Psychological Features of Subjective Vitality and Hardiness of Representatives of Parachute Sports

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ABSTRACT:

The purpose of the research is to clarify the issue of connection of personal vitality with the concept of vitality. The aim of this study is to consider the phenomenon of vitality in accordance with various scientific theories and to illuminate the psychological features of vitality. Also the goal is to analyze the results of an experimental study of the features of vitality and hardiness of parachute representatives. The empirical research has been carried out at the basis of JSC "Avia-Soyuz" of the State Company "Mayske". The study involved 180 respondents aged 25 to 50 years, including 90 parachute representatives and 90 control group respondents. Informed consent to participate in the study has been obtained from all participants. From the group of empirical methods the psychodiagnostic methods (Subjective Vitality Scale (Ryan & Frederick), Vitality Test (Maddi)) were used in the study. From the group of methods of data analysis (processing) we used qualitative and quantitative analysis of the obtained results, methods of computer processing of experimental data. A theoretical analysis of the subjective vitality phenomenon in the context of psychology is presented; its peculiarities from the point of view of different scientific approaches are highlighted. Psychological and physiological factors of increase of vital energy are analyzed and causes of its exhaustion are examined. Psychological peculiarities of the concept of vitality and its main components have been revealed. The basic psychological patterns that link vitality to the phenomenon of vitality are substantiated in the work. The results of the empirical study, the purpose of which was to investigate the psychological features of subjective vitality and vitality in parachuting, were analyzed. The comparative analysis of the results of parachutists with the representatives of the control group was carried out. Indicators of subjective vitality as a condition and dispositional vitality as a personal quality of parachute representatives were determined as a result of the research. The dynamics of subjective vitality from the beginning to the end of the jump season was analyzed. The features of hardiness and its components: control and risk acceptance were investigated. A comparative analysis of the results of parachute sports representatives with the results of the control group was carried out.

KEY WORDS: vitality, hardiness, personal potential, subjective well-being, psychology of sport, extreme.

INTRODUCTION

The development of modern society has reached an extremely high level in the field of information technology and material production. Rationality and practicality are the basic principles that guide a person in the fast-moving stairs of social and technological progress. But despite the social and economic successes that humanity has achieved during its existence, the question of increasing the internal vital energy of a person remains an urgent problem. Psychology is now turning towards finding ways to activate the natural human internal reserves.

Psychological science is faced with the need to find ways of forming and maintaining adequate "energy supply". This is directly related to understanding the concept of vitality and vital potential, which is responsible for the successful adaptation of a person and mastering life's difficulties and stresses. [1].

Literature Review

Today, the phenomenon of subjective vitality is included in the conceptual apparatus of the positivist direction of psychology and it is often used as an indicator of internal well-being in foreign scientific research. However, the subjective vitality category has recently become an independent

scientific concept [2].

Vitality is defined as the subjective experiencing the possession of physical and mental energy [3]. With a high level of vitality, one feels filled with enthusiasm and vital forces. With a high level of subjective vitality, the individual uses more effective mechanisms of stress management and higher assesses health and well-being [4].

The concept we are exploring is introduced into the psychology by R. Ryan and C. Frederick. As objective indicators of human energy availability are not developed, they have emphasized vitality as a subjectively perceived state, reflecting the fullness of human vitality and energy. R. Ryan and C. R. Frederick define this phenomenon as a conscious person's experience of being filled with energy and life and seeing it as a reflection of well-being [5].

Representatives of the psychodynamic approach believed that energy can be both found and lost, depending on where the person puts it. Representatives of the Eastern tradition, on the contrary, were more concerned about how to enhance mental energy through spiritual, meditative, or physical practices [6]. Practices developed in the Oriental tradition produce “calm energy” – first of all, by reducing the state of physiological stress and restoring the experience of positive energy [7].

Increased subjective vitality should be accompanied by a high level of independence and integrity or self-actualization [8]. The vitality model that emerged from self-determination theory is based on several key assumptions. First, more autonomous self-regulation is less energy-intensive as it requires less suppression and control [9]. Secondly, those activities that address basic psychological needs should be accompanied by maintaining or increasing energy levels, and vice versa. Thirdly, a lifestyle based on internal goals is associated with increasing vitality[10].

In psychology, subjective vitality was denoted by such concepts as will, the power of the “Ego”, internal support, locus of control, orientation to action, the will to sense, etc. From the viewpoint of many scholars, the notion of “hardiness”, introduced by S. Maddi, corresponds to this phenomenon. Studies by S. Maddi and S. Kobeys consider vitality as a general measure of human mental health, as a three-component system of guidance: involvement, control, risk acceptance [11, 12].

Vitality is a system of beliefs that promotes the readiness of the subject to participate in situations of increased complexity with interest, to manage them, to be able to perceive even negative events as experience and to cope with them successfully [13].

A person with high vitality strives to be guided in a life by an ideal way of contact with the world, which allows abstracting from the little things of life and to formulate clear goals of the future, to direct activity despite the difficulties in order to advance to the desired future [14].

In the course of theoretical analysis of the concepts of vitality we have identified a number of features that are inherent in the phenomenon under study. They are characteristics of subjective well-being and a measure of a person's psychological health; correlate with a sense of competence and satisfaction with the activity [15], there is confidence in ideas of development; they are considered as an internal resource and potential; affect the somatic state of a person; increase the capacity for positive emotions and feelings of love [16, 17]. This gives us reason to believe that hardiness is the main characteristic of vitality [18].

METHODS

Participants

The study involved 180 respondents aged 25 to 50 years, including 90 parachute and 90 control group respondents. The empirical research was carried out at the basis of JSC “Avia-Soyuz” of the State Company “Mayske”. Respondents from the control group were men and women of different professions who had never engaged in extreme activities. Respondents of the extreme group were men and women with different experience of parachuting (from 10 jumps to 4000 jumps).

We consider it necessary to reveal the specifics of the selected type of extreme sport [19]. Parachuting (or skydiving from the English. Skydiving - literally “diving from heaven”) is one of the aviation sports associated with the use of parachutes. Modern parachute sports include such actions related to accurate dome piloting, such as landing and swap accuracy, as well as various artistic sports, such as freestyle, free-fall rebuilding, group acrobatics and freezing. Now parachuting is very diverse and rapidly developing, creating separate disciplines and individual sports.

Procedure

The study was conducted in several stages:

1. Analysis of literature and information sources on the issue of parachute sportsmen's vitality;
2. Carrying out of experimental research of psychological features of vitality with the use of methodical

tools;

3. Summarizing the results of the experimental work.

Statistical analysis. To achieve the goal of the study, a set of complementary research methods was applied: methods of system analysis, methods of causal analysis, methods of comparative analysis, methods of direct structural analysis. From the group of empirical methods psychodiagnostic method (Subjective Vitality Scale (Ryan & Frederick), Vitality Test (Maddi)) has been used; methods of computer processing of experimental data have been used from the group of methods of analysis (processing) of data qualitative and quantitative analysis of the obtained results.

RESULTS

We have investigated the psychological features of parachute vitality and hardiness of parachutists. The results of an empirical study of subjective vitality as a condition indicate that parachutists have the highest (42%) and average (38%) levels of this indicator. At the same time, 20% of the respondents in this sample show a low vitality rate.

In our study, we compared the results of parachutists with those of the control group who are not engaged in this type of activity. We received the following result: 39% of respondents have an average level of the studied indicator, 31% - high and 30% of respondents have a low level of vitality as a condition. This undoubtedly indicates that engaging in such activities as parachuting has a direct impact on the level of vital energy and its components.

We have examined dispositive subjective vitality, which is a level of vital energy that is inherent in a person's life and is more trait-like than the state. Somewhat similar result was obtained. As a result of the study of this indicator parachute representatives also received sufficiently positive indicators that are significantly different from the results of the control group. 47% of skydivers have a high level of dispositional vitality, while in the control group only 38% of respondents have the high level of this indicator.

We consider it necessary to explain the mechanism of raising the skydivers ' vitality. In our opinion, the internal energy level of the respondents in this sample is increased due to growth of the adrenaline hormone level in the blood. Adrenaline is a molecule that our body releases in situations of anxiety or tension, when we realize that something is threatening us. Due to this substance, various processes are triggered in the body. That causes the body to respond to a potential threat or danger. The actions of adrenaline are aimed at achieving a specific goal: to promote energy production, to enable us to act and react quickly, to prepare our body for maximum productivity. Adrenaline increases the level of wakefulness, mental energy and activity, causes mental mobilization. In addition to adrenaline during extreme parachute activity, dopamine is also released. The release of dopamine by neurons activates it and gives the person a feeling of pleasure and cheers up.

In our opinion, in order to maintain the high level of life energy of parachutists, regular parachuting activities should be present. But as we know, in the climate of Ukraine this is not possible due to the onset of cold. Therefore, we have the assumption that the level of vital energy at the beginning and end of the season will differ for skydivers. The parachute season begins in April-May and ends in October-November. The first stage of the study was a period when skydivers made many jumps every weekend, and the second stage was a period when the frequency of jumps dropped rapidly.

The results of the subjective vitality level as parachutists’ state at the beginning and end of the season confirm our assumption that parachutists' vital energy levels change from the beginning to the end of the season. If at the beginning of the season 55% of respondents have a high level of vital energy, at the end of the season it is already 39%, while the low level of vitality, which is characterized by a decline of forces, has increased from 11% to 25% (Fig. 1).

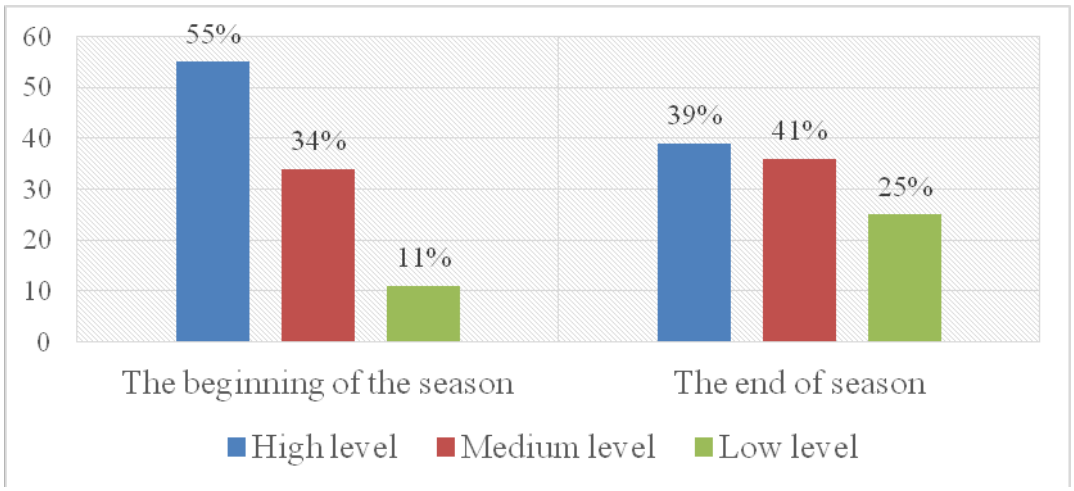

Figure 1. The level of subjective vitality of skydivers at the beginning and at the end of the jump season

Thus, by receiving a lot of emotions, provoking the release of hormones adrenaline and dopamine, the parachutist significantly increases the level of subjective vitality, but after the jump, the level of vital energy gradually decreases. It should be noted that, after the end of the parachute season, most people involved in the sport engage in winter activities such as skiing and snowboarding, which allows them to maintain vital energy levels at optimum levels. In our opinion, such jumps of emotional states from one pole to another can also contribute to the periodic development of such negative states as depression, in which we see the opposite of the concept of vitality.

In the theoretical part of the study we concluded that the concept of vitality is very close to the phenomenon of hardiness. In our opinion, hardiness is the main characteristic of vitality. Having empirically examined this indicator, we can state that parachutists have a high level of hardiness (45%), while the average level of this indicator is shown by 36% of extremals and low one by 19% of respondents. The results of the control group are characterized mainly by the average level of hardiness (41%), while the high and average levels are high and medium levels are almost identical in this sample – 30% and 29%.

In our opinion, high rates of parachutists' hardiness are due, first of all, to a developed resistance to stress conditions. This can be explained by the opinion of O. Karpova, who considers extreme sports as a model of adaptation in the conditions of psycho-emotional stress. When specific extreme factors are acting on the individual, common symptoms of adaptation are manifested. Stressful reactions and stressful states that are actively manifested in extreme situations are a powerful factor that causes humans adaptive behavior. Anti-stress resistance in this case is the result of the development of adaptation. As a result of adaptation the body acquires a new quality in the form of resistance to stress factors. This new property is further manifested in the fact that the body cannot be affected by those factors to which the individual has acquired adaptation. Increasing resistance to one risk factor also increases resistance to other risk factors. Thus, the so-called training of emotions is carried out. It increases resistance to stress in general and prevents disturbance of the neuro-mental sphere of healthy people.

In our opinion, the situation of separation from the plane and subsequent free fall is a projection of mastering one's self, one's mind and body in situations of stress and uncertainty. Parachuting ultimately leads a person to resilience in extreme, stressful conditions, teaches calmness and self-control, control of fears, teaches quickly and confidently to act in dangerous conditions, and at the same time helps to increase vitality as a quality of personality.

Due to the mentioned features of parachuting, while monitoring the components of resistance, we paid special attention to the results of the control indicator. The result of the group of extremals (52%) is higher than the result of the control group, where a high level of this indicator is inherent to 41% of the respondents.

Control is the conviction that the struggle allows one to influence the outcome of what is happening, even if that influence is not absolute and success is not guaranteed. Specificity of parachuting involves the development of control in its activities. The skydiver controls his body in free fall and the safety of his activities, while relying only on his skill and perfection of reactions.

Another component of hardiness is risk acceptance. Muddy called this characteristic a "challenge". It is a readiness to act without a guarantee of success. In our opinion, a high level of this indicator is important for parachutists, because every time, when parachuting, the person is at risk. We assume that

this sport develops the severity of the risk acceptance indicator.

We tested these assumptions empirically. 63% of parachutists have high risk-taking rates, 29% of respondents show an average, and only 9% have a low level of the studied indicator. Therefore, parachuting has an impact on the development of risk acceptance, which is at a high level not only in skydiving, but also in daily life, contributing to the success and personal development of the athlete.

We carried out a general correlation analysis of the results of all respondents using Pearson's correlation coefficient. Correlation analysis revealed a significant positive correlation between the vitality index as a state and the indicators: dispositional vitality, risk acceptance, control, and hardiness. The values of the correlation between the integral index of vitality as a state and the general indicators of the methods are: dispositional vitality – r= 0,63, risk acceptance – r = 0,46, control – r = 0,52, hardiness – r = 0,57. The significance level was set at $p<0.01$ (figure 2).

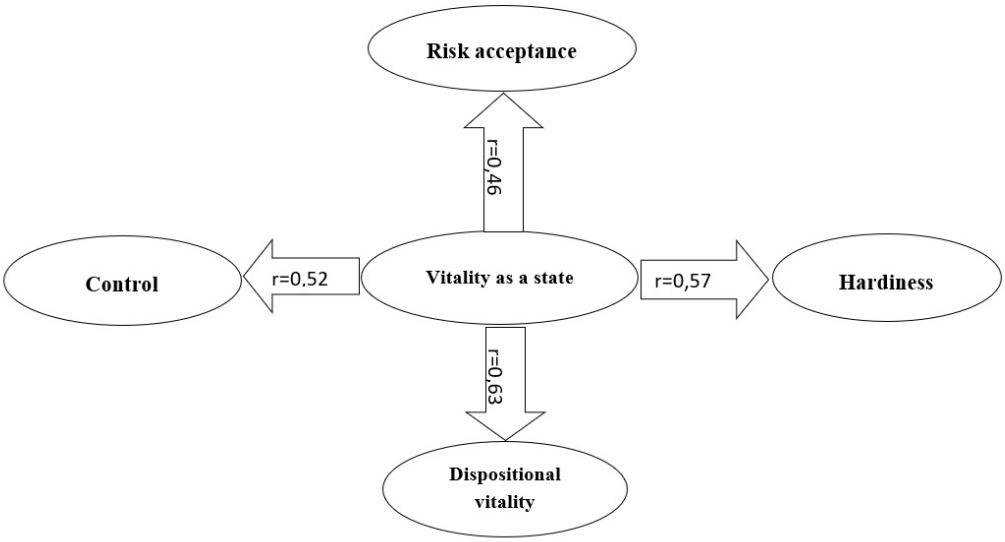

Figure 2. Correlation of vitality as a state and components of hardiness

CONCLUSION

Thus, as a result of the empirical study, we identified the psychological features of vitality and hardiness on the example of parachuting. High rates of subjective vitality as a state and dispositional vitality as a personal quality of parachutists were found, which is significantly different from the results of the control group. The result shows that the studied type of sports activity has an impact on the level of vitality of the individual. In the empirical study, we tracked how the level of internal energy of parachutists changes from the beginning to the end of the jump season. In the course of the experiment, the effect of parachuting on the level of personal hardiness and its components: involvement, risk taking and control were defined. Indicators of hardiness, as well as indicators of vitality, differ from the results of the control group. It indicates the impact of this sport on the level of happiness, psychological well-being of a person and the achievement of success in life. In the following works we aim to investigate the features of depression and other negative conditions in parachute sports in connection with the end of the jump season.

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