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## PSYCHOLOGY OF COMBAT SPORTS

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### The effectiveness of psychological training in the preparation system of young judoists

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**Key words:** psycho training, judo, psychomotor abilities, self-regulation

**Abstract:** The article deals with the substantial part of organizing and implementation of psychological judoist training during the one year cycle at a basic training stage. The experimentally used training methodology gives a unique possibility of sportsmen personal development modeling.

**The problem of research.** Psychological training as one of the most popular forms of group influence is going to be widespread among the personalities in the sphere of sport nowadays [Voronova 2007]. There is an essential lagging in theoretical understanding of piled empirical materials at the same time. Lots of problems appeared during the practice of psychological means based on their methodological culture.

Thus the scientists [Volkov 1994; Andreev 2006] study psychological training as a particular instrument that helps the participants to seize their behavior. T. Zajtseva [2002] underlines that psychological training as an object of researching includes general regularities of individual changes in appearance irrespective of conceptual procedural direction.

The analysis of investigations of prominent Ukrainian and foreign scientists [Volkov 1994; Matwiejew 1997; Jagiełło 2000; Vachkov 2001; Smolentseva 2005; Andreev, Klymchuk 2006] brought us to conclusion that the process of psychological training organized with judoists is not researched enough.

**The aim of research** is to ground theoretically and study empirically the effectiveness of psychological training usage among judoists at a basic training stage.

**Research methods and organization.** Psycho-diagnosing was performed on the base of sport establishments in Ivano-Frankivsk among the children who do judo. The research group counted 270 young sportsmen (10 to 12-year-old boys). We took into account the behavior peculiarities of children at this age [Voronova 2007], and specific conditions of work with selected human beings [Zajtseva 2002; Kurykjuk 2008]. The range of selection is caused by the psychological peculiarities of sportsmen at the basic training stage which are very important for us.

The research contains theoretical and practical methods: analysis of methodological literature, synthesis, comparison and generalizing of data, observation, discussion, ascertaining and formative experiments, questionnaire, testing (inventory of situational and personality anxiousness by Spilberg-Hunin [1976], achievement motivation and avoid failure questionnaire, methods of subjective control level display by G. Rotter [1966], questionnaire for identification of personality self-appraisal, methodology of V. Morosanova and Y. Konoz [2000] for self-appraisal indices diagnosing, Freiburg Personality Inventory (FPI) [Furenberg, Zelig, Gumpel 1978] for personality measure

diagnosing, methods of mathematical statistics, author's psychological training program which is directed to rise self-regulation of judoists at a basic training stage) [13].

Having developed the psychological training program for judoists at a basic training stage we took into account the scientific researches of I.A. Voronov [2005], who essentially influenced the development level of psychological readiness problem among single combat athletes.

The program will facilitate the formation of young judoist internal self-regulation for achieving success at training and competitive conditions (Table 1).

**Table 1. Psychological training program for judoists at a basic training stage**

No.	Period of psychological preparation	Training direction	Quantity of classes	Duration (hours)
1.	Initial stage	The forming of motivation to psycho training classes. Stress relief of the subjects at the training course. The searching of understanding ways between the training organizer and the experimental group participants. The development of cognitive processes (especially attention).	8	12
2.	Basic stage	Aim formulation studying of training and competitive activities. Mastering the right breathing technique and congenerous muscles relaxation. Emotional stability and confidence of own possibilities formation. The transformation of personality qualities (anxiety, aggressiveness, competence). The skill development of how to act in complex stressful situations.	15	22,5
3.	Pre-emulative stage	Achievement motivation forming and responsibility for a professional growth. The improvement of breathing technique and congenerous muscles relaxation. The studying of warmth sense modality in meromes. The development of self-appraisal, reflection, attention turning skill, generating of plot presentations from emulative combat, making decisions on correction of technical and tactical activities.	12	18
4.	Emulative stage	The studying of governing freely emotion, movements, volitional processes.	10	15
5.	Rehabilitation stage	Formation of positive judgments about activities results. Setting new goals. Adjusting for further sport activities.	3	4,5
Sum total			48	72

The training conception provides the formation of idea that it has to be motivated. The formation of achievement motivation means the environment organizing where the most important motivation for studying and work can be activated for a person. Our task is to make it possible for our participants to feel the motivation strength on them and control it.

Each of the developed training periods included definite stages of its realization. They are the following: introductory, main tasks realization, analysis, control and evaluation. It is necessary to underline that during the introductory stage all the peculiarities and code of behavior should be explained to the participants. The second one provided the ensuring of adequate feedback between the sportsmen and the psychologist. It is necessary to accentuate the importance of judoists activity analysis from the aspect of psychological training viewing. It is directed to the mistakes exposure during the process of work and its correction. The means like observation and self-analysis are used during the procedure.

The stage of control and evaluation is very actual and scientifically substantiated nowadays. It ensures the adequate development of all other psycho training components.

The evaluation of own work was proposed to the participants for their activation. They had to point out their deficiencies critically but present and stress on their positive aspects.

During the experiment the following methods were used for organizing psycho-correctional influences:

1. studying the results of sportsmen training and emulative activities, fixing of intermediary indices which contribute to solving the tasks;
2. task structure verifying ( to study the same phenomenon many times by using different lasting conditions taking into account individual features of each sportsman and their preparation level);
3. forming new solving variants (the solved task is proposed again for finding new or original solutions).

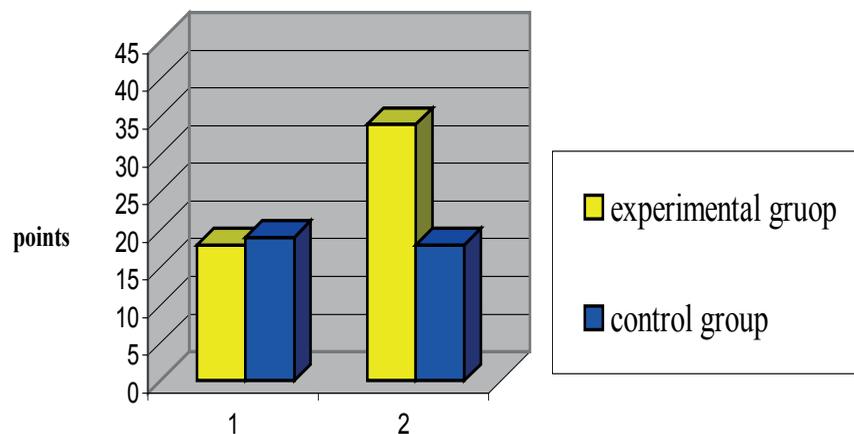
#### **The research results and their discussion.**

During the process of ascertaining experiment we established the fact that most of the questioned judoists (71,1%) are characterized by a high level of reactive anxiety.

Another important fact is the diagnosing of respondents' anxiety as a personal feature (48, 1%) that can be the result of progressive psycho stress in the conditions of training and emulative periods. Moderate and low level of developed anxiety as a personal feature are monitored correspondingly among 32,6 % and 19,2 % of judoists at a basic training stage.

An interesting fact is that 74,3 % of the questioned sportsmen with high level of anxiety as a personal feature express motive domination of avoid failure wish and 25,6 % - success desire. In turn the judoists who do not behave anxiously show that the level of success desire noticeably exceeds the indexes of avoid failure wish – 81,4 % against 18,5 %.

It is necessary to point out that the judoists with a high level of success desire rightly determine the



**Figure 1.** The characteristic of the individual style of judo sportsmen auto-regulation before (1) and after (2) the psychological training use.

emulative situations, analyze them, appraise and make right decisions directed to victory gaining. They are characterized by a sequence and action accuracy for aim gaining and performance of functional duty. Their movements are strict and well-timed. Volume control and voice timbre, speed and speech expressibility, its grammatical construction are studiously controlled.

The research identified a positive correlation between the high development level of reactive anxiety and latent period indexes of visual-motor reaction ( $r=0,70$  attached to  $p\leq 0,01$ ).

The method “Subjective control level” [12] clarified that nearly 15,9 % of questioned judoists are ready to take the responsibility for the surrounding situation and sportsmen depending on them.

Nearly 23,0 % of sportsmen with a high level of anxiety as a personal feature explain their condition in terms of current circumstances. They usually decline the responsibility and make other people answer for their activities. More than a half of highly anxious respondents (62,8 %) not so much take upon themselves the responsibility than explain their behavior because of tense situations during trainings and competitions.

As to the fact that cognitive self-control includes the opinion about a proper point of view creates the unique situation in relation to methodology. On the one hand, self-control has its internal direction on a reflective level but on the other hand just this aspect is opened for a subject which is a part of self-discovery.

Comparing the requirement level and subjective control index we discovered a high correlation index between the motivation to avoid failure and a low level of developed activity control ( $r=0,79$  at  $p\leq 0,01$ ).

Diagnosing the judoists by the questionnaire “Attention style and interpersonal communication” [adapted by Y.L. Haninym 1983] favoured the

establishment of direct correlation between the self-control level of single combat fighters and narrow type of attention ( $r=0,78$  at  $p\leq 0,01$ ). Most of the sportsmen with a developed high level of self-regulation are disposed to concentrate on solving difficult activity task.

It has been determined that at the initial stage of training process 69,6 % of single combat fighters have a low developed level of auto-regulating system. The tight correlation of reactive anxiety rate and the low level of proper activity anxiety control was observed among 57% of questioned respondents.

High level of conscious control and development harmony of separate regulation aspects indicate that young judoists can adequately appraise the training and emulative situations. As a result they can concretely plan their own activities. According to the test results we can consider that most of the respondents cannot organize the activities by themselves for goal achievement, only by the help of others. If there is no help from off-site persons the sportsmen regulation system becomes distressed.

The attention profile of respondents with a low level of auto regulation is outwardly overburdened. They are not able to solve the problem of technical and tactical means usage. They usually make mistakes because they think simultaneously of several tasks, do not concentrate their attention on appraisal of training and emulative situations.

At present stage of psychology development there is a row of conflicting views at identifying training as a particular branch of practical psychology. The term “training” is widely used in the context of group psychology work [Zajtseva 2002; Klymchuk 2006]. However, such conceptions as group psychotherapy, psycho-correctional group, active studying group, practical experimental laboratory simultaneously exist [Encyclopaedia of Psychology; Stepanov 2006]. In the context of our

research the training is characterized as a complex of group methods for self-regulation formation.

It is an important fact that the group leader passed on the functions of commentator and analyst for participants of training at each new stage. Such a methodological approach expresses general principles for a change of governing style – from directive-organizing to personality-centered.

At the second stage of research there were created experimental and control groups consisting of 22 judoists at each of them. The experiment lasted one year. Single combat fighters of experimental group were engaged in the program of conscious self-regulation. Psycho-correctional training consisted of forty eight trainings. Almost each training began and ended with autogenic warm-up the main plot of it provided relaxation exercises and the exercises for attention focusing.

The control stage of the experiment was organized in the context of studying the effectiveness of personality skills formation, that is a precondition of self-regulation optimizing process that takes place at training and emulative activities of judo sportsmen under the influence of psychological training program.

Intercorrelation matrix became a necessary quantity and quality index of correlations (trustworthy on significance level  $p \leq 0,05$  and  $p \leq 0,01$ ) among psychology variables of research.

After carrying out psychological training it was established that the participants of experimental and control groups have a great difference in the style of self-regulation (Figure 1).

It is clarified in particular that the sportsmen from the experimental group have a high level need of consciousness activity planning and the activity program is characterized by realism and detail, hierarchy and persistence.

Forming a proper physical ego as the statement of own corporal image, self-comparison and self esteem in terms of courage model is of great significance in the judoists auto-regulation development. This is the basic image of different ardor among children in judo.

The extra attention to the image of physical ego in sportsman consciousness is temporary. However it is a natural, normal, subjectively significant phenomenon. Therefore, we gave the recommendation to trainers to avoid tactless, ironical judgement of pupil appearance since any negative public reference causes serious psychic traumas.

Trying to help the members of the experimental group to overcome the complicated period, we established frank and trusting relations, shared anxiety concerning competitions of different

complexity levels, appreciated and respected sportsmen as they were.

It was established that the adults' positive attitude relieves tension in interpersonal relations, helps children to overcome unsociability, supports positive ego attitude, often reveals hidden but welcomed by others qualities of character.

Feasible results were received about the transformation of attention types in the single combat fighters groups after psychological trainings ( $p \leq 0,01$ ). Thus the majority of experiments mastered the ability to turn the attention from one irritant to another extremely quickly and concentrate on factors of inner and outer environment rapidly.

After the appliance of psychological training, single combat fighters of extreme group highly leveled up the rate of auto-regulation. They became more self-confident, determined, and persistent in directing physical and technically-tactical activities to win the competition. The rates of reactive anxiety were reduced; the development of personal anxiety rate was within the norm limits. It provided the progress of striving for orientation comprehension, self-affirmation during the training and competition process, recognition of young judo sportsmen in reference surrounding. Reconsidering different critical moments and inner conflicts reveals their new qualities. Such a level of behavioral self-regulation development balances emotionally exited need of self-assertion. Single combat fighters get the understanding how it is important to be assertive among others (competitors, peers, parents, and trainer) and to be self-assertive. Such self-assertion leads to self-confidence, complexes loss, and sportsmen self consciousness.

The forming of freedom psychical processes (memory, attention, and thinking) has become the center of judoists' psychical development at the primary activity stage. Their intellectualization and inner mediation are the result of basic mastering of notion system. The liberty appears in the ability to set conscious goals search and find means for their realization, overcome difficulties and barriers. During the training course children of the experimental group learned to control their behavior, since the demands towards them provided a high level of responsibility from the first days of stay in a sports school.

The psychological training has resulted into essential changes of psychomotor abilities among judoists at the primary training stage. In particular, the period of visual-motor response decreased to level of  $274 \pm 1,2$  milliseconds (fig. 2)

In comparison with the first stage of forming experiment, this rate for the control group representatives has grown up to  $305 \pm 1,4$  ms and the difference is feasible. We can see feasible changes

Time of response

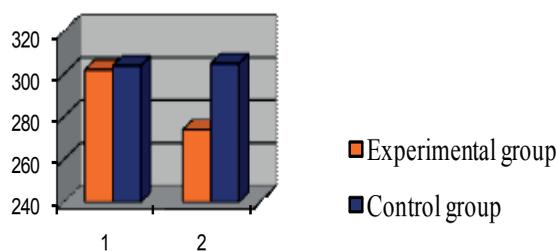


Figure 2. The time of latent period of the judoists' simple visual-motor response before (1) and after (2) psychological training.

among sportsmen of the experimental group (from  $348 \pm 1,6$  ms to  $324 \pm 1,6$  at  $p \leq 0,001$ ).

With the use of tapping test methodic «Diagnost-1» it was found out that the general number of judo sportsmen hits in the experimental group at a specialized highly sensitive equipment differs dramatically before and after the psychological training. Thus before psycho-corrective tasks this index was  $140 \pm 0,6$  hits per sec., after it was  $145 \pm 0,4$  hits per sec.

It was proved that in the period of 1-5 sec. Work with the specialized equipment sportsmen made 26 hits, in 5-10 sec. – 26 hits, in 10 - 15 sec. – 25 hits, in 15 – 20 sec. – 24 hits, in 20 - 25 sec. – 25 hits, in 25 – 30 sec. – 19 hits. As we can see the highest number of actions was made in the second time period. Then the index is held for a while, and dramatically decreases in three next periods.

The use of psychological training has a psycho-corrective influence for the psychomotor abilities and personal features development. Thus after its use we could observe the improvement of technical tricks and tactical means of single combat fight among the experimental group judoist sportsmen.

## Summary

1. It was experimentally established that the important optimization criteria for psychological, technical, tactical and physical preparation of judo sportsmen is the development of their psychomotor processes, that are functional mobility, nervous processes strength, latent period of simple and complicated visual-motor response.
2. It was proved that after the use of psychological training with the elements of psycho correction for the psychomotor abilities and personal features development, the improvement of

technical tricks and tactical means of single combat fight among the experimental group of judoist sportsmen can be observed. The perception of information as for the training and competition fight conduct strategy was improved for young sportsmen. Positive results of training influenced the constructive system of forming relations with friends, competitors and relatives.

3. The use of psycho correction program allowed to increase dramatically the level of single combat fighters auto-regulation in the conditions of training and competition activities. The experimental group sportsmen have developed the ability to realize and functionally combine acting regulatory links.
4. Received results provide strong evidence that sportsmen who participated in the training differ in the activities organizing autonomy, therefore they plan their activities and behavior self-reliantly. Furthermore, they have mastered the ability to separate out the primary conditions of goals achievement both in a current situation and in the future perspective, that is displayed in compliance with programs of own actions to plans of training and competition activity, and in the adequacy of the received results and set goals.
5. The held research does not settle all the possible aspects of the issue. The perspective of organizing further research is seen in the revealing forming opportunities of the training while preparing judo sportsmen at different training stages, and in defining the specific content of trainings.

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## Skuteczność zastosowania treningu psychologicznego w systemie przygotowania młodych dżudoków

**Słowa kluczowe:** trening psychologiczny, dżudo, zdolności psychomotoryczne, samoregulacja

### Streszczenie

Celem badania jest przedstawienie teoretycznych podstaw i przetestowania empirycznie skuteczności zastosowania psychologicznych treningów wśród młodych dżudoków w ciągu jednorocznego cyklu na fazie głównego przygotowania. W trakcie badania ustalono, że kryteria psychologiczne, techniczne oraz fizyczne przygotowania sportowców są ważne w czasie rozwoju ich procesów psychomotorycznych (funkcjonalna mobilność, siła procesów nerwowych, okres latencji prostych i skomplikowanych reakcji wizualno-motorycznych)

Eksperymentalnie uzyskana metodyka treningu daje unikalną możliwość modelowania indywidualnego rozwoju sportowców. Poprawie uległy strategię w czasie treningu i zachowanie podczas walki na zawodach. Owe pozytywne rezultaty miały wpływ na kształtowanie się związków między przyjaciółmi, rodzicami oraz rywalami. Zastosowanie programu psychologicznego pozwoliło znacznie udoskonalić procesy samoregulacji wśród zawodników. Młodzi dżudocy nabyli umiejętności planowania, niezależności oraz wyznaczania bieżących i przyszłych celów. Badania nie rozstrzygają wszystkich możliwych aspektów problemu. Autorzy przewidują możliwość przeprowadzenia dalszych badań wśród sportowców na różnych poziomach zaawansowania i podjęcie decyzji o szczegółowym zakresie treningów.