

Original Article

Possibilities for determining the role of attention in the achievement In judo performance

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Abstract:

Considering the attention of a person the ability to exert mental effort on what is important in a given situation, the paper addresses the importance of attention in competitive judo at the age of 9 – 13. Assuming that attention is a component of the mental capacity, along with others, which encourages / restricts the athletic performance in judo two observational assessment tools were built to capture the level of expression of the distributivity of attention and of the capacity of concentration in the conditions of the specific competition effort. In parallel, we used five psychological tests, approved and standardized measuring the levels of attention in laboratory settings. The analysis of the results confirms the formulated hypothesis and validates the assessment tools, designed to identify the contribution of the attention capacity shown by this group of athletes in achieving sport performance.

Key Words: - attention, mental capacity, evaluation, efficiency.

Introduction

In addressing the work we treated the mental attention from the psychological capacity point of view and we considered that attention is a psychological phenomenon / psychological function which designates the activity of selective orientation and focus of the psychological energy on an object, for deeper knowledge and efficient action. As a psychological function, the role of attention is the activation, focus, selective targeting, filtering of information, psychological concentration on an object" [HORGHIDAN, 2000]. Attention is „ a person's ability to exert mental effort on what is most important in a given situation" [WEINBERG & GOULD, 2007]. In carrying out the observational assessment tools, we considered that in sport is required *the selective attention*(focusing on relevant elements of an activity), *the focus* on a longer period of time is necessary in *situational awareness* and many times it is necessary to *shift* attention when it is needed [WEINBERG & GOULD, 2007].

A number of studies have compared the athletes with greater performance with the low performance ones in the sense of their psychological skills and their important characteristics. The studies have shown that successful athletes are characterised by greater confidence, self-control, better concentration, a positive attitude, competitive plans, coping strategies, mental preparation routines. [WILLIAMS, 1986, NIDIFFER & SAGAL, 2001, PORTER, 2003].

Enhancing the levels of attention, judo athletes are able to mobilize appropriate and effective forces, to rationally conduct their behaviour. They have an increased rate of speed of reaction, are moving better on the mat, the perception processes are faster, are more clear and active, their spirit of observation has been increased, they have the capacity to notice the most unusual and difficult situations during the fight [STEFĂNUȚ, 1983].

The problem

Judo is a sport that is characterized by dynamism, judo athletes use cognitive processes such as perception of the environment, anticipate their opponent acts, decision making and execution of planned act. Victory or failure in judo competitions can be recorded in seconds. Many athletes recognize that they have trouble concentrating that attention during the competition. Usually attention problems are caused by factors that are external or internal nature. Among external factors athletes can be distracted by some internal mental states, thoughts, concerns, grouped into three categories: *anchoring in the past*, in which athletes can not detach from the recent negative events, such as a mistake or a failure, *escape in the future*, in which athletes speculate future through thoughts on the results, if they are successful or not and what will be the effects of eventual success or failure, *intense emotions* that arise in situations of stress, tension, when the level of attention falls, the external attention is neglected, the athletes internalize and manifest states of fear, distrust of self.

We looked at the inventory tools and techniques to assess the level of attention and we found that they are only tests in laboratory settings: paper-pencil tests – The Labirinth Test, ADS and the Praga Test, and tests that can be performed by computer software such as BTPAC Tests and CMA Test. [SAVA, 2011].

The purpose and hypothesis

The purpose of this paper is to develop observational assessment tools to determine the importance of attention capacity in judo competitions.

In order to achieve the purpose of the research we intend to demonstrate that *attention is a component of mental capacity, along with others, encouraging / restricting the athletic performance in judo* and we made the following interrogative statement *"The success or failure of specific technical and tactical actions in competitive judo are influenced by the focus and distributive ability of attention?"*

Methodology content

To evaluate the importance of attention to the concrete conditions of judo we plan to observe the behavior of athletes on the ability of attention manifested in competitions and training. We built two observational protocols with a different number of observational indicators using them with the support of a psychologist, along with pencil and paper tests software, both to capture specific aspects evaluated during technical-tactical effort in training and competitions and to compare them with the levels of concentrated and distributed attention recorded in laboratory settings. The protocols built content are presented in Tables 1, 2, the target group consisting of 100 athletes from 9-13 years old who practice the competitive Judo, participants in the competitive schedule 2009/2010.

Table 1. Protocol 1 – The importance of attention in competition

Table 1: Protocol 1 – The importance of attention in competition				
1. Concentration of attention in the moments preceding the contest				
Maxime(5)	High(4)	Average(3)	Sufficient(2)	Insufficient(1)
2. Degree of elimination of the distraction factors of the attention				
Very good(5)	Good(4)	Average(3)	Weak(2)	Very weak(1)
3. Psychological state of the athletes before the contest				
Very calm(4)	Calm(3)	Restless(2)	Nervous(1)	
4. Taking the adequate intakes when applying a technique				
Very good(5)	Good(4)	Average(3)	Weak(2)	Very weak(1)
5. Athlete adapting to the fight situation				
Very good(5)	Good(4)	Average(3)	Weak(2)	Very weak(1)
6. The distributivity of attention on different factors of a moment of the fight				
Very good(5)	Good(4)	Average(3)	Weak(2)	Very weak(1)
7. Initiative				
Permanent(5)	Often(4)	Seldom(3)	Sometimes(2)	Never(1)
8. Engaging in effort				
Maxime(5)	High(4)	Average(3)	Weak(2)	Very weak(1)
9. The athlete's attention to the opponent's tactics and the valorisation of the moment				
Very good(5)	Good(4)	Average(3)	Weak(2)	Very weak(1)
10. The finalisation of the actions				
Permanent(5)	Often(4)	Seldom(3)	Sometimes(2)	Never(1)
11. Ending the fight by abandon				
Never(5)	Seldom(4)	Sometimes(3)	Often(2)	Permanent(1)
12. The influence of external factors on the athletes' state during the competition				
Never(5)	Seldom(4)	Sometimes(3)	Often(2)	Permanent(1)
13. The capacity of psychological and physical recuperation of the athlete				
Very high(4)	High(3)	Average(2)	Low(1)	
14. The decisional responsibility				
Very high(4)	High(3)	Average(2)	Low(1)	

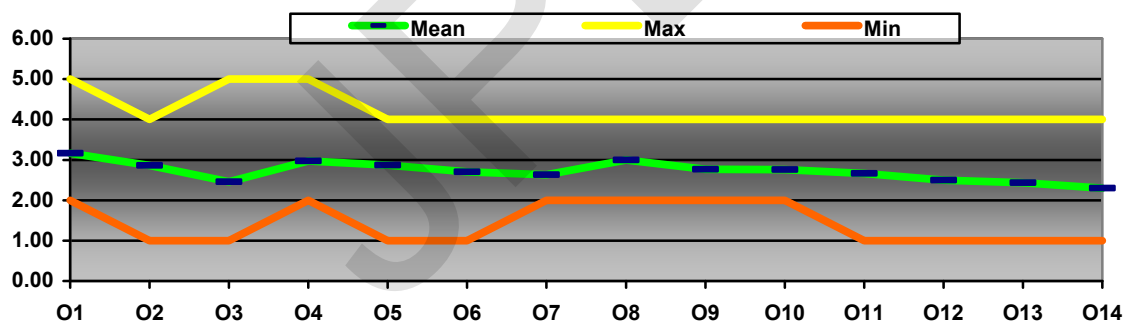
Table 2. Protocol 2- The level of concentrated and distributive attention in training and competition

Nr. crt.	Observational indicators Ratings/points	Very good (5 points)	Discutions Good(4 points)	Sufficient (3 points)	Insufficient (2 points)	Careless (1 point)
1	Attention level					
2	Receptivity of information					
3	Rapidity of implication in response					
4	Correctness of response					
5	Focus and attention orientation					
6	Length of attention					
7	Elimination and decrease of the disturbing factors					
8	Attention distributivity					

For intra-group research we determined the statistical indicators for the items set by both protocols and for the observed and recorded results of the laboratory tests. From the analysis of statistical indicators values in table 3 and figure 1 we found the following:

Table 3. Statistical mathematical indicators from protocol 1

Nr. crt.	O1	O2	O3	O4	O5	O6	O7	O8	O9	O10	O11	O12	O13	O14
X	3.16	2.86	2.46	2.97	2.87	2.70	2.63	3.00	2.77	2.76	2.66	2.50	2.43	2.3
S	0.83	0.73	0.86	0.76	0.73	0.87	0.61	0.64	0.67	0.50	0.75	0.77	0.62	0.65
Vmax	5	4	5	5	4	4	4	4	4	4	4	4	4	4
V.min	2	1	1	2	1	1	2	2	2	2	1	1	1	1


Figure 1. Average, minimal and maximal values obtained from the observational protocol 1

1. *Concentration of attention in the moments preceding the contest* – since the entry into the competition hall the athletes are subject to factors that can distract them from the objectives of the match. Scores are in the range 2-5, the arithmetic mean of 3.16. Ability to concentrate attention in the moments preceding the competition is quite low for the observed sample.

2. *Degree of elimination of the distraction factors of the attention* - values are between 1 and 4, the average value being 2.86. These values express the fact that athletes do not have special training on this issue, they cannot cope optimally to external factors such as audience noise, electronic display, stress, etc., the arithmetic mean value being placed on the weak values.

3. *Psychological state of the athletes before the contest* - average result is 2.46, minimum 1 and maximum is 5, which reveals that the overall condition of athletes before competition was not the most favorable athletes being characterized by agitation or nervousness characterized (the most of them), 20% being characterized by calm and balance.

4. *Taking the adequate intakes when applying a technique* – This is an important moment at the beginning of the fight in judo who prepares the ground for the application of the techniques. Therefore athletes

should be aware of the opponent's tactics, have very good response times. In this case we found that the values obtained were located between 2 and 5. The arithmetic mean is 2.97, showing that the level of attention is low.

5. *Athlet adapting to the fight situation* – it is observed that the results are between 1 and 4, average values being 2,87, situated in the poor results zone showing that athletes need some attention components to be developed so that the athlete to increase its capacity to adapt.

6. *The distributivity of attention on different factors of a moment of the fight* – at this item the athletes have registered values in the inferior zone(2,70) the minimal value being 1 and the maximal value 4.

7. *La Initiative* – the minimal value registered is 2 and the maximal is 4, the average being 2,63, this is what highlights the distrust of self and a low reaction speed.

8. *Engaging in effort* – in this case the minimal value is 2 and the maximal value 4, the arithmetic mean being 3, from where results that the athletes are situated at an average level regarding engaging in effort.

9. *The athlete's attention to the opponent's tactics and the valorisation of the moment* – This item is relevant for our study because it reflects the need of a good distributed and concentrated attention to exploit certain elements of the game to counter the opponent's actions so as to turn the match in his favor. In this case the values ranged between 2 and 4 the average being 2.77, which indicate a low to medium level, demonstrating a reduced capacity of attention.

10. *The finalisation of the actions* – for this the athletes also need more attention and combative qualities. The recorded values were between 2 and 4, with an average value of 2.76, a value located in the medium to lower zone of values so the attentional and combative capacities should be developed to optimize actions in the fight.

11. *Ending the fight by abandon* – This fact is often met in a fight when the athlete loses by leaving before the end of the game and reflects a reduced physical and mental strength. The athlete who abandons is not confident, is intimidated by his opponent, has a low response rate. Values in the observation chart indicates a minimum of 1 and a maximum of 4, the mean 2.66, a low value indicating a deficiency in terms of confidence, lack of attention, reduced combativeness and explains many of the losses by abandoning the fight.

12. *The influence of external factors on the athletes' state during the competition* - during and before the competition the athletes need to focus on the objectives of the fight and should have the power to ignore the disturbing external factors. Observations of this element indicates our results between 1 and 4 with a mean of 2.50, which also indicates that our athletes are not involved enough in terms of psychological resistance to external environmental factors that might intimidate them.

13. *The capacity of psychological and physical recuperation of the athlete*– This is an important factor during a fight. It is important that the athlete to know how to recover and return to fight in some difficult times that this entails. For this requires some special techniques and the athlete to know to apply them. For this item of the observation form the recorded results are between 1 and 4 and an average of 2.43, indicating a deficiency in this respect.

14. *The decisional responsibility* – athletes must assume the responsibility for their decisions. This requires a strong personality and developed mental qualities. In our observations for this item athletes have recorded values between 1 and 4 with a mean of 2.43, also a low value demonstrating a lack of mental training program.

Analysis of the results of the second protocol of observation (Table 4, Figure 2) highlights the following issues:

1. *The level of attention* – Following the observation it was found that the average attention level is 3.17 which means that athletes from the target group have a level of optimum level of attention.

2. *Receptivity of information* – the value obtained is 3.25, with individual values between 2 and 5, which is interpreted that athletes have a medium to low responsiveness in the receptivity of information transmitted though how judo athletes perceive information is defining of educational process in judo.

3. *Rapidity of implication in response* – This observational indicator is also very important for a judo athlete. The observation shows that the minimum value is 1, maximum of 5, and mean 2.92, a value low enough for the scale considered by us.

Table 4. The statistical mathematics indicators from protocol 2

Nr. crt.	O1	O2	O3	O4	O5	O6	O7	O8
X.	3,17	3,25	2,92	3,42	3,67	3,00	2,75	3,42
S.	1,11	0,87	1,08	0,90	0,98	1,13	0,75	0,67
Vmax	5	5	5	5	5	4	4	4
Vmin	1	2	1	2	2	2	2	2

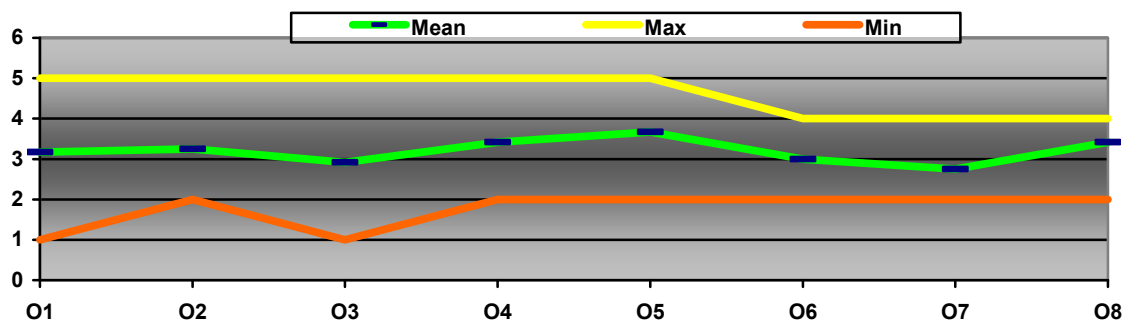


Figure 2. Mean, minimal and maximal values obtained from the observational protocol 2

4. *Correctness of response* – This item requires a good tactical knowledge which requires good sattention capacity. Average value is 3.42, we can say that athletes are deficient in terms of perception and learning capacity of tactics and technique, starting from poor attention.

5. *Focus and attention orientation* – following the observations made, the mean value obtained is 3.67, which means that athletes have an average capacity of concentration of attention which is not desirable in training or competition in judo.

6. *Length of attention* – it has been observed that the time of concentration of attention is a weakness that needs to be improved, the average being 3.00, the minimum 2 and maximum is 4.

7. *Elimination and decrease of the disturbing factors* – this is an important item for competitions, in the conditions that there are more and more disturbing factors coming from the extern environment, which can negatively affect athletes' performance. In our target group, the mean is 2,75, which is a low value and represents a lack in the tranining of the athletes from this point of view.

8. *Distributivity of attention* – following the applied protocol we observed that the mean value is 3,42. The interpretation of the result in this case shows a low level of the distributive attention.

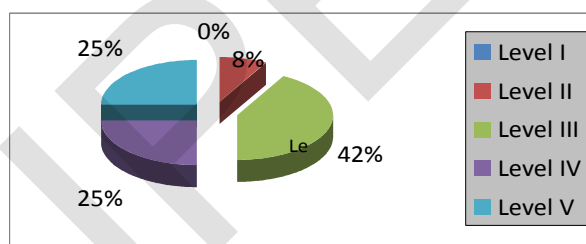


Figure 3. The level of distributive attention for judoka athletes aged 11-14 years

Following the application of the tests of attention ADS and Prague in the target group of subjects we found the following aspects of distributive attention: most subjects (42%) show an average level of distributive attention, 25% have a good level (level IV), 33% recorded low and very low levels.

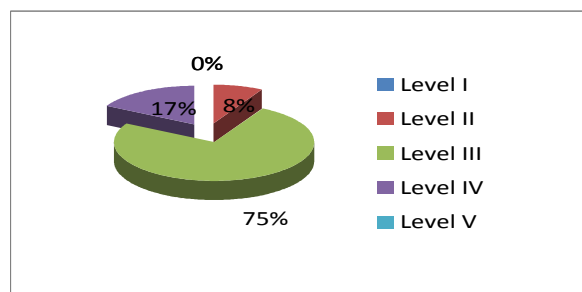


Figure 4. The level of concentrated attention at judoka athletes aged 11-14 years

The results of the tests Labirinth, BTPAC and CMA, the tests used to identify the level of concentration of attention, highlight the following issues: 75% of athletes 9-14 years have a medium level of concentrated attention, 17% register a good level, 8% have a low level. No athlete has a very good level, neither a very weak one.

Conclusions

The answer at the question „*The success or failure of specific technical and tactical actions in competitive judo are influenced by the focus and distributive ability of attention?*” is „yes”.

The tools for the observational evaluation build by us, proved to be useful and surprised us by the observational indicators, relevant aspect which highlight the importance of attention capacity in general and the importance of the distributive and concentrated attention in special.

The aspects noticed during the competition regarding the level of expression of attention, nuances the results registered for the athletes aged 11-14 years at the laboratory tests, used in parallel with the observational protocols ADS, Praga, Labirint, BTPAC și CMA.

Combining the results achieved by athletes in the laboratory tests with data recorded in the protocols of observation is confirmed that the capacity of attention can be evaluated through a system of methods, techniques and tools which can capture the true, objective and specific aspect of research.

The formulated the hypothesis has been shown that "attention is a component of mental capacity, along with others, encouraging / limiting athletic the performance in judo."

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