In-season Workloads by Position and Session Type in Men and Women Collegiate Volleyball Players

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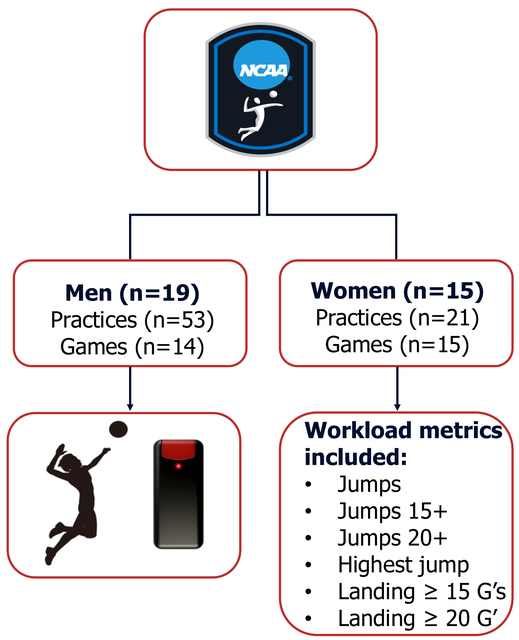
BACKGROUND

- Monitoring athlete workload in volleyball is essential for managing in-season sport demands and for optimizing sport performance while reducing injury risk
- However, research into the workloads of collegiate men and women volleyball players throughout a sport season is limited

PURPOSE

- Investigate the workloads of men and women collegiate volleyball (MVB, WVB) players throughout a competitive season, stratified by position and session type

METHODS



Separate multivariance analyses of variance models examined differences in workloads by position (outside hitter (OH), middle blocker (MB), setter (S), and opposite (OPP)) and session type (practice and games) in MVB and WVB players ($p<0.05$)

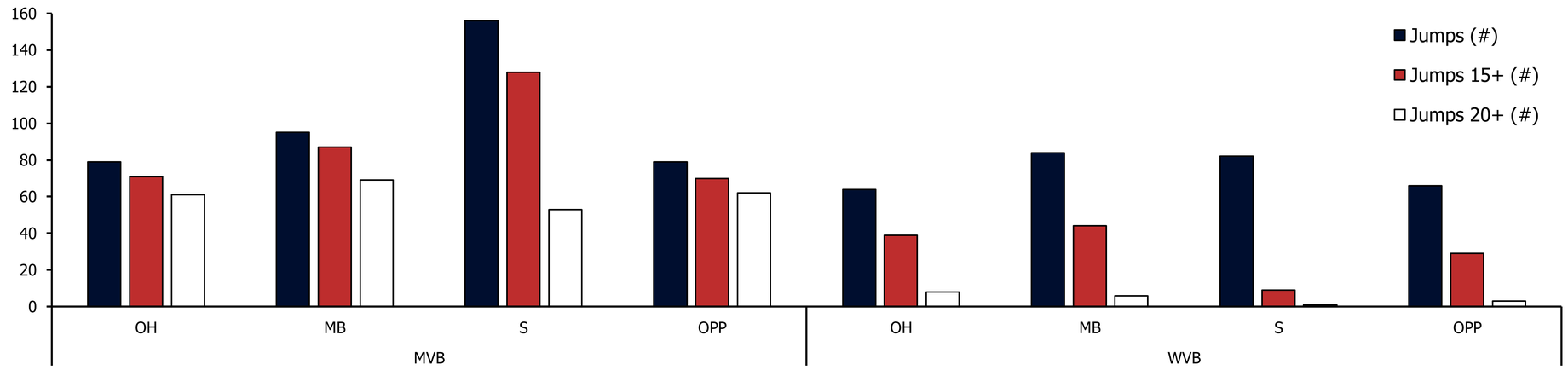
RESULTS

Table 1. Game workloads differed across positions in MVB and WVB

	MVB (n=19)					WVB (n=15)				
	OH	MB	S	OPP	p-value (η_p^2)	OH	MB	S	OPP	p-value (η_p^2)
Highest Jump (in)	34±5^#	33±3*#@	31±4*^@	35±4^#	<0.001 (0.109)	23±4#	24±7#	19±5*^	22±3	<0.001 (0.100)
Landing > 15 Gs (%)	7.6±6.4#	6.7±5.4#	4.9±3.4*^@	7.0±7.3#	0.001 (0.022)	9.6±7.1#@	7.8±7.6#	3.2±3.6*^	4.3±3.0*	<0.001 (0.121)
Landing > 20 Gs (%)	3.0±3.8^	1.9±2.5*	2.4±2.2	2.4±3.7	0.006 (0.017)	3.6±3.7#@	3.4±4.3#	0.9±1.2*^	1.1±1.0*	<0.001 (0.091)

Values are presented as mean ± SD; *Different from OH; ^Different from MB; #Different from S; @Different from OPP. Partial eta^2 effect sizes were classified as: η2=0.01, small effect; η2=0.06, medium effect; and η2=0.14, large effect.

Figure 1. A comparison of varying jumps across positions in MVB and WVB



MVB Practice vs. Game Load:
All practice workloads were significantly higher than game workloads ($p<0.01$)
Highest jump height did not differ by session ($p=0.898$)

WVB Practice vs. Game Load:
Practices had lower, jumps ≥20 cm ($p=0.002$), highest jump ($p<0.001$), and landings ≥20 G ($p=0.037$) compared to games
Total jumps ($p=0.113$), jumps 15+ ($p=0.739$), and landing >15 Gs ($p=0.130$) did not differ by session

CONCLUSIONS / PRACTICAL APPLICATION

- Workload patterns vary by position and session type in both men's and women's volleyball; setters perform the highest jump volumes across the season
- Men's volleyball (MVB) players accumulate more high-intensity efforts in practice than in games, indicating a need for targeted recovery and workload monitoring during training
- Women's volleyball (WVB) players encounter higher-intensity loads in games, suggesting a benefit from increased practice intensity to match game demands