



Time structure and activities performed during a judo match



Giovani Marcon^{1,2}, Emerson Franchini², Douglas Eduardo de Brito Vieira² e Turíbio L. B. Neto¹

Institution: São Paulo Federal University; Combat Sports and Martial Arts Research Group, School of Physical Education and Sport, University of São Paulo

Introduction

The format of international judo competition is one continuous 5-min period, which can be complemented by an extra time until one athlete scores or until the end of the new 5-min period. During the time allowed, there are many interruptions and the typical time structure is 30s of activity with a 10s interval (Castarlenas and Planas, 1997; Sikorski et al., 1987). However, no study has investigated these specific activities performed and their time structure during the action period. It is usually accepted that with this knowledge we can improve the training process.

Objective

Thus, the objectives of this study were: (1) to determine the time structure of a judo combat; (2) to verify the time spent on preparation, *kumi-kata*, technique application and *ne-waza* and (3) to verify if there is any difference among three consecutive matches.

Methodology

Ten male adult judo athletes were investigated in three consecutive matches.

Statistical analysis

Comparisons were done through ANOVA with repeated measurements.

Results

Results are expressed as mean \pm standard deviation as percent of total time for each sequence (time between *h* and *matte*; for the interval it was considered the time between *matte* and *hajime*):

Combat 1 - Preparation: 4 \pm 1s (12 \pm 4%); *Kumi-kata*: 18 \pm 3s (49 \pm 15%); Technique: 1.4 \pm 0.3s (4 \pm 1%); *Ne-waza*: 7 \pm 5s (19 \pm 3%);

Combat 2 - Preparation: 4 \pm 2s (13 \pm 7%); *Kumi-kata*: 18 \pm 3s (56 \pm 9%); Technique: 1.0 \pm 0.4s (3 \pm 1%); *Ne-waza*: 4 \pm 2s (4 \pm 2%); Interval: 6 \pm 2s (16 \pm 6%); Combat 3 - Preparation: 4 \pm 1s (13 \pm 3%); *Kumi-kata*: 17 \pm 3s (49 \pm 10%); Technique: 1.7 \pm 0.5s (5 \pm 2%); *Ne-waza*: 5 \pm 2s (5 \pm 1%); Interval: 7 \pm 1 (19 \pm 3%).

Table 1: Main steps on judo match (in seconds) in each sequence and time interval (values presented in mean \pm standard deviation from one of the 11 sequences).

	Combat 1	Combat 2	Combat 3
Preparation	4 \pm 1	4 \pm 2	4 \pm 1
<i>Kumi-kata</i>	16 \pm 5	18 \pm 3	17 \pm 3
<i>Tachi-kata</i>	1,4 \pm 0,3	1 \pm 0,4	1,7 \pm 0,5
Ground*	17 \pm 12 (6 \pm 4)	9 \pm 5 (4 \pm 2)	13 \pm 6 (5 \pm 2)
Break	7 \pm 1	6 \pm 2	7 \pm 1

*since not every combat sequence has been developed on the ground, the number outside the parenthesis represent the average time and the respective standard deviation for an action on the ground, in case there was a ground

Table 2: Main steps on judo match (%) in each sequence of combat and time interval.

	Combat 1	Combat 2	Combat 3
Preparation	12 \pm 4	13 \pm 7	13 \pm 3
<i>Kumi-kata</i>	49 \pm 15	56 \pm 9	49 \pm 10
<i>Tachi-kata</i>	4 \pm 1	3 \pm 1	5 \pm 2
Ground*	18 \pm 13 (7 \pm 5)	11 \pm 5 (4 \pm 2)	14 \pm 7 (5 \pm 1)
Break	19 \pm 3	16 \pm 6	19 \pm 3

* since not every combat sequence has been developed on the ground, the number outside the parenthesis represent the average time and the respective standard deviation for an action on the ground, in case there was a ground combat in each sequence. From 11 sequences, 4 of them have had ground combat.

Conclusion

No difference was found among the three fights. The typical match has 11 sequences, with four *ne-waza* periods. Our results show a shorter mean interval time with a similar action time (27s) compared to previous studies. *Kumi-kata* seems to be an important and decisive factor in competitive judo as most of the time is spent on it.