

HPEPA 2019**Humanistic Practice in Education in a Postmodern Age 2019****THE STYLE CHARACTERISTICS OF PERSEVERANCE IN
TRACK AND FIELD ATHLETES**

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Abstract

The purpose of the article is to study style characteristics of perseverance in track and field athletes. Research framing and methods include testing, "Blankovy test – Nastoychivost" ("Test form – Persistence") by A. Krupnov. The methodological basis is the systemic-functional approach to personality traits study. Four factors of persistence in athletes were defined: a difficulty factor, a goal-orientation factor, a productiveness factor, a superficial emotional factor; factors of persistence in non-athletes are a goal-orientation factor, a difficulty factor, a pessimism factor, a superficial regulation factor. Factor structures of persistence in athletes and non-athletes have two factors in common: a difficulty factor and a goal-orientation factor. Features of difficulties that athletes face appear in a greater load of the *asthenia* variable, that is, when difficulties arise, athletes experience a greater degree of negative emotions, whereas the specifics of persistence manifestation in non-athletes is characterized by greater loading of the *vitality* and *comprehension* variables – with a deeper understanding of persistence definition non-athletes become more active. Features of the goal-orientation factor appear in greater loading of the vitality variable and *externality* variable whereas non-athletes' most loaded variables are *concreteness*, *subjectivity*, *sthenic index*. When they achieve positive results and display perseverance, non-athletes manifest their positive emotions more intensely. The specificity of factor structures in athletes is represented by the productiveness factor and superficial emotional factor, whereas in non-athletes it is represented by the pessimism factor and superficial regulation factor. The results were used in preparing a training program and are recommended for testing in sports psychologists' practice.

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Keywords: Factor structure, persistence, systemic-functional approach.

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1. Introduction

One of the most important priorities of any modern State is training competitive athletes who strive for stable results and show decent performance defending their country's honor. In Russia, effective athlete training begins in institutions of additional education, children's sports schools and continues in Olympic reserve schools for the most promising athletes. Psychological training, a special place in which is given to such a phenomenon as perseverance, is very important alongside physical training of athletes. Perseverance is the key personality trait in achieving one's goals. In this regard, stylistic features of the psychological structure of athletes' perseverance come to the fore.

2. Problem Statement

The relevance of the research problem allowed to highlight the socio-psychological contradictions between the increasing requirements for athletes' better results and the lack of methodological support and programs aimed at the development of personal qualities of athletes, including perseverance, as one of the basic personality traits for athletes. This allowed us to educate the research problem, which is the need to resolve these contradictions through studying style characteristics of athletes' perseverance and developing training programs on the basis of the data obtained aimed at harmonization and development of perseverance within athlete preparation.

3. Research Questions

The study was carried out in line with the systemic-functional approach, which implies a holistic study of personality as a unity of its components (Krupnov & Novikova, 2014). The theoretical framework of the systemic-functional approach to personality traits study is Nebylitsyn's (1976) ideas on the continuity of the three aspects of mental activity: dynamics, contents, and result. These ideas on the general mental activity of an individual allowed Krupnov (2006) to highlight three interrelated components in the integral structure of human activity: motivational, dynamic and productive, on the basis of which he developed a model of holistic personality traits study. In accordance with to the provisions of the system approach, personality traits of a human are regarded as an integral system of motivational-conceptual and instrumental-stylistic personality characteristics. The listed characteristics of the person are in interrelation that testifies to the complex multidimensional functional organization of a person.

Within the framework of the system concept, perseverance is considered as a personality property that provides a long-term retention of any goal, overcoming obstacles in achieving it, committing one's behavior to achieve it (Krupnov, 2006). Studies of perseverance as a system personality trait of a student were carried out in accordance with this approach (Baranova, 2014; Kudinov, 2015; Vorobjev, 2014). Perseverance was considered as a basic personality trait (Fomina & Avdeev, 2010). Researchers also examined correlation between persistence and: properties of temperament (Eliseev & Fomina, 2017), success in mastering a foreign language (Kozhukhova, 2014), emotional and regulatory properties of temperament (Krupnov & Dronov, 2007), self-fulfillment (Kudinov, Kudinov, & Avdeev, 2014). Typical features of persistence manifestation and their correlation with properties of temperament were also defined (Novikova, Shlyahta, & Baranova, 2013).

Despite the large number of studies in this area, a study of style characteristics of persistence in athletes and non-athletes has not been carried out, and training programs for harmonization and development of perseverance have not been created.

4. Purpose of the Study

To study style characteristics of perseverance as a system personality trait of athletes-athletes and non-athletes, to define specific factors in both groups of respondents, to develop a training program for harmonization and development of perseverance in athletes on the basis of the results of empirical research.

5. Research Methods

The study was conducted at a children's sports school in Yazykovo rural locality of the Republic of Bashkortostan. The study involved 48 adolescents aged 13-14 years: 32 girls and 16 boys engaged in track and field athletics for three years, as well as 50 teenagers attending physical education classes in middle school (16 girls and 34 boys). "Test Form – Persistence" by Krupnov (2006) was used in the study. According to the eight-component model of personality traits analysis by Krupnov (2006), any personality trait (in this case persistence) is characterized from the points of view of goals (the goal component), that specify social or personal character of purposes; motives (the motivational component), that motivate a person towards society or themselves; understanding of the property manifested (the cognitive component), which means deep or superficial understanding of the studied property; productivity (the productive component), which contains characteristics of individual's aspiration in manifestation of the studied properties. All four components are included in motivational personality subsystem.

The instrumental-dynamic subsystem includes: a dynamic component– activity or passivity in manifestation of the properties; an emotional component – brightness and contents of emotions (sthenic index and asthenic index); a regulatory component responsible for regulation of action with the emphasis on external rules or personal principles in the process of persistence manifestation; a reflective-evaluative component that defines external and personal obstacles to effective expression of the studied properties of an individual (Krupnov & Novikova, 2014). Each form has indices against specific statements, but only the last three were counted.

Mathematical statistical processing of the experiment material was carried out using MS Excel spreadsheet editor and SPSS 23 software package and involved factor analysis. The statistical significance in hypothesis testing was assumed to be 0.05 in this study. In factor analysis, the following criteria were used to determine the number of common factors in a model: 1) Kaiser criterion – the eigen value of each factor must exceed 1; 2) the total proportion of variance explained by the common factors must exceed 70%.

6. Findings

Factor analysis was carried out by the principal component method with further rotation of the factors. Four factors were defined. Factor structures of athletes' and non-athletes' persistence variables are presented in tables 01 and 02.

The first factor of the structure of perseverance in athletes included the following variables: *personal difficulties* (0.765), *operational difficulties* (0.745), *athenic index* (0.712), *passivity* (0.565). This factor was named difficulty factor, or anharmonic as it has incorporates anharmonic perseverance variables. The factor is determined by the following characteristics: inability to accomplish a task; to achieve a goal; distracting to unrelated activities; helping other people to achieve their goals; negative feelings when caused by inability to implement a plan, negative feelings in general; difficulties with persistent behavior.

Table 01. The factor structure of the variables of persistence in athletes^a

No. ^b	Variables	Factor 1	Factor 2	Factor 3	Factor 4
1	Goals of public interest	0.110	0.983	0.062	0.201
	Goals of personal interest	0.032	0.621	0.233	0.124
2	Sociocentricity	0.051	0.632	0.140	0.061
	Egocentricity	0.084	0.755	0.212	0.081
3	Comprehension	0.272	0.091	0.742	0.090
	Awareness	0.162	0.324	0.242	0.594
4	Concreteness	0.130	0.251	0.854	0.153
	Subjectivity	0.182	0.320	0.783	0.041
5	Vitality	0.031	0.544	0.162	0.414
	Passivity	0.565	0.021	0.233	0.489
6	Sthenic index	0.020	0.054	0.102	0.565
6	Sthenic index	0.020	0.054	0.102	0.565
	Asthenic index	0.712	0.012	0.214	0.264
7	Internality	0.101	0.362	0.574	0.323
	Externality	0.04	0.643	0.46	0.21
8	Operational difficulties	0.745	0.083	0.255	0.051
	Personal difficulties	0.765	0.263	0.410	0.020

^a Note. Significant factor loadings are highlighted by bold type.

^b Note. 1 – goal component, 2 – motivational component, 3 – cognitive component, 4 – productive component, 5 – dynamic component, 6 – emotional component, 7 – regulatory component, 8 – reflexive-evaluative component.

When such teenagers start exercising, they switch to a different sport with the first difficulties they face, refuse to attend sports clubs or, having potential in sports and getting psychological support, they gain their passion to win. The second factor of athletes group (the goal-orientation factor) is represented by such persistence variables as *goals of public interest* (0.983), *egocentricity* (0.755), *externality* (0.643), *sociocentricity* (0.632) *goals of personal interest* (0.621), *vitality* (0.544). Psychologically, the factor is based on the importance of goal-setting with social significance element, in other words, persistence is aimed at defending the honor of their class, school, Republic, etc., not excluding their own interests and following them as well. At the same time, the focus of perseverance is expressed in the desire to master any

business, get approval from other people and is aimed at achieving social recognition in a group or success in educational activities. The third factor (the productivity factor) is based on the following persistence variables: *concreteness* (0.854), *subjectivity* (0.783), *comprehension* (0.742), *internality* (0.574) and is characterized by acquiring knowledge, skills, experience, accomplishing given tasks earlier, overcoming difficulties, moving towards one's goal, developing self-confidence, realizing the importance of perseverance and dependence of its manifestation on one's own efforts. The fourth factor of the persistence structure (the superficial emotional factor) in athletes includes the following variables: *awareness* (0.594), *sthenic index* (0.565), that is, manifestation of perseverance in athletes is accompanied by manifestation of positive emotions, although the view of genetic predisposition to aggressive behavior is primary.

Table 02. The factor structure of the variables of persistence in non-athletes^c

№ ^d	Variables	Factor 1	Factor 2	Factor 3	Factor 4
1	Goals of public interest	0.871	0.083	0.062	0.191
	Goals of personal interest	0.725	0.052	-0.071	0.164
2	Sociocentricity	0.593	0.032	0.073	0.620
	Egocentricity	0.884	-0.052	0.084	0.053
3	Comprehension	0.412	0.532	0.233	0.440
	Awareness	0.144	0.283	0.055	0.745
4	Concreteness	0.545	0.076	0.125	0.323
	Subjectivity	0.616	0.122	0.254	0.120
5	Vitality	0.014	0.635	0.143	0.424
	Passivity	-0.254	0.836	0.244	0.082
6	Sthenic index	0.599	0.364	0.142	0.112
	Asthenic index	0.214	0.073	0.689	0.072
	7 Internality	0.180	0.282	0.045	-0.598
	Externality	0.099	0.287	0.245	0.877
	8 Operational difficulties	0.121	0.865	0.313	0.210

^cNote: significant factor loadings are highlighted by bold type.

^dNote. 1 – goal component, 2 – motivational component, 3 – cognitive component, 4 – productive component, 5 – dynamic component, 6 – emotional component, 7 – regulatory component, 8 – reflexive-evaluative component.

According to the data introduced in table 02, the first factor of the perseverance structure (the goal-orientation factor) in non-athletes includes the following variables: *egocentricity* (0.884), *goals of public interest* (0.871), *subjectivity* (0.616) *goals of personal interest* (0.725), *sthenic index* (0.599), *sociocentricity* (0.593), *concreteness* (0.545). From the point of view of contents, the factor includes harmonic and anharmonic variables of purposeful, motivational and productive perseverance components. Within the framework of the goal component, perseverance of non-athletes is aimed at success in sports activities, public recognition in a group, maintaining health and gaining independence, fulfilling one's plans and desires, improving one's self and one's abilities. From the point of view of the motivational component, perseverance pursues intention to do or learn something new, to master one's favorite occupation, to act in accordance with a sense of duty, to perform the assigned work, to help other people. The productive aspect of perseverance is also manifested in successful development and implementation of various activities. The

second factor (the difficulty factor) includes the following variables with different factor loads: *operational difficulties* (0.865), *personal difficulties* (0.847), *passivity* (0.836), *vitality* (0.635), *comprehension* (0.532). The factor reflects presence of difficulties in perseverance expression and overcoming them, desire to execute previously planned tasks; refusal of planned tasks; postponing the planned work; distraction to unrelated matters. The third factor (the pessimism factor) is defined by one perseverance variable in non-athletes: *asthenic index* (0.689), reflecting presence of negative emotions, a sense of anger in situations where it is not possible to implement a plan, resentment over plans frustration, when one's self is treated as the culprit of the feelings of resentment, guilt and anxiety. The fourth factor (the superficial regulation factor) includes the following variables *externality* (0.87), *awareness* (0.745), *internality* (-0.598), that is, dependence of persistent behavior on external rules as a result of superficial understanding and disregard of inner principles when it comes to implementation of this personality traits.

7. Conclusion

Style characteristics of persistence in athletes and non-athletes are displayed in distinctiveness of factor structure. Two common factors with different contents are identified: a difficulty factor and a goal-orientation factor.

- when difficulties arise in persistence manifestation athletes are more likely to experience negative emotions and passivity, whereas when non-athletes, face difficulties, they show a differentiated approach to persistence manifestation depending on difficulties to overcome, due to a better understanding of the definition of perseverance (the difficulty factor);

- motivating themselves to achieve goals of both public and personal character, athletes are more active in perseverance manifestation and are guided by firmly established rules from the outside, i.e., rules of a team, and motivation and goal setting in non-athletes are focused on efficiency in perseverance manifestation and are accompanied by brighter positive emotions (the goal-orientation factor).

The specificity of factor structures of athletes is expressed through the presence of the productivity factor and the superficial emotional factor in psychological structure of persistence, whereas in non-athletes it is expressed through the factors of pessimism and superficial regulation:

- athletes' manifestation of perseverance often contributes to achievement of public recognition, improved personal well-being and depends upon continued efforts in pursuing one's goals (the productivity factor);

- perseverance in athletes is accompanied by positive emotions in overcoming stereotypes of genetic predisposition of this personality trait (the superficial emotional factor);

- non-athletes are more often focused on negative emotions and get more disappointed by negative results (the pessimism factor);

- non-athletes tend to rely on chance or coincidence when persevering and more often rely on external rules, ignoring the importance of self-regulation (the superficial regulation factor).

On the basis of the received results a training program on harmonization and development of persistence as system personality trait was created. It is recommended for use in sports psychologists' practice both in institutions of additional education – children's sports schools, and in Olympic reserve

schools. The next step of empirical research is approbation of the developed training program and confirmation of its effectiveness.

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