



## SPECIFIC TEST TO ESTIMATE THE PERFORMANCE TIME OF JUDO THROWING TECHNIQS.

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### Introduction:

The study of the judo competitions and of the other forms of wrestling sports, shows that the rapid performance of the throwing techniques is a factor of great importance to excel in these sports. For this reason the experimentation of a standardised procedure of a new specific field test called "TEP Test" (Executive time of throwing technique) has been started. It is able to give an exact measure of the real duration of the technique.

### Materials and Methods :

The instrument used for this measure is an integrate system of photocells and piezoelectric rug, placed in two different modes. The first one (Lateral Fall Point) enables to value the "taking off" time and the throwing time of these techniques in which the opponent is thrown in the lateral-ahead direction (Fig.1). The second one (Back Fall Point) permits, on the other hand, to value the sole throwing time in which the opponent is thrown in the rear direction (Fig.2).

The experimentation has been carried on with a group of 22 judokas, 11 amateurs and 11 professionals.

To value the reliability of the test, each athlete had to perform 4 times the preferred technique (tokui waza) in each of the two modes (LFP and BFP) and this trial was repeated for two following days. Obviously we didn't consider the wrong techniques, and the athletes have been asked to repeat those ones (the coach has judged the techniques).

Apart from some theoretical considerations about the inversely proportional relation between time and speed (if the space / trajectory is constant) in order to verify the validity of the test, a transversal comparison has also been made between the professional group and the amateur one. In this situation, to check the capacity of the test to distinguish among athletes of different levels, all subjects were asked to perform with the same technique (O-Goshi - LFP mode). The objectivity is granted with standard procedure.

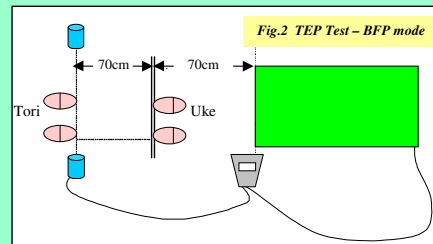
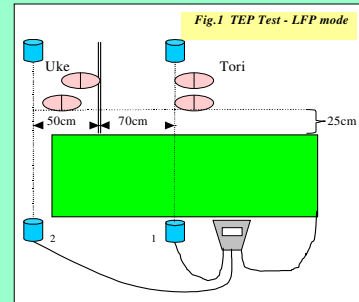


Photo 1-3: TEP Test - LFP mode

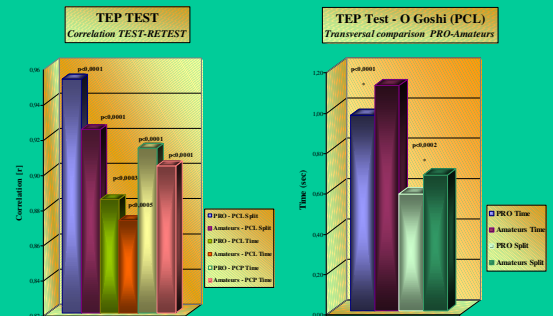


### Results:

The results of the study of the reliability obtained by the test and retest correlation, provided r values in the range between 0,95 and 0,87 for all the considered parameters in the two groups (Tab.1; p<0,001). The transversal comparison showed a greater rapidity of the professional athletes, who had better results than amateurs (Tab.2) with differences of 12,6% (p<0,0001) for the whole time and of 13,4% for the "taking off" time (p<0,0002).

Tab.1	PRO (M)	Amateurs (M)
LFP Split	r = 0.95 (p<0.0001)	r = 0.92 (p<0.0001)
LFP Time	r = 0.88 (p<0.0003)	r = 0.87 (p<0.0005)
BFP Time	r = 0.91 (p<0.0001)	r = 0.90 (p<0.0001)

Tab.2	Amateurs-PRO	Diff. %	ANOVA
M Time	0,14"	13,4%	p<0,0001
M Split	0,09"	12,6%	P<0,0002



### Conclusions:

The significant correlation among the results of the Test and those of the retest seems to show that the Tep test, performed in the two modes, has interesting features of reliability.

As far as it concerns its objectivity we believe it is necessary to verify statistically the different ways in which the coaches judge performing techniques.

The results of crossed comparisons have shown significant indications regarding the sensibility of the Tep test and its validity in discriminating athletes of different levels. Anyway in order to obtain more complete and valid results we are starting a longitudinal study to monitor the variations of the test results among a cycle of training.

### References:

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