

Amplifying the Female Athlete Voice

Developing a sports research agenda and translational practice informed by Team USA female athletes

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AMSSM 2023 Annual Meeting



FEMALE ATHLETE
SCIENCE AND TRANSLATIONAL
RESEARCH



Boston Children's Hospital
Female Athlete Program



UNITED STATES
OLYMPIC & PARALYMPIC
COMMITTEE



Wu Tsai Human
Performance Alliance

Disclosures

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Female athletes are underrepresented in sport and exercise science research.

34%

female participation in
six sport and exercise
science journals between
2014 – 2020

6%

of total publications
conducted exclusively
on females

0.6%

of male-only studies
were studying male-
specific factors

The Athlete Voice in Research

Qualitative research is effective in illuminating the athlete perspective.

Original research

“It’s always the bare minimum” - A qualitative study of players’ experiences of tackle coaching in women’s rugby union

Kathryn Dane ^a, Geraldine Foley ^{b,*}, Sharief Hendricks ^{c,d,e}, Fiona Wilson ^a

J Sci Med Sport, Feb 2023

Original research



OPEN ACCESS

Pushing for change: a qualitative study of the experiences of elite athletes during pregnancy

Margie H Davenport ¹, Autumn Nesdoly, ² Lauren Ray, ² Jane S Thornton ³,
Rshmi Khurana, ⁴ Tara-Leigh F McHugh ²

Br J Sports Med, Jan 2022

Review

Anterior cruciate ligament injury: towards a gendered environmental approach

Joanne L Parsons ¹, Stephanie E Coen ², Sheree Bekker ³

Br J Sports Med, Mar 2021

RESEARCH

Open Access



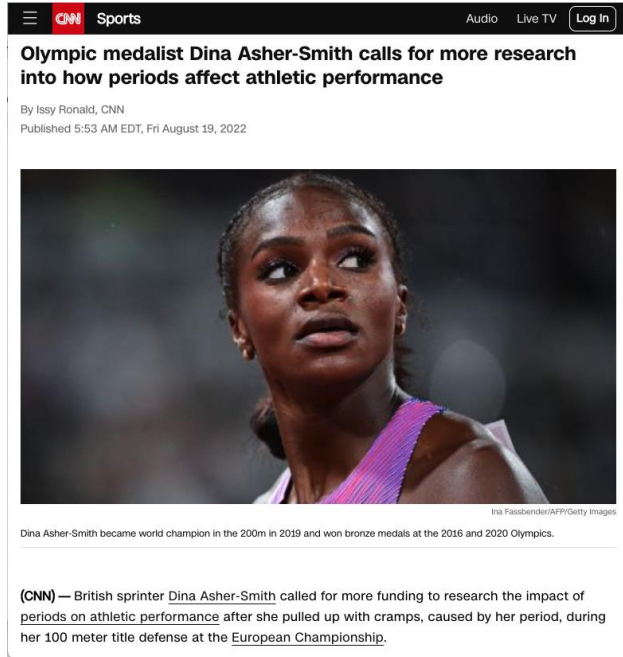
‘I was young, I wanted to return to sport, and re-ruptured my ACL’ – young active female patients’ voices on the experience of sustaining an ACL re-rupture, a qualitative study

Ramana Piussi^{1,2,3*}, Ferid Krpic^{2,4}, David Sundemo^{2,4}, Eleonor Svantesson^{2,4}, Andreas Ivarsson^{5,6},
Urban Johnson⁵, Kristian Samuelsson^{2,4} and Eric Hamrin Senorski^{1,2,3}

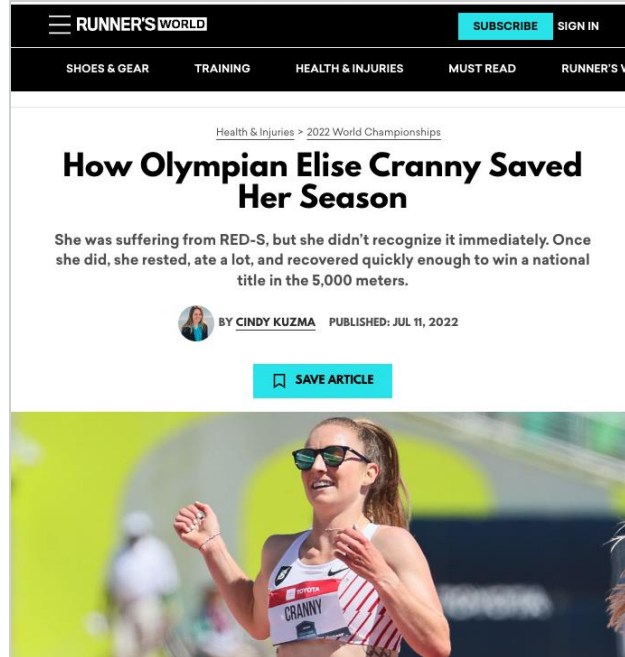
BMC Musculoskeletal Disorders, Aug 2022

Female Athlete Voice in the Media

A healthy body and mind can positively impact performance.



www.cnn.com



www.runnersworld.com



www.time.com

The Female Athlete Voice Project

Aim 1: What **sports medicine and sports science topics** do female USOPC-affiliated athletes believe would best support their ongoing sport participation and **enhance their performance and well-being in sport?**

Aim 2: Are gaps in information that support female USOPC-affiliated athletes primarily due to **lack of research** to meet their needs or **lack of translational work** to put needed information in the hands of athletes, coaches, clinicians, support staff, and parents?



Design & Methodology



RECRUITMENT

40 USOPC female athletes identified and invited to participate in surveys.



ADVISORY PANEL

Expert Advisory Panel developed initial list of sports science topics for survey.



SURVEY & ANALYSIS ROUND 1

Athletes were asked to rank the sports science items on a scale of 1-5.



SURVEY & ANALYSIS ROUND 2 & 3

After each survey round, analysis performed to modify and add topics to survey.



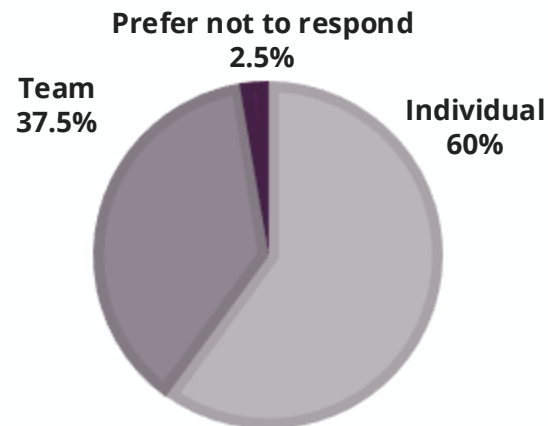
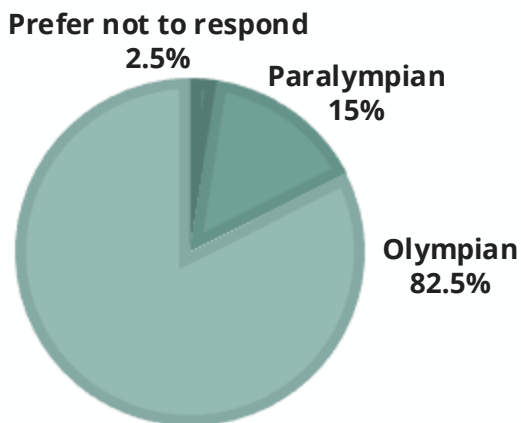
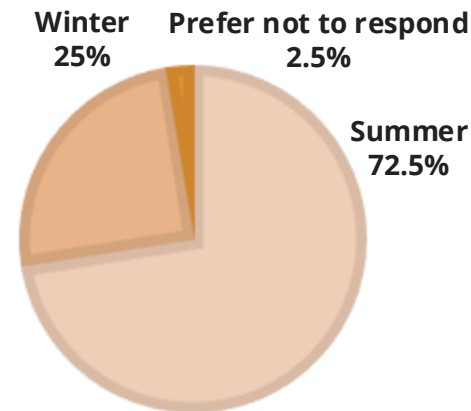
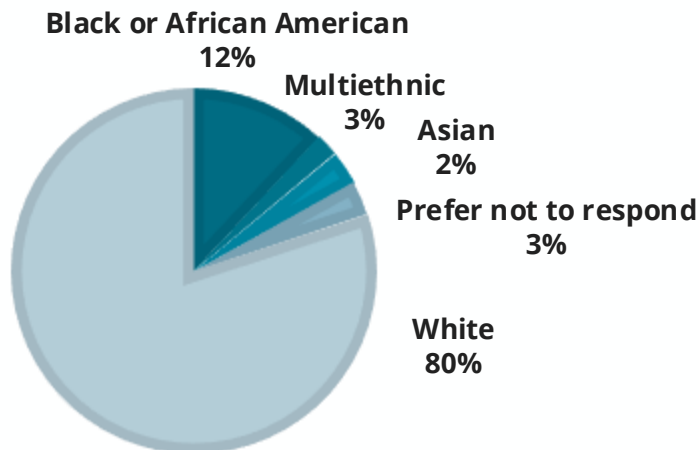
FINAL ANALYSIS & IDENTIFICATION OF HIGHEST RANKED TOPICS

Delphi Survey: Ideal for determining consensus among topic experts



Key Athlete Demographics

40 Team USA Females
Mean age: 29.4 yrs



Results: Consensus on topic scores improved each round.



Results: Final Topics by Ranking

Topic	Mean	Rank
Symptoms before, during, and after menstrual cycle	4.58	1
Recovery	4.58	1
Birth control options & short- and long-term effects	4.55	2
Mental health tools, strategies, and interventions	4.50	3
Fueling throughout menstrual cycle phases	4.43	4
Nutrition strategies for different stages of training	4.43	5
Female physiology and performance outcomes	4.33	6
Sports performance support vs. mental health support	4.30	7
Team dynamics	4.25	8
Low-energy availability	4.15	9
Male dominated spaces	4.13	10
Pregnancy and postpartum return to sport	4.13	11
Effective strategies for injury prevention	4.13	12
Individualized strength training to optimize performance and reduce injury risk	4.05	13



Top 5 Topics

1

How the **symptoms** before, during, and after the **bleeding phase of a menstrual cycle** impact training and performance.



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The impact of **female physiology**, including **menstrual cycle**, on the **recovery** process and the effectiveness of various **recovery** modalities and approaches.



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The impact of **female physiology**, including **menstrual cycle**, on the **recovery** process and the effectiveness of various **recovery** modalities and approaches.

2

The short and long-term effects of specific types of **birth control options** on health, performance, and well-being.



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The short and long-term effects of specific types of **birth control options** on health, performance, and well-being.

3

Tools, strategies, and interventions that support and strengthen **mental skills, training, and performance** for female athletes with or without potential mental health diagnoses.



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Tools, strategies, and interventions that support and strengthen **mental skills, training, and performance** for female athletes with or without potential mental health diagnoses.

4

How to best **fuel** at different stages of the **menstrual cycle** to enhance performance, health, and well-being.



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Topics Directly from Athlete Insight



Means scores all above 4.20

Report Development

Three comprehensive reports developed and shared with participants after each round.

Topic: How best to fuel at different stages of the menstrual cycle to enhance performance, health, and well-being.

Topic rating:

Round 1: NA

Round 2: 1 out of 19 (mean score = 4.65)

Round 3: 4 out of 14 (mean score = 4.43)

Comments: Insights **directly from athletes** in Round 1 caused for the development and inclusion of this topic in the Round 2 survey. The topic phrasing remained the same from Round 2 to Round 3, and the topic declined slightly in its average score from 4.65 to 4.43. In Round 2 it ranked 1/19 and in Round 3 it ranked 4/14.

Illustrative justifications (direct quotes):

- *I get really weak in specific stages of my menstrual cycle and knowing when to best fuel during those stages will be a huge enhancement in my performance, health, and well-being*
- *I know my body reacts so differently during my cycle so knowing how to help my body during this time would be so beneficial.*
- *I strongly agree with this one as I do not know if we are supposed to fuel differently depending on the stage of the menstrual cycle for performance and wellbeing. I know sometimes around my period I might be more hungry and crave different things...*

Illustrative dissenting justifications (direct quotes):

- *Already have enough information on this topic.*



Limitations

- Lack of diverse representative sample
- Challenges in distinguishing research versus translation gaps



Significance: The Athlete Experience

“

I truly appreciated putting the athlete at the center of deciding the topics of what future research would take place rather than assuming what would be best for us. That is huge and I don't think I've ever seen it before.

”



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Elevate the athlete voice.



APPENDIX



Topic Evolution

ORIGINAL TOPIC ROUND 1

The short- and long-term effects of specific types of birth control options including different oral hormonal contraceptive pills, IUDs, the patch, etc on health, performance, and well-being.



RATING

ATHLETE JUSTIFICATIONS

REWRITTEN TOPIC ROUND 2

The short- and long-term effects of specific types of birth control options including different oral hormonal contraceptive pills, IUDs, the patch, etc on health, performance, and well-being.



RATING

ATHLETE JUSTIFICATIONS

FINAL TOPIC

The short- and long-term effects of specific types of birth control options including different oral hormonal contraceptive pills, IUDs, the patch, etc on health, performance, and well-being.



Female Physiology & Performance, Health, and Well-being

Strategies for optimizing training and utilizing sports performance testing that incorporates female physiology to attain peak physical performance over the course of a season and athletic career.

Female specific and individualized strength training considerations to optimize performance and reduce injury risk in female athletes.

The short- and long-term effects of specific types of birth control options including different oral hormonal contraceptive pills, IUDs, the patch, etc on health, performance, and well-being.

The symptoms and potential health and performance consequences of low energy availability which is when the body doesn't have enough calorie intake to account for exercise and the caloric needs of daily life. (This can be inadvertent from an eating disorder or disordered eating, aka Relative Energy Deficiency in sport (REDs) or female athlete triad).

The impact of female physiology, including menstrual cycle, on the recovery process and the effectiveness of various recovery modalities and approaches, including passive recovery and sleep.

Training, performance, physical health and mental health considerations during pregnancy and postpartum return to sport.



Injury & Illness Risk Reduction

Effective strategies for female athletes to decrease injury and re-injury risk, and safely return to play post injury (including those related to fueling, physical and mental training, and rehabilitation).

Mental Health and Mental Training

Tools, strategies, and interventions that support and strengthen mental skills, training, and performance for female athletes with or without potential mental health diagnoses (e.g., anxiety, depression, eating disorder, OCD, PTSD).

Understanding similarities and differences between sports performance support and mental health support and how/when/where to seek care for each.

Nutrition, Fueling, and Hydration

Sport-specific fueling, supplementation, and hydration strategies (timing, macro/micronutrients) while traveling and during different stages of training (in competition, out of competition) and competition (pre-, during, and post-competition).

Menstrual Cycle

How best to fuel at different stages of the menstrual cycle to enhance performance, health, and well-being.

How the symptoms before, during, and after the bleeding phase of a menstrual cycle impact training and performance.

Team Dynamics and Coaching

The impacts of institutionalized sexism and/or male dominated coaching and support staff on female athlete mental health and performance.

The impact of team dynamics and interpersonal relationships between and among athletes, coaches, and support staff on performance, physical and mental health, and well-being.

