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Study regarding the order of psychological processes and the importance of the psychological factors of high performance for the sports branch karate

Rata Gloria^{a*}, Dobrescu Tatiana^a, Rata Bogdan Constantin^a, Rata Marinela^a, Mares Gabriel^a

^a "Vasile Alecsandri" University of Bacau, Marasesti No.157, Bacau 600115, Romania

Abstract

This paper constitutes an observational study conducted between February and March, 2011, on 20 coaches from various Romanian clubs. The study aimed to observe the importance of psychological factors for the karate training. We used as a research method a questionnaire with 10 questions, on which each coach had to choose one answer. The answers were analyzed and presented as charts. The analysis of the results we obtained from the questionnaire has emphasized multiple aspects showing the opinion of the karate coaches regarding one of the components of the training process, namely the psychological training.

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1. Introduction

The athletic high performance represents the combined result in an activity of psychological, attitudinal, biological, and psycho-social factors. The psychological factors involved in achieving a high performance are aptitudinal and attitudinal. The aptitudinal factors are psycho-motor, such as coordination and reaction speed, psycho-physiological, such as the accuracy of the analyzers, intellectual, such as thinking, memory, imagination, attention, etc. These factors have certain genetic determinations, as well as certain particularities of the superior nervous activity. "For improving the training process we need to transform the training into a cognitive process or an unique, distinct event that would ensure the continuity, motivation, and psychological tension necessary to mobilize and capitalize the resources" (Ştefan Tüdoş, 2000, pag 123). Most psychologists are tempted to emphasize the emotional aspects, but for the athletic performance, the cognitive-perceptive or motor-effector aspects are also important (Epuran Mihai, 2008, pag. 54). A. Demeter (1982, pag. 145) writes that during the initiation stage, there is an emphasis on harmonious physical development by using general training means, then towards the end of the training period, there is a gradual change towards a special physical and psychological training, according to each athlete's aptitudes and preferences. "The human bio-psycho-social unit indicates the uniqueness of each person" (Teodorescu Mate, Silvia, 2001, page 1), a unit that determines the training of high performance athletes'

Corresponding author name: * Rata Gloria. Tel.: +4-074-223-3917

E-mail address: gloria_rata50@yahoo.com

personality, and ensures them high level athletic results. Specific to our field (in which educating the motor skills is a priority) is the understanding of the functional relations between the systems and the organs of the body, on one hand, and the voluntary ability of practical or cognitive performance, on the other hand. Seen as a good ability for motor coordination and adapting the movements according to unexpected situations, intelligence can be encountered in every activity that is based on movement performed with an aim, an objective, and has multiple conditions for development. It is manifested when it is needed an adaptation of the automated skills to ever changing situations, determined by context, opponents, external influences. Emphasizing the practical activity's dependence on the psychological activity, Epuran M (2001) describes motor intelligence as being "the subject's mental ability to solve problems, theoretically and practically, in a manner that is perfectly adequate for the motor actions in new or different situations. Motor intelligence represents a motor-cognitive synthesis with an intuitive or operative character that uses knowledge, representations, and habits, reorganized according to the necessities of the situation." Following the same idea, Horghidan, V., (2000) thinks that intelligence is manifested in the "cognitive organization that expresses itself and functions through finalizations within the motor behavior plan. It regards equally the selection, caption and treatment of the information received from sources inside and outside the body in order to create the adequate motor responses, but also in the motor expression itself." Vertonghen and Theeboom (2010) make several references to studies examining "different personality traits, such as self-confidence, self-assurance, anxiety level, and selfregulation" emphasizing the importance of these aspects for the athletes practicing the martial arts. De Ruiz, M. C. and Hanin, Y. L. (2003) referring to the works of Mayer and Gaschke, 1988; Mayer and Stevens, 1994, wrote that the self-knowledge and attitudes about emotional experiences are involved in the evaluation and regulation of emotions.

2. Hypotheses

This study tried to confirm two hypotheses:

- a. The coaches emphasize certain psychological factors during the training process;
- b. The coaches believe that the importance of the psychological factors is different, from one age to another, for the karate training.

3. Reserch methods and techniques

The subjects were 20 Romanian karate coaches, with 6-18 years of experience, who agreed to answer the questionnaire anonymously.

The research methods we used were: the study of the specialized literature, the inquiry method, the statistical-mathematical method, and the graphical method. As an instrument for assessing the psychological factors of high performance, we used the *questionnaire-based inquiry*. The questionnaires were filled at the competitions organized by the Romanian Modern Karate Federation, and by the affiliated clubs, as follows: The "Iancu de Hunedoara" Cup - Hunedoara, February 2011; the National Shotokan Karate Championship - Oradea, March 2011, and the Interstyle W.K.F. National Karate Championship - Brasov, March 2011. The study was conducted from February to March, 2011

4. Results of the research – analysis and interpretation of the results

To Question no. 1, *Do you believe psychological training to be a necessary factor for obtaining superior results during Karate competitions?*, with answer choices a) yes; b) no; and c) not necessarily, all of the 20 coaches (100%) have checked the answer "a", meaning that the karate coaches are aware of the necessity of psychological training.

Question no. 2, *What are the main psychological factors that can have a positive effect on the results in professional Karate sports?* (Figure 1) Answer choices: fast thinking, intelligence, memory, attention, imagination. Ranking first, being chosen 12 times, is intelligence, secondly, each being chosen 3 times, are attention and fast thinking, and thirdly, with one choice each, are memory and imagination.

For Question no. 3, *At what age it would be appropriate to introduce the psychological training?* the answer choices were: a. 8 - 11 years old (children); b. 12 – 13 years old (mini-cadets) c. 14 – 15 years old (cadets); d. 16 – 17 years old (juniors); e. +18 y.o. (seniors), and the answers were as follows: 13 coaches - 65% think it is necessary to introduce the psychological training at 8-11 years old, 5 coaches - 25% think the right time for this is at 12-13 y.o, and 2 (10%) think 14-15 y.o as an appropriate age to introduce the psychological training. The coaches questioned for this study believe that over 16 years old it is too late to begin a psychological training for the general Karate training (Figure 2).

For Question no. 4, *Who do you think has the most important role in training the athlete psychologically when the psychologist is missing?* Answer choices: a) the parent, and b) the coach; out of the 20 coaches, 2 (10%) believe the parent has the most important role in the absence of a psychologist, while 18 (90%) think that this role belongs to the coach (Figure 3).

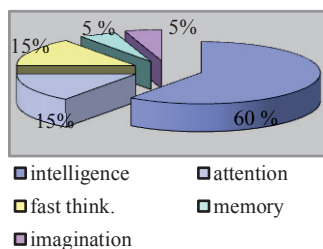


Figure 1

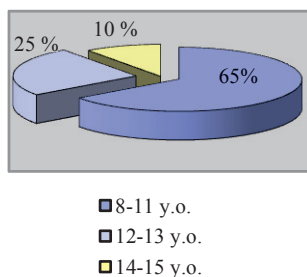


Figure 2

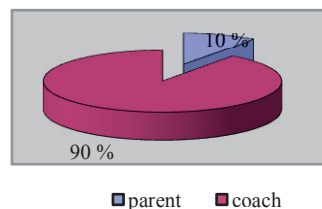


Figure 3

For Question no. 5, *Which training factors do you think the psychological training influences?* the answer choices were: physical training; technical training; tactical training; theoretical training; all of them. As we can see in Figure 4, 17 coaches (representing 85% of the subjects) think that psychological training influences all the training factors, 2 coaches (10%) think it influences the tactical training, and 1 coach (5%) believes it influences the technical training.

For Question no. 6, *Which of the following factors do you think is related the most to the psychological training?* the answer choices were: physical training; technical training; tactical training; theoretical training; all of them. The answers chosen by the 20 coaches show that 65% of them (meaning 15) think that the tactical training is most related to the psychological training, while 25% (meaning 5 coaches) think that the psychological training is related to all of the types of training (Figure 5).

For Question no. 7, *Through which means can the coach train the athletes from a psychological point of view?* the answer choices were: general means, specific means, both. The answers show that 3 subjects (15%) think that the coach can train the athletes through specific means, while 17 (85%) can train the athletes psychologically through both general and specific means. Nobody preferred only the general means for the psychological training of the athletes (Figure 6).

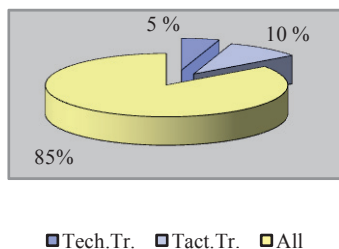


Figure 4

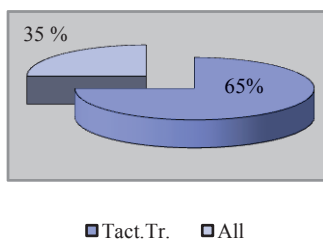


Figure 5

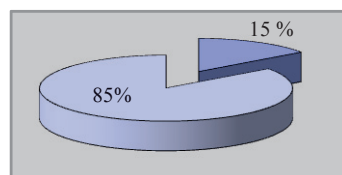


Figure 6

For Question no. 8, *Do you think that the specific psychological training is more important than the general psychological training?* the answer choices were: yes, no, and both; the answers presented in Figure 7 show that 6

subjects (30%) believe the specific psychological training to be more important than the general one, while 14 coaches (70%) think they are both important.

For Question no. 9, *To which athletic training factor the victory or defeat can be mainly attributed during competitions?* the answer choices were: a) physical training, b) tactical training, c) psychological training, d) technical training, e) theoretical training. In Figure 8 we can see that out of the 20 coaches, 80% think that the psychological training can influence the victory or defeat during a competition in its final stage, 10% believe the physical training to be the main factor, and 10% the tactical training.

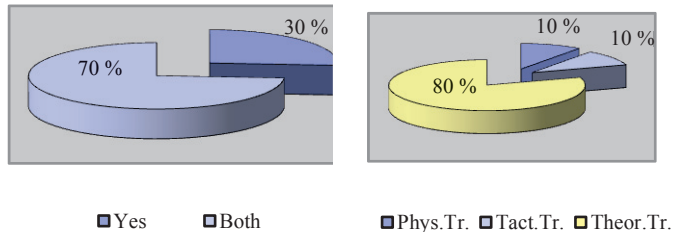


Figure 7

Figure 8

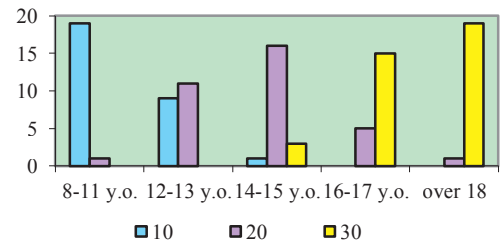


Figure 9

For Question no. 10, *How much is the psychological training used during athletic training for the following age categories?* the answer choices were: a) children (8 - 11 years old); b) mini-cadets (12 - 13 y. o.); c) cadets (14 - 15 y. o.); d) juniors (16 - 17 y. o.); e) seniors (over 18 y.o.), and a) 10%, b) 20%, c) 30%. The answers have shown differences according to age category. For the age category of 8-11, 19 coaches think a psychological training is necessary in percentage of 10%, and one coach - of 20%. For the age category of 12-13, 9 coaches think a psychological training is necessary in percentage of 10%, and 11 coaches - of 20%. For the age category of 14-15, 1 coach thinks a psychological training is necessary in percentage of 10%, 16 coaches - of 20%, and 3 coaches - of 30%. For the age category of 16-17, 5 coaches think a psychological training is necessary in percentage of 20%, and 15 coaches - of 30%, while for the age category of over 18, 1 coach thinks a psychological training is necessary in percentage of 20%, and 19 coaches - of 30%. Following the analysis of these results, it is obvious that the importance of psychological training increases with age and with athletic performances (Figure 9).

5. Discussions

The psychological aptitudes can be defining for an individual, participating heavily to structuring his/her personality; Rubinstein, S. L., (1962, quoted by Ifrim, 1986, page 186) describes them as being "qualities of man that make him apt to successfully solve certain activities", of different types and levels. Intelligence can be a measure of the degree of organization of the personality system, as an adaptive-instrumental aspect, and "it includes the control over the refined and brute action systems" (Atkinson & Hilgard, 2005, page 629). Binet, 1905 (quoted by Cosma, G-A, 2010), thinks that intelligence can be expressed "through a series of key words, such as: understanding, invention, direction, censorship. **Understanding**, as an ability to classify an idea through other idea, makes possible for an **invention** to appear, meaning a new solution for solving the problem, but for this, the individual must keep a certain **direction** regarding his/her ability to focus his/her attention, and also a certain **censorship** in selecting the ideas and actions," aspects that are essential for the athletic training and competition process. Intelligence "involves in its structure cognitive elements (sensory, logical)" (Colibaba, E and Bota, I, 1998), and "it mediates the effectiveness of the action" (Popescu Neveanu, 1991, page 167) in any activity.

6. Conclusions

The analysis of the results has lead us to the following conclusions:

- every karate coach is aware of the necessity of psychological training and convinced that the effects recorded by the athletes following the psychological training are positive;
- 60% of the coaches believes that the main psychological processes that can influence the results in karate are intelligence (15%), secondly attention and fast thinking (15%), and thirdly 5% memory and imagination, thus confirming the first hypothesis;
- 5% think it is necessary to introduce psychological training at the age of 8-11, 25% at the age of 12-13, and 10% at the age of 14-15;
- 90% of the coaches believe that when a psychologist is missing, it is up to the coach to conduct the psychological training;
- 85% of the coaches think that the psychological training influences all of the training factors;
- 75% of the coaches believe that tactical training has a tight connection with the psychological training;
- 85% of the coaches think that psychological training can be done both by general and specific means;
- 70% of the coaches believe that the general and specific training are equally important;
- 80% of the coaches think that psychological training can determine the win or loss of a competition, thus the second hypothesis was confirmed;
- the psychological training is increased with age, a fact shown in Table 10 and Figure 9.

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