

Supplementary material

Supplementary Table 1. Consolidated criteria for reporting qualitative studies (COREQ): 32-item checklist.

No Item	Guide questions/description	Comment/page no.
Domain 1: Research team and reflexivity		
Personal characteristics		
1. Interviewer	Which authors conducted the interview or focus group?	KD and FW, page 7
2. Credentials	What were the researchers credentials? E.g. PhD, MD	KD: BSc, FW: PhD, GF: PhD
3. Occupation	What was their occupation at the time of the study?	KD: PhD Student, Discipline of Physiotherapy GF: Assistant Professor in Occupational Therapy FW: Associate Professor in Physiotherapy
4. Gender	Was the researcher male or female?	All researchers (data collection, coding/data analysis) were female
5. Experience and training	What experience or training did the researcher have?	GF has conducted and published numerous qualitative investigations. FW has expertise in mixed-methods research. KD received training in interviewing skills. Authors experienced in both quantitative and qualitative research.
Relationship with participants		
6. Relationship established	Was the relationship established prior to study commencement?	No prior relationship, page 8
7. Participant knowledge of the interviewer	What did the participants know about the researcher? E.g. personal goals, reasons for doing the research	Participants were aware of the rationale for the study and the researcher's level of training, page 8
8. Interviewer characteristics	What characteristics were reported about the interviewer? E.g. bias, assumptions, reasons and interests in the research topic	The interviewers' level of training, experience, and occupation are reported.
Domain 2: Study design		
Theoretical framework		
9. Methodological orientation and theory	What methodological orientation was stated to underpin the study?	Grounded theory, page 5
Participant selection		
10. Sampling	How were participants selected?	Convenience, purposive. and theoretical sampling, page 6
11. Method of approach	How were participants approached?	Rugby social media channels, page 6
12. Sample size	How many participants were in the study?	21 participants, page 6
13. non-participation	How many participants refused to participate or dropped out? Reasons?	One participant dropped out of the study prior to interview secondary to unforeseen time difficulties.
Setting		
14. Setting of data collection	Where was the data collected?	Zoom video conferencing, page 7

15. Presence of non-participants	Was anyone else present besides the participants and researchers?	No
16. Description of sample	What are the important characteristics of the sample? E.g. demographic data, date	Participant characteristics are reported in table 1, page 7
Data collection		
17. Interview guide	Were questions, prompts, guides provided by the authors? Was it pilot tested?	Semi-structured guides were developed. Interviews with probes to guide as necessary. Piloted prior to use in the study, page 8.
18. Repeat interviews	Were repeat interviews carried out?	No
19. Audio/visual recording	Did the research use audio or visual recording to collect the data?	Interviews were audio recorded and transcribed verbatim, page 8
20. Field notes	Were field notes made during and/or after the interview?	Yes after the interview, page 8
21. Duration	What was the duration of the interviews?	Interviews lasted between 35 and 67 minutes, page 8
22. Data saturation	Was data saturation discussed?	Yes, page 6
23. Transcripts returned	Were transcripts returned to participants for comment and/or correction?	Participants were asked to check their transcripts for content. One transcript had minor adjustment for content, page 8
Domain 3: Analysis and findings		
Data analysis		
24. Number of data coders	How many data coders coded the data?	One coder KD, page 9
25. Description of the coding tree	Did authors provide a description of the coding tree?	Authors described data coding process, page 9
26. Deviation of themes	Were themes identified in advance or derived from the data	Inductive – concepts and categories derived from the data, page 9
27. Software	What software was used to manage the data	Nvivo software, page 9
28. Participant checking	Did participants provide feedback on the findings?	No, but an external player representative provided feedback on findings, page 6
Reporting		
29. Quotations presented	Were participant quotations presented to illustrate the findings? Were these identified e.g. P1	Yes, participant quotations were presented to illustrate the concepts and categories. Each quotation was identified only by the interview number to maintain assurances of confidentiality, pages 10-18, and supplementary tables 3-5.
30. Data and findings consistent	Was there consistency between the data presented and the findings?	Yes, the quotes explicate the concepts and categories as presented, pages 10-18, and supplementary tables 3-5
31. Clarity of major themes	Were major themes clearly presented in the findings?	Yes, the major themes are presented throughout the results section with representative quotes.
32. Clarity of minor themes	Is there a description of diverse cases or discussion of minor themes?	Yes, presented across the results section, pages 10-18.

Supplementary Table 2. Participant demographic questionnaire**Personal Information**

What age are you? _____ years

Rugby History

What position(s) do you play? _____

How long have you been playing rugby? _____ years

What is the highest rugby competitive level that you have played at? (please tick)

Club	<input type="checkbox"/>
Provincial	<input type="checkbox"/>
National	<input type="checkbox"/>

Please give details: _____

Supplementary Table 3. Category: “Knocks and bumps”- Embodied understandings of tackle injury

Category: “Knocks and bumps”- Embodied understandings of tackle injury	
S-EM level	
Concept	Normalising and downplaying tackle injury
Intrapersonal	It’s probably something that is found just in rugby...it relates to the nature of the injury or the seriousness of the injury and for some people maybe it’s downplaying it or it’s just a word that has invaded your vocabulary and you use it now without thinking that you're downgrading the nature of it. (P2)
Interpersonal	My coach here is like “all right, this is four weeks of destroying your body and trying to hold on for dear life until the end of season and then for the rest of the semester it's recovering and getting better.” (P17)
Institutional	You don't really hear people telling you to “suck it up” in rugby because everybody just kind of already has that mentality. It's implemented more into rugby culture. (P17)
Concept	Defining acceptable risk
Intrapersonal	I'm really bad at being told “no”. I don't think I've ever played very many matches where I haven't had some sort of ache or something so you're used to playing through something whether it's muscle pain, or whatever...I was never gonna miss a match due to being sore, I am just about missing matches due to this [broken wrist]. (P10) The people around me that are more concerned about my physical welfare than I am. (P5)
Concept	Tackle injury behaviours
Intrapersonal	As soon as the whistle goes everything goes out of your brain, you just want that ball and you want to do anything to get the ball and win the match. I was nervous for a good 30 seconds but then the game started and there wasn't time for that. (P21)
Institutional	I remember a physio at one point describing rugby players as the functionally injured, that everyone's got a niggle that they're dealing with...but you're functional enough to still be able to play...I think just the nature of rugby and it being a contact collision sport, I think it's just a higher risk sport for getting injured. I don't think we can shy away from that. In theory, I'd like to think that the more the women's game progresses the more time we have to train, the more time we have to recover and take care of ourselves and potentially, that will lower the injury rates. (P13)

Supplementary Table 4. Category: “Women are not conditioned to hit each other” - Gender and tackle injury risk

Category: “Women are not conditioned to hit each other” - Gender and tackle injury risk	
S-EM level	
Concept	Gender and tackle injury risk perceptions
Intrapersonal	I see the difference between men and women's rugby because we don't have the physicality, we don't have the speed of the men. But as far as tackling goes, we don't hold back, there's no “oh I'm sorry”, it's the same. (P9)
Embodied limitations	I think it's a given the women will probably get injured more than men and I say that simply because of genetics, biology and then also men become more used to that because if you're if you're my age you've probably not been playing since you're five years old whereas the boys have, their body kind of adapts to that. (P15) I'd say men have no issue in smashing into each other and their own teammates, because it's even banter for them...we were doing one on one tackling, I was up against our vice-captain and she had actually said to me “you're more likely to get hurt if you don't go in with the intent of bringing somebody down because that is when you're more likely to hurt yourself”. That was something that stuck in my head for any kind of tackling training for the future...if you don't do it right, then you are at more risk. (P8)
Interpersonal	I feel it's all about the coaching, it's very evident as a player which coaches really care about your safety and which coaches just kind of want you to run around and do your best. (P11)
Coach influence	
Family influence female frailty	My husband's saying things like “please be careful” and I have got an injury at the moment and he is saying “what if this happens again?”...I don't see him saying that to my brother who plays and he's had his fair share of injuries...I don't think there's ever any conversation around “Oh do you maybe think you should give rugby up because it is quite dangerous?” (P8) My mother would be the same, she would try to get to every game just for fear that something happened to us. (P5)
Organisational	As female rugby players you don't always have high-quality coaches, especially at grassroots level. And there isn't the grassroots level available to younger people...you probably wouldn't have high quality coaching because it's [women's rugby] so new. So, I think a lot of girls wouldn't have had the coaching that I had, and I am lucky that I did. (P5)
Gendered experiences of coaching	I definitely played for the first few years winging it when it came to the contact situation. It is dangerous...Did we get taught the tackle? Nothing more than, tackle below the hip...I would often go in on the wrong side. I remember academy coaches saying “[nickname] you keep getting knocked out because of your tackle technique”. But there was never any 1 on 1, this is your tackle technique...I've knocked myself out quite a few times in the fall after the tackle...We were never really taught to fall, other than...some MMA training...That was a game changer for me actually in terms of body awareness, controlling my body...I stopped getting knocked out every week. (P18)
Gendered Rugby club environments	We are still very much an amateur/semi-professional club and we are on paid to play contracts. But everyone has a full-time job, I'm a full-time student, and so everyone trains in the evening in their spare time. So, it's very much still a hobby for us and we're at the mercy of the men in the club and what they want to do is the priority and then we have to fit in and around them. (P13)
Institutional	It is your gain line you do everything to protect it so whether you have to put your body on the line or your head in the line I think it's silly that we do it but we still do it...If I'm putting my body on the line I'm hoping the person beside me is putting their body and the line and that's when success comes. if I'm lying on the ground someone is covering a space that I should be in. Even if I can stand and be a body in the line that might take pressure off someone else on the team. (P6)
Collective values	
Societal	women are not conditioned to hit each other. I think there are some women who are conditioned to hit each other, there are some women who can be conditioned to hit each other. I think by naturally saying you want to play Rugby, you appreciate that you are going to hit other women. But I do think that in any rugby team there are different personality types, I do think that goes into how you feel about the contact area. (P18)
Traditional gender norms	
Gender roles	There are so many people that think we shouldn't play at all because we are women and we would get hurt and then we wouldn't be able to make their lunch. (P3)

Concept	Resistance to hurting others
Intrapersonal	Boys rugby in general just seems way more reckless like they don't care who they hurt, if they hurt themselves or others. But girls were like I don't want to get hurt, so I certainly don't want to put you in a position to get hurt so like it's just we're here to have fun, not actually pound each other. (P17)
Reluctance to hurt teammates	In training you're up against your own teammates and you don't want to hurt your teammates and you don't want to make a really aggressive dominant tackle against a teammate. (P8)
Interpersonal	That phrase 'hit to hurt' I don't really buy into it. Everyone is playing to play the game so I wouldn't. I would never go out to intentionally hurt someone to be honest, play the fairest game possible...That mentality of hit to hurt or send someone off injured by tackling, is not in the spirit of the game for me...maybe some people use it as that switch on... There are plenty of people who go out to hurt people, I just hope me or my team aren't any of them. (P6)

Supplementary Table 5. Category: “Just get up and stand in the line”- Influences on tackle injury behaviours

Category: “Just get up and stand in the line”- Influences on tackle injury behaviours	
S-EM level	
Concept	Personal influences
Intrapersonal Team allegiance	We have such a bond. We were like a sisterhood right...you want to keep going for your team...If you get hurt in the first five minutes you don't want to give that up so easily and you want to be there and be a part of your team. I definitely think it's cultural. (P16)
Concept	Subcultural influences
Interpersonal	
Family influence	My dad will watch Rugby and my mum might but she doesn't really like watching me play and that is probably linked to gender a little bit. I'm not sure if she would be the same if I were a boy or man? It's not expected as a thing that women should do, as a nice proper lady. (P12)
Teammate influence	One of the girls said to me “if your arm is not broken...even if you have to stand in the line, just get up and stand in the line” now that's all well and good, until someone probably runs at you. Maybe the safer thing to do is lie down but I think it's the nature of the game people get up and play on. You know your arm is sore, someone comes out with an ice pack for two minutes and you go off and do it again. I think adrenaline probably gets you through, more than anything in those scenarios and then afterwards you worry about it. (P6)
Coach influence	There is a lot of expectation on me, they're like “[nickname] you are massive, like hit people”. (P18) I remember the first game that I played no one actually taught me how to tackle. Someone ran past me and I tried to shoulder barge them like you might in football, so people sort of laughed a bit and they scored a try. My friend who was on the team taught me how to do a tackle in the try area, while they were taking the kick. So you grab someone and say “I don't know what I'm doing here can you help me please?” ...I don't really remember a high level being taught how to tackle because I guess it's assumed that you have that skill ingrained already. (P12)
Organisational	Even if we look at our own club, you know, we're probably not valued and appreciated to the extent that we could be...things like how they view us and the quality of rugby that we play, like we were playing [X team] a couple of weeks ago, and some of the lads like the J3's or something...were like, “you actually play okay rugby” and we were like “yeah we f*****g know, it's [top level]” There still is that kind of perception that like women's rugby is years behind the men's game. I think a lot of men probably don't watch women's rugby so don't realise that it is of a good standard. (P2) We're very lucky we have a physio or a first aider...but in all the games we've had so far this season, the opposition haven't. So they've used ours...And that's quite common sometimes it's just someone carrying the first aid bag and will just patch you up...it should be completely normal but it's not. Quite often it's the people that carry the water that are the same people that carry the first aid bag. (P9)
Institutional	
Gender inequities-physical and social supports	There is still the small group that feel “why does women's rugby need support, need funding or investment? Why do they deserve it? They haven't got the results, they aren't performing, they aren't playing very well”. Like with any female sport it's the perception of “well you need to give me something back in return right now”. From a gender point of view, men's sport has been invested in from day 1 and the output is a reflection of the investment. The shortsideness of those comments of the infrastructures generally is that it is reactive, similar to the coaching for the tackle. I still think that how we fund women's sport is reactive, based on problem solving and leak fixing as opposed to investing wholly in the sport...unfortunately there's that perception that it is a money pit for unions that isn't going to give them a return. The problem child of the men's game. In terms of physicality it isn't what we want to see women playing. (P4)
Pregnancy	For the first 12 weeks I hadn't told anybody yet [pregnant]. I told people that I hurt my back and that I wasn't able to play matches. During training sessions if there were contact elements I would just say “don't worry I will hold the bag, it's my bad back”. But I still participated in training sessions until it got to the point where I just really couldn't, it became dangerous or whatever. I think World Rugby says that you shouldn't do any training or play rugby at all when pregnant but I thought to myself that this is a tiny cell at the moment and I've got a big body. As long as I don't do any contact training I can continue to do on pitch stuff. Now if I got knocked over or somebody bumped

	<p>into me I would be pretty upset...Particularly in the first trimester there is no information about exercise. It is really so fluffy like "see how you feel" "be careful" ...I've heard women saying "I'm so lucky that my husband was happy to do that" and it's like, it shouldn't be lucky it should be "Of course, I will look after the child, my child" ...There are a lot of barriers there and societal ones as well as physical ones. I didn't have much in the way of formal support from my club when coming back to playing, it was finding your own way. (P14)</p>
A seat at the table	<p>I was at a meeting not too long ago with a load of [X province] chair people and myself, and another one of the [X club players]. We were the only females in the room and the rest were made up of white males of a certain age...That got my back up a bit. Why are there not more females making decisions in the [national Rugby Union] in this day and age? A little bit annoying. (P9)</p>
Trivialising athletic ability	<p>We're not really recognised as high performance at all. (P14)</p>
Rugby is a male preserve	<p>It's not as good quality or to the same standard as the males. The standard is male and there is just a completely different standard of female. You are judged always in comparison to your male counterparts as opposed to, as a female, a female sport. (P13)</p>
Referee standards	<p>I don't think that the refereeing standard of the women's game is appropriate...which in turn is then having bad behaviours and injuries...Yes, I understand that the women's club game is amateur they don't have that level but in the men's game anything that remotely resembles a high tackle is sanctioned straightaway, and the female game you're seeing way worse tackles and which are being allowed to happen and then, as a result of that is having a knock on effect on the coaching...I know from a personal point of view, within [X province] we're struggling to facilitate referees in the women's game. That's in the top flight of the [X province] so you're not getting referees, let alone, like a good enough referee of a certain standard. (P10)</p>
Fast tracking	<p>I realised I've been in training for two weeks with the [X International] team. We don't really do full on contact, so we do a thing called body check where it's more like a hug so you just tell the person that you actually hit them. So I'd never been tackled or ever made a tackle. When I stood there for my first game I was just like "you know what we'll see what happens." (P21)</p>
Later entry to rugby	<p>I was always a bit behind in terms of that technical side of tackling and I think when you come in and join the sport a bit older, it's always going to be a little bit more unnatural to you. (P8)</p> <p>The nature of women's rugby is that it doesn't lend itself the same way as the men's game. Where it is easy for them at our age to be class at tackling because they've done it in the minis. Whereas a lot of women start Rugby later in life. The pathway won't be as straightforward. It's a skill that needs to be learned, it needs to be learned quicker and needs to have more information and education given on it (P10)</p>
Concept	Societal influences
Societal	<p>You only have to look on twitter or hear some conversations where they say everyone is gay...when people have a view on gender specific norms and watching women playing is a strange thing. My own parents were homophobic and confused by women playing rugby so I've lived that first-hand...I think a lot of discrimination is against the straight girls that I wouldn't say it's homophobia I don't know what we call that but I think that's the problem. (P18)</p>
Lesbian stereotyping	
Physical stereotyping	<p>People refer to female rugby players as "oh there's no way that's a female" in this day and age. (P9)</p>