



Trinity College Dublin
Coláiste na Tríonóide, Baile Átha Cliath
The University of Dublin



**WORLD
RUGBY™**
@RugbySciNetwork
#RSN2021

NOVEMBER 15th 2021

“ARE WE STILL WOMEN IN A MEN’S GAME?”

Physical and technical demands and preparatory strategies in female
field collision sports: a scoping review

Kathryn Dane BSc, MISCP



danek@tcd.ie

PhD research

Safety and Optimal tackle outcomes in Women's Rugby





2.7 million
Female players

Women's rugby is considered one of the fastest growing team sports worldwide



Tackle research has struggled to keep pace.

Scoping Review



Rugby Union
Rugby League
Rugby Sevens
AFL



PHYSICAL DEMANDS

TECHNICAL DEMANDS

**PREPARATORY
STRATEGIES**

SCOPING REVIEW?

1. EMERGING FIELDS
2. KNOWLEDGE GAPS
3. MAPPING KEY CONCEPTS



RESEARCH QUESTIONS:

- 1) WHAT IS KNOWN?
- 2) EVIDENCE GAPS?
- 3) KEY RESEARCH PRIORITIES?

Methods

PRISMA guidelines



Protocol Registration

06/05/2021



Study Screening

 **covidence**

$K = 0.85$



Search Strategy

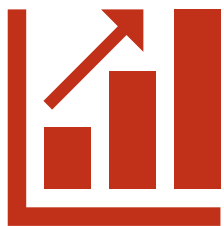
4 databases

**PHYSICAL AND/OR
TECHNICAL DEMANDS**

Data Extraction

Reporting the results

+ Critical appraisal



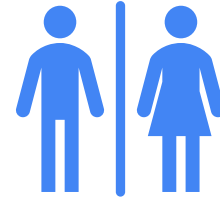
**Consultation with key
stakeholders**

S&C, technical coaches, sports
scientists and players

Numerical analysis



77%
Female only



23%
Males and females



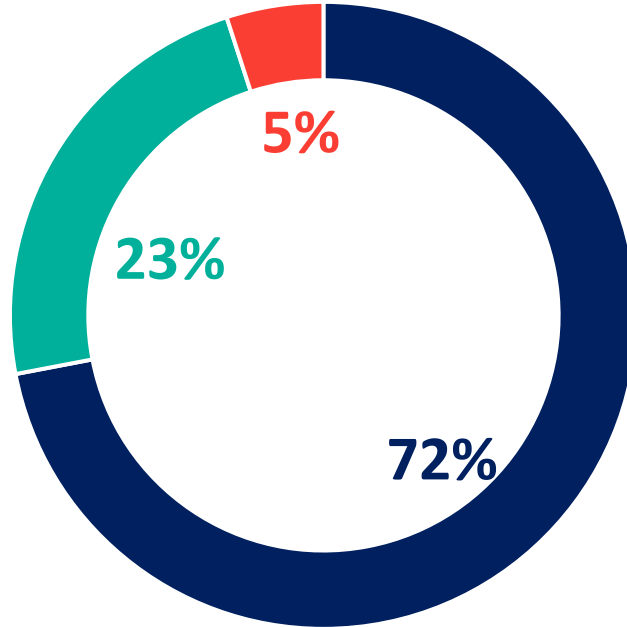
4
databases



1273
studies



40
included studies



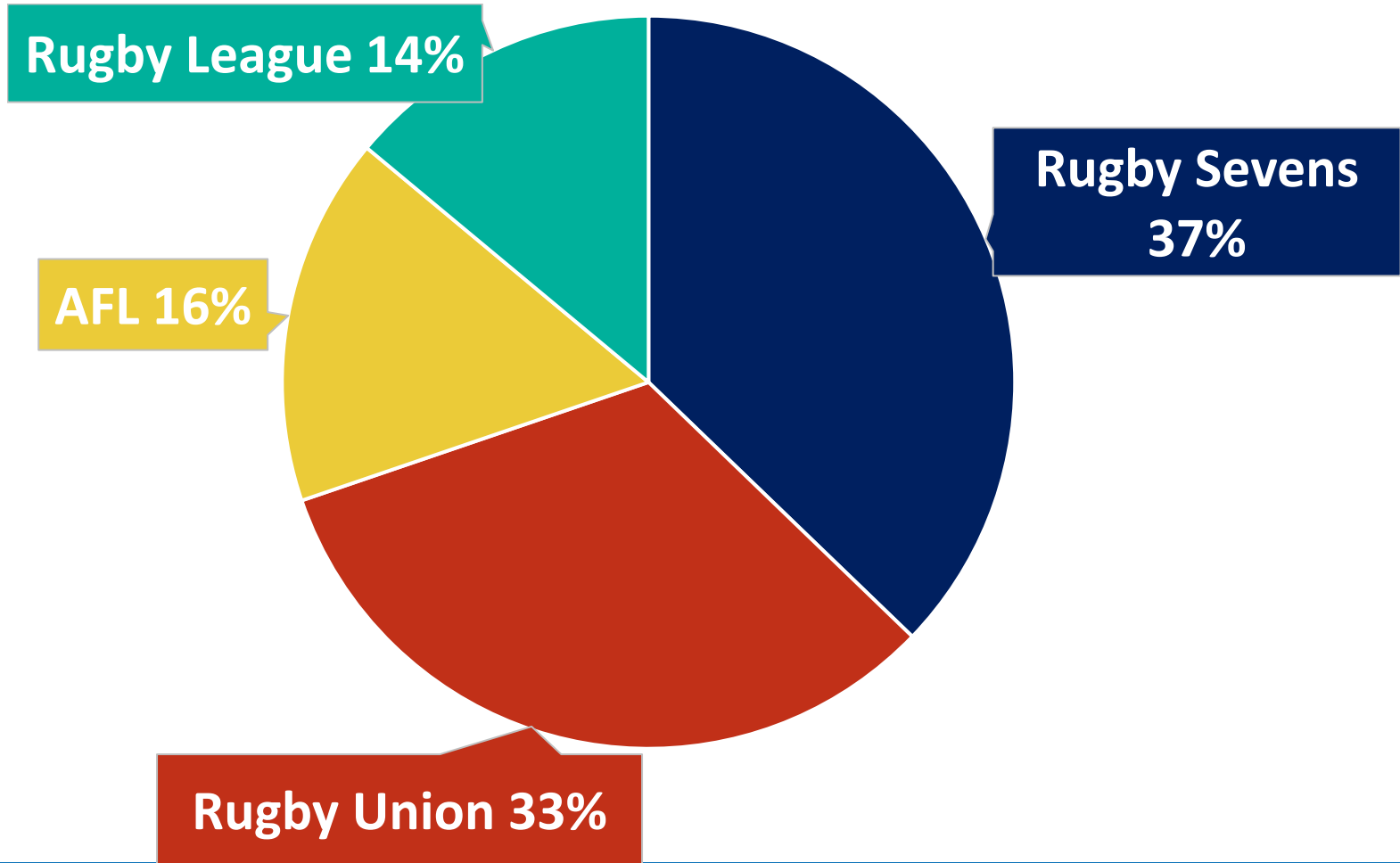
Match data



Lab based data

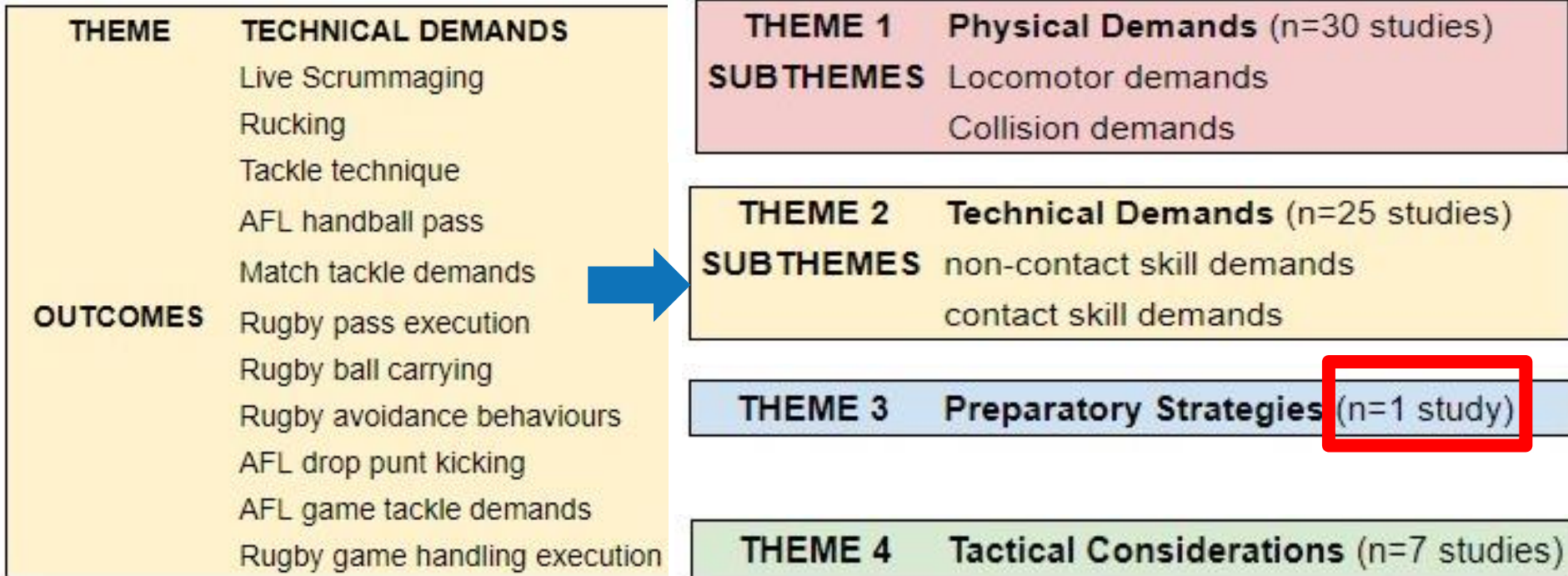


Training data



Thematic Analysis

Braun and Clarke's model for inductive thematic analysis



PHYSICAL DEMANDS

Rugby Union



4982m



87%

Relative distances

Max Velocities

BACKS

Player loads

Collision counts

FORWARDS



TECHNICAL DEMANDS Rugby Union



Experienced players vs novices



Machine Scrummaging

Female International rugby players = U18 schoolboys

PREPARATORY STRATEGIES?

n=1

- Population: S&C coaches (n=37)
- Pre-season performance testing (97%)

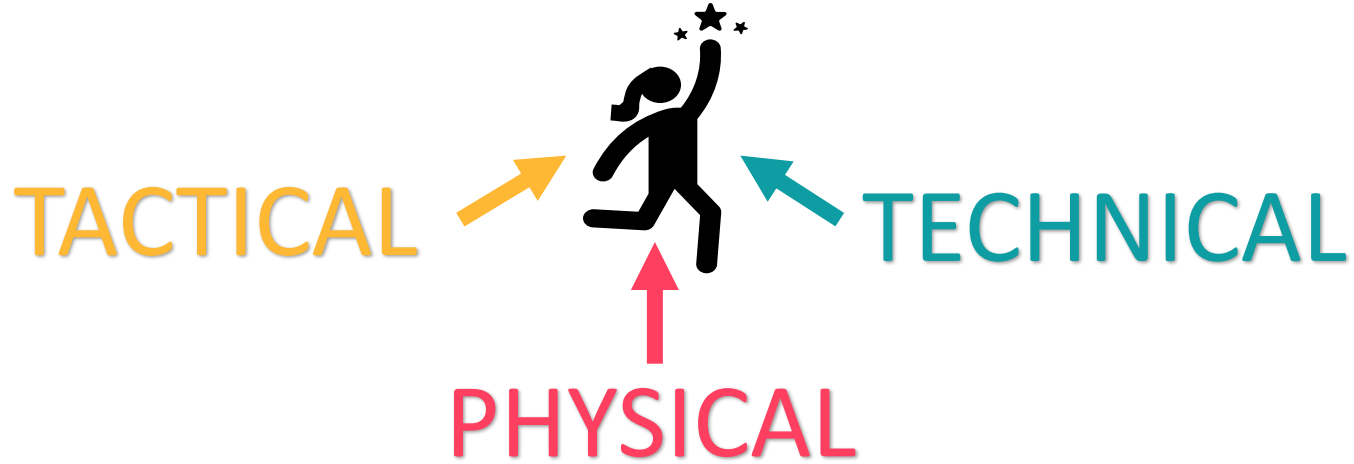
To inform current practice:

- Sports Science technologies (54%)
- Psychosocial aspects (41%)
- Menstrual cycle monitoring (22%)
- **Lack of consensus**

89%



What do we know?



- Female athletes remain underrepresented across all research categories- **PREPARATORY STRATEGIES**
- **CLEAR GAP FROM WHICH TO PREPARE OUR FEMALE ATHLETES**

PRACTICAL IMPLICATIONS

PHYSICAL
Demands

TECHNICAL
Demands

PREPARATORY
Strategies

This is not a consensus on research priorities

Knowledge gaps and next steps



Wider issues*

PRACTICAL IMPLICATIONS- PRACTITIONERS



**REPEATED
SPRINT ABILITY**



**INTERMITTENT
ENDURANCE**



**COLLISION-BASED
EXERTIONS**



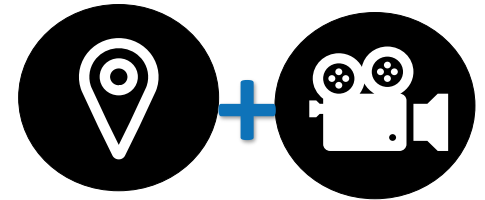
● Average match demands

KNOWLEDGE GAPS- PHYSICAL DEMANDS



Validity

62%



Lack of standardisation
of impact magnitudes

1) Quantifying the collision demands

PREPARATORY STRATEGIES

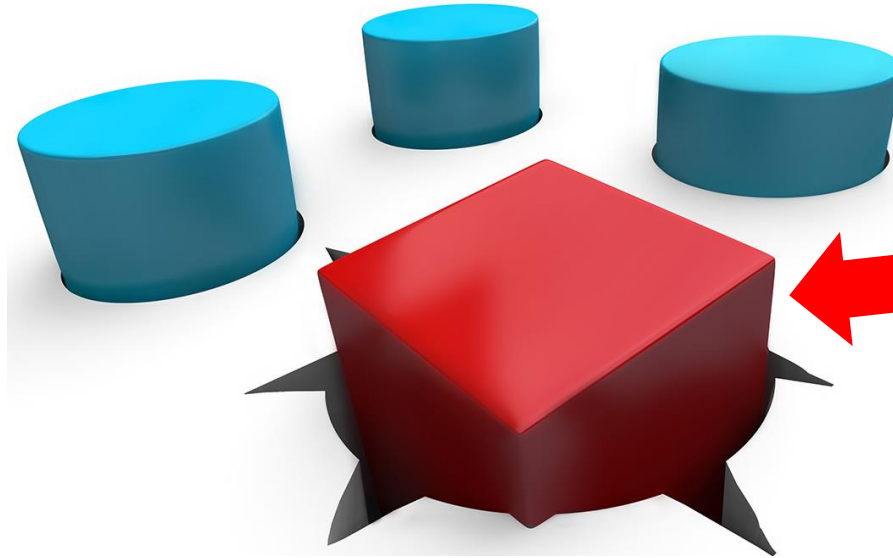


● Knowledge gap

- Female specific considerations
- Need to understand and **address barriers to sports technology uptake**

KNOWLEDGE GAPS- TECHNICAL DEMANDS

- LOW EVIDENCE BASE- contact skills



Applying male
contact skill
evidence to females



Female technical skill frameworks

What studies

- >collision counts
- >tackle completion rates

How studies

- >how to win the tackle contest
- >how to tackle safely or effectively

↑ **How
studies**

**Expand and
Contextualise the
evidence base**

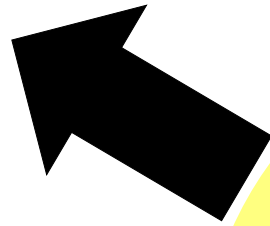
optimise the **safety
and **performance** of
the tackle**

WHERE DO WE NEED TO GO?

EBP

Evidence-based
preparation

In the pursuit for optimal
safety and performance...

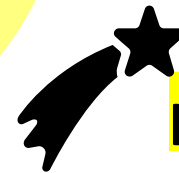


Coaching
Expertise

WHERE DO WE NEED TO GO?



Sackett DL, et al. BMJ. 1996;312(7023):71-72.



To optimise the
preparation of our
female athletes

PRACTICAL IMPLICATIONS- POLICY-MAKERS

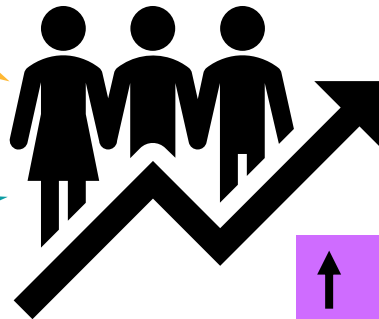
Proportionate
resourcing



Support research
efforts



Female high
performance structures



Player welfare
and performance

↑ interest, participation
and professionalism

**“Are we still women in a
men's game?”**

**Same name, different game
physically, technically and tactically... we think**



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Thank You

Email: danek@tcd.ie

Twitter: [@KathrynDane2](https://twitter.com/KathrynDane2)



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Co-authors

Dr Ciaran Simms

Dr Sharief Hendricks

Dr Stephen West

Dr Steffan Griffin

Dr Frank Nugent

Garreth Farrell

David Mockler

Dr Fiona Wilson