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Original Article

Characteristics of attention of young judokas at different ages

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Abstract:
The sports result largely depends on attention, as one of the most important organizers of mental activity. Creation of the detection system of individuals with high-potential in judo, based on attention, should make a great contribution for judo. Research aim was to create the system of selection of promising young judokas, with the method of studying attention.
Materials and Methods: The studies were carried out in the 2009-2011 years on 2000 male judokas. The measurements were made using a Schulte's tables. The obtained results were statistically processed by SPSS 19, using ANOVA test.
Research results and conclusions: Research has shown that according to general characteristics of attention demonstration, the leap like improvement of attention value was fixed at the age of 13-14 years which is to be determined by the age; and since the age of 16 it has been the subject to the personal self-regulation in most judokas.
The 7.9% and 6.3% out of studied 240 individuals under the trial at the age of the 8-9 show such indicators of the attention and / or character, which are typically found at the age of 14 and 16.
As it is known, the previous development of a particular child may turn into an invaluable resource, as well as a problem of adaptation to the roughly defined teaching environment.
The method used in the study allows preliminarily to start of the systematic training, by a simple procedure identify the children with similar as the older age data according to attention and/or character in order to develop the effective training-learning strategy, and balanced individual working.
Keywords: attention, age, sports character, promising athlete.

Introduction

Judo is a dynamic type of sports. During a competition a judoka has continuously react to such factors as to pay attention to a referee notes during wrestling, identify an opponent's wrestling style, his technical-tactical or physical fitness level, take into account a coach's verbal comments and consider the information concerning his opponent; pay attention additional stimuli such as a time-keeping table, fans exclamations, and many other things. In this case, the judoka faces a problem of attention distribution, which according to I. Imedaze (2005), is to direct it to several directions.

In addition, during the wrestling, reasoning to constantly changing situation, it becomes necessary that the judoka could transfer (displace) his attention rapidly to one wrestling action to another and keep wrestling in such a manner for 5 minutes, but not all of them can manage this with equal success, considering that some athlete's attention is attributed to hard transferring type, and some to easily transferring one (Dvali, 2006). It is known that these factors have significant influence on the sports results, because those athletes with optimal level of attention transferring and distribution are able to correctly and accurately switch to a single act of another (Yolbaia, 2003) and handle effectively the constantly-changing situation during wrestling.

Reasoning from the aforementioned, in this kind of sports the success together with other factors is significantly conditioned by judoka's demonstration at the relevant level of attention features - transfer and distribution, because attention, as a mental process is directing of consciousness to a certain object or activity; and is involved in organizing, coordinating, regulating, controlling and stimulating functions of psychics (Yolbaia, 2003); it also contributes to the sportsman's psycho-physical force activation at the appropriate level, being the basis for success in Judo.

Despite the great importance of function of attention in judo, as a specific type of sport, there are few researches in this direction. One of such studies (Griciūtė, Paškevičius, 2010), which was conducted on judokas, studied the function of attention using Schulte's test.

The results of the study, researching on example of Lithuanian junior and adult team member and non-member judokas two professionally valuable competences - personality peculiarities and cognitive processes (transfer of attention) shows that due to longer experience of judo activities the team members have greater intrinsic motivation factor, and more interest to participate in the competitions (testing). Attention demonstration also depends on teenager's other internal factors and individual characteristics: the reasons which significantly

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influence the degree of attention demonstration, may be the human internal conditions, positive and negative emotions (Wilson, 1995; Gordeev, 2008; Vast et al., 2010) etc. However, these studies provide little information about the internal factors of different ages, especially generalization data of the children's ages (8-9 years) of beginning of training in judo.

As far as sports training is the long and extensive process, in the young judokas great importance should be given to study of attention, as the mental process of a wide age range to allow establishing a general regularity and on this basis early identification of children with such results, and then giving them the personal attention, who demonstrate results similar to older ages and are in line with the requirements of a given type of sport. The aforementioned specified our goal.

Research aim was to create a system of promising athletes selection among beginning judokas by the method of studying attention as a function of directing consciousness to activity.

The tasks of the research:

1. To study in judokas wide age range (8-20) the level of attention distribution and transferring.
2. To identify critical age(s) in the process of attention different characteristics formation.
3. To define talented individuals in the beginning judokas.

Materials and methods:

Participants: The research was conducted during three years (2009-2011) for Georgian male judokas aged 8-20 years, training at 10 different sports schools of Georgia. At each of the sport schools the process of the training is generally started at the year of 8 and their names are officially accounted by the Georgian judo federation. Experiment included the 2000 judokas from the total number of persons (2314) who were selected at random.

Their distribution in the experiment by age is provided in figure 1.

Measure: In order to study attention characteristics (transfer, distribution) in persons under the trial we used Schulte's tables.

Persons under the trial were given a task to find figures from 1 - to 25 on the table/tables as quickly as possible and name them loudly in sequence.

By the original version, Schulte's test consists five tables. This number of tables allows defining the degree of an individual's attention concentration decline, which is mainly relevant for clinical practice (This is a reason why Schulte's test researches in sportsmen, in particular, in judokas are not many). Because in case of our study we were dealing with teenagers with normal physical and mental development, and our interest was not to study clinical abnormalities, but specify a valid phenomenon for sports career prognosis, we decided to use the three table system instead of aforementioned five-table one, which in our opinion, on the one hand would be less directed to attention decline research problem, and on the other hand would be enough for detection of promising in athletic career teenagers.

Statistical analysis: Statistical analysis of the data was carried out by using the software package SPSS 19 for windows. The ANOVA was used to determine the relationship between the age (8-20 years) and attention characteristics. Descriptive data were presented as Means, SD, Max and Min. The level of significance was set at $p < 0.05$.

Research Results: Statistical data, reflecting the results of the persons under the trial of working on all the three tables of Schulte's test are provided on the Figure #1.

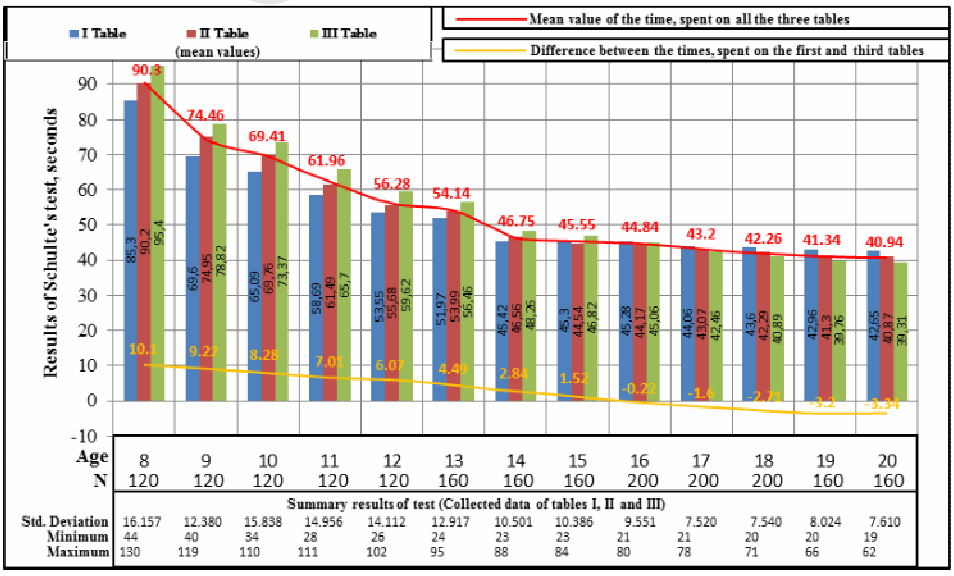

Figure 1. Descriptive data of the time (seconds) spent on the Schulte's test.

From the data, provided in figure**,** it may be noticed that minimum and maximum values of working on the tables at the age of 8 has especially variable nature (44 and 130 seconds), but with increasing of age it is getting over closer to the average values of attention, demonstrated at given ages, and consequently, the standard deviation indicator reduces. As for spent time mean values by Schulte's test (considering all the three tables) they constantly decrease with the age increase, but the process is unequal.

Discussion:

The reason for abovementioned trend of compression of minimum and maximum values dissemination, along with age increase factor, may be related to certain stabilization of attention demonstration due to specific activities (training experience).

As the figure shows, in the case of 8-year-old children the time, spent on the second and third tables compared with that of the first table consistently increases (trend for decrease). While working on the last two tables, the index of such deterioration of the results continues until the age of 14, but the spent time increase on each of the following table takes place gradually to a lesser extent. At the ages of 15 and 16 years there is remarked not formed distinct trend (moratorium period). 17 - 20 years inclusive (the elder age) is always less time spent on each following (trend for being trained).

Thus, the obtained data showed that on the one hand the mean time spent on tables not equally, but gradually decrease and the other hand from table to table we meet different trends for data reduction. In order to summarize these two perspectives, two additional horizontal lines were added on the figure (the red and yellow coloured ones), where for each age there are provided mean values for the time spent on all the three tables of the test, as well as difference between the times, spent on first and third tables.

The dynamics of the data, provided on the first (upper) line of the figure clearly shows that the mean time values, spent on all the three tables of the test unequally reduce with the age increase. On this background, in the two age groups - 8-9 and 13-14 years of age, there are observed leap like changes in result improvement.

Since the training began at the age of 8, by the age of 9 the reason for result improvement of working on the test may be due to both age and training factors. Identification of the share of these factors could not be done within our study. On contrast, the result increase from 13 to 14-year of the age is to be determined by the age, since judokas at this age have training experience of 5-6 years and the training factor in result improvement is minimum.

If observe the second (lower) line of the figure, it shows that less time spent on the third table compared to the first one is found first at the age of 16 years. These circumstances suggest that it may have been related to the strengthening factor of attention, but as the upper line shows, after 14 years function of attention does not changes significantly. For this reason we considered that such result should have been indication of increasing levels of individual self-regulation.

Our studies have shown that attention demonstration improvement is determined by the age and development of personal self-regulation. At the same time, according to the results obtained by A. Griciūtė et al. (2010) attention function strengthening may be linked to intrinsic motivation factor as the result of achievement (team membership).

Comparison of the aforementioned study results set before us the need of more complex approach to research of attention in teen judokas. In particular, considering especially variable results, obtained in the younger age, in order to detect the talented, we got interested in children of the age of 8-9 years with such kind of attention demonstration, who could break age determination and actually demonstrate the results, typical at 14 and after 16 years of age.

It was found that 19 out 240 studied children of 8-9 years of age had the results (the average value of the time spent all the three tables), similar to those observed in the 14-year-old teenagers (which makes 7.9%); and 15 children (6.3%) were characterized by data of attention, such as those of 16 years and older judokas.

The information given in the introduction section (Griciūtė, Paškevičius, 2010) demonstrates, that the factor of training develops functionalities and sportsmen (judokas) with more training experience has better results compared to ones with not having it enough.

By this analogy we might consider, that the results obtained by us, fixed in rather small percentage of 8-9 years old children (7.9 and 6.3%), is also connected to developed functionalities but in this case it may be related not to the training experience but to the elementary school age teaching style and the index may be extremely high for future sports result.

Conclusions:

Attention function indices in younger children (8-9 years) are characterized by particular variability. With the age increase, it is stabilized, and its dissemination degree decreases.

Attention demonstration by general characteristics (The average time spent on Schulte's test) age of 13-14 years is important. During this period the leap like improvement of attention index takes place, which is

related to the age increase. According to our data, general index of attention does not dramatically change after the age of 14.

For the judokas of 16 years of age and older the time, spent on the third table is less than the time, spent on the first table. This is a factor, indicating strengthening of their personal self-regulation and creates a significant resource for sports success.

Nineteen out 240 studied children of 8-9 years of age 7.9% demonstrates the attention and character indices, typical for the age of 14; and 6.3% demonstrates the data, typical for the age of 16 and older. The method used in this research allows before starting regular training, by a simple procedure identify the children with similar data in order to work out effective training-learning strategy and individual, well-balanced work.

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