

CHARACTERISTIC OF PEDAGOGIC TECHNIQUES OF PERSISTENCE NURTURE IN SPORTSMEN WITH DEFECTS OF MENTAL FUNCTIONING IN PROCESS OF EMOTIONAL-WILL TRAINING

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Abstract. *Purpose:* to characterize pedagogic techniques of persistence nurture of sportsmen with defects of mental functioning in process of emotional-will training and test their effectiveness. *Material:* 11 swimmers (functional class S–14) with defects of mental development (light form of mental deficiency) were involved in the research. Ability for persistence was diagnosed in test 4×50 meters by free style. *Results:* in sportsmen with defects of mental functioning persistence is restricted by degree of supreme psychic functions' affections and depend on combination of psychological-pedagogic factors of influence. We characterized specific features of adapted pedagogic techniques for persistence nurture in such sportsmen. It was found that one of conditions of high sport results' achievement was maximal manifestation of willpower by sportsman. *Conclusions:* persons with mental deficiency are characterized by inability for regulation of own behavior. It proves that it is necessary to apply correctly directed methods, means and pedagogic techniques in process of emotional-will training of the sportsmen. Effectiveness of the offered pedagogic techniques was proved by test 4×50 meters (free style) ($p < 0.05$).

Key words: willpower, persistence, swimmers, mental deficiency.

Introduction

Numerous researches in field of theory and methodic of physical education and sport training [11, 14–16, 19] point that necessary condition for high sport results' achievement is many years' continuous and persistent training. It requires sportsman's maximal manifestation of willpower. Scientists proved that willpower is closely connected with mental and emotional processes and is a single unit with them [1, 18, and 22]. Emotional-will training of sportsmen is one of components of general psychic training, which is realized in process of training and competition functioning [7, 20, 23].

However, planning of emotional-will training of swimmers with mental deficiency and persistence nurture shall be realized with consideration of peculiarities of their psychic development (low ability for will regulation of own behavior, dependence on situation and own affectivity, inability to overcome obstacles and to resist the least temptation, resulted from weakness of will, insufficient initiative, suggestiveness, social motives) [2, 4–5]. Training and competition functioning of sportsmen with defects of mental development is restricted by degree of supreme psychic functions' affections. It depends on combination of psychological-pedagogic and social factors of influence; on correcting training and education orientation [3, 6, 8, and 13]. Methods, means and techniques of emotional-will training of healthy sportsmen can not be applied in unchanged form for training of sportsmen with mental deficiency [2, 9, and 24]. That is why we think that it is necessary to determine peculiarities of application of persistence training pedagogic techniques for sportsmen with defects of mental development, considering level of their psycho-physical condition.

Purpose, tasks of the work, material and methods

The purpose of the research is to characterize pedagogic techniques of persistence nurture of sportsmen with defects of mental functioning in process of emotional-will training and test their effectiveness.

The methods of the research: theoretical analysis and generalization of literature data; pedagogic experiment; pedagogic observation and testing (test with repeated loads (test 4×50 m); methods of mathematical statistic (Student's t – criterion for small sample).

11 swimmers (functional class S–14) with defects of mental development (light form of mental deficiency) were involved in the research. Qualification level of participants: 1 candidate master of sports, 4 swimmers of 1st sport degree, 6 swimmers with 2nd sport degree. The research was conducted on bases of Poltava, Kirovograd, Mykolayiv rehabilitation-sports schools for disabled, during swimming trainings.

Results of the researches

Persistence is one of main willpower of a sportsman and is characterized by continuous and active strive for set target, by overcoming of difficulties and temporary failures [7, 14]. At competitions his quality results in high efficiency and workability in conditions of progressing fatigue and connected with it physiological changes in organism. Persistence nurture envisages regular training, patient and multiple repetitions of monotonous exercises [1, 22].

Considering deficiency of supreme psychic functions of swimmers with defects of mental development, social underdevelopment of their personalities, we think to be purposeful to offer a number of pedagogic techniques. They can be regarded as traditional for training of healthy sportsmen. They also can be regarded as special, correctly directed for persistence nurture of sportsmen with defects of mental functioning (see fig.1.).

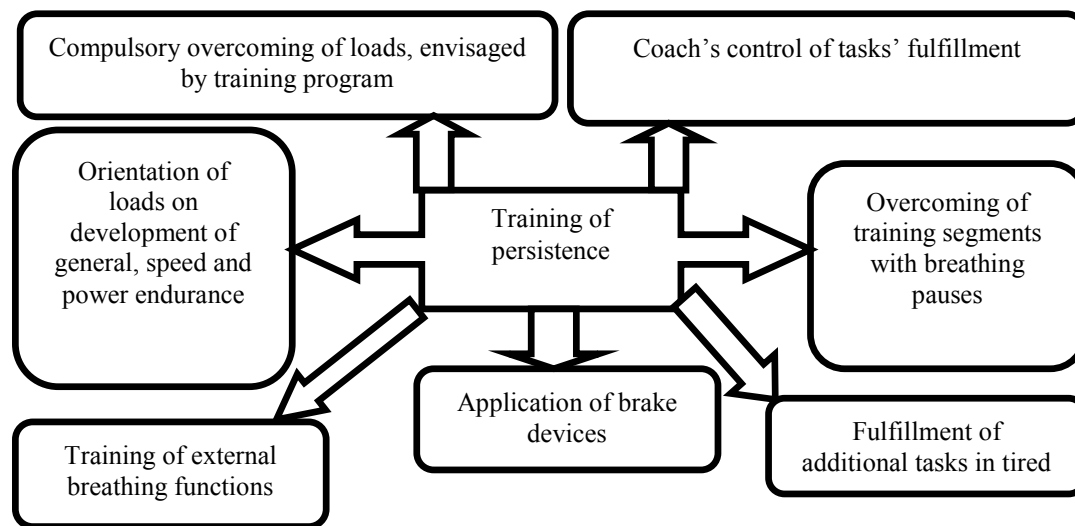


Fig.1. Pedagogic techniques of persistence training

Let us regard more specifically the presented pedagogic techniques for persistence nurture in sportsmen with defects of mental development.

In particular it is necessary to consider low ability of such sportsmen for willpower mobilization. It means difficulty of *compulsory overcoming of training loads*. Such requirements are rather difficult for these sportsmen. Sometimes, such requirements can become nearly unrealistic without special stimulation and motivation of sportsmen.

Compulsory condition of pedagogic control over training process is *coach's control of fulfillment of training tasks* [17]. It should be noted that in process of educational measures' realization coach always orient on formation of sportsmen's abilities for self-control. However, in our case we should considered sportsmen's low ability for concentration and distribution of attention as well as their insufficient understanding of tasks, In work with sportsmen of such nosology systemic control from the side of coach is especially important.

Considering proved effectiveness of application of reference signals we considered to be purposeful:

In work with swimmers, who have defects of mental functioning to use the offered by the author [3] methodic technique of control and operative correction of swimming process. This technique depends on intensity of work and requirements of definite training. This methodic technique ensures:

- 1) "attraction" of swimmers' attention to control over swimming technique or intensity of training segment's overcoming;
- 2) Current correction of technical mistakes in fulfillment of training task;
- 3) Positive stimulation of persistence. Its aim is support of its conscious manifestation, which can be transformed in strive for fulfillment of training task in compliance with received instruction;
- 4) In case if there is no signs of persistence reference sensor signals are usedy. They shall point at negative coach's assessment of training task' fulfillment by sportsman.

As per the data of O. V. Talitskaya [10] adolescents with mental defects have not rhythmic shallow breathing, inability to control breathing and coordinate it with movements. It forced us to include *special breathing exercises* in content of training. Fulfillment of breathing exercises on land and in water facilitates formation of swimmers' ability to arbitrarily stop breathing, control duration of inhale and exhale, to rationally combine phases of breathing cycle with movements.

For healthy swimmers application of great quantity of breathing exercises is not purposeful. However, for swimmers with mental defects we used breathing exercises, recommended by O. Ye. Talitskaya [10]. Such exercises are fulfilled in warming up on land: deep slow breathing through nostrils; deep inhale and long exhale; imitation of candle's extinguishing (exhale through rolled in pipe lips); blowing off of dandelion; sniffing of flower.

Breathing exercises included the following exercises: to get water in palms and make deep inhale; then blow off water from palms; make inhale, blow at water (like on hot tea); blowing on water and by it move ping pong ball; exhale in water, gradually putting lips and face in water, then dip head in water; make 5 exhales in water near board; gradually increase quantity of exhales in water up to 10 times; breathing exercises by pairs. Fulfillment of such exercises also requires persistence from sportsmen. It facilitates ability for control over vegetative functions in combination with rational motor functioning. Application of play method in process of fulfillment of such exercises facilitated emotional coloring, increase of interest. All these in general ensured creation of favorable conditions for persistence manifestation.

Execution of most of training tasks (except tasks for quickness and explosive power) was connected with demand *in overcoming of fatigue with the help of will power mobilization*. Modern system of swimmers' training envisages domination of tasks for training of special aerobic endurance –loads great by scope and moderate by intensity. We used the data of interviewing and questioning of coaches of swimmers with mental defects. Besides, we considered results of own psychological-pedagogic observations. It permitted to find ability of sportsmen with mental deficiency for effective fulfillment of training tasks for aerobic endurance against the background of progressing fatigue: distortion of rational structure of movements; reduction of tasks' intensity, including complete refusal of further work; substantial reduction or complete loss of ability for concentration of attention; domination of inhibition processes in central nervous system (CNS). In some cases we found absence of typical reactions to most of irritators (visual, sound and tactile). It proves that fulfillment of additional tasks against the background of fatigue is an important and necessary mean of formation of willpower mobilization ability as well as development of sportsmen's with mental deficiency persistence. However, they require clear definition of admissible fatigue border for such sportsmen. This border is always lower than for healthy peers. It can ensure prevention from possible CNS disorders, which can appear as a result of high bent to exhaustion of cortex processes.

Fulfillment of training tasks for retention of breathing conditions appearance of oxygen debt. It is accompanied by subjective negative feelings, connected with hypoxia. Fulfillment of work in hypoxia conditions requires sportsmen's manifestation of willpower. Application of such training tasks was in conditions of strict control over sportsmen's psychic and functional state. First attempts envisaged passing minimal segments with retention of breathing (3–4x12–15 meters). Increase of quantity of repetitions and length of segment (for hypoxia training) was realized only after sportsman organism's adaptation to earlier loads.

Application of brake devices envisaged fulfillment of tasks of different duration and intensity – from moderate to sub-maximal. Training tasks in conditions of increased resistance influence on development of power endurance and speed-power qualities. They pre-condition demand in manifestation of persistence for successful fulfillment of tasks in complicated conditions. Such tasks also stipulate increased control of movements' rational structure in compliance with technique of definite swimming style. Endurance is the back side of fatigue. Its development is ensured only in conditions of conscious overcoming of fatigue with mobilized willpower. Orientation of training tasks on training of general, speed and power endurance (if fulfilled properly) ensures gradual formation of sportsmen's ability for volitional regulation of functioning and manifestation of persistence. In trainings we paid attention to swimming technique: rational structure of movements; rhythm; correspondence of time for maximal muscular efforts in phase of push off; we assessed ability for concentration of attention and external signs of emotions.

Alongside with it, cultivation of swimmers' persistence was achieved by usage of the following sport training methods: visual (coach shows exercises), verbal (coach's orders and instructions) and practical (continuous method

in conditions of uniform, progressing, regressing and variable work, method of exercise with interval with application of rigid rest), methods of motivation and methods of assessment.

Effectiveness of the offered pedagogic techniques was proved by statistically confident ($p < 0.05$; $t_{temp} = 7.0$; $t_{cr} = 2.45$) changes of level of swimmers' ability for willpower manifestation. It was found by results of specific training exercises' execution with rather high intensity and efficiency in conditions of progressing fatigue (test 4×50 m, free style). (fig.2).

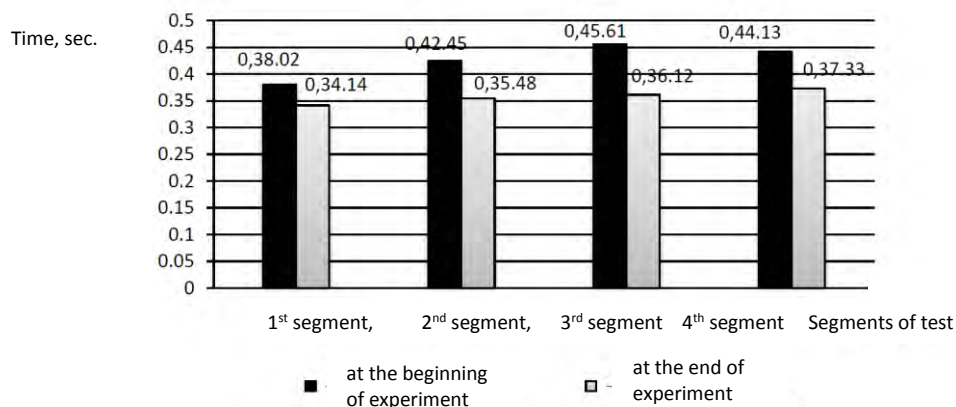


Fig.2. Dynamic of stabilization of results of segments' swimming in test 4×50 meters

The procedure of this test shall be worked out on the base of the following principles:

- Loads shall be specific not only for this kind of sports (but for definite kind of exercise – distance);
- Loads shall be fulfilled with maximal intensity;
- Loads shall be fulfilled repeatedly with optimal by duration rest intervals and quantity of repetitions.

So, relative stabilization of presented results points at increase of persistence level's manifestation in fulfillment of highly intensive exercises in conditions of progressing fatigue with the help of test 4×50 m, free style. It will influence on competition results. *ВІЛЬНИМ СТИЛЕМ.*

Discussion

The conducted researches confirm opinion of authors [7, 12, 14–16], that intensity of willpower is connected with degree of obstacles' complexity and with significance of actions as well as with attitude to actions and forcing strength of motives. V.A. Ivannikov [7], Frank Halisch, Julius Kuhl [14] point at direct interconnection between willpower manifestation and level of will power: the more stable willpower manifestation are, the higher is will power (in typical situations, requiring willpower: fatigue, overcoming physiologically conditioned difficulties, mental functioning if obstacles are present).

In process of pedagogic observation over trainings of sportsmen with mental defects we received data, which supplement scientific information [5, 13, 17, 24] about low sportsmen's understanding of motives and aims of sport activity. This fact undoubtedly influences on persistence in fulfillment of training tasks. Indicators of test segments' swimming 4×50 m at the beginning of experiment confirmed inability of swimmers with mental deficiency for mobilization of willpower for effective fulfillment of training task in conditions of progressing fatigue.

Unfortunately, in Ukraine in contrast to other countries the quantity of swimmers with defects of mental development constantly decreases. The offered pedagogic techniques of persistence nurture can be modified and used in process of this nosology sportsmen's emotional-will training in other kinds of sports (i.e. light athletic).

Conclusions

1. One of conditions of high sport results' achievement is maximal manifestation of will power. Volitional activity of sportsmen is conditioned by specificity of kind of sports and determined by peculiar symptoms' complex of multilevel individual features of personality. Persons with mental deficiency are characterized by inability for regulation of own behavior. This fact proves demand in application of correctly oriented methods, means and pedagogic techniques in emotional-will training of such sportsmen.

2. In training of persistence of swimmers with mental deficiency we offered to use the following adapted pedagogic techniques: compulsory overcoming of loads, envisaged by training program; coach's control over tasks' fulfillment; passing of training segments with retention of breathing; training of external breathing functions; application of braking devices; fulfillment of additional tasks in tired state. Effectiveness of the offered pedagogic techniques has been proved by test 4×50 m, free style ($p < 0.05$).

In the future we plan to continue studying of problem of psychological training of sportsmen with defects of psycho-physical development.

Conflict of interests

The author declares that there is no conflict of interests.

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