

Sidelined: why football research must stop ignoring women's needs

More dedicated studies into women's football could reduce the injuries and discomfort that plague players - it's time for researchers to give the female game the attention it deserves.

When studying men's football boots for her PhD, Dr Katrine Okholm Kryger made a radical suggestion to manufacturers: why not double their sample to include men and women? The answer was the same everywhere.

"I kept being told, 'This is too niche. There's no market. It's not interesting for us, it's not a priority.'"

As she now knows as a leading expert in women's football research, this assumption is widespread: women should accept what they get in football, regardless of whether it was designed for them.

The potential of women's football has never been clearer; in December 2023, a record 59,042 fans attended Arsenal's Women's Super League clash with Chelsea. Commercially, Deloitte recently predicted that women's elite sport would generate over \$1bn of global revenues in 2024 - with football projected to account for a staggering 43% of this. However, the players to whom the game's success is owed are being let down.

[Over 25 players](#) missed the 2023 Women's World Cup with anterior cruciate ligament (ACL) injuries. 82% of players in a European Club Association survey suffered pain or discomfort with their boots. 28% of respondents to [one survey](#) of UK amateur footballers reported avoiding playing due to menstruation.

The female game might be growing, but is the science to support progress in place?

Counted out

Dr Kryger, an associate professor at St Mary's University, delved deeper into football research to see who it served. What she found indicated a worrying gap - the volume of research on women's football was much lower than that on men's. Even in the most studied disciplines, such as medicine, closer examination revealed that research volume remained low for certain subcategories like age groups or playing levels.

"Suddenly, when you broke it down into those categories you hardly had any papers in there, then the question comes - what's the quality of those papers like?

"Our conclusion was that we definitely need more research and we need more good quality research."

Research feeds into coaching, kit and boot design, and injury prevention - if these areas are not designed with women in mind, female footballers will be left on the back foot.

Are we losing future Lionesses?

Of course, the struggles of senior elite players will receive the most media attention - but Dr Kryger stresses that research must examine the whole pyramid, down to youth level. Women in Sport [found](#) that up to 43% of girls who considered themselves sporty in primary school disengage from sport as teens; she identifies this dropoff in participation as an urgent issue.

“It’s actually where I think that we are missing the point at the moment in research. I applied for funding last year, but didn’t get it, in terms of looking at that drop-off point and understanding from the players what actually caused it because at the moment we’re just guessing.”

One possible factor, she says, is that players aren’t being prepared for how puberty will affect their game. Hannah Chaplin coaches an under-12 girls’ team in Sheffield and agrees research should be done to address such issues. She has noticed menstruation affecting her players’ confidence and believes that research should be conducted and spread to coaches to allow them to support their players better.

“If you haven’t been through it yourself, I think understanding the impact it has when you’re playing football would be really helpful.

“More research by scientists that normalises women’s health in sport is only going to keep more women and girls in football.”

This is just one way that research could help coaches support girls in the game - Josh Reed, a Youth Development Phase Coach at Barnsley FC, highlights that research is also key to helping staff prevent injuries, which he says goes hand-in-hand with participation.

“If we can show that we’ve got that research and that protection in place for them, then we keep them in the game for longer because they’re enjoying playing, they’re not picking up injuries.”

Female footballers appear [up to six times more likely](#) to suffer ACL injuries compared to their male counterparts - the highest profile problems are at elite level, but Josh stresses the importance of prevention at a young age.

“What was Leah Williamson (who tore her ACL in 2023) like as a 16-year-old? What was she like as a 14-year-old, as a ten-year-old - could we have prevented this happening in those stages?”

He says he has seen teenagers in double ACL braces by the age of 18: “They've not had the proper treatment, the proper care, the proper research.”

His colleague, Barnsley Women’s lead sport scientist Nick Botten, says relevant research must be made specific to female physiology.

“When it comes to injury prevention, we're relying on things that have been found in men's football, which aren't always the same as women's football. Obviously, men and women are completely different in the way that they're built and the way that their bodies are structured.”

With female-specific research, Josh says, coaches can start protecting young players – such as by helping them make changes to stride patterns, weight-bearing, or other ways to minimise their risk of ACL ruptures.

“If you've got the data then, as a coach, if you are working closely enough alongside your sports scientist, you can change all these things.

“There has to be female-specific studies to go in and use the data on because if we keep basing it off the male, then we're never going to get to the bottom of it.”

If the shoe fits

As Dr Kryger points out, though, coaching alone won’t allow women to play pain-free. Her past questions about boot design have turned out to be legitimate: she recently helped conduct a European Club Association survey that discovered a staggering 82% of players faced discomfort or pain with their boots.

“(It) is absolutely ridiculous and really highlights that we are not designing football boots that are appropriate for women.”

This is just one issue tackled in [her paper](#), co-authored with other key experts, about technology in women’s football; it highlighted issues in kit design, including poor fit and concerns about menstrual leaking in light-coloured shorts.

She calls for manufacturers to move past ‘pink it and shrink it’ design tactics: “We need to actually test (equipment) on women and ensure that it actually works for the women in terms of optimising performance, minimising injury risk, and asking them whether they like it.”

Fortunately for women in football, there are those in the field who will fight for them even when the mainstream drags its feet - like start-up Ida Sports, founded to design and sell football boots specifically - and only - for women.

“We mostly focus on fit and comfort for our female athletes so that we can allow them to perform better and also alleviate risk of injury,” said Emelia Funnell, Ida’s sports science research lead.

Before Ida, most football boots on the market for women were ‘unisex’ - but, as Miss Funnell explains, these are generally developed from a ‘last’ (a shoemaking mould) resembling a male foot - and, more specifically, a Caucasian male foot. Women’s feet tend to be more triangular, have higher arches, and carry body weight differently; Ida’s boot shape and stud configuration are designed accordingly.

Miss Funnell explains how research is key to female-tailored design, such as ensuring boots provide appropriate traction (grip) that minimises injury risks: “The research is what goes directly in. When we then test the sole plates we need to know - what’s an appropriate rotational traction? So we need to have research published that investigates both female perception as well as the mechanical aspects of it.

“It all directly impacts.”

Changing the game

Start-ups like Ida show the positive impact of female-tailored research and design - but transformation must come from the top. The UK government recently announced that it will back all recommendations from ex-Lioness Karen Carney’s review into women’s football, including the establishment of a centrally funded unit with a dedicated research budget for issues affecting female footballers.

Developments like this make Dr Kryger optimistic: “It’s amazing - people are listening, people are keen, people understand.

“(Research) will be ongoing for the next ten years, I assume, but then I’m pretty confident that we’ll be in a very good place.”

If women’s football is to reach its full potential, then making the beautiful game work for women - not ignore them - must be the goal.