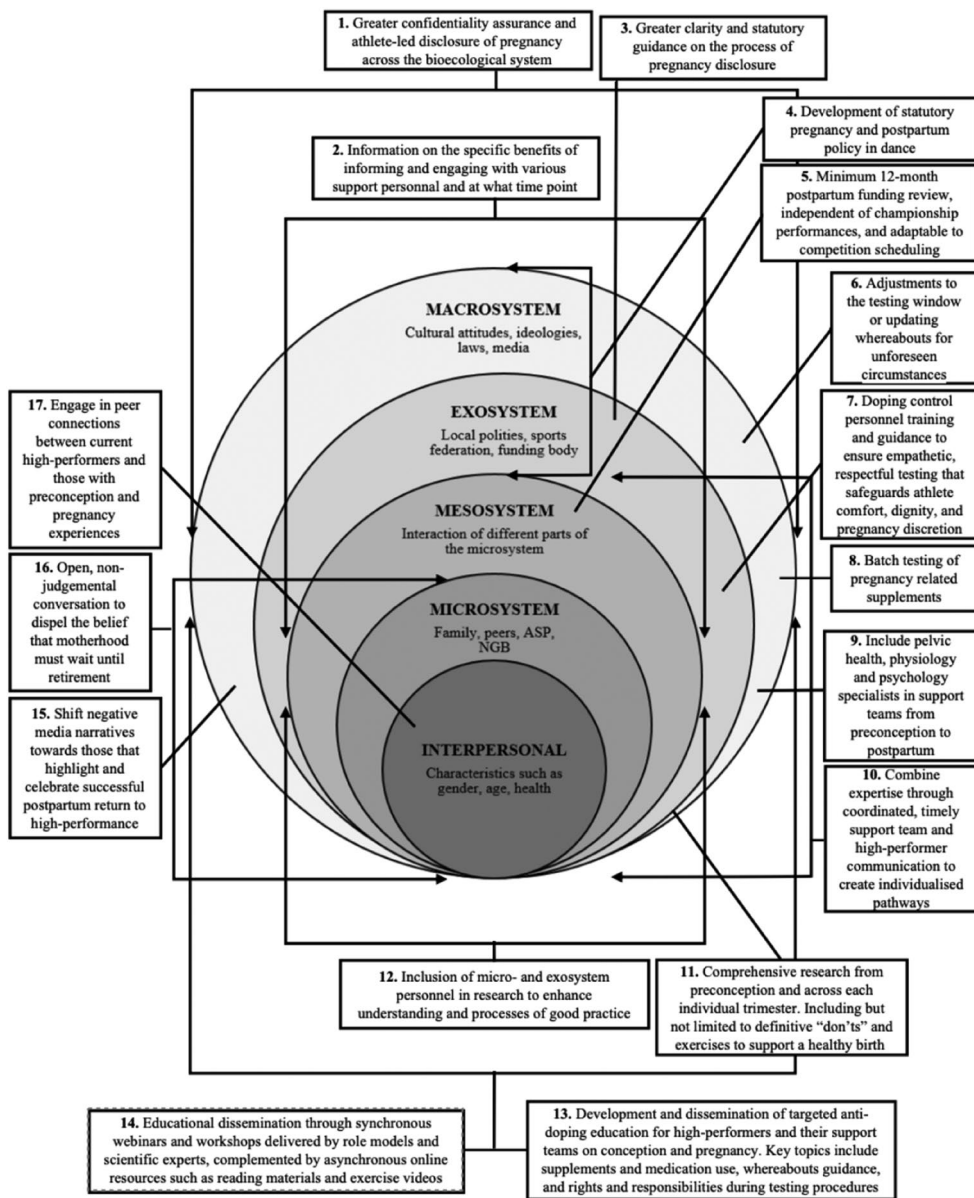


Figure 1. Bioecological model of the recommendations for support across a high-performer's environment. Arrows indicate where a recommendation spans across multiple levels.

nature and demands of an individual athlete or dancer's career, show that the proximal processes impact personal beliefs of compatibility of motherhood with their careers. A greater perception of incompatibility was viewed by those where the nature of their sport or dance was particularly time consuming and there was a higher risk of abdominal trauma. Finally, the variance in the support processes from their bioecological system showed that those who perceived support to be sufficient at a micro- and exosystem level and believed the interaction at the mesosystem level to be effective, viewed motherhood as compatible with their careers. Despite all athletes and dancers within this current study being situated

within a high-performance environment, some perceive support to be insufficient leading to a view of incompatibility.

Part two: recommendations to support preconception to pregnancy announcement

Contracts and guidance

Turning attention to recommendations for support during the preconception to public announcement of pregnancy as shown in [Figure 1](#), interview participants emphasized the importance of exosystem policies related to pregnancy disclosure and postpartum return. Within the UK, macro-policy on pregnancy disclosure states an employee must tell their employer a minimum of 15 weeks before birth (Department for Business, Innovation and Skills 2011). Within the high-performance environment, individuals are often not classified as employees due to being a self-employed dancer or a funded athlete but are requested to or feel obliged to inform a key member of their immediate microsystem (e.g. performance director) very early on in the pregnancy. Individual support staff working with high-performers practice of exosystem level guidelines related to pregnancy disclosure (e.g. UK Sport pregnancy guidance) highlights the need for greater clarity, guidance, and interaction at the mesosystem level and, as a result, the creation of recommendations 1, 2 and 3 in [Figure 1](#).

While dancers in this current study noted the lack of contract specificity around their postpartum return to dance, funded athletes felt the need to more carefully consider the optimal time for conception, particularly related to the timing of birth, return to sport, and funding reviews. The Department for Culture, Media and Sport (DCMS) collaborates with the Arts Council England who aim to enhance equality for pregnant and postpartum people working within the art such as dance yet, statutory policy or specific guidelines are not stated as they suggest further evidence to ensure these individuals needs are effectively met is required (Arts Council England 2018). The DCMS alongside the National Lottery are responsible for sports related macro-policy within the UK and the funding of UK Sport (UK Sport [n.d.-b](#)). Consequently, the DCMS works with UK Sport to develop strategic plans, part of which aims to produce a broader range of sporting champions and medallist (UK Sport 2021) and outline the support they will provide to NGBs. Although non-statutory guidance is available through dance organizations such as One Dance UK (One Dance UK [n.d.](#)) and Dance Mama (Dance Mama [n.d.](#)) there remains a call for macrosystem and exosystem statutory policy for supporting pregnancy and postpartum dancers across the dance environment (Duffy 2023). Sporting exosystem policies set by overarching funding providers guide the macrosystem funding process and are applied equally to pregnant and postnatal athletes within specific NGBs such as British Cycling, and British Judo. However, there is variation of conditions and clauses between NGBs, for example UK Athletics (2023) and Aquatics GB (2024). Although some sporting micro-policies embed flexibility due to pregnancy or birth complications and NGBs have the discretion to extend funding beyond the typical 12 months cycle (UK Athletics 2023), this approach is not equitable, as most athletes are required to perform at prepartum levels within 9 months to retain funding, where others may have over 12 months. The competition process influences this performance window of opportunity due to the seasonal timing of high-profile competitions dictated by macrosystem sporting organizations such as the International Olympic

Committee. Statutory guidance on this is remis within policy therefore recommendation 4 and 5 are suggested to ensure an equitable sports funding process and the development of statutory pregnancy and postpartum policy and guidance for the dance industry.

Anti-doping

Athletes and competitive dancers (e.g. ballroom, breaking, and cheer) are required to abide by the World Anti-Doping Agency's (WADA) international anti-doping standards as articulated in their code. The WADA code identifies comprehensive macrosystem policies, rules, and regulations concerning drug testing, investigations, and anti-doping education (WADA n.d.). Responsibility is delegated to exosystem organizations, such as The World DanceSport Federation (WDSF) and UK Anti-doping (UKAD), to implement testing and educational programmes, with educational programmes further disseminated to the microsystem level, involving NGBs. Furthermore, high-performers and their support teams such as choreographers and coaches operating within the high-performance environment are required to complete mandatory education and abide by anti-doping standards (UKAD 2021). To address the unique needs of pregnant high-performers, conception and pregnancy recommendations 6, 7, and 8 have been made.

Support team

Recommendations 9 and 10 have been created for the support team of a high-performer during this journey. These focus on support personnel operating individually within the microsystem and the interactional processes across the support team within the mesosystem. The team's purpose is to function as a comprehensive support mesosystem, offering understanding of the perinatal journey, foresight, and problem-solving capabilities. The goal is to combine expertise to develop a semi-structured pathway tailored to the individual dancer or athlete, while continuously monitoring their journey. Additionally, the support team should undertake a baseline assessment to identify potential challenges and weaknesses to inform birth preparations, facilitate postpartum comparison and guide recovery.

Research and education

Within the current study, recommendations for future research highlighted the need to develop more training guidance which would intern support health and well-being across pregnancy and into the post-partum period (Duffy 2023). Whilst there is recognition of the inherent challenges in creating discipline specific guidance, there is a call to advance both knowledge and understanding to develop a basic and generic plan from the perspective of a high-performer. Notably, limited attention is afforded within macro-level research to the experiences of those within the micro- and exosystem working with pregnant and postpartum high-performers (Davenport, Ray, et al. 2023). Furthermore, athletes within this current study noted pregnancy anti-doping education is remiss, leading to a limited understanding of the intersection between pregnancy and anti-doping, and engagement in processes to minimize the risk of an unintentional anti-doping rule violation. Consequently, leading to recommendations, 11, 12 and 13. Albeit the ballet dancers within the current study do not have to abide by the WADA code of conduct and therefore did not highlight any anti-doping concerns, these recommendations may benefit those competing in dancsport. Additionally, recommendations for effective dissemination of education from the

exosystem to the microsystem and individual dancer or athlete proposed in recommendation 14 may address the call for educational content to reach all high-performance dancers and athletes, and not be restricted to those who are full-time within a dance company, funded, or based within a professional club. The timing of these educational processes should be tailored to the individual's career and motherhood stage. For example, education on the impact of high-performance training on aspects such as fertility should be provided at an earlier age, whereas information regarding pregnancy-related consent could be delivered annually for all or at appropriate times based on individual circumstances.

Cultural acceptance

Cultural bias and social norms uphold notions of body image and high work ethic within dance which marginalize pregnant and postpartum dancers (Duffy 2023). The media can uphold heteronormative, gendered and biological ideologies, downplay athletic achievements and dismissing equitable advancements yet, it can be a platform for activism (McGannon et al. 2024a, 2024b). As there is a recognition that media plays a significant role in shaping public perceptions, recommendation 15 to address cultural acceptance is connected to the macrosystem level. To further enhance cultural acceptance, the exosystem should demonstrate pregnancy as a viable option from the top-down rather than the individual high-performer to drive from the bottom-up, which aligns with recommendation 16. Finally, recommendation 17 may facilitate this acceptance at the individual level and provide valuable insights and support, fostering a more inclusive and supportive environment for aspiring mothers within high-performance settings.

Identity transition support

Recommendation 9 of embedding a psychologist within the support team has been highlighted by high-performers within this study. It is hoped the results of this study provide high-performers and those within the high-performers exosystem information on the potential psychological experiences encountered from preconception to pregnancy announcement. These include but are not limited to conception uncertainty, training adaptations, irregularity, and motivation, body changes, and being replaced. By providing insights into the emotional and mental health aspects of this journey, a psychologist may help high-performers to manage expectations and develop coping strategies. This proactive approach not only enhances the well-being of the dancers and athletes but also supports their sustained high performance by addressing and mitigating psychological stressors effectively.

Strengths and limitations

The survey part of this study was advertised on an international scale and was completed by a wide range of participants, who resided in 10 countries, and participated in 19 sports and dance. The eight UK interview participants represented five sports and dance and were a mix of current and retired high-performing athletes and dancers. Despite the breadth of survey responses, we were unable to recruit any individuals participating in winter sports, para-athletes or freelance dancers to the interviews. Further, only two dancers completed the survey, and all interview participants were based in the UK. Therefore, it is

recommended that future research further diversifies the participant demographic, for example by including non-gestational mothers, participants from underrepresented regions (e.g. African and Asian nations), and a greater number of para-dancers and athletes to further enhance our quality measure of naturalistic generalisability (Smith 2018a). Finally, all interviews were conducted using video-based online methods. Whilst there are some drawbacks to this approach, including the potential impersonal nature and the inability or difficulty to pick up on non-verbal cues, the online mode, which has become extremely familiar especially since the outbreak of the pandemic, expanded the range of available participants eliminating the need for travel for both interviewees and participants (Lobe, Morgan, and Hoffman 2022; Sparkes and Smith 2014).

Conclusion

This study builds on existing research by examining how both dancers and athletes perceive the compatibility of motherhood within high-performance careers. It offers new insights into the preconception to public pregnancy disclosure journey. Crucially, this research is the first to apply the bioecological model to this topic, offering a novel and holistic framework for understanding the multiple layers of influence shaping perceptions and experiences of motherhood in high-performance dance and sport.

By applying the bioecological model, the study reveals that individual perceptions and experiences are embedded within and shaped by interactions across the high-performance environment from immediate relationships to boarder social-cultural contexts. While some high-performers find motherhood compatible with their careers, others perceive it as challenging due to individual and environmental factors. With the positive experiences of support for the high-performance dancers within this current study contradicting previous findings. The study offers deeper and more integrated understanding of the complexities involved in high-performance motherhood, emphasizing the need for clearer policies, better support systems, and improved education on pregnancy-related issues within high-performance environments.

Recommendations including those informed by the dancers and athletes some of which are not well represented in existing literature involve enhanced guidance on pregnancy disclosure, flexible funding review processes, specialized support teams, and increased education on anti-doping and pregnancy. Furthermore, this study highlights the need to promote greater cultural acceptance of motherhood in high-performance environments should be promoted, with media playing a crucial role in reshaping public perceptions. Integrating psychological support is also recommended to help athletes manage the emotional challenges associated with the transition to motherhood.

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Data availability statement

The participants of this study did not give written consent for their data to be shared publicly, so due to the sensitive nature of the research supporting data is not available.

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