

TEMPORAL ANALYSIS OF MEN'S SINGLE BADMINTON MATCHES PLAYED UNDER TWO DIFFERENT SCORING SYSTEMS.

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AIM

The Badminton World Federation is recently testing a new scoring system of 5 games up to 11 points ("5x11") to find a feasible alternative to the current format with 3 games up to 21 points ("3x21"). The aim of this study was to compare the temporal structure of badminton of men's single competition under the conventional "3x21" with the new "5x11" scoring system.

The 84.5% ("3x21") and 83.2% ("5x11") of all rallies lasted between 1 and 10 s, with a rally time between 4 and 8 s occurring most frequently. In contrast, rest time was mostly situated for both conditions between 8 and 14 s (80.4% and 82.0% for "3x21" and "5x11", respectively).

METHODS

Seven male (age 20.4±3.8 yrs; body mass 67.3±5.5 kg; height 1.79±0.03 cm; BMI 20.9±0.8 kg*m⁻²; VO₂peak 54.8±6.7 mL O₂·min⁻¹·kg⁻¹) high level badminton players, competing at international level, were recruited for the study. Participants were paired up to play against each other playing the "3x21" or the "5x11" match, in random order. Overall match duration, games duration, rally time, rest time, effective playing time (EPT), shots per rally, work density, and shot frequency were recorded to determine the temporal structure of the games. In addition, frequency of rally and rest time distribution were calculated. Data are expressed as mean ± standard deviation. A Wilcoxon test was performed to detect significant differences between the two scoring systems.

RESULTS

Overall match duration was 2129±332 s and 1996±182 s, with a mean of 107±10 and 90±7 rallies played and 669±80 and 606±49 shots executed during the "3x21" and the "5x11", respectively. Mean rally time was 6.7±4.3 s and 6.6±4.6 s, and mean rest time was 10.4±3.9 s and 10.3±3.4 s for "3x21" and "5x11", respectively. Shots per rally were 6.2±0.5 and 6.8±0.4, with a shot frequency of 0.92±0.26 shot·s⁻¹ and 1.0±0.2 shot·s⁻¹ under the "3x21" and the "5x11" format, respectively. EPT was 34±3% and 30±4%, with a work density of 0.75 and 0.70 for "3x21" and the "5x11", respectively. No statistical differences were found between the two conditions.

Rally time distribution

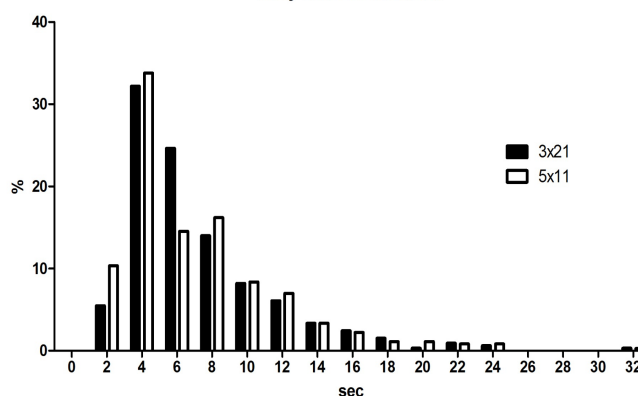


Fig. 1. Rally time distribution during the "3x21" and the "5x11" match format

Rest time distribution

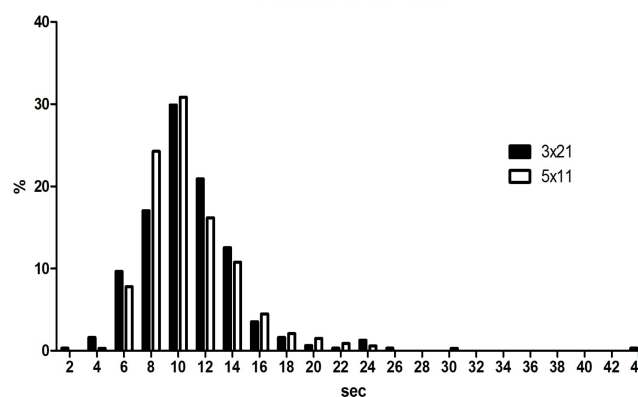


Fig. 2. Rest time distribution during the "3x21" and the "5x11" match format

Table 1. Temporal Structure of men's single badminton match.

Match duration (s)	Mean rally time (s)	Mean rest time (s)	EPT (%)	Work Density	Rallies played (n)	Shots (n)	shot·rally ⁻¹	shot·s ⁻¹	
3 x 21	2129±332	6.7±4.3	10.4±3.9	34±3	0.75	107±10	669±80	6.2±0.5	0.92±0.26
5 x 11	1996±182	6.6±4.6	10.3±3.4	30±4	0.70	90±7	606±49	6.8±0.4	1.0±0.2

Results are reported as Mean±SD. EPT, effective playing time

CONCLUSIONS

In conclusion, the proposed "5x11" scoring system seems not to affect the temporal structure of badminton matches. It is possible that more time under the "5x11" is needed to change tactical habits that can influence the temporal structure of matches.