MONITORING sRPE THROUGHOUT A COMPETITIVE SEASON IN MEN COLLEGIATE SOCCER ATHLETES

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BACKGROUND

- Monitoring athlete internal load during training and match play through rating of perceived exertion (RPE) may lead to more effective coaching and program design.
- Primary (i.e., high minute) and secondary (i.e., low minute) players are frequently exposed to different seasonal training demands; therefore, session RPE (sRPE) may differ between groups.
- Limited data exist relative to assessment of sRPE across an entire competitive season in collegiate soccer athletes.
- Recent changes in NCAA soccer rules have redefined classification of primary and secondary players.

PURPOSE

- To examine differences in sRPE workloads between primary and secondary players across a 10-week men's collegiate soccer season.

METHODS

- Participants included 32 NCAA Division I men's soccer athletes (n=32; mean ± SD; age: 20.15 ± 1.59 years, body mass: 76.08 ± 6.5 kg; height: 180.45 ± 7.12 cm; body fat: 16.3 ± 2.31%).
- Within 30 minutes of completing training (n=39) or a match (n=15) (table 1), players were asked to rate the intensity of the session utilizing the Borg CR-10 scale (figure 2).
- Internal load was determined via assessment of RPE, which was used to calculate sRPE (sRPE=RPE x duration (min).
- Players were divided into primary and secondary players, with primary classified as playing > 45 minutes of at least 8 of the 15 regular-season games.
- Repeated measures analysis of variance (RMANOVA) evaluated weekly differences in sRPE. A 2x10 (group x week) RMANOVA was used to identify weekly differences in sRPE between primary and secondary players. If significance was observed ($p<0.05$), Bonferroni post-hoc analysis was used.

KEY FINDINGS

Session rating of perceived exertion variations exist between primary and secondary players throughout a competitive NCAA men's soccer season.

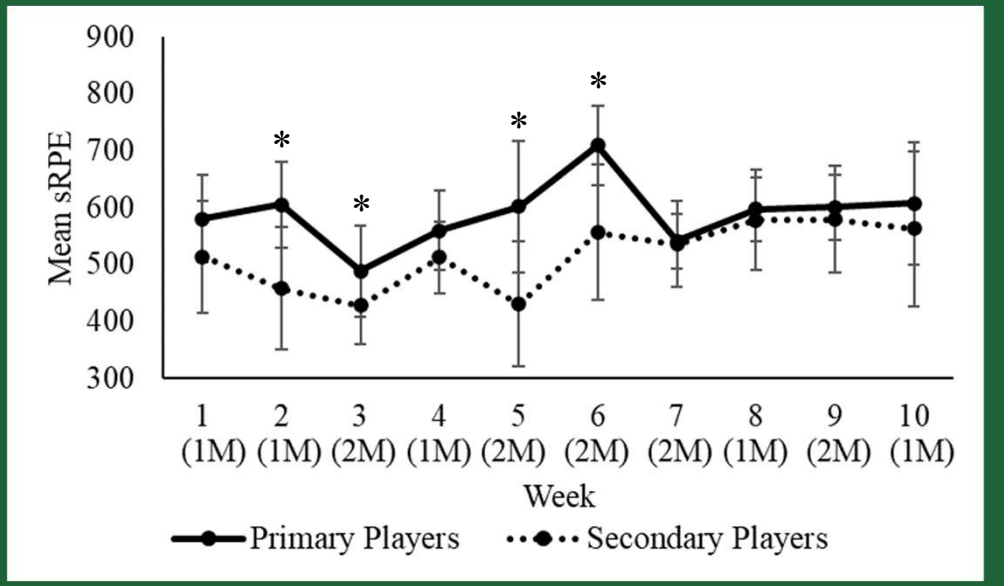
Table 1. Session distribution over one season

Week	Games	Practices	Total Ses
1	1	4	5
2	1	5	6
3	2	4	6
4	1	5	6
5	2	3	5
6	2	3	5
7	2	3	5
8	1	4	5
9	2	3	5
10	1	5	6
Averages	1.5	3.9	5.4

Table 2. Primary and secondary player distribution by game

Game	# Players	Primary	Secondary	AVG PP
ODU	16	13	3	68.08
American	16	11	5	83.27
Penn St	17	11	6	80.45
Radford	16	12	4	74.33
St. Bonnie	17	11	6	81.82
Wake Fst	19	12	7	67.58
Davidson	14	11	3	85.18
W&M	21	9	12	76.11
Dayton	17	10	7	79.6
La Salle	15	11	4	82.9
Duquesne	17	11	6	77.73
URI	15	11	4	82.55
UNCW	14	11	3	85.27
VCU	16	12	4	76.33
GW	16	11	5	80.27
averages:	16.40	11.13	5.27	78.76

Figure 1. sRPE in primary and secondary players



*significantly greater SRPE than secondary players ($p<0.05$)
1M: one match; 2M: two matches

Figure 2: BORG CR-10 Scale

10	Extremely strong
9	
8	
7	Very strong
6	
5	Strong
4	
3	Moderate
2	Weak
1	Very weak
0.5	Extremely weak
0	Nothing at all

RESULTS

- Variation in sRPE was observed over the course of the season ($p<0.001$) (figure 1).
- Weeks 3 and 5 exhibited ($p<0.05$) lower sRPE values than weeks 6-10.
- Primary players reported significantly higher sRPE values than secondary players ($p<0.001$).
- Primary players had higher sRPE during weeks 2 ($p<0.001$), 3 ($p<0.028$), 5 ($p<0.001$), and 6 ($p<0.001$).

CONCLUSIONS and PRACTICAL APPLICATIONS

- Variations in internal load were observed throughout the competitive season and between primary and secondary players.
  The variation was most pronounced from the beginning of the season until the mid-point.
  Two matches were played during weeks 3, 5, and 6, which may have attributed to primary players experiencing greater sRPE than secondary players.
- It is recommended athlete workloads be monitored and training intensity be adjusted as needed in order to maintain consistency across primary and secondary players throughout the competitive season.