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STRENGTH AND SPEED CHARACTERISTICS OF WOMEN'S SUPER LEAGUE PLAYERS

Omar Heyward[1,2], Sam McCormack[1,3], Stacey Emmonds[1,3,4], Gregory Roe[1,5], Kevin Till[1,6,7] & Ben Jones[1,3,6,7,8,9]

@Omar_Heyward o.heyward@leedsbeckett.ac.uk

Carnegie Applied Rugby Research
CARR centre

Purpose

For the optimal physical development of female rugby league players', knowledge of positional differences in physical characteristics are vital to inform training practices. This study aimed to compare the positional differences in strength and speed characteristics of women rugby league players from the English Women's Super League.

Methods

- Following institutional ethics approval, thirty-nine women rugby league players from the English Super League were recruited and participated in the study.
- Players were categorised into playing positional groups (i.e. forwards and backs); 15 backs (age 20.6 ± 4.3 years; body mass 66.0 ± 6.8 kg) and 24 forwards (age 21.5 ± 4.8 years; body mass 82.9 ± 13.1 kg).
- Player assessments comprised of anthropometric (body mass), strength (isometric mid-thigh pull) and speed (10 and 20 m sprint times) measures. A standardised warm up protocol was performed prior to all strength and speed testing.
- Effect sizes (ES) ± 90% confidence intervals (CI) were calculated to determine the magnitude of differences in absolute and relative strength, speed and momentum characteristics between forwards and backs. Cohen's effect size statistics were calculated with threshold values of *d* < 0.2 (trivial), 0.2-0.59 (small), 0.6-1.19 (moderate), 1.2-2.0 (large), and > 2.0 (very large).

Results

Table 1. Mean ± SD strength and speed characteristics of women's English Super League players

	Backs (*n* = 15)	Forwards (*n* = 24)	Cohen's *d*; ±90% CI
Isometric Mid-Thigh Pull (kg)	125.0 ± 24.4	119.2 ± 19.3	0.26; ±0.54 (small)
Relative Isometric Mid-Thigh Pull (kg·bm^{-1})	1.89 ± 0.33	1.47 ± 0.33	1.27; ±0.59 (large)
10 m sprint time (s)	1.96 ± 0.08	2.08 ± 0.22	0.72; ±0.56 (moderate)
20 m sprint time (s)	3.41 ± 0.13	3.63 ± 0.22	1.22; ±0.59 (large)
10 m Momentum (kg·s^{-1})	336.0 ± 30.5	398.0 ± 55.2	1.39; ±0.60 (large)

Note: CI, confidence intervals; Effect sizes: < 0.2 (trivial), 0.2-0.59 (small), 0.6-1.19 (moderate), 1.2-2.0 (large) and > 2.0 (very large).

Conclusions

Within rugby league, women Super League backs have greater absolute and relative strength, and have greater acceleration over 10 and 20 m than forwards. Due to greater body mass forwards have a higher 10 m momentum than backs.

Practical Applications

Anthropometric, strength and speed characteristics are important for women's rugby league performance. This study provides comparative data for female rugby league players that can be used by practitioners when assessing player strengths, weaknesses and prescribing athletic development plans.

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Photo credit: Rugby Football League: https://www.rugby-league.com/article/55070/castleford-tigers-back-at-the-top-of-womens-super-league

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