

CONCUSSION IN RUGBY UNION IN ENGLAND: A GAME WIDE PERSPECTIVE.



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BATH

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Objective: To report match incidence, severity and burden of match concussions in multiple levels of rugby union in England using consistent consensus methods.

Methods: Data were collated from prospective cohort studies involving 13 professional men's (Premiership Men), 12 elite men's (Championship Men), 11 university men's (University Super League), 10 elite women's (Premier 15s Women), 91 community men's (Community Men), and 53 schoolboy (Schoolboy) rugby teams in England in the 2017-18, 2018-19 and 2019-20 seasons. Reported concussions were diagnosed by team physicians at professional / elite levels and were "suspected concussions" at community / schoolboy levels. All injuries were recorded using a 24-h time-loss definition, except in community men, for whom a 7-day-time loss definition was employed due to limited availability of injury management support at this level.

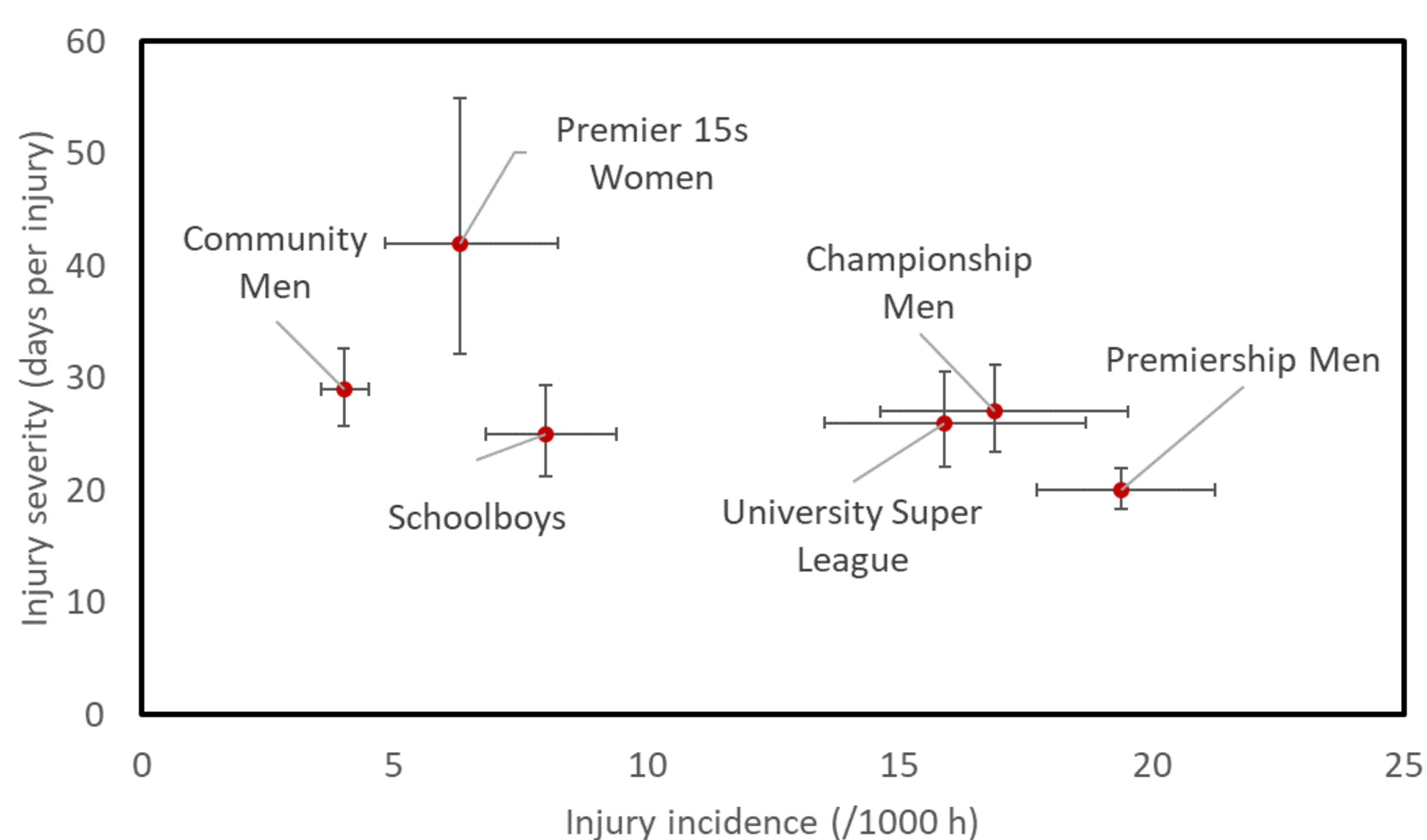


Figure 1: Incidence (/1000h) and severity (days lost) of reported concussions at different levels of rugby union in England.

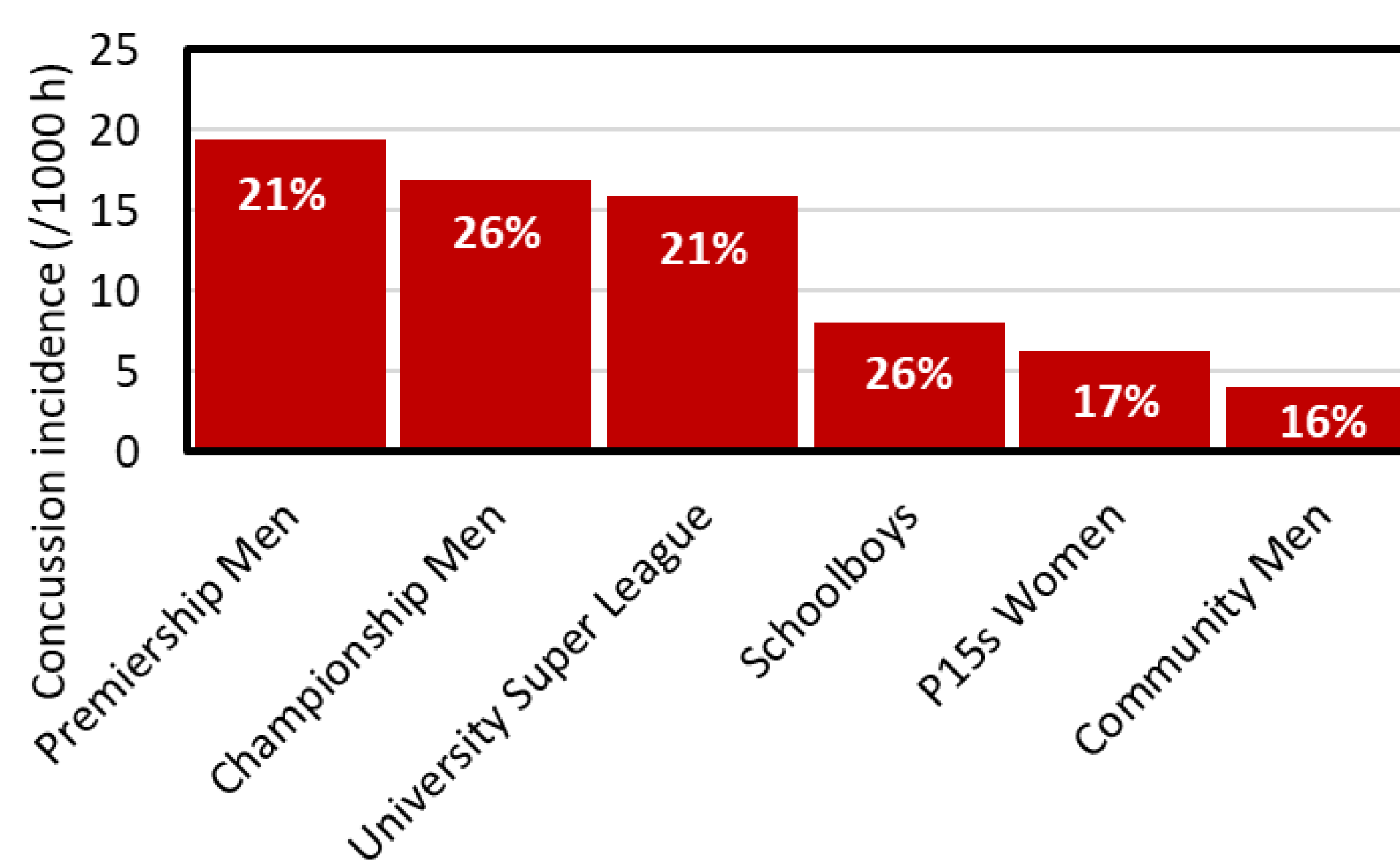


Figure 2: Incidence (/1000h) of reported concussions and the proportion (%) of all injuries that were reported concussions at different levels of rugby union in England.

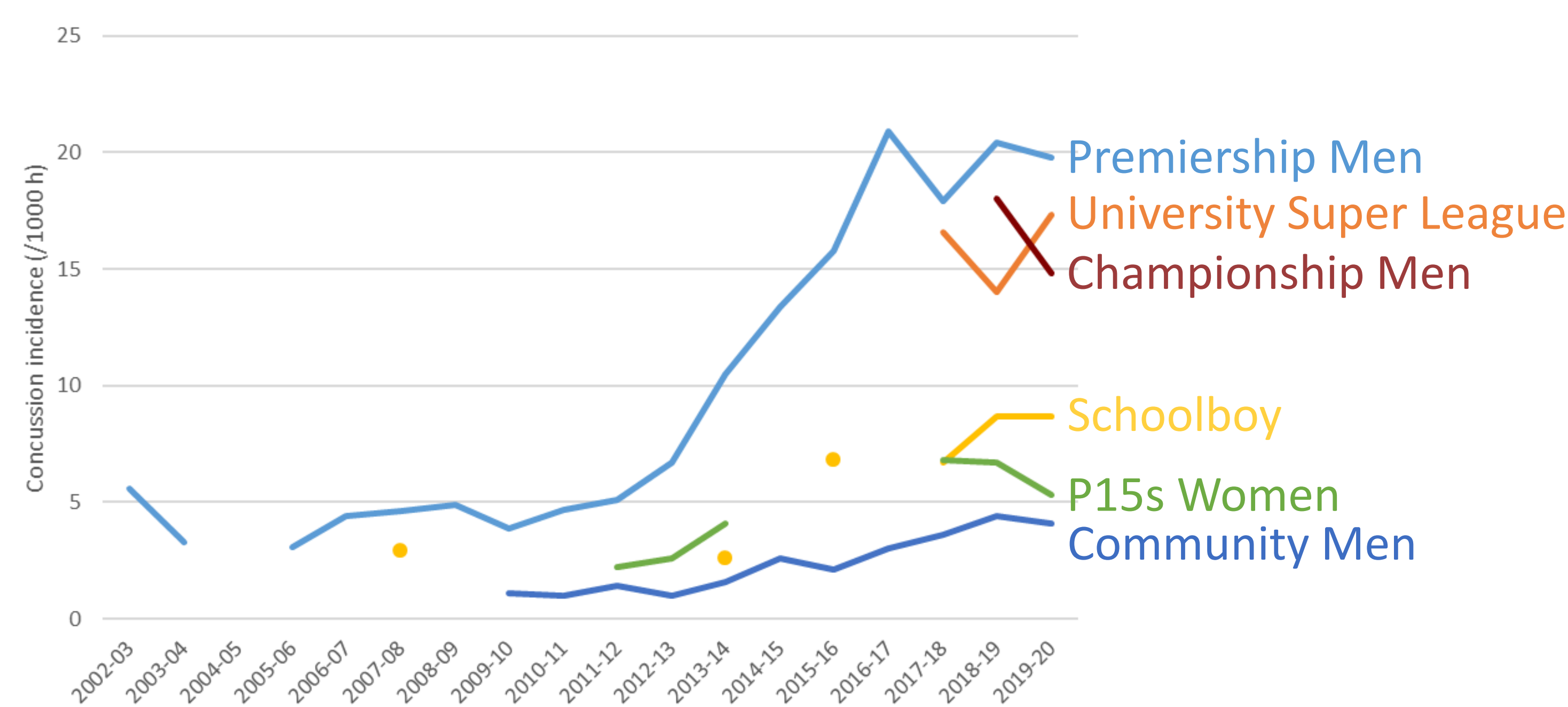


Figure 3: Incidence (/1000h) of reported concussions at different levels of rugby union in England over time.

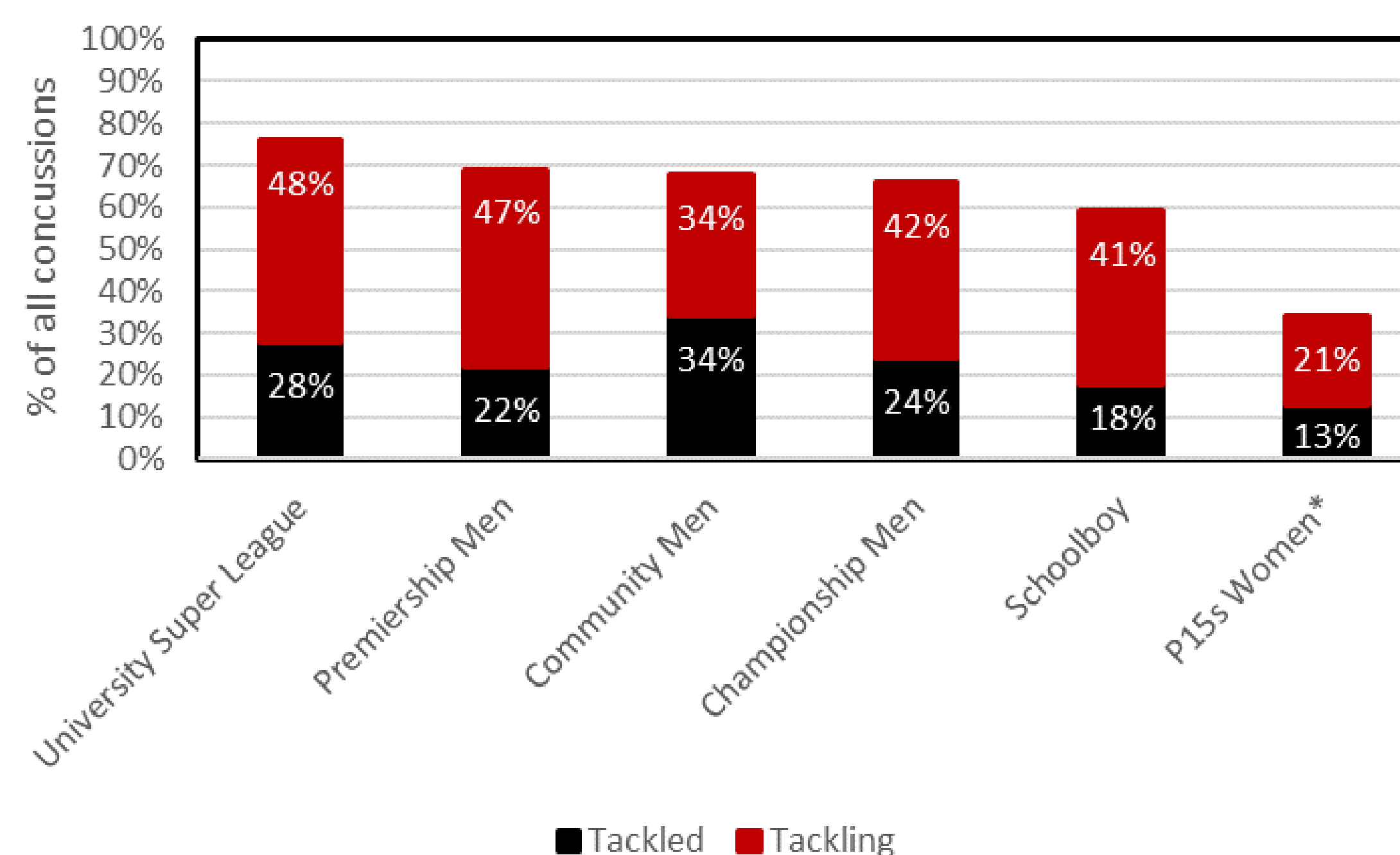


Figure 4: Proportion of reported concussions that were associated with the tackle at different levels of rugby union in England. *28% of concussion events were recorded as unknown for P15s.

Table 1: Number of match concussions, match concussion incidence, severity of concussion, and burden of concussion (incidence x mean severity) at different levels of rugby union in England (95% confidence intervals).

	Number of teams	Number of Match Concussions	Match Concussion Incidence (/1000h)	Mean Severity (days lost)	Median Severity (days lost) [IQR]	Burden (days lost per 1000h)
Premiership Men	13	465	19.4 (17.7 – 21.3)	20 (18 – 22)	9 [6 – 16]	382 (349 – 418)
Championship Men	12	183	16.9 (14.6 – 19.5)	27 (23 – 31)	11 [7 – 20]	456 (394 – 527)
University Super League	11	147	15.9 (13.6 – 18.7)	26 (22 – 30)	20 [13 – 27]	407 (346 – 478)
Premier 15s Women	10	53	6.3 (4.8 – 8.3)	42 (32 – 55)	23 [12 – 62]	266 (204 – 349)
Community Men	91	275	4.0 (3.6 – 4.5)	29 (26-33)	22 [21 – 28]	155 (138 – 175)
Schoolboy (U13-U18)	53	148	8.0 (6.8 – 9.4)	25 (21 – 29)	25 [22 – 33]	175 (149 – 205)

Conclusions: Concussion is the most common match injury at all levels of rugby union in England, accounting for between 16 and 26% of match injuries. Further work on concussion is underway in the women's and girls' game.

