

Neuropsychological Factors and Practical Methods of Maintaining Mental Health in Special Conditions

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Abstract: *The article is devoted to the theoretical and empirical study of athletes' psychological health involved in extreme sports, the definition of psychological and social factors of its preservation problem. The essence and indicators of psychological health of a person have been clarified.*

The analysis of the study results made it possible to single out stable (the degree of awareness and positivity of the "I-concept", the ability and desire for self-development, satisfaction with life) and variable (reflexivity, level of self-regulation, communication, locus of control) indicators for psychological health of extreme athletes.

Based on the study in the content of the psychological health of athletes' characteristics, its social and psychological factors were determined. The main psychological factors of maintaining psychological health include satisfaction with activities, internality, positive "I-concept", the ability of self-government, self-regulation, subjective well-being. The main social factors include extreme conditions of activity, high professional and family status, availability of social support.

It has been proven that the presence of the maximum extreme experience leads to a significant decrease in all indicators of psychological health, causing severe maladjustment, emotional and personal problems. The main directions of improving the process of preserving psychological health of extreme sportsmen have been proposed. Allocation of the components of psychological health and determination of socio and psychological factors that determine its preservation, made it possible to form tasks for psychological prevention and correction: teaching positive self-attitude and acceptance of others; learning reflexive skills; the formation of the need for self-development.

Keywords: *Mental health, specialist, professional activity, psychological correction, socio-psychological factor, extreme conditions.*

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1. Introduction

The problem of psychological health has been attracting more and more attention lately. In modern science, a viewpoint about the capacity of mental and psychological health is being formed; approaches for protection psychological health are being developed and established as a new, independent brunch of scientific knowledge. Models of psychologically healthy specialties are being implicated that the self realization (Apostu, 2016) and integrity of a person are the most important conditions of maintaining the psychological health.

In addition, there are a number of methodological issues for the development of specific ways for the maintenance of psychological health of athletes for extreme sports in the process of their activity, especially when it is necessary to take place in unsafe conditions what are not solved. On the one hand, there is a necessity to keep up with social and psychological factors that rate available level of the athletes' psychological health in their category, and on the other hand, the need to create supplementary conditions of its support and preservation. As noted by Lankford (2015), "Deterioration of cognitive and other neurological function occurs at high altitude", what happens due to brain hypoxia. Among the general spectrum of medical problems associated with sport climbing, Peters (2001) highlightes nerve compression syndromes.

This study reviewed psychological health as a complex phenomenon that is based on different person's characteristics and support self developing resource, achievement of feeling life well-being, that is balanced between successful functioning of an individual and "price" of aims achievement of development and activity.

Tabatabaie, Litt, & Crane (2020) underline that the term "psychological health" is used for the process of interaction between the body and unpleasant factors of the environment, as well as for determining the result of the whole process.

Extreme sports according to Buckley (2018), defined as sporting or adventure activities involving a high degree of risk, have boomed since the 1990s. These types of sports attract men and women who can experience a life-affirming transcendence or "flow" as they participate in dangerous activities. Because flirting with death is critical to the extreme sports ethos, practitioners must gain further understanding of this field and its at-risk participants.

As indicated in the articles by Duits (2020), Savage et al. (2020), mountaineering is the sport of high psychological tension. As an activity that takes place under extreme environmental conditions, mountaineering is a

high-risk activity. The complex structure of mountaineering activity demands high level of mental health of the individual. Unlike other sports, where competition performance lasts relatively short period of time, in alpinism athletes have to climb for several days. So, the athlete's "optimal fighting conditions" model mainly considered to control the pre-start state is ineffective in mountaineering. In alpinism, state control models for a long period of activity are necessary. This requires a systematic approach to describe interaction between athletes and extreme environment during climbing, and it is a common feature and is a problem. During the process of crossing high barriers, a person is on the limit of his/her abilities; at this moment activity space is the physiology of man and his/her individuality, and he/she knows his/her personality as the subject of activity. The review by Wagstaff and Leach (2015) highlighted 6 strength-based concepts for elite sports conditions in sports and the military: "mental toughness, positive emotion, learned optimism, resilience, posttraumatic growth, and self-and emotion regulation".

As noted Monasterio and Cloninger (2019), the "extreme sports" of mountaineering and BASE Jumping are growing in popularity and are associated with significant risk of injury and death. In recent years there have also been increasing numbers of reports of reckless disregard and selfishness in the pursuit of mountaineering goals, including severe environmental degradation. Extant research has focused predominantly on personality variables that contribute to engagement, participation, and stress responsivity in these extreme sports.

Character traits of the specialists behavior Esfahani, Musa and Khoo (2017) are determined by: unpredictable, spontaneous actions, propensity to rebel against established norms and rules, the need for separateness and independence, notable privacy, isolation, self-isolation, excessive self-confidence, as well as they have a great desire to assert their "ego" while underestimated their level of self-esteem and high ambitions and wishes. The emotional state of these athletes is unstable, they are inflammatory, stubborn, sometimes aggressive, do not hide their desire to lead. At the same time, most of them are in great physical shape and quite easily endure all the hardships, difficulties and disadvantages of travelling, showing the desire to achieve the goal, extraordinary courage, the ability to overcome fear.

In the article by Orth et al. (2018) determine that there are two basic motivational criteria for specialists: emotional and sporting. The first steps in mountaineering are always based on emotional criteria: the unique beauty of mountain environments, the rigidity mountains, the strongest emotional experiences during the first climb, and the like. Family traditions, friendship,

literature, films contribute to the formation of climbing craving. Taken together, it feeds the desire to climb and enjoy mountaineering again and again. At the same time, men have an excellent opportunity to realize ambitious goals to raise their self-esteem. Of interest are the studies of stress factors on the manifestation of symptoms of athlete burnout, presented in the article (Granz et al., 2019).

Hetland et al. (2018) to prove courage, ability to respond adequately to all extreme mountain conditions, make decisions, assess the situation soberly, overcome things like weaknesses and fears are especially significant in mountaineering, as in no other sport. Of course, specialists are aware of possible tragic consequences and even death in the fight a man against the mountain. But still, they take a conscious risk in order to make sure in their vitality again and again. The climbing fraternity differs from all other sports communities by its individuality, intelligence: mainly, specialists, creative and ambitious. The article by MacIntyre et al. (2019) presents the result of a study of the life experience of 8 extreme sportsmen. An important conclusion of the authors is that participation in extreme sports has psychological advantages, such as positive emotions, resilience, and connection with the natural environment.

The article by Araújo et al. (2019) defines theoretical approaches and practical recommendations for identifying the impact of physical activity in the environment on the somatic and psychological health of athletes. The study by Reid and Kampman (2019) revealed the positive impact of enduring expeditionary adventures on the psychological well-being and individuals' growth.

2. Purpose of the article.

The aim of the work is to consider the essence and the structure of psychological health maintenance of the specialists.

3. Methods of the study

3.1. Research participants

The study included the specialists, a group of 131 men aged 18–45 years old. All participants agreed to participate in the study. Based on our tasks of empirical research, we divided the subjects into the following groups: the first group included 38 specialists with the most extreme experience (extreme index, that is, the average rate of complexity of mountaineering that is they have taken part in mountaineering expeditions to an altitude of over 7000 meters above sea level, per year is 19.8 points); the 2nd group included

specialists with average rates of extreme experience (extreme index is 11.5 points, they have taken part in mountaineering expeditions to an altitude of less than 4000 meters above sea level) a group of 42 persons; the 3rd group included the people that were being researched with the minimum extreme experience (participation in mountaineering expeditions to an altitude of less than 1500 meters above sea level, extreme index is 3.6 points) 51 persons. The Extreme Index was calculated according to the method proposed in the article by Litvinenko and Baikovsky (2019), for each specialist separately depending on the experience of climbing, then calculated the average score for groups.

3.2. Theoretical foundations of mental health research

Recently, mental health has become the subject of research of many human sciences. Traditionally, mental health problems is a scientific and practical study either in medicine and in psychology. Today, these issues are considered and implemented in economics, ecology, science of law, in particular, in lawmaking and law enforcement branches, in social protection sphere. Political rhetoric pays attention to this issue. Now political rhetoric is becoming popular and is an inalienable social, cultural, information component of our time. This cross-sectoral attention to mental health is well-grounded and timely, as problem solving at the national level can only be achieved through an integrated approach, the design and implementation of an effective cross-sectoral system of approaches. One of the most important places in this system belongs to psychological practice, as the field of providing qualified mental health counseling services.

Dubrovina (2009) define psychological health as the optimal functioning of all mental, emotional, behavioral structures of a person necessary for a harmonious life. Thus, psychological health is an integral characteristic of a full-fledged psychological functioning of the individual, which ensures emotional comfort in a social environment. Anthropological theory considers psychological health as a condition characterizing the process and the result of the normal development of subjective reality within the limits of individual's life.

Criteria of specialists psychological health, at the thought Roberts, Jones, and Brooks (2018) are: positive "I-concept", possession of reflection, the ability to self-regulation, lack of propensity to addictive and deviant behavior, the ability to communicate constructively with other people, taking responsibility for their lives, the need for self-development, satisfaction with their own lives, self-awareness as a psychologically healthy person.

3.3. Methodology for determining the level of mental health

Psychological health study of the specialists who go in for extreme sports had the following structure:

- at the first stage a meaningful analysis of the phenomenon of psychological health was conducted, its structural components and socio and psychological factors influencing psychological health of specialists were determined;

- at the second stage, a qualitative and quantitative analysis of the main components of specialists psychological health in a dynamic aspect, that allowed to distinguish stable and variable indicators of mental health;

- on the basis of assessment specialists psychological health level at the third stage of the research, the study of the main socio and psychological factors that determine it was performed;

- at the fourth stage, taking into account both theoretical and empirical data, the main recommendations for maintaining psychological health of specialists engaged in extreme sports were proposed. During the research we used both general scientific and special methods of research:

- 1) *theoretical methods*: analysis of the scientific literature, compilation of information, system analysis and data interpretation;

- 2) *empirical methods*:

A). Method by Campbell et al. (1996) (SCC) is used to study the degree of consciousness of self-awareness. It contains 12 statements that should be evaluated on a 5-point scale. At processing the quantity of points is summed up and the degree of awareness of own "I-concept" by examinee is defined.

B). Methods of polymotivational tendencies diagnosis of personality in the "I-concept" according to (Petrova, 1995). The use of stimulus material in the form of proverbs for the study of the motivational sphere of personality is due to their proximity to the archetypal formations of the psyche and mental forms of consciousness, as well as their imagery, intelligibility, proper emotional potential. All this adequately reflects the motivational conditionality of the "I-concept" of the individual. Scales: acquisition (material) motivation, hedonistic motivation, optimistic motivation, communicative motivation, cognitive motivation, work motivation, normative motivation, moral motivation, striving for perfection, pugnacious motivation, striving for perfection, pugnacious motivation, striving for superiority, motivation of positive attitude to people, motivation to avoid troubles, motivation of individualization, egocentric motivation, altruistic motivation.

C) Method by Karpov (2003) for diagnosing the level of development of personality reflexivity. It consists of 27 statements that should be evaluated on a 7-point scale. The obtained points are transformed into the stans according to the presented criteria. The number of stans obtained by the subject indicates the level of development of reflexivity.

D) Questionnaire "Self-regulation style of behavior-98" (SSP-98) (Morosanova, (2004). The questionnaire consists of 46 statements that are part of six scales, which are allocated according to the main regulatory processes (planning, modeling, programming, evaluation of results) and regulatory-personal properties (flexibility and independence). Each scale consists of nine statements. The structure of the questionnaire is that a number of statements are part of two scales, due to the fact that they can be attributed to the characteristics of both the regulatory process and the properties of regulation. The questionnaire is calculated according to the "key".

F) Communicative social competence (CSC) methods of diagnosis (Fetiskin, Kozlov, & Manujlov, 2005). The questionnaire includes 100 statements arranged in a cyclical order. There are three alternative answers for each question.

G) Scale of subjective well-being (Fetiskin, Kozlov, & Manujlov, 2005). It is a screening psychodiagnostic tool for measuring emotional component of subjective well-being (SB) or emotional comfort (EC). It contains 17 statements, each of which must be evaluated on a 7-point scale. It includes such scales: tension and sensitivity, psycho-emotional symptoms, mood swings, the importance of the social environment, self-esteem, satisfaction with daily activities. Processing of results is carried out by the help of the "key". The obtained points are transformed into stans according to the presented criteria.

H) Mental health test. It is designed by Nikiforov (2007) to determine mental health / illness. It consists of 46 pairs of judgments. In each case, the examinee must choose one option. The "key" is used to process the test results.

Statistical processing of the obtained data was carried out using the computer program SPSS 12.0, for which Student's t-test, Fisher's φ -test (Fisher's angular transformation) - to identify significant differences in the compared indicators; correlation analysis by Pearson's r-test - to establish the density of relationships between the studied indicators; cluster analysis were used.

Correlation and cluster analysis were used to determine the main subjective and objective factors of specialists' psychological health. Correlation analysis allowed us to identify the main subjective (psychological) factors of

maintaining psychological health. The purpose of cluster analysis was to identify groups of subjects with optimal and suboptimal levels of mental health. To achieve this goal, we used the method of k-means, which allows you to divide the entire sample by the specified characteristics into a specified number of clusters. So, we set the number of clusters 2 and first see if all the variables (indicators selected by correlation analysis) differ in all two clusters. This test is performed by analysis of variance (F-test).

4. Results of the study

In order to determine the subjective factors of the psychological health of specialists, the psychodiagnostic research of psychological health components of specialists with different extreme experience was conducted. The results of the psychodiagnostic research show that extreme or military experience affects the psychological health of specialists negatively (Table 1).

Table 1. Indicators of psychological health of specialists with different extreme experience(points)

The name of the Scale	Group 1 $m \pm y$	Group 2 $m \pm y$	Group 3 $m \pm y$	t	p-value
Reflexivity	7.7 $\pm$ 2.7	4.1 $\pm$ 1.5	5.4 $\pm$ 1.9	t (1,2) = 3.7 t (1,3) = 2.4 t (2,3) = 1.4	p (1,2) $\leq$ 0.01 p (1,3) $\leq$ 0.05 p (2,3) > 0.05
Level of self-regulation	3.4 $\pm$ 1.2	4.2 $\pm$ 1.5	6.0 $\pm$ 2.31	t (1,2) = 0.8 t (1,3) = 2.7 t (2,3) = 1.9	p (1,2) > 0.05 p (1,3) $\leq$ 0.01 p (2,3) > 0.05
Predisposition towards dependencies	16.5 $\pm$ 5.6	14.7 $\pm$ 5.0	10.5 $\pm$ 3.6	t (1,2) = 0.9 t (1,3) = 3.2 t (2,3) = 2.2	p (1,2) > 0.05 p (1,3) $\leq$ 0.01 p (2,3) $\leq$ 0.05
Predisposition to addictive behavior	15.4 $\pm$ 5.3	13.5 $\pm$ 5.6	8.5 $\pm$ 3.0	t (1,2) = 0.8 t (1,3) = 2.9 t (2,3) = 2.1	p (1,2) > 0.05 p (1,3) $\leq$ 0.01 p (2,3) $\leq$ 0.05
Self-government	3.5 $\pm$ 1.3	5.7 $\pm$ 2.0	6.2 $\pm$ 2.2	t (1,2) = 2.3 t (1,3) = 2.8 t (2,3) = 0.5	p (1,2) $\leq$ 0.05 p (1,3) $\leq$ 0.01 p (2,3) > 0.05
Subjective well-being	4.1 $\pm$ 1.5	5.5 $\pm$ 2.0	6.9 $\pm$ 2.4	t (1,2) = 1.5 t (1,3) = 2.9 t (2,3) = 1.5	p (1,2) > 0.05 p (1,3) $\leq$ 0.01 p (2,3) > 0.05
Psychological health	22.5 $\pm$ 7.7	8.8 $\pm$ 3.1	17.4 $\pm$ 5.9	t (1,2) = 1.9 t (1,3) = 2.1 t (2,3) = 1.2	p (1,2) > 0.05 p (1,3) $\leq$ 0.05 p (2,3) > 0.05

Therefore, extreme experience of specialists leads to significant reduction of all indicators of psychological health, causing severe maladaptation, emotional and personality disorders. These individuals are characterized by a low level of self-awareness, dissatisfaction with their marriage, professional activity and social functioning. Capacity to self-development is significantly blocked by internal conflicts and contradictions. Accordingly, the indicator of subjective well-being and the overall indicator of psychological health are at a low level among these individuals. Such specialists need depth psychotherapy.

Extreme experience of the average rate also affects the components of the psychological health of the specialists negatively, to be specific: they experience reduction of the self-awareness, material, employee, normative, moral and ezopov motivations are dominant among motivational tendencies. Substantially reduced level of reflexivity, self-regulation skills are not developed enough. Despite the fact that these respondents are characterized by an average level of sociability and casual behavior, emotional stability, realism, practicality and reasonability, they have lower life satisfaction, especially lower job satisfaction and lower satisfaction with relationships with relatives and loved ones. The general indicator of psychological health indicates the maladaptation and the need for consistent solutions of internal problems and conflicts with the help of specialists.

Specialists with minimal extreme experience are characterized by a quite high level of self-awareness, unique self-improvement skills. The material, hedonic, communicative, cognitive, employee, moral, strifal motivations are dominant among motivational tendencies, as well as the desire for perfection and a positive attitude towards people, which characterizes a positive self-concept. Planning, autonomy, ability to evaluate the results are the most developed among the stylistic features of self-regulation. In general, they are happy with their lives. However, their predispositions towards alcohol, tobacco and job dependencies indicate that there are a number of problems that need solving.

The next stage of the research was to use correlation and cluster analysis to determine the main subjective and objective factors of the psychological health of the specialists. Correlation analysis allowed to distinguish the main subjective (psychological) factors of psychological health maintaining. These include: job satisfaction, internality, positive self-concept, self-management skills, self-regulation, subjective well-being. Further, a cluster analysis was conducted, its aim was to identify the groups of subjects with optimal and suboptimal levels of psychological health. To achieve the goal, the

k-means method was used, which allowed the whole sample to be broken down into a certain number of clusters by certain features.

The indicator "satisfaction with professional activity" has a direct correlation with indicators (Table 2): positive "self-concept", self-regulation, sociability, high intelligence, independence, self-control, general internality, self-development (motivational, cognitive, volitional, gnostic, organizational, communicative components), propensity for self-management, subjective well-being and psychological health; inverse correlation - with reflexivity and a tendency to addictive behavior.

We should note that the role of satisfaction with professional activities is growing in modern society, as satisfaction is one of the driving forces of increasing personal activity.

Table 2. The significant correlations of the correlation cores with indicators of psychological health criteria

Indicator of psychologi- cal health	Correlation coefficient r with center					
	Satisfac- tion with profes- sional activity	General internali- ty	Positive "I- con- cept"	Propensity to self- govern- ment	Self- regula- tion	Subjec- tive well- being
Positive "I- concept"	0.4	0.5	-	0.6	0.4	0.7
Reflectivity	-0.3	-0.5	-0.3		-0.4	-0.3
Self-regulation	0.3	0.3	0.4	0.4	-	
Propensity to addictive be- havior	-0.4	-0.4	-0.4	-0.3	-0.5	-0.7
Predisposition to delinquent behavior		0.3				-0.4
General inter- nality	0.5	-	0.5	0.5	0.3	0.6
Motivational component of self- development	0.4					
Cognitive component of self- development	0.3					
Volitional component of self- development	0.4	0.7	0.3	0.6	0.4	

Gnostic component of self-development	0.4			0.3		0.4
Organizational component of self-development	0.6	0.3	0.4	0.5	0.5	
Propensity to self-government	0.5	0.5	0.6	-	0.4	0.4
Communicative component of self-development	0.3		0.4		0.5	0.3
Satisfaction with marital life		0.3	0.3	0.3	0.4	0.5
Satisfaction with professional activity		0.5	0.4	0.5	0.3	0.4
Satisfaction in the social sphere			0.5		0.4	0.5
Subjective well-being	0.3	0.6	0.7	0.4		-
Psychological health	0.3	0.3	0.4	0.3	0.3	0.8

Satisfaction with professional activity is an integrative indicator that reflects the attitude of the subject to the chosen profession, to the conditions and results of professional activity. The mental and psychological health of a person depends on the degree of satisfaction with professional activity. Satisfaction indicators can demonstrate the degree of effectiveness of management of the organization. In a broader, social sense, the level of satisfaction with professional activities may to some extent indicate the social well-being of society as a whole.

The indicator "General internality" has a direct correlation with: positive "I-concept", self-regulation, sociability, high intelligence, independence, volitional and organizational components of self-development, tendency to self-management, satisfaction with marital life and professional activity, subjective well-being and mental health. The opposite one has a direct correlation with reflexivity and a tendency to addictive behavior. Internality is an integral quality of personality to take responsibility for events, to implement an active life position and to succeed in various life situations. Internality is

based on a complex control structure and provides flexible use of optimal attributive strategies in the decision-making process.

The relationship between the type of locus of control and psychological health of the individual is also recorded. In particular, studies show that people with an external locus of control are more likely to have psychological problems than people with an internal locus of control. Internality is seen as an indicator of personality maturity, ie the willingness to make decisions in various spheres of life and be responsible for them, to control their behavior and feelings. Specialists with an internal locus of control are less prone to the phenomenon of "burnout" than external ones.

The indicator "Positive" I-concept "" has a direct correlation with self-regulation, friendliness, emotional stability, cheerfulness, general internality, volitional, gnostic, communicative and organizational components of self-development, propensity to self-management, marital satisfaction, professional life and professions, satisfaction in social sphere, subjective well-being and psychological health; the reverse one has a direct correlation with reflectivity and a tendency to addictive behavior.

The indicator "Tendency to self-management" has a direct correlation with the positive "I-concept", self-regulation, sociability, high intelligence, emotional stability, cheerfulness, independence, general internality, volitional, gnostic and organizational components of self-development, marital satisfaction and professional activities, subjective well-being and psychological health; reverse one has a direct correlation with a tendency to addictive behavior. The ability of the individual to self-management is a synthesis of qualities, which includes the ability to self-knowledge, self-determination, self-organization, self-realization, self-activity, self-control, self-esteem, self-development, which allow individuals to qualitatively and effectively manage themselves in various activities and communication. Self-management is the most important characteristic of the individual and is realized in all forms of personal activity as a deliberate, conscious, planned, self-directed change of human behavior, activities, communication, relationships. Self-government is a determinant of human development.

The indicator "Self-regulation" has a direct correlation with the positive "I-concept", sociability, emotional stability, general internality, volitional, organizational and communicative components of self-development, propensity to self-government, satisfaction with marital life and professional activity, satisfaction in the social sphere, psychological health; reverse one has a direct correlation with reflexivity and a tendency to addictive behavior.

The indicator "Subjective well-being" has a direct correlation with the positive "I-concept", general internality, gnostic and communicative compo-

nents of self-development, propensity to self-management, satisfaction with marital life and professional activity, satisfaction in the social sphere and mental health; reverse one - with reflexivity, propensity to addictive and delinquent behavior. Well-being and a sense of well-being are significant enough for the inner world of the individual. It is associated with the realization of physical, spiritual and social potential of a person. The idea of one's own well-being or the well-being of others, the assessment of well-being is based on objective criteria of well-being, success, health indicators, material prosperity, etc. The latter have one or another influence on the experience of well-being. But this experience is largely due to the peculiarities of the individual's attitude to himself, the world around him as a whole and its individual aspects. All external factors of well-being with any objective characteristics of the most natural psyche can not act on the experience of well-being directly, but only through subjective perception and subjective assessment, which are due to the characteristics of all spheres of personality.

The next stage of the research was to use and cluster analysis, its aim was to identify the groups of subjects with optimal and suboptimal levels of psychological health (Table 3).

Table 3. Indicators of Dispersion Analysis

Indicator	f	p-value
Job satisfaction	17.29	0.000015
General internality	7.22	0.000006
Positive self-concept	10.15	0.000040
Self-management skills	12.44	0.00053
Self-regulation	11.32	0.000005
Subjective well-being	16.97	0.000116

The significance level for all indicators is very high, all points of the F-criterion are significant. Therefore, all selected indicators are **classification criteria**.

Then the average (arithmetic mean) of the data for each cluster was measured (Table 4).

Table 4. The average (arithmetic mean) for each cluster

Indicator	Cluster 1	Cluster 2
Job satisfaction	9.1	5.5
General internality	6.4	3.2
Positive self-concept	6.0	3.1
Self-management skills	6.2	3.7
Self-regulation	6.8	3.5

Subjective well-being 6.7 3.9

Note: Cluster 1 is a group with optimal level of psychological health; Cluster 2 is a group with suboptimal level of psychological health.

We conducted a questionnaire to the representatives of the selected groups, on the basis of which the main objective (social) factors of the psychological health of the specialists were determined (Table 5).

Table 5. Results of the questionnaire of specialists with different levels of psychological health

Indicator		Group 1		Group 2		φ	p-value
		people	%	people	%		
Marital status	Married	18	48.2	10	25.4	1.87	≤ 0.05
	Single	9	23.5	12	29.8	0.52	>0.05
	Divorced	8	22.8	18	42.3	1.64	≤ 0.05
	Widower	2	5.5	1	2.5	0.25	>0.05
Professional status	High	28	77.3	17	41.8	2.91	≤ 0.01
	Low	8	22.7	23	58.2	2.91	≤ 0.01
Education	Higher	27	75.4	19	47.9	2.26	≤ 0.01
	Secondary	9	24.6	21	52.1	2.26	≤ 0.01
Income	High	12	33.5	9	21.4	0.99	>0.05
	Average	14	39.8	21	52.5	1.04	>0.05
	Low	10	26.7	10	26.1	0.05	>0.05
Traumatic events	Primary injury	7	18.2	12	29.4	0.92	>0.05
	Secondary injury	10	27.3	13	31.6	0.35	>0.05
	No injuries	20	54.5	16	39.0	1.27	>0.05
Social support	High level	23	63.8	13	32.5	2.57	≤ 0.01
	Average	10	27.3	12	30.5	0.26	>0.05
	Low level	3	8.9	15	37.0	2.30	≤ 0.01
Organizational identification	High level	20	55.2	9	21.8	2.74	≤ 0.01
	Average level	11	30.4	13	33.5	0.25	>0.05
	Low level	5	14.4	18	44.7	2.48	≤ 0.01
Information overload	High level	20	55.1	27	66.3	0.92	>0.05
	Average level	14	38.2	12	31.5	0.55	>0.05
	Low level	3	6.7	1	2.2	0.37	>0.05

The investigated people with the optimal level of psychological health (group 1) frequently have the marital status: married (48.2%), in comparison with those who have a suboptimal level of psychological health (group 2) –

there are significant discrepancies $p \leq 0.05$ according to Fisher criterion. Most of the subjects from group 2 have the marital status: divorced (42.3%).

The investigated persons from group 1 more often identify their professional status as high (77.3%) in comparison with the investigated from group 2, which have a low professional status (58.2%). The differences are significant: $p \leq 0.01$.

There are 75.4% of people with higher education among the investigated persons from group 1, there are 47.9% with higher education among the people from group 2 (the differences are significant: $p \leq 0.01$). The first group has, high social support - 63.8%, the second group has 32.5% of social support (the differences are significant: $p \leq 0.01$). People from the first group have high organizational identification: 55.2%, the second group has 21.8% of organizational identification (the differences are significant: $p \leq 0.01$).

Therefore, the questionnaire results of specialists with different levels of psychological health have allowed identifying the main objective (social) factors reflecting the impact of the social environment on the psychological health of the specialists. These factors include: high professional and family status, social support and organizational identification.

Emphasizing the components of psychological health and socio-psychological factors that maintain it, allowed to solve the following tasks of psychological prevention and psychological correction: teaching positive self-determination and accepting others; teaching reflexive skills; forming the need of self-development.

Purposeful influence on specialists is carried out through psycho-correction consisting of several interdependent parts. Each part is aimed to solve various problems and consists of special methods and psychotechnologies.

The psycho-correction includes four main parts:

Part 1. Diagnosis. Aim is: to distinguish diagnostic features of personality development, to identify risk factors, to form a program of psychological correction.

Part 2. Setup. Aim is: to initiate interaction, to reduce anxiety, to improve his/her self-confidence, to initiate cooperation with a psychologist and to make changes in his/her life.

Part 3. Correction. Aim is: to harmonize and optimize personality development, to show a transition from positive to negative phases of development, learning the ways to interact with the world and himself/herself, certain ways of activity.

Part 4. Evaluation of correction efficiency. Aim is: to measure the psychological content and reaction dynamics, to encourage positive behavioral support and experiences, to stabilize positive self-esteem.

The program we have developed consists of three interdependent and complementary semantic parts:

1. Development of positive thinking among specialists.
2. Ideomotor training for the formation of activity readiness in extreme conditions.
3. Therapeutic crisis intervention with elements of art therapy.

The prophylactic correction was used to optimize specialists psychological health. Psychocorrection was conducted in mixed groups, that is, they included people both with optimal and suboptimal levels of development of psychological health; the number of people in groups did not exceed 15 people. According to the requirements of a semantic part of the program, the duration of the classes varied from 2 to 4 hours.

The psychodiagnostic research of the components of psychological health after psycho-correction allows us to confirm that there are positive changes in all investigated components among investigated persons. Formed complex of the semantic parts of the Program provides intra mental therapy: impact on cognitive strategies, emotional state and constituent component of an individual. I. e.:

- the degree of self-awareness and its concept has increased significantly among the subjects with suboptimal level of psychological health also, the motivational tendencies of self-concept have changed: communicative, employee motivations, desire for perfection, positive attitude towards people have increased; desire to avoid troubles has decreased;

- the reflexivity of the subjects with suboptimal and optimal levels of psychological health reached the optimal level: the initial level of the subjects with suboptimal level of psychological health has slightly decreased, and it has increased among subjects with the optimal level of psychological health;

- some components of self-regulation have significantly changed among the subjects of the research with a suboptimal level of psychological health: these components are modeling, evaluation results, independence, also, the level of self-regulation has increased. The indicators of the scales: planning and independence have increased among the subjects with an optimal level of psychological health;

- there have been positive changes in communication among the investigated people, both with the suboptimal and the optimal level of

psychological health: desire to communicate and interact with others has grown, the emotional background has improved, independence and self-sufficiency, self-control have increased;

- the level of general internality and internality of interpersonal relations has considerably increased among the subjects with a suboptimal level of psychological health; the internality in the field of achievements has increased among the subjects with an optimal level of psychological health;

- the indicators of such components of self-development as: organization, self-management skills and communication have increased among the subjects with a suboptimal level of psychological health;

- the indicators of job satisfaction and social satisfaction have grown among the subjects with a suboptimal level of psychological health.

The obtained results prove the effectiveness of the developed prophylactic correction and allow to recommend it both for maintaining psychological health and for psycho-correction of the existing violations of the specialists with the psychological support.

5. Discussion

The development of psychological approaches to the individual functioning with the necessity to appeal to distinguish concepts of mental and psychological health. To have psychological health is not enough to have mental health.

This research considers psychological health as a multicomponent phenomenon based on heterogeneous human characteristics and this phenomenon provides a personal development resource; life satisfaction, balanced between individual success and the "price" of achievement of development goals and activity.

Psychological health differs from physical and mental health by revealing personal development largely. As characteristics which are the components of psychological health, the following characteristics may be:

- a high level of social and psychological adaptation, which demonstrates itself in harmonious relationships with others, a subjective sense of psychological ease and high potential to improve life well-being;

- the ability to accept himself/herself and to value people and their uniqueness, as well as to take responsibility for one's lives;

- the ability to use the past experiences of coping with stress; emotional well-being, readiness to overcome challenges; the ability to use their own psychic powers adequately, positive attitude towards life.

If we consider this category regarding the problem of extreme sports, it should be noted that the term "psychological health" is used both to describe the interactions between the organism and adverse environmental factors, and to report the result of this process.

The analysis of the sources of scientific information proved that most researchers identify extreme sport activities as a set of many socio-psychological factors, which has the most significant impact on all types of health of an individual. It has been proved that it is necessary to take into account the peculiarities of their professional activity which is accompanied by certain factors that create conditions to maintain one or another of health features studying the **characteristics** of psychological health of the specialists.

6. Conclusions

Psychological health is considered by researchers in accordance with the concepts of personality and differs from physical and mental health by revealing personal development largely in the system of interpersonal relationships in a society. Psychological health is a complex multicomponent phenomenon based on heterogeneous human characteristics and this phenomenon provides a personal development resource; life satisfaction, balanced between individual success and the "price" of achievement of development goals and activity.

The problem of maintaining psychological health is the most acute in the extreme conditions of activity. The criteria of the psychological health of the specialists are: positive self-concept, having reflection, the ability to self-regulation, the lack of predisposition to addictive and deviant behavior, **ability to communicate** effectively, taking responsibility for one's own life, the need for self-development, life satisfaction, self-awareness as a psychologically healthy person. Two groups of factors adversely affect the psychological health of specialists: environmental (objective or social), which are accepted as the characteristics of the environment where a rescuer lives and works, and internal (subjective or psychological) - mostly personality characteristics are subjectively specified which determine the quality of his/her life in objectively existing living conditions.

The qualitative and quantitative analysis of the main components of the psychological health of the specialists made it possible to distinguish a number of peculiarities: sufficient indicators of psychological health, such as the ability to communicate effectively and taking responsibility for one's own life, have been sufficiently formed; cognitive, gnostic and motivational elements of self-development. There are reflexivity, life satisfaction and sub-

jective well-being on an average level. The indicator of self-concept among specialists is average with a tendency to a low indicator. At the same time, a large majority of respondents have a clear tendency to externality in all spheres of life. It is proved that all parameters of self-regulation, as well as a desire for self-development are not formed enough among specialists. Studying the predispositions to addictive and deviant behavior among specialists showed that most of them have pronounced predispositions towards tobacco, alcohol, gaming, computer and food dependencies. They also have a predisposition to aggression and addictive behavior.

The psychodiagnostic research of psychological health components of specialists with different extreme experience allows to say that there is negative influence on their psychological health. It has been established that the most extreme experience is the cause of a significant reduction of all indicators of psychological health, that leads to severe maladaptation, emotional and personality disorders. Such individuals are characterized by a low level of self-awareness, dissatisfaction with their marriage, professional activity and social functioning. Accordingly, the indicator of subjective well-being and the overall indicator of psychological health are at a low level among these individuals. Such specialists need depth psychotherapy.

The specialists with extreme experience of the average level have reduction of self-awareness, reflexivity, self-regulation ability. Despite the fact that these respondents are characterized by an average level of sociability and casual behavior, emotional stability, realism, practicality and reasonability, they have lower life satisfaction, especially lower job satisfaction and lower satisfaction with relationships with relatives and loved ones. The general indicator of psychological health indicates the maladaptation and the need for consistent solutions of internal problems and conflicts with the help of psychologists.

Specialists with minimal extreme experience are characterized by a quite high level of self-awareness, unique self-improvement skills. The material, hedonic, communicative, cognitive, employee, moral, strifal motivations are dominant among motivational tendencies, as well as the desire for perfection and a positive attitude towards people, which characterizes a positive self-concept. Planning, autonomy, ability to evaluate the results are the most developed among the stylistic features of self-regulation. In general, they are happy with their lives. However, their predispositions towards alcohol, tobacco and job dependencies indicate that there are a list of unsolved psychological problems.

According to the research results, stable (the level of self-awareness and positive self-concept, ability and a desire for self-development, life

satisfaction) and variational (reflexivity, level of self-regulation, communication skills, locus of control) indicators of psychological health of specialists are highlighted. Based on the research of the characteristics of specialists psychological health, its social and psychological factors are determined. The main subjective (psychological) factors of maintaining psychological health include: job satisfaction, internality, positive self-concept, self-management skills, self-regulation, subjective well-being. Objective (social) factors, besides the activity at extreme conditions, include high professional and family status, social support and organizational identification.

Emphasizing the components of psychological health and identifying socio-psychological factors that maintain it, allowed us to develop a program of psychological prevention and psychological correction of the negative consequences caused by mountaineering to the psychological health of specialists. The main technologies of the program for the maintaining psychological health are the following: positive thinking training, ideomotor training to form activity readiness in extreme conditions and therapeutic intervention with elements of art therapy. The goals of the program is the impact on cognitive strategies, emotional state and constituent component of an specialist. The analysis of the results of the developed program for specialists with different levels of psychological health has established lasting positive changes in all indicators studied, so it means its effectiveness.

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