External Training Load in Collegiate Women's Basketball: Descriptive Analysis of the Effect of a 3-Game Week Compared to a 2-Game Week

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PURPOSE

The aim was to explore the distribution of external training load (eTL) between games and practices and identify differences in eTL experienced by female players in a microcycle consisting of a 3-game week and a 2-game week.

INTRODUCTION

Collegiate basketball is a physically demanding sport where athletes experience a range of physical and physiological demands. To support player health and performance monitoring these demands can assist practitioners in providing beneficial strategies for training and recovery. Recent investigations in male semi-professional players have identified meaningful differences in external training load (eTL) when distributed across a microcycle with different game schedules (i.e., 3-game week vs. 2-game week). (2) eTL measured using inertial movement analysis (IMA) acceleration (ACC), deceleration (DEC), and change of direction (COD) counts were consistently greater in the 3-game week than the 2-game week. We are not aware of similar investigations in women's NCAA DII basketball; therefore, our aim was to explore the distribution of eTL between games and practices. Further, we sought to identify differences in eTL experienced by female players in a microcycle consisting of a 3-game week and a 2-game week.

METHODS

A two-week microcycle from the 2024-2025 season was monitored. We included 5 players (age 20.6 ±2.1 yrs, height 178.3±9.7 cm) who played ≥10 minutes per game. Data was collected from 7 practices and 5 games during the microcyle. Catapult® S7 sensors in indoor mode and OpenField® Console 3.13.0 were used to capture counts for the following variables: player load (PL), Summated COD (sCOD) calculated from the COD left (L) and right (R) counts across high, medium and low IMA bands. Summated ACC (sACC) was calculated from the counts across, high, medium, and low IMA bands. A similar procedure was used to calculate summated DEC (sDEC). The data was visualized using OpenField® Cloud 4.7 and exported to Excel® to assess data quality. We obtained a total of 54 PL observations and 61observations each for sCOD, sACC, and sDEC. The mean imputation method was used to address missing data. Jamovi 2.5.3 was used to calculate descriptive statistics.

REFERENCES

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RESULTS

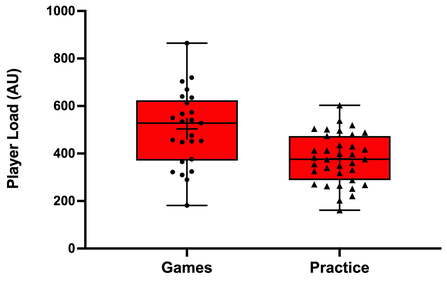

Figure 1: Boxplot showing median, interquartile range (IQR) for player load achieved in games and practices over the 2 week period. The + identifies the mean.

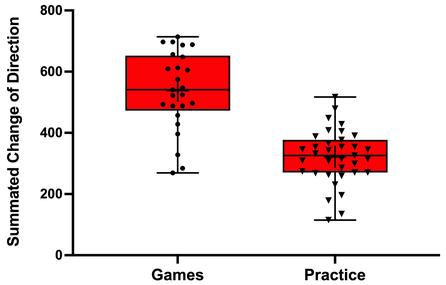

Figure 2: Boxplot showing median and IQR for the summated change of direction achieved in games and practices over the 2 week period. The + identifies the mean

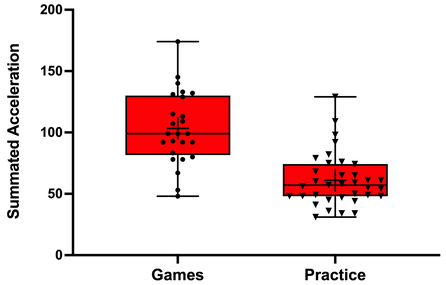

Figure 3:Boxplot showing median and IQR for the summated accelerations achieved in games and practices over the 2 week period. The + identifies the mean

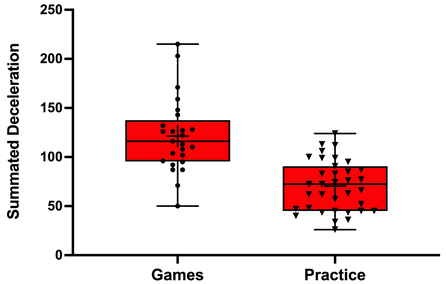

Figure 4: Boxplot showing median and IQR for the summated decelerations achieved in games and practices over the 2 week period. The + identifies the mean

RESULTS

For the microcyle, mean PL during games was 506±157 while during practice, it was 382±106. sCOD, sACC and sDEC during games were 538±129, 103±30 and 121±38, respectively. For practice's sCOD, sACC and sDEC were 322±88, 61±22, 70±26, respectively.

Table 1: Displays the means and standard deviations of player load, summated change of direction, summated accelerations and summated decelerations for the 3-game week and 2-Game week respectively.

	PL (AU)	sCOD	sACC	sDEC
3-Game Week	454±159	431±168	82±37	97±46
2-Game Week	413±23	393±132	76±29	86±34

CONCLUSIONS

eTL over the microcycle was greater in games than practice, which is evident by higher PL, sCOD, sACC and sDEC. This is consistent with patterns observed in men's soccer using similar variables of interest. (1) A 3-game week yielded higher values across all variables of interest compared to 2-game week which is consistent with finding's found in men's basketball. (2) These findings emphasize the importance of assessing load accumulation in women's basketball.

PRACTICAL APPLICATIONS

Understanding how congested game schedules affect eTL allows coaches to modify practice intensity and duration to optimize recovery in preparation for future games. This may facilitate implementation of individualized training and recovery protocols, may increase player availability and planning off days.

CONTACT

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