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Introduction

Today in Judo, high level athletic competitions, such as Olympics and Internationals, are characterized by always more quick and offensive matches. The attention by teachers is operated with training methods able to increase the explosive strength in techniques projection of Judo. In this work, Verchoshanskij method of stimulation has been analyzed, it's made of training overloads done before technique exercise, for to improve the rapidity. This method has been applied to the techniques of Judo to increase the rapidity.



Fig.1 TEP test PCL mode

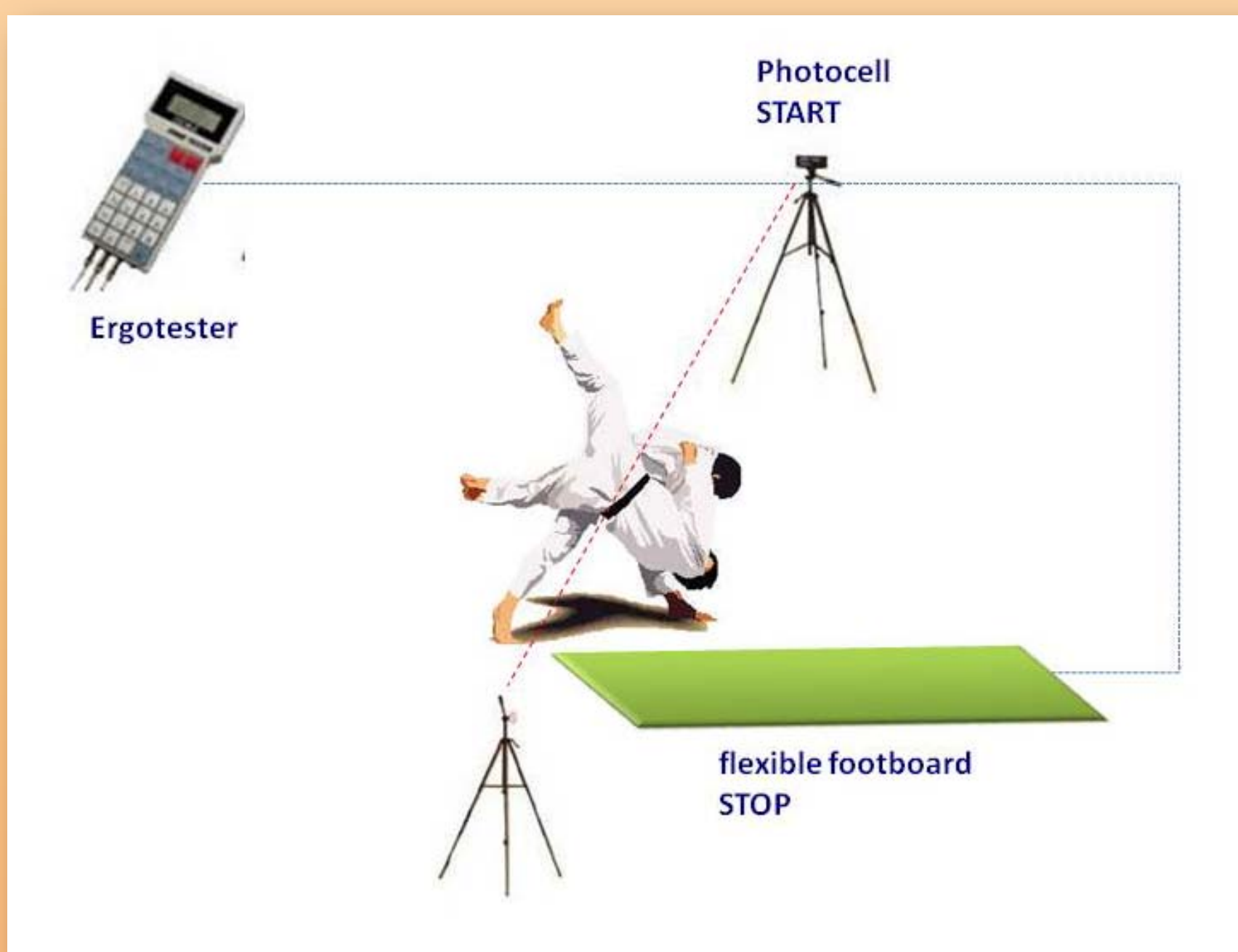


Fig.2 Stimulation method

TEP test
4 repetitions of preferred technique

SQUAT
3 series x 4 reps 85% max

TEP test
4 repetitions of preferred technique



Material and Methods

The experimentation has been applied over 10 athletes (age: 16/29; weight: 57/93 kg; height: 153/185cm; age of practice: 8/21) who practice Judo at agonistic level.

To measure increase of rapidity obtained by the method of stimulation, it has been calculated the time of technique execution, with the TEP test (Projection Execution Time – Villani et al, 2001), that thanks an integrated system of photocells and a footboard with piezoelectric cells, allows to calculate the detachment time (split) and projection time of Judo techniques. (Fig.1) They had performed the TEP test during 4 repetitions of preferred techniques (Tokui Waza or special technique) at the most quickness, and with a pause of 45 seconds between a techniques execution and another. After this Judokas had performed a sequence of squat warm up and subsequently 3 series of 4 squat repetitions at 85% of the maximal, with a pause of 3 minutes between the series. At the end of 4 minutes recuperation, the athletes had repeated again the test in the same ways of the first measurement. (fig.2) The difference of the results obtained before and after the squat has been analysed statistically. The attendibility of the protocol has been verified repeating the test after two consecutive sessions (test-retest correlation).

Results

The correlation between the results of the test and retest has highlighted some values of r superior to 0,90 in all the parameters taken in consideration ($p < 0.001$) so that the protocol can be considered very reliable.

Particularly, very high correlation in the analysis of the split time (entry action and detachment), has been underlined with values of r that have reached the 0,99. Between the results before and after the squat proves has showed, in all cases, a greater quickness in the execution of techniques after the stimulus with percentage differences in all the parameters, that go from 10% to 17%. (Tab.1)

Conclusions

The results underlined by Anova allow to confirm that the performed techniques after specific squat is really better of values underlined with the pre-squat. So, the method of stimulation can be considered an important system of training and very useful for increasing the quickness/strangeness specific of Judo.

Anyway, it's important underlined that the reached results have been inferior to the results obtained by Verchoshanskij in previous experiments, made in other athletics discipline. (superior increasing of 20%)

Probably, to obtain more interesting results it will be necessarily used the stimulation method with athletes who have reached greater experience in the use of overloads.

References

Villani R. (2001), 6° Annual Congress of the ECSS, p.1162, Cologne
Villani R., Di Vincenzo V. (2002), 7° Annual Congress of the ECSS, p.577, Athens

Tab.1 Results

n°	mean time	
	pre-squat	post-squat
1	1,10	0,93
2	1,09	0,94
3	1,16	0,96
4	1,07	0,95
5	0,97	0,89
6	1,01	0,94
7	1,10	1,02
8	0,90	0,82
9	0,93	0,86
10	1,01	0,96
mean	1,03	0,93
dev.st	0,08	0,06
diff. %	12%	
anova	p < 0,01	