



# Findings from a global women's rugby union survey

Dr Anna Stodter, Anglia Ruskin University  @annastoDr

Tilly Russell, George Wells, Will Robinson, Callum Jarvis (Swansea)

Rebecca Hernden (Exeter)

Gareth Bate (Cardiff Met)

Becky Cole, Matthew Hema (Anglia Ruskin)

Dr Liz Williams - Swansea

Dr Izzy Moore – Cardiff Met

Dr Genevieve Williams – Exeter

Prof Kelly Mackintosh – Swansea

Dr Stacy Sims – Waikato

Dr Natalie Brown – Swansea

Dr Olga Rodan-Reyolo – Swansea

Lesley McBride – Coventry

Joanna Perkins – WRU

Natalie Hardaker – AUT

Freja Petrie – Swansea

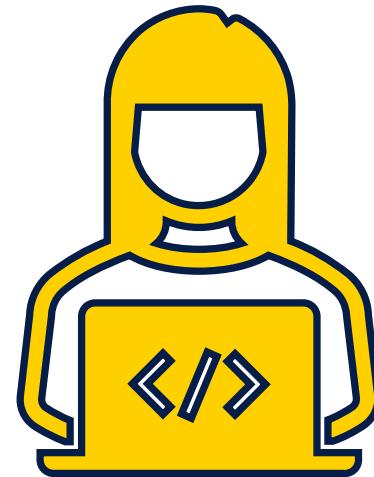


# Context & Development

## Questions surrounding:

- Playing and coaching levels, experience & education, qualifications
- Geographical location and setup
- Injury incidence
- Concussion signs, symptoms & attitudes
- Perceptions of training and practices – contact, embedded falls training, tackle technique
- Section on menstrual cycle

Recruitment through social media, ScrumQueens, World Rugby, personal contacts



<b>Level of Play</b>	<b>Responses</b>
National Team	20%
Premier Club	12%
Club First Division	30%
University First Division	6%
Club Second Division	16%
University Second Division	3%
Recreational	12%
<b>Total Number</b>	<b>1596</b>

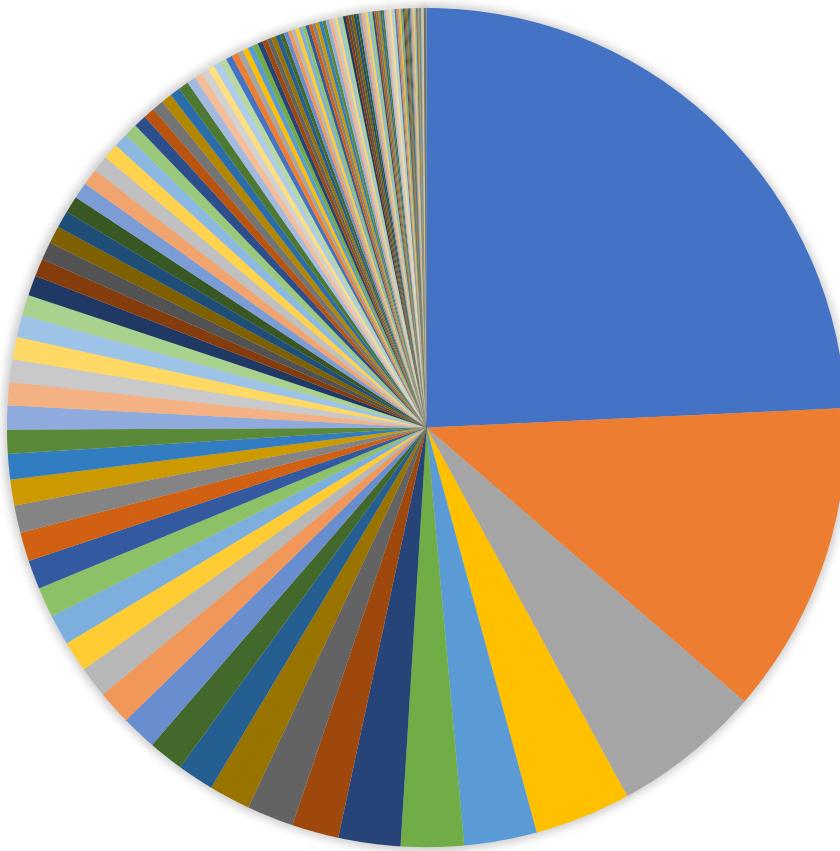
**9+ languages  
62 countries**



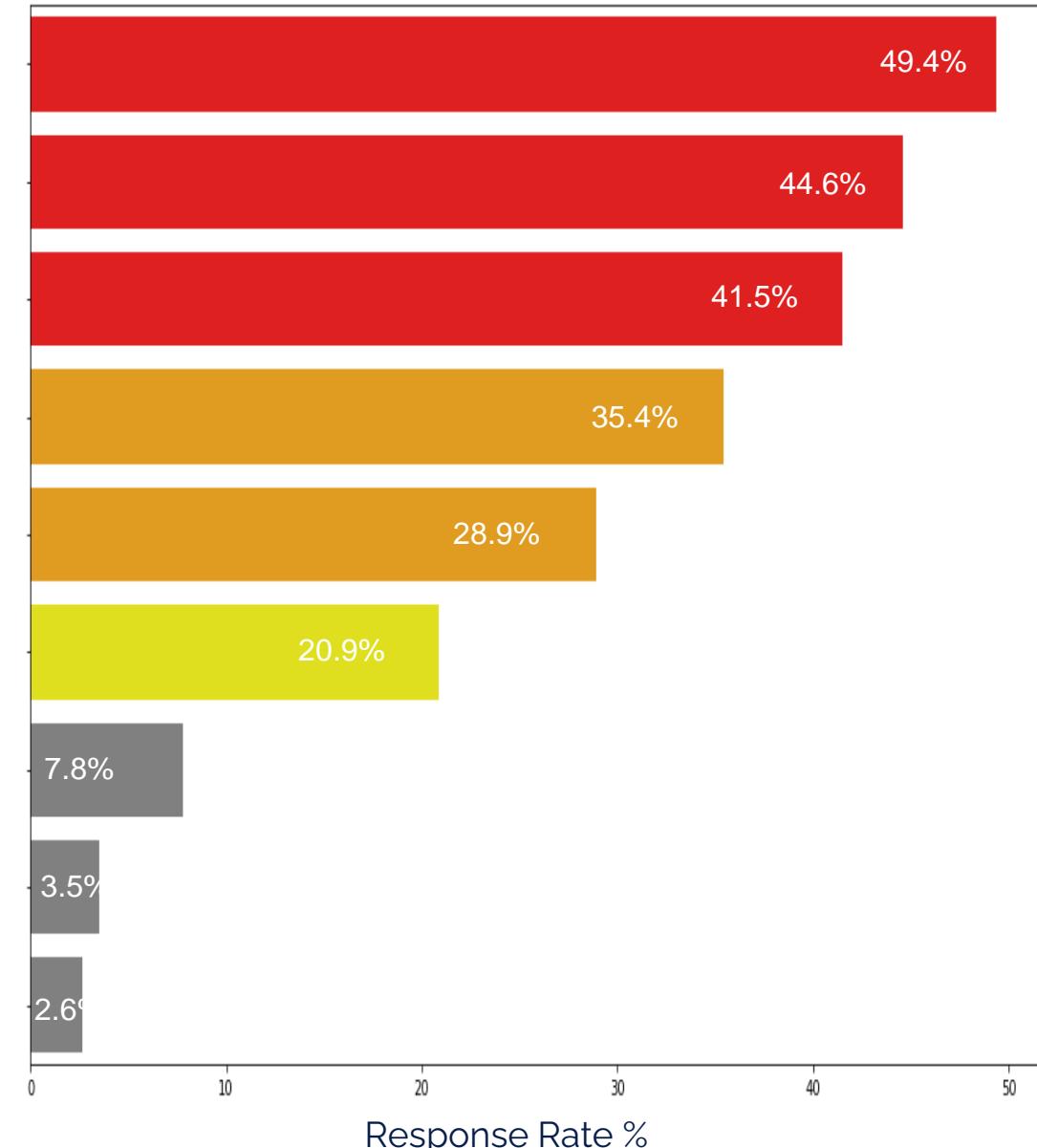
<b>Level of Coaching Qualification</b>	<b>Responses</b>
Level 4	7%
Level 3	28%
Level 2	36%
Level 1 / Entry Level	21%
No formal qualz	8%
<b>Total Number</b>	<b>231</b>



## Incidence of Most Common Injuries



## Mechanisms of Concussion



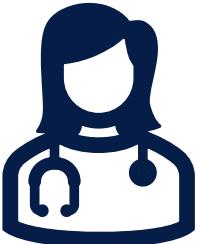
797 responses from players who reported to having experienced a concussion during a game = 49%



**48%** would put **pressure** on themselves to return to play after concussion



**79%** of these were because of their love of rugby



**216** players' concussions were **not reported** to a medical professional.

**67%** of these were because they didn't think it was needed and would get better with rest

## Players' Concussion Education and Attitudes

Have received some concussion education



Confident would recognise concussion symptoms



Would report a teammate's concussion



Would remove themselves from play if concussed



■ Yes ■ No

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%



Country	No. Participants	Percentage of players educated	Mean attitude score (out of 4)
England	279	88.9%	3.17
Ireland (Republic of)	138	83.3%	3.21
Spain	138	44.2%	2.97
Canada	127	93.7%	3.13
USA	121	89.2%	3.16
New Zealand	120	83.3%	3.18
Italy	66	77.3%	3.03
Wales	62	90.3%	3.20
France	54	59.3%	3.29
Australia	38	81.6%	3.12

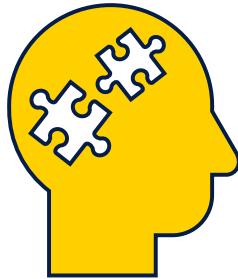


Those who had received concussion education (**80%**) had safer concussion attitudes



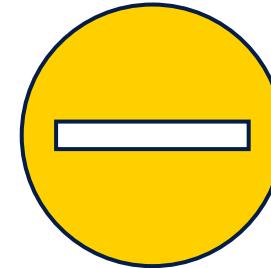
More **experienced** players and those at a higher playing level were more likely to be educated





**72%** have received sports injury education containing specific information about concussion (166/233).

**50%** able to correctly ID common signs, symptoms & true statements, with large disparity



**100%** would remove players from play if they suspected concussion – but responses varied on what to do afterwards

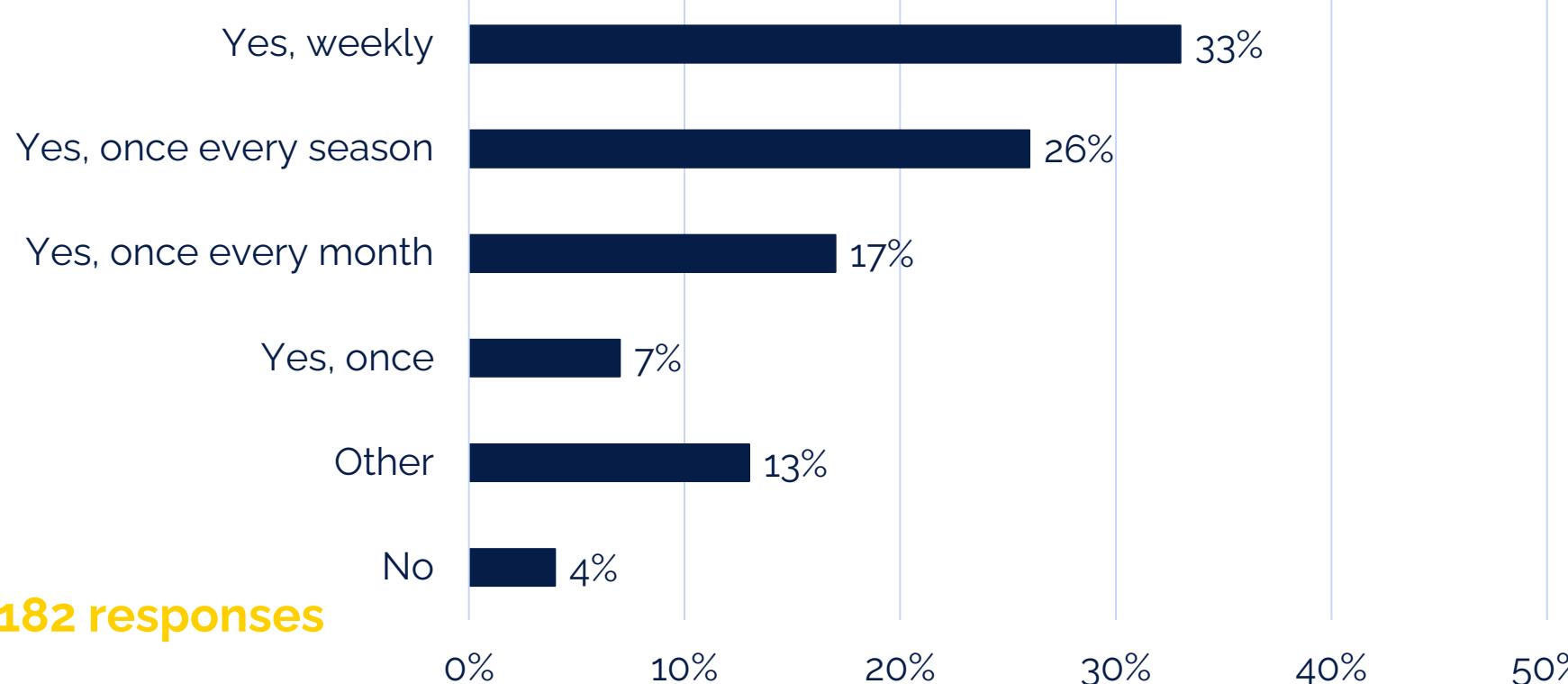
## Mechanisms

"Players not anticipating contact when tackled and not bracing body and neck. Then when they fall their head is whiplashed into the ground...Bad body awareness in contact situations."

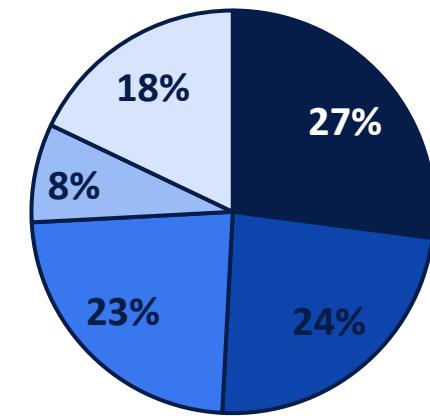
"Awareness is great, but it's the **application** of that **knowledge** into **training design** that is **vital**, and this is knowledge that most coaches do not have."



## Have you used falling technique training in your coaching practice?



## How would you like training to be taught to you?



- Visiting coaching specialist
- Webinars
- Online
- Face to face session
- Any form

“...fall techniques in the warm up under the term ‘Physical Prep’”

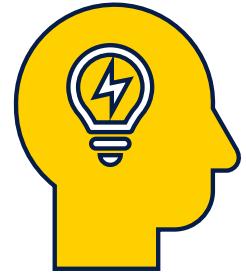
“I coach falling tech in return to play sessions post injury”

“I teach it until mastered”

“Younger players monthly, older not so often”



# Concluding Thoughts



- Mechanisms of concussion
- Player attitudes at lower levels with less playing experience
- Consistency across evidence-informed coaching (in context)
- More systematic research needed e.g., pitchside testing (cognitive / motor characteristics), tackle (landing!) technique, coaching practices, impact of education on coaches and players



Variables	Test	Significant difference
Difference in attitude scores for education (yes/no)	Independent samples t-test	✓
Difference in no. players educated (yes/no) in different age groups	Independent samples t-test	X
Difference in no. players educated in different playing levels	Chi-squared	✓ Small effect size
Difference in no. players educated with different playing times	Independent samples t-test	✓ But equal variances not assumed
Difference in no. previous concussions for educated vs. non educated players	Independent samples t-test	✓ (Those with education have higher number of concussions)
Difference in attitude score by age group	Independent samples ANOVA	X
Difference in attitude score by playing level	Independent samples ANOVA	X
Difference in attitude score by playing time	Independent samples ANOVA	✓
Difference in attitude score by no. previous concussions	Independent samples ANOVA	✓ But equal variances not assumed

